

THE  
ARCHER'S  
MAGAZINE

MAY 1968

50c



# ARCHERY world



OFFICIAL PUBLICATION OF THE NATIONAL ARCHERY ASSOCIATION OF THE UNITED STATES



**Bow and Arrow Dynamics**

**Tally Ho! The Shark**

**Toy Chest Targets**

**The Spawn is On**

**Gone Fishing**

**Tough Tom**



WHAT'S NEW FROM BEN PEARSON?

# MERCURY BOWS WIN TROPHIES



Jim Dougherty shot twelve big game animals



Stan Warner, new NFAA Free-Style champion

## OUTDOOR AND INDOOR

Within twelve months, Stan Warner became Free-Style Champion, National Hunter Round record holder... Ed Rohde emerged as National Animal Round record holder (perfect 560)... Margaret Tillberry won the International Indoor Women's Open... and Marjorie Lammers won the International Outdoor Women's Open. All were shooting Ben Pearson's Lord Mercury bows from the Sovereign professional performance line.

During the same year, Jim Dougherty, Ben Pearson Hunting Promotions Manager, shot twelve big game animals plus coyotes and other smaller game... all with the new Mercury Hunter bow. Jim says it's the hottest bow he's ever held. Other hunters, also, are making enthusiastic reports about the Mercury Hunter's performance.

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The Lord Mercury tournament bows also have an optional stabilizer rod containing a third mercury capsule in the tip. New champions have proved that this little barrel of mercury reduces lefts and rights caused by bow torque, brings further stability to the bow, and adds points to the scores. **6**

## PERFORMANCE GUARANTEE CONTINUES

All Ben Pearson Sovereign bows with the built-in mercury-cushioned power capsules continue to be covered by a performance-satisfaction 30 day guarantee... strongest in the archery business. **7**

## THE WINNERS AT DETROIT

As you read this, more than 1400 archers are shooting it out at the \$15,000 International Indoor Archery Championship, Cobo Hall, Detroit, sponsored by Ben Pearson. Results of all events of this Open tournament will be printed in a booklet, available on request. **8**

## ARCHERY EQUIPMENT CHARTS ARE BIG HELP

Large, illustrated charts, "How To Select Bow Hunting Equipment," and "How To Select Target and Field Archery Equipment," are one of Ben Pearson's most useful sales aids available to dealers. Especially helpful to beginners, the charts give valuable tips on selection of bows, arrows, leather goods, and accessories. **9**

## FREE INFORMATION SERVICE CONTINUES

For details and literature on any news item above, check the box number, write your name and address on the margin, and mail-in this page. Or list the item numbers in your letter or card.



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## Editor's Mail Quiver

### Our Readers Speak



#### PENNSYLVANIA WINNER

Andrew Getsy of 512 South Third Avenue, Patton, holds a medallion and a certificate, awarded for having taken the largest trophy whitetail buck ever recorded by an archer in Pennsylvania. Scoring 155-1/8 points under official Boone and Crockett measurements, the ten-pointer was dropped in Cambria County in 1965.

The presentation was made by executive director Glenn L. Bowers of the Pennsylvania Game Commission at the annual fall meeting of the Pennsylvania Outdoor Writers association.

Dear Editor:

As a "beginner" to the world of archery, I want to do my best to see that the person responsible for me entering this sport earns much deserved recognition.

This man is Bud Fields. He has been shooting approximately three

years competition and also is a splendid bowhunter. Bud has over 20 trophies and has four deer killed and smaller game. Bud goes out of his way to promote archery and no matter how busy he is he always has time to give a good word and handshake to people and help people with their problems.

Bud and I are constant readers of "Archery World" and wish to congratulate you on a fine magazine. If at all possible, print this item to show people a "True Sportsman, Bud Field."

Sincerely yours,  
James Sexton  
Spencer, Indiana

\* \* \*

Dear Editor:

After reading the letter from Alex Barter in the Mail Quiver, March issue, I was sorry to hear that anyone so uninterested in bow-hunting stories is even connected with the fine sport of archery.

I'm sure many devoted deer hunters' tempers flared as they read his statement, "some *clod* stumbles into the woods, accidentally finds a deer there and then proceeds to chase it down so he can lay it before him for an egotistic picture."

I am strictly a bowhunter but that doesn't stop me from reading Tackle Topics, The Archery Clinic and the articles about our fine tournament shooters.

Please don't change your balance of hunting and technical information just because one narrow-minded

soul thinks hunting stories and pictures clutter up your excellent magazine.

Russ Tinsley was curious about hours spent to get a deer in his last article. If he is still interested in replies, I spent 30 hours in a tree stand this past season for one shot—I missed.

Very truly yours,  
R. F. Ruder  
St. Louis, Mo.

\* \* \*

Dear Editor:

Upon reading my March issue of Archery World, I have discovered one of the poorest displays of sportsmanship I've ever seen or heard about.

The story "Three Bears in 20 Seconds," by Rudy Mione made me sick. Anybody who can kill cub bears as in the photo on page 26, are lousy hunters in my eyes and my friends.

The Williams Valley Bowhunters seem to find pleasure in killing tiny trophies, which I think is a good way to wreck wildlife preservation.

I'm 22 years old and have been a bowhunter since I was 12, and have seen many poor displays of sportsmanship in the field. I can say I'm glad I didn't witness the killing of those cubs.

I'm very interested in the preservation of wildlife as any good hunter, and wish I could do more for it. But with bowhunters, such as the one described; I'm almost ashamed to call myself one of the

bow-hunting family.

I would like to see how other hunters agree or disagree with my comments.

Richard J. Lapham IV  
Lancaster, Penna.

\* \* \*

Dear Editor:

After reading the article "Three Bears in 20 Seconds" I feel compelled as a bowhunter to object and protest to Mr. Mione's method of hunting and in particular his killing of a sow bear and then, most disgusting of all, her two cubs.

Your magazine has done much in the past to promote archery, but this particular article will soil the name "Bowhunter." How can any person justify such an act let alone brag about it. Fair chase and fair play does not enter into the story and I want to say that the article is in very bad taste. Here in Pennsylvania there are many places where bowhunters are not welcome by local residents and land owners. These people have erected signs to this effect.

I'm sure when they see this article, we will really be welcome! It is very evident to me that this hunter is no sportsman or bowhunter, merely a killer of animals to boost and inflate his ego.

Bow-hunting could very well do without such a person in its ranks and your magazine without such disgusting articles. This has discredited and down-graded the sport as I see it. We bowhunters demand an answer.

Ray M. Cammauf  
Stevens, Pennsylvania

\* \* \*

Dear Editor:

I am totally disgusted! My wife and four teen-agers strongly echo my feelings. Your story "Three Bears in 20 Seconds" is the single strongest blow against our wonderful sport of bow-hunting that I have read.

Our family have been bowhunt-

(Continued on Page 43)

May, 1968

## Contents

MAY, 1968  
Volume 17, No. 5

THE  
ARCHER'S  
MAGAZINE

# ARCHERY world

articles on all  
archery

- 6 Archery in the School, an Editorial**
- 8 Tackle Topics, Column**  
By Tom Jennings
- 10 Tinsley Talks, Column**  
By Russell Tinsley
- 12 Tough Tom**  
By Judd Cooney
- 20 National Archery Association**  
By Bill Stump
- 26 The Archery Clinic**  
By Jack Witt
- 28 Bowhunting with The Dutchman**  
By H. R. "Dutch" Wambold
- 32 Finishing Picture**  
By Chester Seay
- 34 The Spawn is On**  
By Edwin L. Atts
- 40 Toy Chest Targets**  
By Joel M. Vance
- 44 The Year of the Antelope**  
By Wes Blair
- 47 Tally Ho! The Shark**  
By Ben Marler Jr.
- 52 Some Conclusions of Bow and Arrow Dynamics**  
By R. J. Schlesinger

Publisher  
NAA Editor  
Outdoor Editor  
Technical Editor  
Hunting Editor

DONALD L. WEBB  
BILL STUMP  
RUSSELL TINSLEY  
TOM JENNINGS  
H. R. "DUTCH" WAMBOLD

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# Archery In The School?

by Donald L. Webb

One of the great points of discussion, wherever archers congregate, is archery's entry as an Olympic sport come 1972 and how best those who enjoy archery can assist the effort so necessary to popularize the sport.

The effort, of course, is of primary interest to the archery industry—manufacturers, distributors and retailers. Every archery association, state and national in scope, are making plans to assist in this great effort.

We had the pleasure of spending an evening with "Chum" Bohr, publisher of Archery Digest and an avid archer and bowhunter, if there ever was one. As is usual when publishers get together, the topics of discussion ranged far and wide. But "Chum" made one point which we believe merits reflection of every archery organization in the country. We believe Bohr's suggestion is so good that we are summarizing it, editorially, and asking for comment from far and near.

"Chum" reasons that one way (and this is but one of many ways) to interest more and more persons in archery is to have it taught in the majority of schools and colleges in North America. Perhaps the primary reason it isn't is because so few of the physical education teachers in schools have ever had archery instruction themselves. Being thorough teachers, they do not want to teach anything they don't fully understand. Perhaps we can all agree with "Chum" in this respect.

Now comes the challenge. He reasons that local archery clubs in every community from one end of the continent to the other could do their part in contributing to the sport and to their nation's effort in the coming Olympic program.

Each club, no matter what kind of a specialized club it might be (target archery, field archery, or bowhunting), could take it upon itself to set aside an amount of money which would adequately pay for topnotch instruction for a member of the physical education staff at the local school or college.

"Chum" suggests that the local club go to the local school administrator with the offer that the club will pay the complete cost of sending the phys ed instructor

to an archery school where he or she could learn archery and how it should be properly taught. Some clubs may want to go to the extra expense of offering to send the instructor and his entire family to a two-week camp for such a purpose—just so the club can get the enthusiasm of the phys ed teacher and the approval of the school administration.

An obvious place would be an instructional period at Teela-Wooket, an established school in New England which has produced hundreds upon hundreds of fine archery instructors—and just plain good archers.

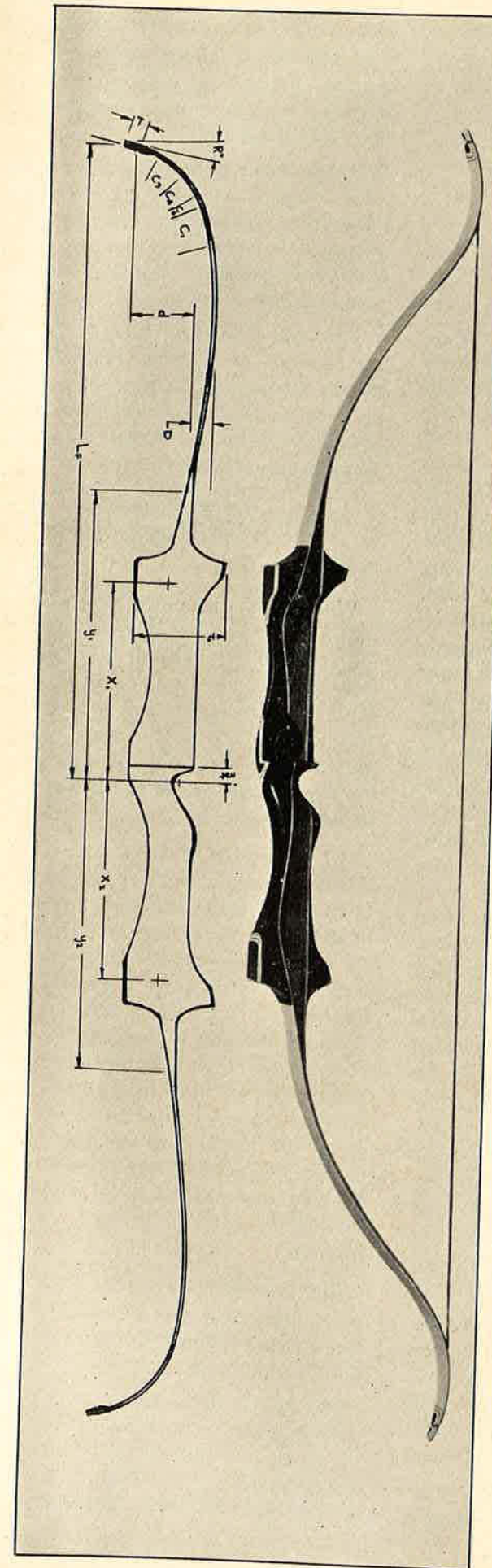
But, of course, the selection need not be restricted to that one camp. Professional Archer Association members, who themselves have attended the PAA instructional school, would be well suited to provide such instruction to phys ed teachers. Even a series of night classes over a period of weeks by a PAA instructor could provide archery instruction for teachers at an economical price. NAA has instituted a series of instruction schools which would be perfect for this particular effort.

Manufacturers' representatives, many already members of PAA, should be happy to coordinate activities of various clubs in this venture to provide instruction to school teachers. The American Indoor Archery Association, we believe, would be more than happy to work with clubs and phys ed teachers in such a program.

The point of "Chum's" suggestions, of course, is to get the school instructor enthusiastic about archery and then inject this enthusiasm in the students he later teaches.

Here, then, is the basis of a growing sport and industry. And here is where the Olympic champions of the future will be spawned. But the first effort must come from individual archers who are willing to suggest and fight for such a program within his or her own club. With the entire club behind the effort, the going should become easier.

We, at Archery World, would like to hear from our readers. We would appreciate comment from far and near, both good and bad. Is the idea worthwhile or not?



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# TACKLE TOPICS

By Tom Jennings

Questions will be answered by Tom if sent to him at 10945 Burbank Blvd., N. Hollywood, Calif. 91601

Dear Mr. Jennings:

I have been reading your articles for a year and they have really helped me in my shooting of the bow. I am fifteen years old and went deer hunting this season but missed my deer. I have a few questions to ask that will clear up a lot of doubt on my part. Question number 1, I know that a bow-hunter can never be too good but how good should you be before you go deer hunting?

Question number 2, I am an instinctive hunter and I would like to know which have better hunting luck, instinctive shooters or point of aim shooters? Question number 3, what methods do famous hunters like Bob Swinehart, Howard Hill, and Fred Bear (who is my favorite) use? Instinctive or point of aim method?

Sincerely yours,  
A devoted archer  
John Bayles  
Fredonia, Kansas

Dear John:

Your number 1 question is a real tough one to answer. I know an archer who killed a deer the very first day he bought his archery equipment. He had never seriously shot a bow before in his life. An archer should let his own conscience dictate how soon he goes into the field.

Answer to number 2, point of aim shooting is a little misunderstood lately. Point of aim is an old target method of shooting that was used extensively prior to sight installation on the bow itself. The point of aim was usually a round

rubber ball that was staked into the ground somewhere between the shooting position and the target. Once sighted in, the archer never even looked at the target but concentrated on placing the point of the arrow directly on his point of aim. Of course, in this true sense of the word, point of aim shooting is absolutely useless in the field. You might be referring to split vision or gap shooting when you say point of aim. If this is true, most all so-called instinctive archers use a modified version of the gap system, especially on longer shots.

Answer to question 3, Howard Hill printed a little booklet on how he aimed. I know that Doug Kittredge had quite a supply of these books at one time. You might try dropping him a line. His address is Kittredge Archery, Mammoth Lakes, California. All three men you speak of are more or less from the old school and use a single anchor with conventional hold of the arrow. They wouldn't be caught dead using three fingers under, multiple anchors, string walking or all the other stuff used in tournament bare bow shooting.

Dear Mr. Jennings:

I am a recent comer to archery. My equipment consists of a 40 pound recurve bow, a dozen fairly well beat up arrows, leather goodies for fingers and arms and two bales stacked up out in back (covered now with blankets and some snow) and various targets.

When I break a point off an arrow, I mend it which naturally

means that all my dozen arrows have about a dozen different lengths. I'm not the greatest shot in the country, but I don't miss the bales too often.

I read Archery World and ran across terms that have not, to my satisfaction, ever been explained. They are: String walking, free style, instinctive, gapping, multianchor, bare bow and anchor points.

Also, and finally, on page 25 of the February 1968 Archery World, Doctor Grayson is pictured shooting a bow with a handle extension. What's its purpose? Thank you. Please send answers to

Joseph E. Badger  
Terre Haute, Indiana

Dear Joe:

Why don't you move to California where we never have to kick the snow off the bales of hay. In fact, shortly after an occasional gentle rain the bale begins to grow and then at the proper time we mow it, rebale it, and there is a brand new butt. Kind of like perpetual motion.

**STRING WALKING.** String walking is done while using the three finger under the arrow style of shooting. By placing the fingers different distances below the nock, it is possible to have a multiple number of "point on" distances. Point on distance is the exact distance from a target where with your aiming eye you may sight directly across the point of the arrow and put it on the bullseye and that is exactly where it will hit. You can see that this method could make for higher scores in the bare bow division.

**FREE STYLE.** Free style is just what it says. You may use a sight in this division or you may not, whichever you like.

**INSTINCTIVE.** Instinctive is the old name for the division where sights are not allowed. This term has been more or less dropped and replaced by bare bow. Instinctive

is a more colorful word but not descriptive of a style of shooting.

**GAPPING.** In the bare bow division many archers use a system of gap between the target and the point of their arrow. On the short shots there will be a very wide gap and as you progress back from the target the gap will narrow to you to get to your point on distance. From the point on distance back further you will have to gap over the target to hit.

**MULTI-ANCHOR.** Again in the bare bow division archers will use a method of two or as many as three different anchors points. This is again to accomplish a multiple number of point on distances. It cuts the problem of holding the arrow so far away from the center of the target that it is difficult to be precise with an aim. The most common multiple anchors are from top to bottom, middle finger mouth anchor, first finger mouth anchor and under the chin anchor.

**BARE BOW.** The bare bow division is the more modern term for the division that does not allow sights.

**ANCHOR POINTS.** To be consistent in archery, it is necessary that the distance you draw the arrow is exactly the same each time and the distance from your aiming eye is exactly the same each time. This point (usually occurring at the corner of the mouth or under the chin) is designated as anchor point. It is one of the most important things that must develop to a high degree of consistency if you want to be a good archer. Anchor points have been used all the way from 1/2" underneath aiming eye down to the middle of the archer's chest. Some of you may laugh about a chest anchor but there was an archer back in the late '40's by the name of Joel Littleburg (a full-blood Indian) who did an amazingly good job of shooting with a chest anchor.

The handle extension on Doctor Grayson's flight bow was for the

purpose of moving the pulling range of his string back into a more comfortable area. Flight arrows are very short (on the average, 15" to 18" long) and by extending the handle this allows the archer to pull to a more normal and powerful anchor point.

Dear Tom:

I use a 45 pound bow for hunting deer and shoot fiberglass arrows. I would like to know if my bow is strong enough to use Ben Pearson Dead-head Points. I would like to use the big one, 1-5/8" by 2-5/8". I would appreciate any advice you could give me.

What is the best way to sharpen these points?

Gerald Bain  
Silver Spring, Maryland

Dear Gerald:

The trend in the past few years has swung from lightweight hunting bows to the direction of heavier bows. Frankly, I am glad to see this swing. While I do not wish to see an archer over-bowed, I think that it is up to him to develop enough muscle to shoot at least 50 pounds for serious deer hunting. The performance of the modern laminated glass faced and backed recurve has just about reached a peak. In fact, for the last ten years there has been very little increase in velocity from a 45 pound recurve bow. Frankly, I would rather see you use the smaller dead-head with your 45 pound bow.

The Pearson Dead-head is one of the easiest points to sharpen on the market and has a very fine grade of steel. If the head is very dull and has been damaged by a rock or something of that nature, take out the worst with a fine mill file while holding the arrow in a vise. Then give it the finishing touches with a good oil stone. It is possible to sharpen a dead-head to the point where you can shave with it.

Dear Tom:

I read an article on Forgewood arrows. I am very interested in

them. I made my arrows last year with aluminum shafts and had a great deal of trouble with the paint chipping off. I used two coats of a good grade of oil paint. Could you give me your opinion on these questions. Number 1, would Forgewood shafts make up better than aluminum? Number 2, how would they last compared to aluminum? Number 3, would they warp like cedar arrows? Number 4, does the top feather have to be placed on a certain side of the shaft like in cedar shafts or can it be placed anywhere as on aluminum shafts? Thank you.

Merle Haas  
Nekoosa, Wisconsin

Dear Merle:

Many novice arrow makers find it easier to build wooden arrows than aluminum. All types of finish stick better to wood than alum-

(Continued on Page 49)

## JENNINGS COMPOUND BOW



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**TINSLEY  
ALKS**  
By Russ Tinsley

# Fast and Furious Sport

I'll never forget that first raccoon I saw answer a call. It was late afternoon of a crisp, still March day. The sun was sliding beyond distant treetops and heavy purple shadows blanketed the ground among the small oak trees along the ridge where we'd set up.

I was leaning against a large oak trunk, watching down the ridge away from the blinding sun. Nearby, hunkered among some saplings, were Murry and Winston Burnham. In the shadowy foliage it was difficult to distinguish their camouflaged bodies.

After getting settled, Murry went to work on a call. The sound was a piteous, high-pitched shrill, an imitation of a anguished bird in trouble.

Only moments after Murry commenced calling, I turned my head to glance around me when I felt something bulky moving in my lap. My face jerked forward and I found myself eyeball to eyeball with a large coon. The result was instantaneous. With a yowl I jumped up and the coon did a backwards somersault and hit the ground running. It ran frenetically for maybe 20 feet and scooted into a hole along the rocky ridge. Evidently, that is from where it had come, when it heard the call.

Now coons normally do not come *this* close. But I have had many of the critters close enough to kick them. When an eager coon decides to answer a call, it will rush in close, making an inviting target for the archer.

While occasionally a coon will respond to a call in the daytime, the best time to dupe one is after dark, since the raccoon is primarily a nocturnal prowler. And one of the very best seasons for calling coons is right now, from late February on into April, depending on where you live. The Burnhams refer to this as the "hungry season." Winter has about run its course, yet the food supply which comes with spring has yet to arrive. Coons are out and prowling, their empty stomachs begging for food. A hungry coon is often a foolish coon.

This is the time to find them along streams and ponds. Running creeks and rivers which have not frozen are prime spots. Aquatic creatures are about the only food source left for the coons. The critters also will pounce on any bird that somehow can't evade one's awkward rush. That's why the bird call is so effective.

At one time the coon was sort of an enigma to callers. While an occasionally coon would answer the conventional dying-rabbit predator call, there was nothing consistent about it. Then the crippled-bird call came to be and suddenly coon calling became more of a sure thing. Mouth-blown calls are available which imitate this sound, as well as tapes to be used with portable recorders and phonograph records.

During this so-called "hungry season" the coons will be concentrated. It isn't unusual to call several in one spot. Random calling will produce, as will the beckoning of specific animals which first have been pinpointed with a light. Numerous times friends and I have seen the telltale glow of a coon's eyes, stopped and commenced calling and had the critter come a-running.

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R. D. 1 GREENSBURG, PA.

One March night last year Murry and Winston Burnham and I called seven in one spot and bagged a pair with bows-and arrows. Surprisingly, it isn't difficult to shoot the bow at night, although it is mostly instinctive shooting. A sight is difficult to use with only the beam of a headlight or flashlight as illumination. But a coon offers a fairly sizable target, is built close to the ground and doesn't jump around a lot like the fox. The archer that is patient usually can get a standing shot.

It would seem there would be many lost arrows at night, but truthfully, we haven't lost many. By knowing the line of sight the archer can walk this course, shining his light, and normally pick up his stray arrow without much fuss or bother. A simple little trick is to wrap a band of reflector tape (the kind that goes on an autobumper) around an arrow, and the tape glitters in the light, making it much easier to find the projectile.

Any ordinary hunting bow with standard broad-head arrows is the right medicine for hunting coons. A coon is fairly soft and ample penetration can be had even with a 30-pound bow. But it is important to have sharp broadheads. It's unusual to drop a coon in its tracks; hemorrhage is the key to successful kills.

Before going afield, however, let me caution you to read up on your state hunting laws. Some states prohibit the killing of coons in the spring while a few others ban night hunting with a light. But even in these places, the archer can get some unusual sport by calling coons at night with the moon providing the only illumination. Most predators will not respond readily to a call on a bright moonlight night, but the coon is an exception.

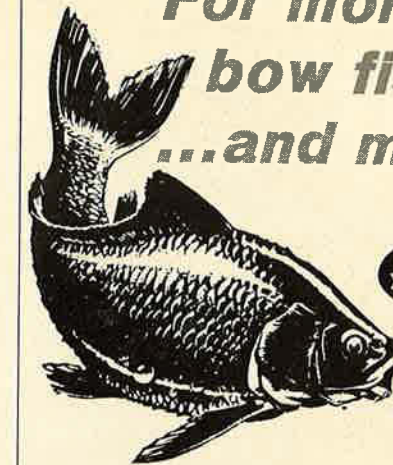
Like with any calling, a still night is best. The sound travels farther and is broadcast in all directions. About 10 minutes in one spot is sufficient. When a coon is going to come, it answers in a hurry, and one won't travel great distances to a call, as will the fox and coyote.

An ordinary headlight is the best illumination. A coon's eyes shine straight back, like a mirror, and by having the light near your eyes you can see the on-coming coon better. Also, a headlight leaves both hands free for manipulating your bow. If you use a mouth-blown call, you can stop blowing at the moment you decide to draw and fire. A coon usually will stick around long enough for a reasonable shot.

Coon calling provides exciting hunting sport during a season when otherwise there is nothing. In most areas there has been a population explosion of coons, so many in fact that they have become pests. Landowners welcome the bowhunters who will help in eradicating a few of the critters.

I've been trying to do my fair share.

For more  
bow fishing fun  
...and more fish!



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RELEASE--

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STANDARD  
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- Large 7" ring provides freer, faster operation.
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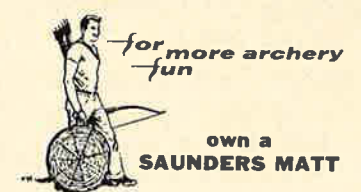
Reel and line with conventional tape on mount (not shown) .....\$4.95

### WITH INSTANT KWIK-MOUNT

(as pictured above)

Quick-on quick-off bracket. Adjusts to fit non-working section of any bow; never needs re-adjusting. Slip one end on, then the other. Plastisol-coated ends can't mar bow. Clip holds arrow.

**\$8.95**



Guaranteed to outlast any other spiral wound mats by 3 to 1



COLUMBUS, NEBRASKA 68601





# Tough

# T O M

by  
**Judd Cooney**

The big, old tom Bobcat had tried to make it to the heavy stand of quaking aspen for his last stand, but had misjudged his capabilities and as I topped the hill overlooking the small sagebrush hillside, my four cat hounds had him bayed in the open. He was a large male and was in top condition and really giving the hounds a battle. As I closed the distance, I saw him take a run at Zero, my three year old Plott hound, and land right in the middle of him like a runaway buzz saw. Jack, Susie and Belle were right there to help Zero out though and no damage was done, but I knew I had better get an arrow into that cat before he really

tore up one of my dogs.

*Lynx Rufus* or as he is more commonly known, the Bobcat is found in all but the most central states, and I wouldn't be a bit surprised if he even turns up in these states on occasion. He is often called a Lynx and many folks believe that the Lynx and the Bobcat are one and the same animal. Not so, the Lynx is found primarily in Canada and Alaska and in the Pacific Northwest and is rarely found in some of the northern states that border Canada.

The sure way of telling whether that critter you got is a Bobcat or Lynx is by the tip on the tail. The Lynx has a black tip com-

pletely encircling the end of the tail, while on the Bobcat, the extreme tip is white.

The Bobcat is sought after by archers mainly for his hide which makes one of the most beautiful rug mounts of any animal.

Probably the greatest percentage of Bobcats taken by archers are called in with predator calls or taken while hunting other game, such as deer. Calling Bobcats is great sport and takes a lot of calling skill plus darn good eyesight to spot these phantoms. A Bobcat hunts by stealth and will sneak up on the caller and leave again, the caller will never know he had a

cat anywhere around.

For my money, the most exciting and productive way to bow-hunt Bobcats is with three or four good cat hounds.

Many, many hunters have the idea that this is not a sporting way to hunt but all I can say is, if you haven't tried it, don't knock it. I've spent some of the hardest hours I have ever put in hunting anything, behind a bunch of hounds running a Bobcat that to this day, I don't think knew how to climb a tree.

On one such occasion last winter, with 6 inches of new snow on the ground, I checked the creek in back of my house and found the fresh track of a medium sized cat going down through the willows along one bank. I proceeded back to the house, got my hounds, bow and gear and set out to bag said cat, telling my wife I would be home in a short while. The dogs took the track and the chase was on. The cat went out of the willows about a quarter of a mile below the house and went up along the main road and down the bar ditch for three fourths of a mile. Staying in an irrigation ditch, the cat followed it up to the neighbors corral and jumped up on the corral fence and walked along it to the barn where it hunted for mice. The dogs lost the track here and I finally found it not 100 yards from the neighbors house, who, by the way, has two dogs that sleep on the porch. The hounds took the track back up the creek bottom through the tangle of willows and jumped the cat not 400 yards from where we started the track. The cat had killed a cottontail in the willows, eaten his fill and crawled up on an old beaver dam and lay there listening to the hounds until they were within about 50 yards of him. He headed back down through the rancher's corrals and again lost the dogs as he went through a herd of cows and headed up a rocky

## "Bowmaster"

Patent Pending

"Bowmaster" grew out of a need for an easier and more accurate method of shooting a bow and especially for those with limited practicing time.

- NEW REVERSE STABILIZATION
- UNIFORM DRAW
- TAKES DRAW WEIGHT OFF OF ARMS AND SHOULDERS
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With your BOWMASTER you can do with ease and uniformity, a number of things that you could not do before. A fifty pound bow can be brought down to a forty-five or forty pound pull or even less and then gradually brought back up as your ability increases. This gives you a chance to build up gradually.

Same like to use a heavier bow because they can cut down on their draw length and still maintain their preferred weight. This works excellent with BOWMASTER as you can adjust draw length from approximately 23½ inches to over 31 inches. You can make your draw lower down, utilizing the muscles that you use every day and then bring the bow up in shooting position. You will then have the draw weight in your hand instead of your arms and shoulders, leaving the other hand and arm free for natural accurate aiming.

BOWMASTER furnishes the bow with a reverse stabilization that is not possible to obtain with regular stabilizers. The "hand stop" keeps your hand from creeping forward on "hand rest" and gives you an absolutely uniform draw, also your hand on the "hand rest" gives you an absolutely uniform place to anchor. If you wish to use a peep sight on bow string and regular sight on bow, your BOWMASTER will give you an unusual freedom and extreme accuracy because you do not have to pay any attention to an anchoring point or your draw length. By using BOWMASTER we have found that even an economy priced bow can be made to shoot with outstanding accuracy, ease and stability. We found that when hunting in below zero weather, there was no "string hang up" on the extra heavy hunting clothes and that it could be used in odd positions and eliminated short draws when excited.

It comes in a beautiful chrome finish that will enhance any bow.

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IT GIVES THAT EXTRA MARGIN FOR THE PROFESSIONAL AND IS A MUST FOR THE BEGINNER. WE KNOW OF NO OTHER ITEM THAT WILL HELP YOU AS MUCH AND STILL NOT BE MECHANIZED.

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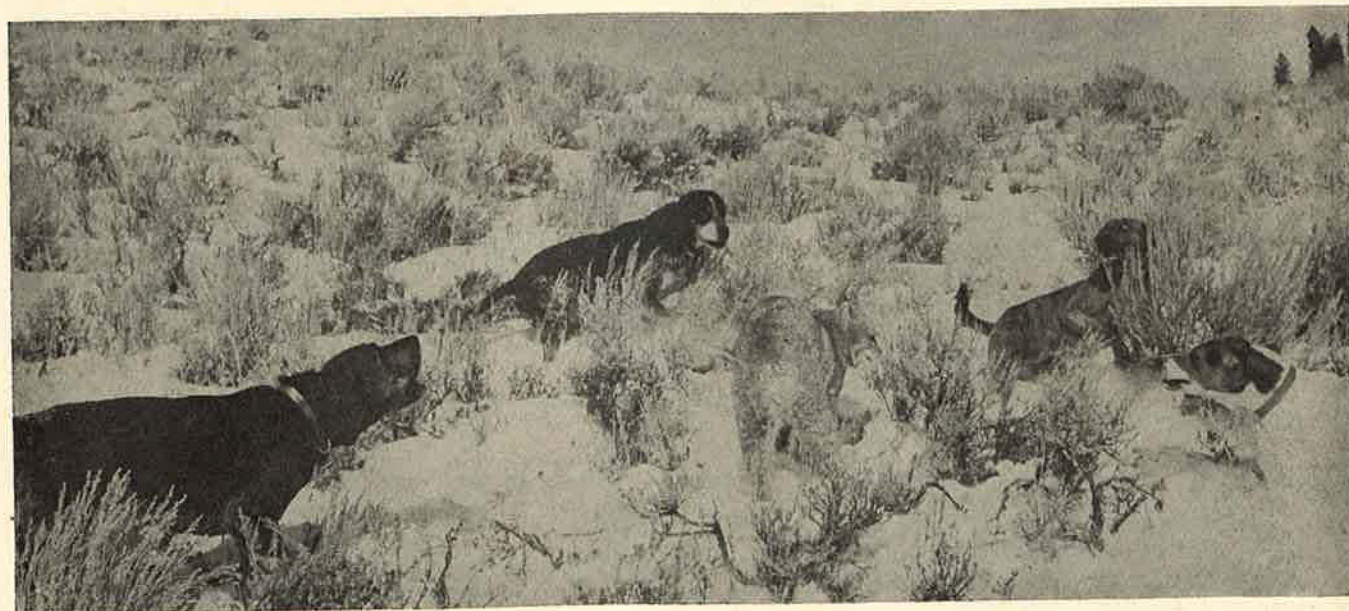
Who are these noisy guys?



canyon and on up the East Fork of the Troublesome River. By the time the dogs got the trail worked out they were about done in as the snow in the willows was 24 inches deep and soft as sugar. The cat and the dogs were both going at a snail's pace and I wasn't about to

be doing any sprinting myself but we kept after him and finally, at five-thirty that afternoon, just as it was getting dusk, he climbed up on a rock outcropping where the dogs couldn't get to him and curled up in a small hole. When I got there he was still curled up

about 10 feet above the hounds and not the least bit concerned with all the racket they were making. A Bear Razorhead soon changed his unconcern to a more permanent state and a wearier bunch you have never seen, trudging the five miles back down that



Now there are four of them. Maybe they want to play?

canyon to the nice warmth of the kitchen and a cup of hot coffee.

There is no such thing as a typical cat chase, at least not in the mountains of Colorado. You never know when you turn the hounds loose whether the chase will last ten minutes or ten hours or more.

Bobcats are without a doubt the most unpredictable animal in the world of wildlife. One cat will take off for parts unknown and never even look at a tree while the next one will go up a tree at the first bawl of a hound.

On one hunt I had my binoculars along and as I topped a ridge above the draw, the dogs were working a cat track in, I started glassing the rocky outcroppings above the dogs. A slight movement caught my eye and I could make out a Bobcat sitting in the sun under a rocky ledge watching the dogs working out his track on the slope below. That cat sat there until the dogs were within twenty yards of him and then ran right past them and "treed" on a ledge below.

Hunting cats behind hounds with a bow calls for some specialized equipment although it can be done with ordinary bow and arrow.

Just about any good bow on the market will suffice for cats, the one you can shoot the most accurately is the one to use, as a cat on a rocky ledge or in a tall tree is not always the easiest target. I use a Browning Nomad, 50 pound bow and also a Bear Super Kodiak in 55 pound weight in my cat hunting and both work equally well. I have an order in for one of Ben Pearson's new take-down bows and this may prove to be the ticket for hunting in the rocks and brush where many times you need both hands just to hang on. Several times when no matter what equipment I had, I couldn't get a shot because there was no way to lean out and shoot a bow and still defy gravity. In these cases that are extreme, I resort to a 22 pistol but



Hey!, you are kicking snow in my eyes !!!



OK, You Guys asked for it !!!

only as a last resort.

I carry my arrows in a bow quiver and use the Bear eight arrow model, it weighs a little more, but it is far easier to carry than a back or belt quiver when going through the brush or climbing in the rocks. I usually take it off the bow when shooting at a cat. I use several different types of arrows in my cat hunting. One arrow has the standard three feather fletch the same as hunting arrows with a Bear Razorhead without insert.

I also use a flu-flu arrow that will shoot about 30 yards with a Bear Razorhead on it for shooting at cats in trees, the flu-flu usually can be found if

or blunt the cat can fight

One the or if you with ho with are

(C

Page Sixteen



cape buffalo.



**SHOOTING FOR  
ACCURACY AND  
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**OLYMPIC   
Gold Medal**

*The Fiberglass Arrow  
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**NEW! PROCESS BREAKTHROUGH—**First production fiberglass shaft to have precision controlled diameter, straightness, balance, and therefore **ACCURACY.**

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**1 SAMPLE ARROW—\$1.00**

Would you like to see an OLYMPIC Gold Medal Arrow? \$1.00 gets you one made to your specifications. Or, if you would like to shoot a round, order an **8-PAK** using introductory offer below.

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Please ship OLYMPIC Gold Medal arrows, selected to my specifications, postage prepaid, as shown:

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Check or Money Order enclosed  Please ship C.O.D.  
In Washington, add 4.5% Sales Tax

Draw Length in Even Inches: \_\_\_\_\_

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Fletching Preference: Red  Blue  Yellow   
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AW

A giant Kodiak bear emerges from his "cave" in the Wall.



If you drive a mile and a half west of the town of Grayling, Michigan, you will come suddenly upon a life-size replica of an Alaskan brown bear. Over the bear is a large sign, "Bear Mt.". This is the portal to Grayling's fine all-season family recreation area.

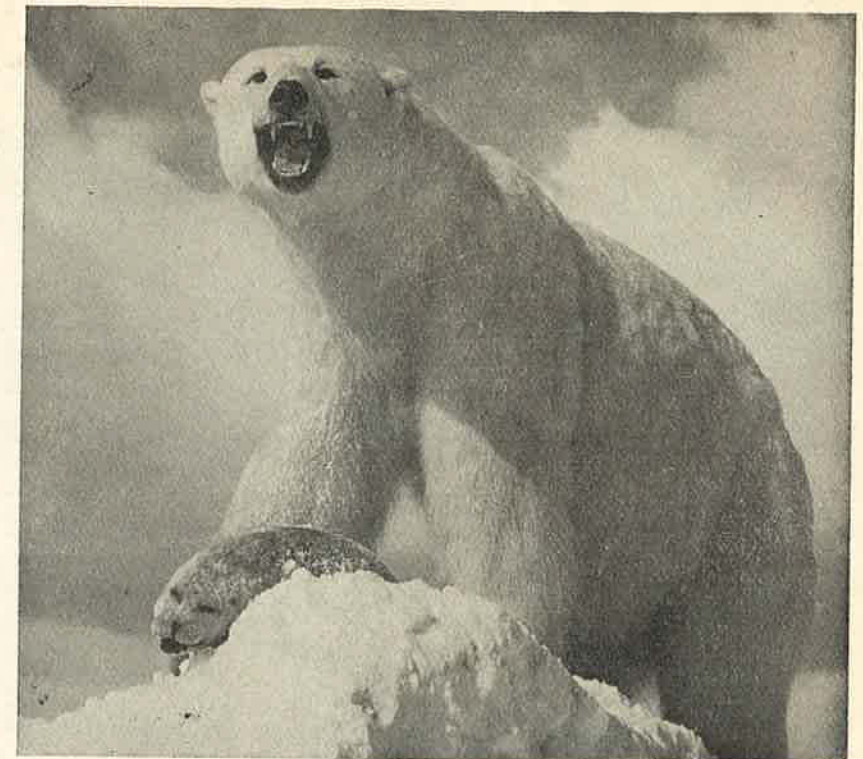
Turn in and drive a couple hundred yards, past a wood-bordered pond and you will find yourself in front of a most imposing structure. Lettering by the big glass entry says, simply, "Fred Bear Museum". And therein lies a tale.

The building is about 165 feet long and 45 feet wide, not including the entry hall. The entrance is flanked by two authentic totem poles of cedar, carved especially for this use in Alaska. Topping concrete pedestals on either side are lifelike and lifesize replicas of a polar bear and Kodiak bear, sculptured in fiberglass.

Upon entering the building, you will find approximately one third of the space occupied by a combination archery Pro Shop and a Gift Shop. The Pro Shop itself is something special and, quite naturally, contains one of the largest and most complete displays of all types of modern archery equipment to be found anywhere. The Gift Shop too, is special; its stock for the most part being merchandise related with archery, Indians, Eskimos and life in the outdoors.

When you enter the museum you are immediately transported to another world—the world of the hunter and Nature-lover. The walls are "alive" with large and small game animals from three continents, many of record size. You will see everything from pine marten and bobcat to giant moose, caribou, elk, mountain sheep and grizzlies—all taken with the bow and arrow.

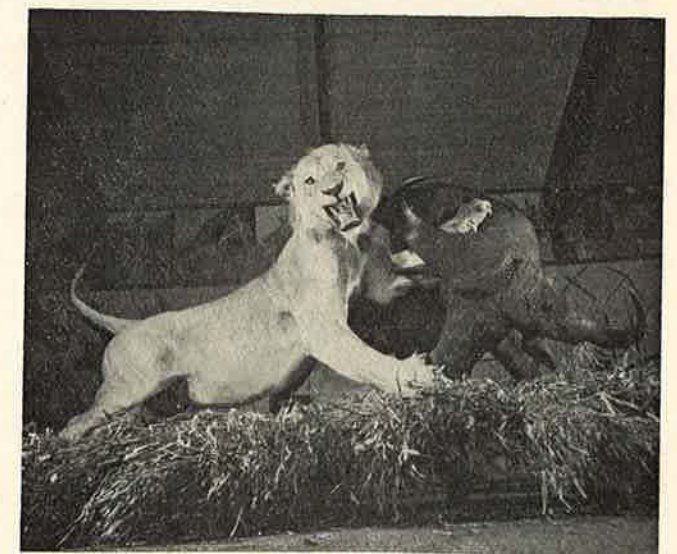
**The  
Fred  
Bear  
Museum**



Among the many lifelike mountings is this one of the polar bear with a bear seal.



Partial view of Museum's interior.



Unusual mounting of an African lion and cape buffalo.



Finally!

# A TRACKING ARROW

## THE Shaft Spider

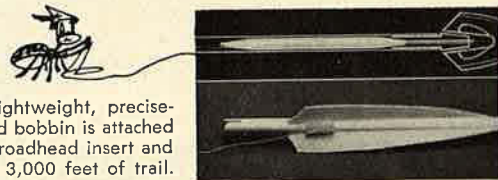
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- EASY TO USE
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The new Shaft Spider hunting arrow spins a continuous web trail for you to follow with confidence. Now you can relax during that recommended wait before recovering your trophy. The trail will start at your fingertips and be obvious regardless of weather, time, or terrain.

And what if you missed? The Shaft Spider solves your lost-arrow problem, too. Simply follow the trail, retrieve your arrow, and be ready for another shot.

At last you can stop gambling on losing game (or arrows). For successful tracking this hunting season, follow the Shaft Spider.



The lightweight, precisely-wound bobbin is attached to the broadhead insert and contains 3,000 feet of trail. The fine web is drawn freely through a small hole near the nock. The Shaft Spider trail is laid, not dragged, and therefore  will not break while unraveling through even the heaviest brush,  will not impede game, and  will not affect arrow flight.

RORCO · BOX 1007 · STATE COLLEGE, PENNSYLVANIA 16801

- SHAFT SPIDER ARROWS (Shaft Spiders assembled in Micro-Flite shafts), set of 3 for \$8.95
- SHAFT SPIDER KIT (Shaft Spider parts to fit 3 of your own hollow shafts or to use as refills), \$3.75
- AMOUNT ENCLOSED \$ \_\_\_\_\_ Pennsylvania residents, please add 6% sales tax

BOW WEIGHT	lb.
ARROW LENGTH	in.

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**RORCO**

One complete wall is devoted to Africa. Center-piece is the head of a huge 4 ton bull elephant brought down by Fred with one arrow in Mozambique. A few of the other species in this group are eland, kudu, sable, impalla, wart hog, topi, waterbuck, reed-buck, oribi, nyalla, wildebeest, hartebeest and the fierce cape buffalo.

A large center floor space is devoted to full animal mounts in natural poses, ranging from an African lion in deadly combat with a cape buffalo, through Bengal tiger, Yukon wolves, Alaskan moose and snowy arctic fox. And of course Fred's trophy-sized Kodiak and Polar bear mounts are prominently displayed.

But animal mounts are not all the Museum contains—not by a long shot. Housed here is undoubtedly the finest individual collection of archery artifacts in existence. To name just a few of the hundreds of interesting items, there are all types, sizes and areas of our country represented in ancient Indian tools, weapons, decorations and art; from Eskimo to Hopi, from Iroquois to Yahi, relics of the Stone Age in the Japanese Islands, bronze bodkin arrow points taken from the remains of Persian warriors killed in the Battle of Marathon in 490 B.C., archery equipment from the Malay Archipeligo and the South Pacific islands, from many African tribes including pygmies of the Belgian Congo, from the arctic Eskimos, from ancient Tibet, Mongolia, China, Persia, Arabia, and many, many more. The world-wide collection of bows and arrows, of all types, designs and stages of antiquity, is most interesting to casual tourist and archery enthusiast alike; to say nothing of such extremely rare and unheard-of specimens as the Prairie Pike, Alaskan Furbearing Trout and the Michigan Carnivorous Tree Bear.

Since first being opened to the public late in 1967, there have been numerous additions to the Museum, both of animal mounts and of artifacts and weaponry.

Another important aspect of the building is a second floor over the central office section. The main part of this upstairs space is earmarked for a public theatre. Later this year it will be fitted with automatic projectors and some 65 to 70 people at a time can be comfortably seated to enjoy Fred Bear's world-famous bowhunting films in full sound and color.

The Museum will be open year-round. So if you find yourself in the Grayling area, winter or summer, be sure to include a stop there on your agenda. It is most educational for the youngsters and well worth anyone's time.

Oh, yes, the other room upstairs, adjoining the theatre and overlooking the entrance, is Fred Bear's personal "retreat". So if you drive up to the Museum, and see a lanky figure gazing from the large upstairs window, you'll be looking at the man who dreamed of this Museum, and made the dream a reality.

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## HOWATT Del Rey

The newly styled HOWATT Del Rey is unquestionably the archery world's new standard of excellence. There's an excellence of design, craftsmanship and unique beauty that is vividly apparent. The distinctive HOWATT "family lines" are there, although the exotic Brazilian rosewood handle has been given a more massive treatment to gain even greater smoothness and performance. Its design will permit the addition of your exterior stabilizing device if you wish. But until you hold it, shoot it, admire first-hand its brilliant finish and superb styling, you can never fully appreciate the very real differences that set the HOWATT Del Rey apart from all others.

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Carefully engineered for peak stabilizing efficiency and smartly accented with Brazilian rosewood to complement the rare beauty of your Howatt bow.

17 1/2" length.....7 oz.  
21 1/2" length.....8 oz.

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# NATIONAL ARCHERY ASSOCIATION

of the UNITED STATES / RONKS, PENNSYLVANIA 17572 / 687-7324 (AREA CODE 717)

MEMBER: UNITED STATES OLYMPIC COMMITTEE MEMBER: AMATEUR ATHLETIC UNION OF THE U.S. (AAU)  
MEMBER: INTERNATIONAL ARCHERY FEDERATION (FITA)

## Clubs, Associations Again Urged To Send In Six-Golds Tourney Dates For Listing In NAA Pages

That offer we recently made to list the registered Six-Golds tournaments of NAA clubs and associations still stands, so send your information to the NAA editor, whose name and address appears in the Board of Governors box. We particularly want the word on regional and state events. Follow the form shown in the following listings:

**NASSAU BOWMEN**—April 21, Double American, reg. 9 a.m., scoring 10 a.m. Santini Nassau Co. Park, East Meadow, Long Island, New York, entrance on Merrick Ave., s. of Hempstead Tpke. Sec'y: Mrs. Carol Kamps, 491 Freeman Ave., Brentwood, N.Y. 11717, 516-273-0737. Other dates: May 19, Double NAA 900, same time, place. July 23, FITA, same time, place; July 28, optional American; Sept. 8, Julius M. Rosenberg Memorial, Double American.

**SENACA BOWMEN**—Harrisville, Pa. Double American tournaments June 2 and Aug. 11; registration-practice 9-10 a.m. 2 miles east from the traffic signal in Harrisville on Rt. 58 on Harrisville Deer Hunters Farm. John W. Elder, Box 133, Harrisville, Pa. 16038, 412-458-9709.

**OLYMPIC ARCHERS**, Bremerton, Wash., is hosting a FITA Star May 19; for more info, contact E.F. Coiner, 1506 High Ave., Bremerton 98310, telephone 206-373-6694.

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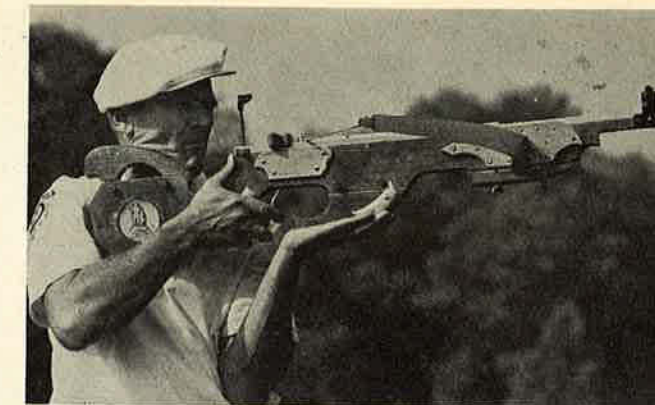
WILLIAM STUMP, Beaver Dam Rd., Cockeysville, Md. 21030



How many Americans watched the Winter Olympics on TV? The numbers were in the millions; perhaps additional millions read about the events in newspapers or magazines, or heard the almost hourly bulletins and interviews on their automobile radios. And the story will be repeated in October, when the summer program takes place in Mexico City. The point I'm obviously making is this: in 1972, at Munich, archery is going to get this kind of incredible exposure. If our archers do well in the Games four years from now—and keep in mind that the U.S. won only one gold medal at Grenoble—the benefits to our sport are really going to be something. Just the fact that we're on the schedule is bound to do us plenty of good even in the next four years; look at the youngsters who are being exposed to archery in NAA's Junior Olympic program. There are hundreds of Junior Olympians now; there'll be thousands by '72, all of them potential archers for life.

Which brings me to a letter from Edgar C. Cook, Jr., Barrington, Ill. "Nowhere," he writes, "have I been able to find the rules, regulations, etc., governing Olympic archery competition." And, he adds: "Incidentally, with all the emphasis on money shoots and professionals, where is the next Olympic team coming from?" I think I've part way answered that last question. Let me add to it by saying that the potential of the Junior Olympic program, plus NAA's strongly amateur posture and its stimulation of our years-long participation in international archery events, is going to provide plenty of capable people. Add the fact that the true archery professionals—the instruction-minded segment of the Professional Archers Association, and the archery manufacturers group—are as anxious as NAA to expose archery to as many amateurs as possible.

Actual responsibility for selecting our Olympic team falls to the Archery Games Committee of the United States Olympic Committee: NAA, under USOC rules, has the majority of the members of the committee. Why? NAA is this nation's sports governing body for archery. Under international Olympic reg-



Marv Southcomb, of Baltimore's Oriole Archers, got this photo of Dick Neill last summer. Dick, a former NAA crossbow champion, is a member of the National Crossbowmen, the group affiliated with NAA. For more information on the organization, write to Fred Isles, whose address is 10 Arlington Rd., Cranford, N.J. 07016. Here, Dick is shooting the Bailey bow, plans for which are available from Mr. Isles; most U.S. x-bo fans shoot this model

ulations, the governing body for a particular sport is that group which belongs to the sport's world-wide organization. For us this is the international archery federation, of FITA.

The less-than-the-majority members of the games committee can be affiliated with organizations other than NAA. When the committee first was set up in the early '60's, its chairman, then as now Clay Shenk, invited Dick Freeman, then NFAA president, to be a member. The committee is now being reorganized; as yet no precise method of picking the '72 squad has been established, but the subject was discussed at the last NAA Board meeting. One plan being considered would start the process in '69 by taking into consideration scores shot at the NAA National; the '70 and '71 Nationals would play a part, too. Beginning in '70, in addition, there would be Olympic scoring tournaments, and in 1971, the first tryout event; two more tryouts would be held in '72.

Haven't forgotten that the 84th NAA National takes place Aug. 5-9 at Tahlequah, Oklahoma? In addition to some great camping, there are six city motels, plus those air-conditioned college dorms, \$20 per person for the seven days. More next month!



## Join the National Archery Association!

No matter what kind of archery you like best, you should join NAA! Its brand of shooting and its club activities are fun—and challenging! Besides, NAA works for the promotion of all archery, and your support means a lot. NAA represents all archery before the U.S. Olympic Committee and FITA, our sport's international federation. Another thing: NAA, founded in 1879, is tradition-laden. Yet it's as modern as tomorrow. It's well-organized, it's growing, it'll be more and more important to archery—and to you!—as time goes on. And here's something else, too:

YOUR MEMBERSHIP INCLUDES A SUBSCRIPTION TO ARCHERY WORLD

Individual membership, \$5 a year. Family membership, \$6, inc. husband, wife, \$1 more for under-18ers. \$3.50 for under-18ers who join independently of family. \$2 additional outside the United States. Includes magazine!

Name(s) ..... Soc. Sec. No. ....  
Street .....  
City ..... State ..... Zip .....  
( ) Individual ( ) Family ( ) Youngster(s) under 18 \$.....Enc.

Make checks payable to the National Archery Assn.  
Mail to NAA, Ronks, Pennsylvania 17572





Ardelle and her family live at Minnetonka, Minnesota, a suburb of Minneapolis; husband Bob, shown here, is an engineer with Honeywell. The kids, from the left: David, 5; Karen, 10; John, 9, and Donna, 7. Ardelle coaches a Junior Olympic club, and John and Karen are among the members

## A Talk With NAA Champ Ardelle Mills

By WILLIAM STUMP

When she was 15, Ardelle Mills was the national junior girls speedskating champion and, at 17, runner-up in the North American competition. She spent 11 seasons in the sport—one of her national records held up for 14 years—and went on to softball, golf and skiing.

With such obviously natural athletic ability, it's not at all surprising that Ardelle's seven years in archery have been eminently successful. She's competed in five NAA national championship tournaments—in 1962 she was seventh, in '64 she was third, in '65 fourth, in '66 fifth and in 1967, the winner. At Greene, she beat out the always formidable Vicki Cook by 16 points, hitting a 1122 FITA, a 558 National, a 610 Columbia, a 716 American and an NAA 900 round of 763.

Internationally, she was a member of 1965's U.S. Team: at Vaesterås, in Sweden, she came in tenth, and that performance helped win the world team title for the United States girls. She missed out on '67's squad (placing 13th in the tryouts at St. Louis), but she was top gal going away in the '67 Ambassador's Cup event with Canada, held in September at Winnipeg; her three FITA scores there were 1072/1081/1111.

And now to the Minneapolis suburb of Minnetonka for a conversation with the champion:

*Q: Ardelle, when and how did you get into archery?*

A. It was in June of '61, Bill. My husband, Bob,

mentioned that there was a club starting at work—that's Honeywell—and that wives could join. I couldn't have cared less about archery, but Bob bought me a bow, and it really didn't take me long to find out that archery is a great sport. Bohn Wanamaker, to whom we went to buy the equipment, watched me draw the bow for the very first time. "I'm going to make a champion out of you," he said. I sure laughed at that. I was lucky, though. I guess I had a certain amount of natural ability, and I was taught correctly from the beginning. Bohn spent a lot of time with me in the first two years, and now, if I run into trouble, I turn to him and he can spot it right away.

*Q: Does Bob participate in competitive archery? How about the kids?*

A. Even though he's a bowhunter at heart, Bob shoots with me in winter at the Minneapolis Archery Club, and in the NAA winter mail tournament. He does no other competitive shooting. Karen, 10, and John, 9, are in the Junior Olympic program and doing nicely; Donna, 7, and David, 5, like to shoot when we let them, but they don't yet have their own bows.

*Q: You've been in the top rank of NAA gal archers for some time, Ardelle. Could you tell us how, with a family to care for, you manage to keep such a sharp edge?*

A: Sometimes I wonder when the edge is sharp. My practice varies so much. I burned myself out in '65 with too much shooting—not physically, but mentally. I always quit shooting in the fall; from

December to April, I shoot once or twice a week with the club. It's quite cold and windy here in Minnesota in May, but I try to get out two or three times during that month. In June I begin real honest to goodness practice, two or three hours a day, up to the U.S. Team Tryouts. Our family goes on vacation the first two weeks in July, and I learned the hard way to leave the bow at home. After vacation I resume the two or three hour daily practice to prepare for the National. I really don't go to many tournaments because of the baby-sitting problem.

*Q: What's your toughest shooting problem?*

A: Oh, that's easy. It's aiming. I'm a notoriously bad aimer. Secondly, is my tendency to creep.

*Q: Who keeps your equipment in shape? And while we're on that subject, would you give us a run-down on the equipment you use?*

A: Bob keeps my equipment up to snuff. He's an engineer, so he likes to putter with equipment. He makes my strings and arrows; I can take care of my practice arrows, but I don't trust myself when the chips are down. I make my own hair tabs from a calf skin I bought four years ago, and I made my own chest protector from vinylite; Vicki Cook gave me that tip.

For indoor shooting I use a forward sight, but I don't shoot with a stabilizer or a rear sight. My arrows are 28" 1716 Easton 24SRTX aluminums, three feathers for indoors, P22 Plastifletch for outdoors. My bow is a 69 Staghorn, 28 pounds at my 28". I use the Accra sight.

*Q: Ardelle, tell us how you actually go about the business of loosing an arrow.*

A: First, I get a comfortable stance; I use a slightly open stance. Then I look at the target, nock my arrow, place my fingers on the string being careful to avoid finger pinch, and look at the target again. With slight tension on the string I raise the bow to shoulder level, draw the string back to my chin and slide up to a firm anchor. I sag off on tension past my draw check, then tighten my shoulder muscles to pull back to full draw, and then check my string alignment. Then I aim. When the sight is where I want it, I relax my fingers. On a good release, my fingers come to rest at the base and side of my neck. I try to maintain a solid bow arm until the arrow hits the target. When I begin to tire, the bow arm is the first indication; it begins to drop.

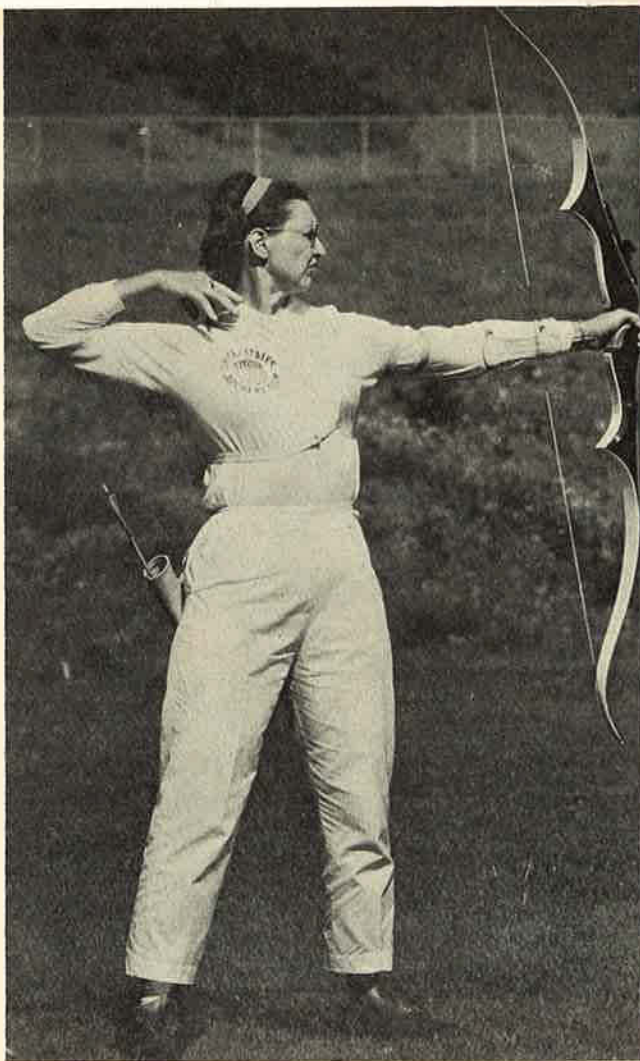
*Q: At the U.S. Team Tryouts, you didn't do as well as you (or any of us) expected. At the National, you told me you wanted to make up for your poor showing. So the question is this: what really was your attitude when you went to Greene? And what part do you think attitude, state of mind or whatever you want to call it, plays in championship archery?*

Top right, Ardelle—who admits she hates tournaments—looks on as Vicki Cook tallies at the National at Greene last summer. Right, the strong Mills form; on the next page, more pictures of Ardelle in action



Page Twenty-four





Ardelle's advice to all would-be champs: "Find a good coach, learn things correctly from the start—and practice, practice, practice!"



A: When I went to Greene, I went to win myself a red team jacket—that is, I wanted to win a place on the team destined to go to Winnipeg for the Ambassador's Cup matches with Canada. I know now, from personal experience, that state of mind can make you first or an also-ran. I was no different as an archer, but I certainly was in a different frame of mind. I wish I could have the determination and concentration in all my shooting that I had at the National at Greene.

Q: Ardelle, I've watched you compete for some years and, to be frank, you look like you're really working up there at the line. What would you say is the satisfaction you derive from tournament competition?

A: In a tournament, I'm shooting against a par that I've set for myself. Hitting the par gives me my satisfaction. As for tournament shooting, I hate it! I hate tournaments with a passion! My real satisfaction comes in meeting people, making friends with folks from all over. I like to travel, I like to get away from the children for a few days. That's not enough of an excuse to go running all over the country, so I have to shoot, too. But I really don't like to get all wound up inside, which is what a big tournament does to me.

Q: Now that you're the national champion, do you have any archery ambition left? What is it?

A: It's still the same. Shoot—and have fun. My greatest satisfaction in archery was making the '65 U.S. Team and going to the World Championships. If I'm still shooting in '72, I'm sure I'll put forth a little added effort to try to make the Olympic team.

Q: Ardelle, here's a question which may be of assistance to young hopefuls. Let's suppose a young female-type archer of talent and promise came up to you and said, "I want to be a national champion, Mrs. Mills. What advice would you give me?"

A: I'd give the same answer to any archer, man, woman, boy or girl: Find a good coach, learn things correctly from the start, and practice, practice, practice, practice!

Q: You've been close to NAA for a long time, and I'm wondering if you have any suggestions as to how the Board of Governors could make things better for gal archers. How do you feel, for example, about the elimination of the National and Columbia rounds from the championship tournament?

A: Well, eliminating those rounds is fine with me. But I'd like to see two FITA rounds shot for the national championship titles. If the archers who know they're not real contenders want to shoot the same rounds that have been on the program for years, fine. It may be their only opportunity to get a six-golds at the various distances, or it may be that some just like to shoot a lot of arrows. But when you get right down to it, the champion turns out the one who shoots the most consistently well, whether there are 144, 288 or 468 arrows.

Q: Ardelle, what are your 1968 plans? Are you going to Tahlequah to defend your title? And do you look forward to going on to Seattle for the Ambassador's Cup providing you place first or second?

A: Sure, I'm planning to go to Tahlequah. The Ambassador's Cup tournament—ha! I'm really upset about the Board's decision to give two Junior Olympic archers a place on the team. If the Board wants to give an incentive award, let them send the youngsters to the National and let the kids earn their place on the squad. If I'm lucky to be first or second at the National, I'll just have to see how I feel about it then. Right now I'm so disgusted that the possibility of the trip thrills me not at all.

Before anyone misinterprets what I've said, let me explain that I'm 100% behind the Junior Olympic program. I started a JOAD club here, and I'm coaching it. The kids are thrilling to work with, and I love it. But don't put even your best youngster on the top step of the ladder unless he can climb there himself. He just may fall so badly that he can never recover.

Q: Do you have any other active interests in addition to your family and archery?

A: Oh, I seem to get involved. That's why I really don't practice from fall to spring. At church, I have commission and circle work, two monthly bridge groups and my weekly Junior Olympic program. Incidentally, I've never had the time to shoot field archery; my husband bowhunts every week-end during the season, and I get to the cabin once. I love hunting; nothing thrills me as much as seeing a deer coming closer and closer through the woods.

Most of my spare time is tied up with Camp Fire activities. I have ten fifth grade girls who come to the house every week, and I'm secretary for the district leaders association and on a council committee. So I guess you'd say I'm active.



Ardelle was radiant as she accepted her Dallin medal at the banquet at the National last summer. Gil Millard, crossbowman and camera buff, snapped this photograph



Junior Olympic archers from Culver Military Academy: Culver cadets won last year's indoor mail match. Sgt. Dick Wright, advisor to club, is in Vietnam

### Junior Olympic Mail Match Is Set For May; Eligibility For 1968 Ambassador's Cup Matches Listed; Two JOADers To Be On U.S. Team

BY GEORGE HELWIG  
(Chairman, Jr. Olympic Archery Development)

May is the month for the Indoor Mail Match of the Junior Olympic Archery Development Program. May, you say, when the weather is warm enough to shoot outdoors? Well, that's on purpose: we want to give an opportunity to shoot to those clubs which don't have indoor facilities. They can shoot the round outdoors.

The entry fee is only \$2 per club. Your shoot two indoor rounds anytime in May, mailing in the scores to JOAD headquarters, 69 E. Galbraith Ave., Cincinnati, Ohio 45216. There'll be awards for cadets, juniors and intermediates. A club's team is determined by the highest four scores from a club, regardless of the age or class of the archers.

The JOAD indoor round is 60 arrows at 20 yards at a 24" face. Possible perfect for the round is 540, or 1080 for the two rounds. If you have any questions, write to headquarters; otherwise, shoot your rounds in May, and send in the individual and team scores before midnight, May 31.

Something new: JOAD is initiating a brand new program designed to stimulate challenge match competition between Junior Olympic clubs. Your headquarters has prepared printed challenge forms and score sheets, and these are yours for the asking, along with a list of all the clubs in the program, with addresses, so your outfit can make its challenge. With the forms, each club initiates its own challenge and reports the results to headquarters. The forms provide a universal system through which we can compare the progress and activity of the various clubs. The idea, proposed by Sgt. Dick Wright of Culver, will give us still another stimulating program.

Last month it was reported that the NAA Board decided that the number three male and female on the U.S. Team meeting Canada for the Ambassador's Cup this summer at Seattle would be JOADers. Selection will be made by the JOAD chairman and a committee. To be considered, JOADers (even those graduating from the program because of age) will be considered on the basis of NAA rounds shot this season; at least one FITA, shot in a registered NAA Six-Golds event, must be submitted.





## THE ARCHERY CLINIC

By Jack Witt

### Klickers are for "nuts"

When I was a small boy we had two gadgets we used to take the meat from the shells of nuts. One was called a "Nut Cracker", the other a "Klicker." The Klicker was used on the thin shell nuts such as the paper shell pecans and English walnuts. By placing it at one end of the nut you actually clipped off the end. This was done at an angle, the meat wasn't touched, and you could lift out the meat of the nut whole.

Now if you thought from the title of this column that I was comparing archers who used Klickers on their bows to nuts, you were wrong. I felt that with this title all archers who used Klickers and those that were thinking of using them would read the column. I think the Klicker is a wonderful discovery and can help certain archers with shooting problems that could not be helped otherwise.

The original Klicker was designed as a means for the archer to check his draw length. Just who discovered that it would also solve certain aiming problems I don't know. But every archer who puts a Klicker on his bow will agree that he can aim as well if not better than ever before. And, incidentally, it is about a ten-to-one bet that every archer with a Klicker on his bow did have aiming problems.

The third year that an archer shoots is usually his critical year as a shooter. This can vary, depending on the amount of shooting the archer does. When the archer reaches this certain crucial point he falls in one of three categories: The first is no more than a small bump in the road, and he sails on by gradually improving his shooting. The second is a series of bumps. It shakes the archer up considerably but he finally gets over this and he too begins to show great improvement.

The third is not a series of bumps but a drop in a canyon. The archer falls hard and his scores are no more than a beginner because of his tremendous freezing problem. He seldom stays in archery.

There were ways of working out of these slumps. The easiest was to change from a right handed archer to left handed or vice versa. Another was to go down close to the target and really sweat it out. Both are cures, as has been proved; but the vast majority of archers weren't willing to go through this. Then the Klicker came into being.

This article is to offer a few tips for those using the Klicker. It seems that there are a few archers who can put a Klicker on their bow and immediately shoot fantastic scores; others just can't seem to use the Klicker. In the first place, if the click of the Klicker triggers the shot it is entirely different from what you have previously done, and the reaction is to explode. This, too, has varying conclusions. Some will completely collapse when the Klicker clicks, others will hold on the string and draw farther back before releasing. In either case the release is terrible. And coming off the string is the all important thing when using the clicker.

There are two important things to using the Klicker. One, you must have confidence, and two, you must gain complete control. So don't put a Klicker on your bow and expect to have achieved these two things immediately. Take the correct steps with the Klicker and you can gain both confidence and control. First, of all, make sure you have it mounted exactly right for your draw. You certainly don't want to stretch completely out on each draw, nor do you want to feel

cramped. Now let's go down ten yards from the target. Draw to full draw with the arrow in the Klicker, aim, then draw it past the click. Hold aim, then shoot. Do this for six arrows. On the next six, draw, aim, and when it clicks, let this trigger the shot. To heck with how you are releasing or where the arrows are going. At this stage you are learning control. When you feel that you have this control down, move to fifteen yards and do the same but this time alternate with each arrow. One arrow hold after the click, the next release when it clicks.

Chances are you are still spraying the arrows. Oh, you're aiming better than you ever did, but for some reason only a few go in the dead center. This can be because of several reasons. 1. Not keeping tension in the shoulders. 2. The drawing hand is tense. 3. Dropping the bow arm. 4. The elbow of the bow arm not being locked, and having it give on release. 5. Last but not least, you may have the wrong anchor for this triggered type of release.

Let's take each of these in sequence. 1. NOT KEEPING TENSION IN THE SHOULDERS. On a triggered release one of the most common things is for the archer to collapse on release. In other words all tension is lost. When this happens he cannot get a good and certainly not a consistent release. I would suggest the archer practice by exaggerating the pull of both shoulders. Let the left arm (if a right-handed archer) fly to the left, and the drawing hand fly backwards on release. After a few exaggerations then concentrate on the drawing hand being pulled back and around, and when I say back and around I mean just that.

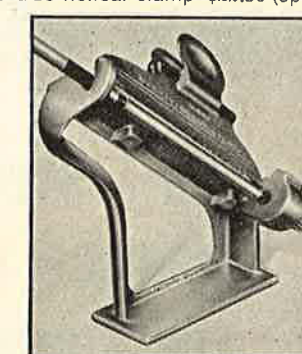
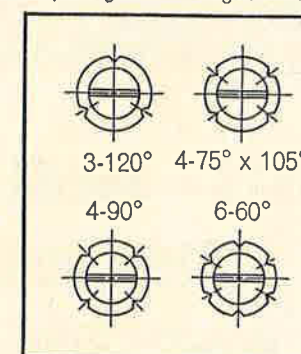
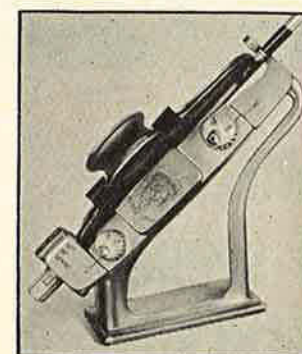
2. THE DRAWING HAND TENSE. Make sure the string is well in the crease of the first joint of the fingers, never down towards the ends of the fingers. The back of the hand should be flat. The whole hand and wrist must have a feeling of being relaxed when at full anchor. And the drawing hand must lie in very close to the neck and face. 3. DROPPING THE BOW ARM. A common fault but one that can come easily into play when the archer is using a triggered release for the first time. The tension in the shoulders can help eliminate this; and positioning the bow hand without it being tight in the grip. 4. THE ELBOW OF THE BOW ARM NOT BEING LOCKED. The elbow of the bow arm must be locked, otherwise the bow arm will drop to the right (right handed archer). 5. SOME ARCHERS MUST CHANGE THEIR ANCHOR WHEN USING A TRIGGERED RELEASE. This should be done under the supervision of a top instructor, or you can run into trouble. For example you have previously been anchoring in the center of the chin, then dropping the nose down and touching the string with the center of the nose. When using a triggered release you find you can't get and keep the tension in the shoulders. If the anchor is slightly to the right of the center of the chin your shoulder muscles seem to come more into play and, when the release is triggered, the shoulder muscles are still in play. In doing this you may have to use a kisser, so that you come to the exact same place each time. But, as I said, you should have a top instructor watching.

Oh, the Klicker is here to stay, as it has helped too many archers who have dropped into the canyon. It can help you too if you have shooting problems, but you must first gain control and develop confidence.

### THE FINEST FLETCHING EQUIPMENT FOR PERFECT ARROW MAKING

No other fletching equipment gives you all these features: 1. Dial your setting and you can fletch your arrows diagonally, straight, or true helical fletch right hand or true helical fletch left hand. 2. Spaces feathers or vanes 120°, 90°, 75° x 105°, or 60°. 3. Precision die cast, form fitted thumb controlled clamps. 4. Knife edge on base of clamps eliminates build up of surplus glue.

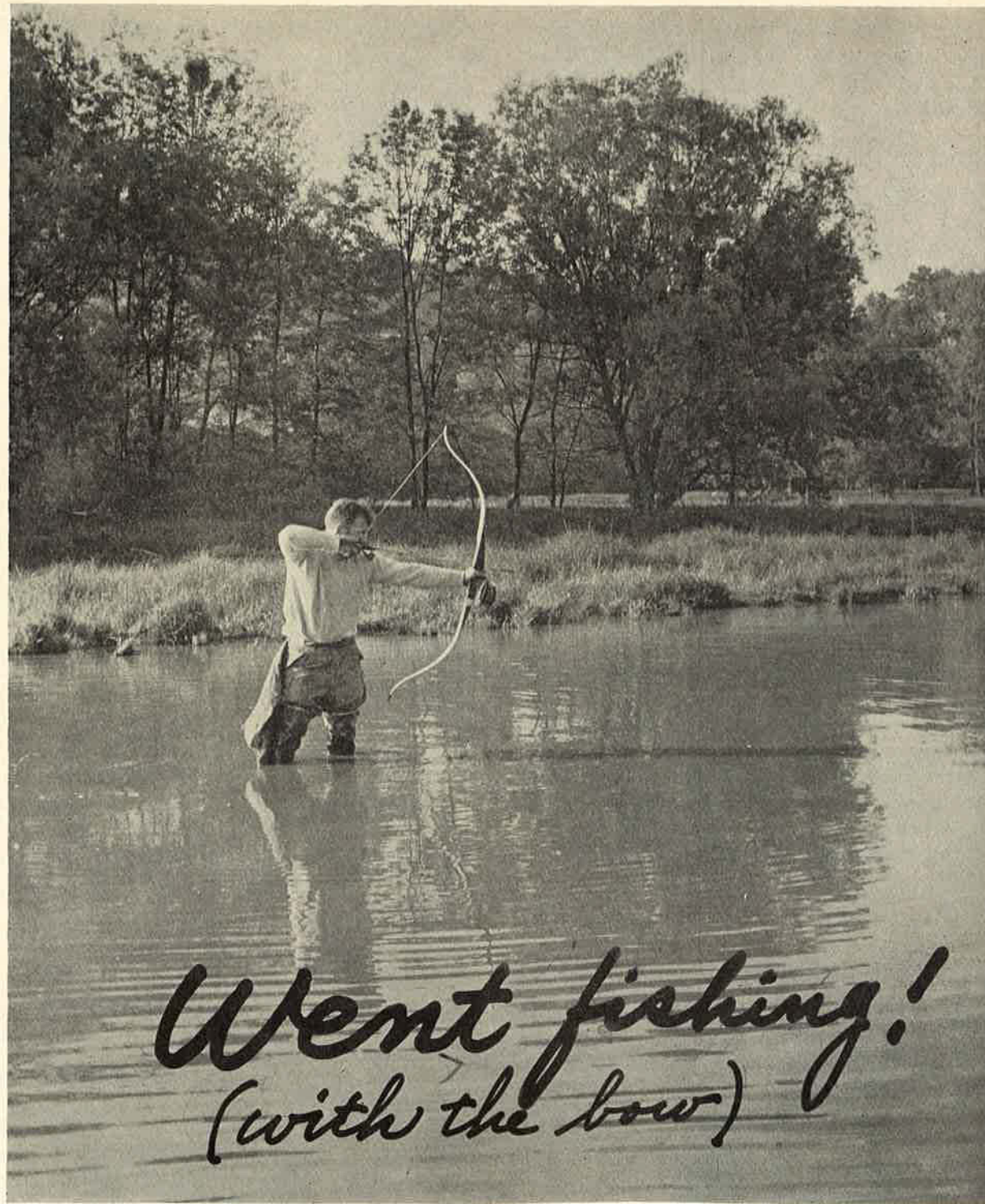
5. Graduated scale on side of clamp for spacing feathers or vanes accurately from nock. 6. Allows clear view of fletching work at all times. 7. New, self-centering nock receiver fits all nocks. See the most advanced, versatile and accurate fletching jig in archery at your dealer's or order direct. Jig with straight clamp \$21.00. Right or left hand true helical clamp \$22.50 (specify).



### THE BITZENBURGER DIAL-O-FLETCH

HENRY A. BITZENBURGER, ROUTE 2, BOX M-1, SHERWOOD, OREGON 97140





*Went fishing!  
(with the bow)*

**CARP — STINGRAYS — SHARKS WILL HELP  
PROVIDE THE ACTION DURING SPRING  
AND SUMMER BOWFISHING WEEKENDS!**



## BOWHUNTING BOWHUNTING

with the Dutchman  
By H.R. "Dutch" Wambold

During the first days of May as the waters of the streams warm under the rays of the spring sunshine, the spawning run of the carp makes its appearance in the backwaters.

This is the time of the year when many archers tape their bowfishing reels on their bow, round up a few solid glass fishing shafts and points and hit the waters for some fast shooting fun.

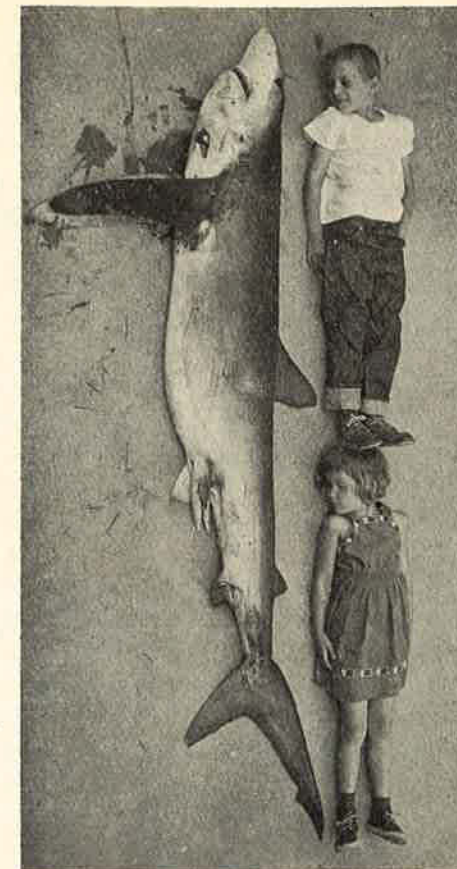
Bowfishing for carp finds many variations by which to enjoy the sport. Shooting can be done from a canoe as it is guided into productive waters, or from any boat for that matter. The method that appeals to most bowhunters is the stream bank stalking, or getting right into the water to work onto the carp.

The large doe carp bursting with eggs keep working the muddy bottoms of the backwaters making their nests. The smaller buck carp keep bunting the doe to force the eggs out of her. In hunting waters where this takes place, the large doe will rise to the surface of the water, roll, showing her large dorsal fin, give a flip of her broad tail and head for the bottom again.

By the time you spot the doe rolling, or hear the splash of her tail, the carp has usually disappeared beneath the surface. If you can get into a shooting position in jig time, all you have to aim for is a slight swirl in the surface to indicate where the carp had been. Using some "Mississippi Dippage" you hold for where you think the carp might be and let go. The shooting is fast, and the misses are numerous while the action is tremendous. This type of blind shooting averages about one hit out of three shots.

If you get into the middle of things and spot a large doe being bunted around by several smaller buck carp, you can usually work within range for a shot while the large doe is still rolling to elude the males. Many times you may wind up with two smaller buck carp being skewered when you miss the old gal!

Early morning, just before sunrise, seems to be the ideal time for top action when the spawn is at its height. The waters are calm, a mist hangs over the surface, and the splash of working carp are the only sounds. Stalking along the stream banks during this early morning bowfishing finds many of the carp hugging the shorelines, and working along the undercuts in the banks. If you move slowly, and do not reveal your profile you can shoot quite a few sleepers.



A LARGE TARGET—The two youngsters lying alongside the nine foot blue shark illustrate clearly the size of the kill made on the bowfishing trip.

If you get too close to the edge of the water the carp will spook you and spook.

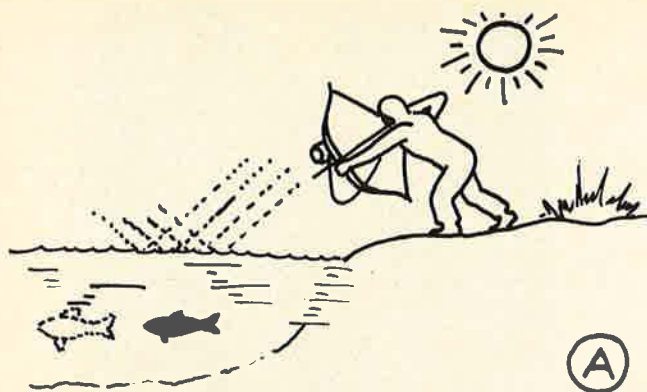
Another good opportunity for some fast shooting can be had if a shallow section of riffles or gravel bar happens to be in the course towards the backwaters where the carp are headed for. By working your way into an advantageous position and playing the waiting game you may find yourself in for some fast and furious shooting if carp are working their way past at the time. When this is the case you can see your target in the shallows as the carp splash their way across into deeper waters beyond.

### Stingrays

When May ends and the carp start slowing down, one can find plenty of action in salt water bowfishing. June finds the stingrays coming into the coves and bays for the long summer months that lay ahead.

The feeding grounds of the rays are where the clam and oyster beds are located. The rays feed mainly on mollusks. The early days of June find the larger rays working into the coves as the mating season is at its peak. Large numbers are seen during the first couple weeks after which the numbers seem to taper off until late August.



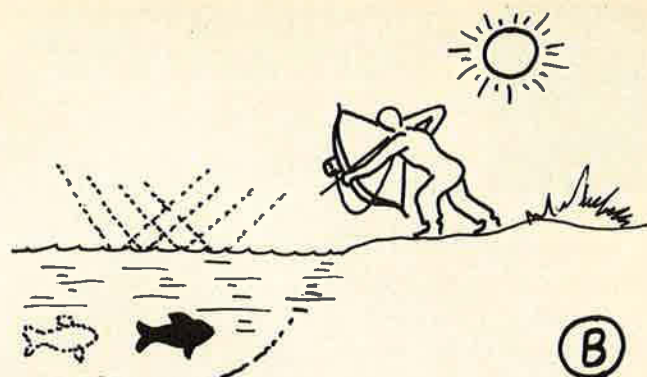
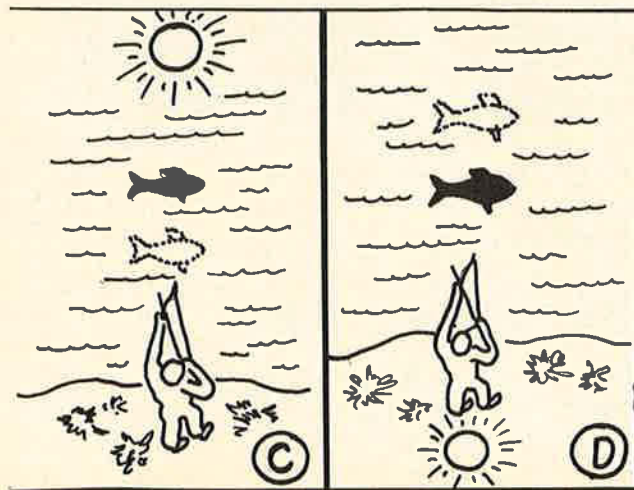


**FISH SWIMMING AWAY**—With the sun behind the bowfisherman light refraction rays will present the optical illusion that the fish is where the dotted outline is, instead the fish is where the solid outline is—so you shoot behind to hit.

This type of bowfishing requires a boat and outboard. Although any boat can be used, the ideal model should have a small quarter-deck so that the bowfisherman can stand high and up next to the bow as the coves are trolled, slowly looking for the sign of a ray. This position also gives the shooter the advantage of left and right as well as dead ahead shots on the scooting rays.

Cruising at trolling speed, a sharp lookout is kept for the darker holes or nests of the rays on the bottom. Many times a ray may be lying in these nests and either spook as the boat approaches, or play possum as the boat passes overhead. An experienced eye can many times spot the end of the long tail protruding out of the nest and get a guzzy shot. At other times when the ray spooks before the boat reaches his nest, the powerful wings will leave a mud trail of churned sand along the bottom. The boat is

**SUN IN FRONT**—The fish swimming by will appear closer shown by dotted outline, you shoot high or over to hit the actual fish shown by solid outline. **SUN BEHIND**—The fish will now appear to be farther away shown by dotted outline, you now shoot low or below to hit as shown by the solid outline.



**FISH SWIMMING IN**—With the sun behind the bowfisherman the optical illusion will appear that the fish is where the dotted outline is, instead the fish is where the solid outline is—you shoot ahead to hit.

quickly turned to follow this trail with motor gunned wide open. When the ray is spotted the shooter on the bow signals the operator into position for a shot at the fast moving ray from a moving boat. This type of shooting takes a few misses to get the hang of proper lead and compensation for light refraction.

Only a short length of line is placed on the bow reel, about 30 feet, and the end opposite the arrow is tied to a small float which is taped to the upper limb of the bow on the belly side. When the ray is hit, you hold onto the bow with both hands until the line has all played off the reel. The float is torn from the bow as the ray flees. Now you follow with the boat until the ray stops to sulk on the bottom.

The float is now picked from the surface and quickly attached to the end of a line of a game fish rod and reel rig. Now the bowfisherman becomes the worker as you start pumping and trying to horse the big ray in alongside the boat. When the ray on the end of your fishing arrow is a 100 pounder with a four to five foot span on those powerful wings, you have your work cut out for you!

Fishing waters should be from three to five feet in depth and as calm as weather will permit to see to the bottom. Watching the incoming and outgoing tides will clue you as to when the right time will permit ideal conditions. Polaroid sun glasses are a must and help greatly in reducing the light refraction which will mislead placing the shot in the right place.

### Sharks

Most salt waters find some sharks around. The bigger species are usually found miles offshore in deeper waters that average from 40 to 90 feet. This of course does not apply to the tropical waters of the Florida Keys or similar areas.

When trying for sharks in the northeastern waters, late summer seems to be the most ideal time. Al-

though small boats can be used and will get results in many cases, the big sharks are out in deep waters and require a boat that can ride the open sea.

Chumming must be done to attract the sharks. When a shark bowfishing trip is planned, a regular fishing boat seems to be the best bet. Several years ago I did some shark bowfishing with Captain Munsen who specializes in this type of sortee. He calls himself the "Monster Fisherman" and brings in many good sized sharks.

Operating from Montauk Point on Long Island, Munsen works his broad-beamed power boat 40 miles offshore to where the continental shelf lies. Here the waters drop off to 90 feet or better. This is shark alley. A chum slick is now spread for several miles.

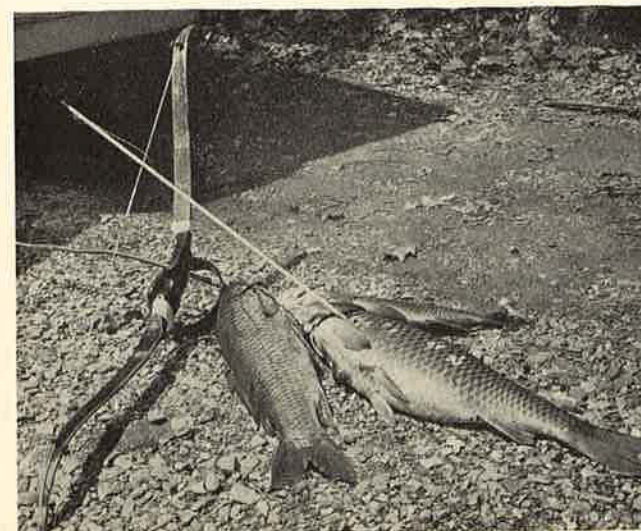
As the boat drifts along over the shark waters, the oily slick of the chum winds into the distance behind. When the chum attracts the sharks up from below, and the fins are spotted, a teaser bait is thrown out on a hand line to lure the shark in close to the boat.

The bowfisherman has rigged himself with about 20 feet of line, one end of which is attached to the end of his fishing arrow, and the other is tied to an innertube on the deck alongside his feet. The line is carefully coiled so that it will play out freely when the arrow is put into the shark. The tube follows overboard, and the shark takes off.

Later, when the shark has played itself out fighting the inflated innertube, which is painted a bright yellow, you check the waters with binoculars to spot the float. The shark is now worked in to the boat and killed.

Our day's shark bowfishing found me shooting a nine-foot blue shark and missing a leviathan that must have gone at least 12 foot or better!

**FRESH WATER TARGETS**—The spawning carp can be found in almost any backwaters for some action-packed bowfishing.



Care must be taken to attach the line only to the nock end of the glass shaft. This will keep the line clear of rubbing on the shark's hide which is like sandpaper and will cut the line. About a six foot length of flexible and light wire cable leader is good insurance against the shark cutting the line while it fights the innertube float.

### Light Refraction

The nemesis all bowfishing faces is light ray refraction on the surface of the water. The position of the sun overhead in comparison to the location of the bowfisherman, and the target's direction of movement presents some optical illusions.

For example: With the sun shining down from behind the bowfisherman and the fish swimming away, requires that you shoot behind the fish to make a hit. Should that same fish be swimming in towards you, you shoot ahead of the fish to make your hit!

Should the fish be swimming from left to right in front of the bowfisherman's position you again shoot below to make a hit. If the fish is swimming from right to left you again aim below to hit. This of course is taking for granted that the sun is still behind the bowfisherman.

Should the sun be in front of the bowfisherman, and shining into his face, cross-swimming fish from either side will appear to be closer to you and will require shooting over them to make a hit.

Polaroid glasses eliminate most of this refraction problem as well as enabling the wearer to see into the depths to spot the fish. Surface glare is eliminated by the polaroid lens.

Whatever your bow shooting activities might be during the summer months, don't pass up the chance for some bowfishing action in your locality. The change of pace is a welcome one, and the recreational pastime is a satisfying experience.

**COW-NOSED RAY**—Fast shooting from a moving boat finds stingray bowfishing an ideal summer sport.





There is an old saying to the effect that "One picture tells more than a thousand words". The value of a picture may be judged by the frequency of its appearance. Let's look at some pictures and try to evaluate them.

Through many thousand years of trial and error, archery reached its peak during the middle ages. The method of aiming and shooting was perfect for its purpose.

Contemporary pictures of Medieval archers are few but a surprising number of those in existence show the archer at the finish of the shot. Apparently, from the fact that these contemporary pictures showed the finish of the shot, it may be assumed the ancients understood the importance of a well finished shot and that they emphasized that importance in their pictures. If they understood the finish they certainly understood the functions of the shot itself and the steps

in archery is 22½ times more important than the finish of the act!

The gap in scores between a Ray Rogers at the top and the average, away below, is great. Probably no other sport shows such a wide difference. The approach to any act in sport is important but the successful finish of that act is more important.

Go up and down the line at any archery tournament, take a picture of each archer just before he shoots—hope you have a Polaroid—compare the pictures. They all look about alike and they all look good. Now take another picture of the same archers immediately after the shot. Again compare the pictures. Wow! Possibly no two of them finished the shot alike and 90% of them looked bad! Go to a golf tournament and take the same series of pictures and you will find that the average golfer looks about as good at the finish of his shot as he does while

ing, analyze his shot. The story of what happened during the shot is as surely in the finish as it would be in a picture.

The mental attitude of our typical archer at full draw is an attitude of wistful hoping (Sometimes bordering on panic) that the arrow will go where he wishes. A *hope* cannot be successfully analyzed; whereas on the other hand the finished act *can* be analyzed. The full draw is a *hope* but the finished act is an accomplished fact and can be analyzed; be it good or bad. If our typical archer put in as much time analyzing the shot as he does in making his hopeful preparation the gap between him and the top might be much less.

Those few talented ones at the top were fortunate in being able to adjust themselves successfully to a method of shooting adapted to their individuality. Possibly much of that adaptation is subconscious and may include mannerisms contrary to orthodox good form. For them it is successful. As a rule, our typical archer cannot copy mannerisms successfully.

Don't underestimate the Medieval archer. His method of aiming and shooting was suitable for the time and conditions. Our modern bows and arrows are suitable for our scientific generation and they are extremely accurate. Our new tackle calls for a more scientific method of aiming and that need has been supplied by bow sights of many different designs together with all sorts of accessories.

When shooting over a known distance at a stationary target from a stable position, these new aiming devices are very accurate. We have definitely improved the accuracy of the bow and arrow. We have as definitely improved the aiming devices suitable for our purpose but it is doubtful that we have improved on the Medieval method of teaching the masses how to shoot.

Our modern records for accuracy are fantastic but those high records belong to the very few. Analyzing the finish of the shot may not improve the top scores materially (In some rounds they are perfect now) but it will certainly raise the average, thus giving more satisfaction to the masses. Therefore let us pay more attention to the finish of the shot.

The ancients paid attention to the finish, the golfer of today pays attention to it, why not the archer?

The average archer has a feeling that somewhere among the many modern inventions that there is a *magic one* that he can buy and that will make him a winner. So far that *Magic One* has not appeared! Some of the inventions may improve his score to some extent but, while the *Ray Rogers* may use them *he* still shoots the score! Analyze the finish of the shot and help close the gap.

# "Finishing Picture"

by Chester Seay

leading to that act. The finishing picture tells the story of what happened during the shot. The ancients read that story well.

In some ways golf and archery are similar. The golfer addressing the ball may be compared to the full draw in archery. They both have an important follow through and the positive finish is present with each. The golfer also reads the story of the finish well. A casual look at any golf magazine will show many pictures of golfers at the finish of the shot. We are told by golfers that the finish of the shot is an important part of their training. Many pictures bear out this statement.

By actually counting the pictures in Archery World of December 1967 together with two other archery magazines of current issue there were 45 pictures of archers at full draw and 2 showing the finish of the shot. These figures are a fair average. If pictures are a criterion of the importance of an act then the draw

addressing the ball and that those pictures of the finish show a marked similarity.

From the pictures taken we may assume that the archer has given ample attention to the steps leading up to the shot but has paid little or no attention to the finish of his shot whereas the golfer has given it considerable attention. Lack of attention to the finish of the shot may account for much of the gap between the average archer and those at the top. Again the picture tells the story.

According to our picture mathematics the average archer takes 22½ times more interest in preparing for the shot than he does in analyzing the results of that shot. From observation these figures do not seem far wrong.

The average archer deliberately considers all the steps leading up to the shot. He comes to full draw, makes sure that everything is just right and shoots. Be the shot good or bad, he should now, before mov-

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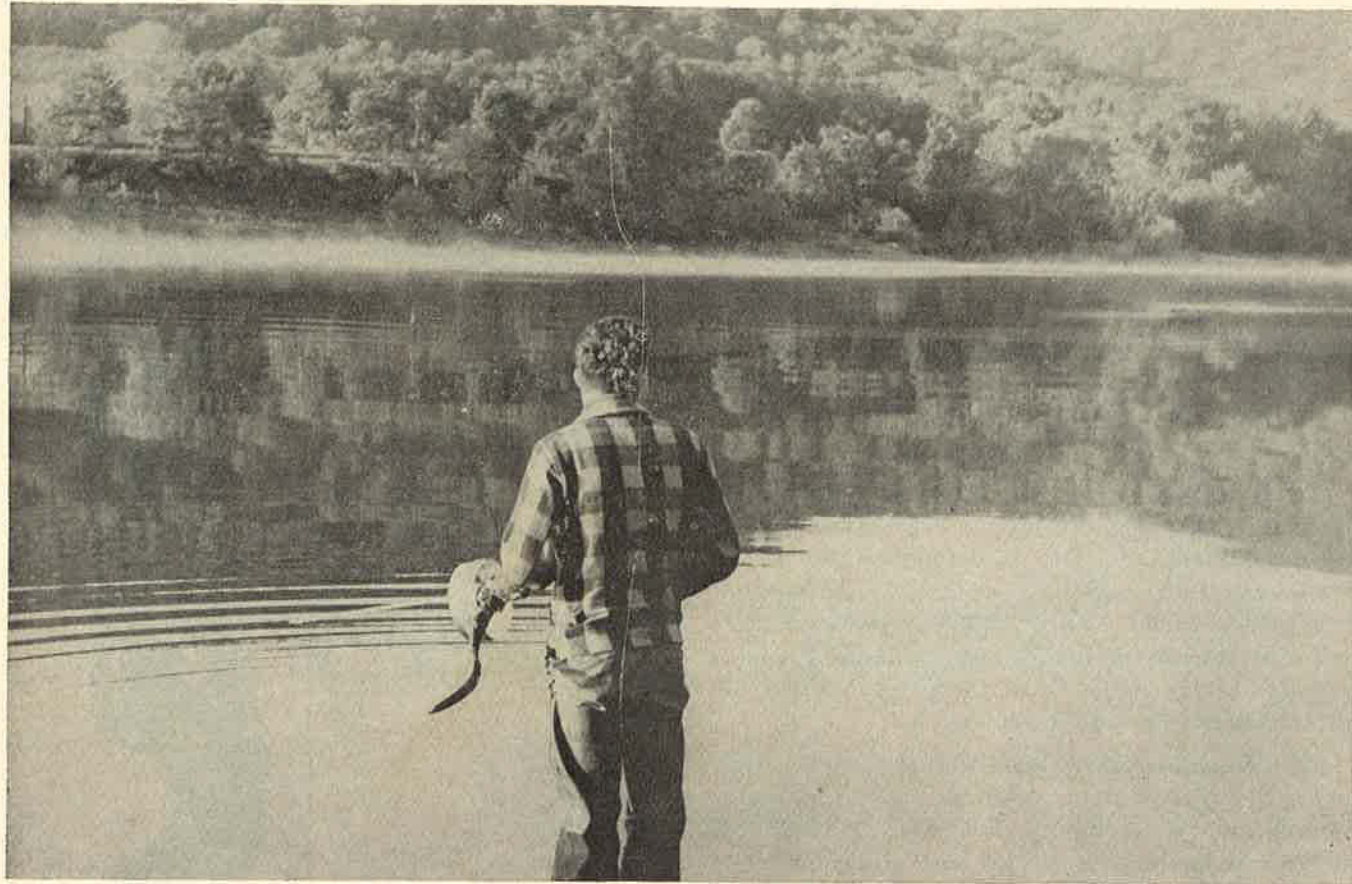


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## The Spawn is On



by *Edwin L. Atts*

I was only able to stare into a blanket of white fog, but I was sure it would rise any minute. Out of the early morning stillness I heard two crows conversing on a hillside behind me and a pair of bullfrogs singing to the early morning world in their deep bass voices, but these animals weren't of much interest to me this morning for I was checking the river to find if this was the morning the carp would spawn.

It was the first week of June and any day now the carp should begin their annual pilgrimage from the depths of the Allegheny River, which flows near my home in northwestern Pennsylvania, to the shallow backwater areas to spawn. Unfortunately for us archers the spawning period lasts only a day or two each year, so to get in on the best shooting I check the known spawning beds near my home each morning beginning the second or third week of May.

Just what induces all the carp to move into the shallows at the same time can be debated, but I believe it is due to a rise in the water temperature. During the years when there is an early spring the carp spawn several weeks before the time they do when there is a late spring. From my experience hunting them, I find it is wise to check the river every morning shortly after daybreak when the water temperature rises above 50 degrees Fahrenheit.

I kept straining my eyes trying to see through the thick fog, but before I was able to see a thing I heard the pleasant splashing sound made by spawning carp. I hurried the 75 yards back to the Jeep to get my boots and bowfishing gear for I was sure this was the morning I had been awaiting.

It didn't take me long to get back to the river's edge and fortunately the fog was now beginning to rise. All along the shore line of this backwater area groups of carp were spawning and I knew that I would be able to get plenty of shooting in the next few hours.

During the spawning period the females, which are usually larger than the males, swim through the weed beds close to shore depositing their eggs. Close behind comes an escort of as few as a couple males to as many as eight or ten to fertilize them as they settle to the bottom. The water where this occurs is rarely over a foot deep and quite often as much as a third to half of the carps' bodies are out of the water. The splashing sounds they make at this time can be heard for a considerable distance.

I tried to approach the closest group of spawning carp as cautiously as possible but when I got within range they turned and headed back to deeper water. I suspected they had detected the vibrations caused by my footsteps so I decided to wait at the edge of the weed bed for them to return to me.

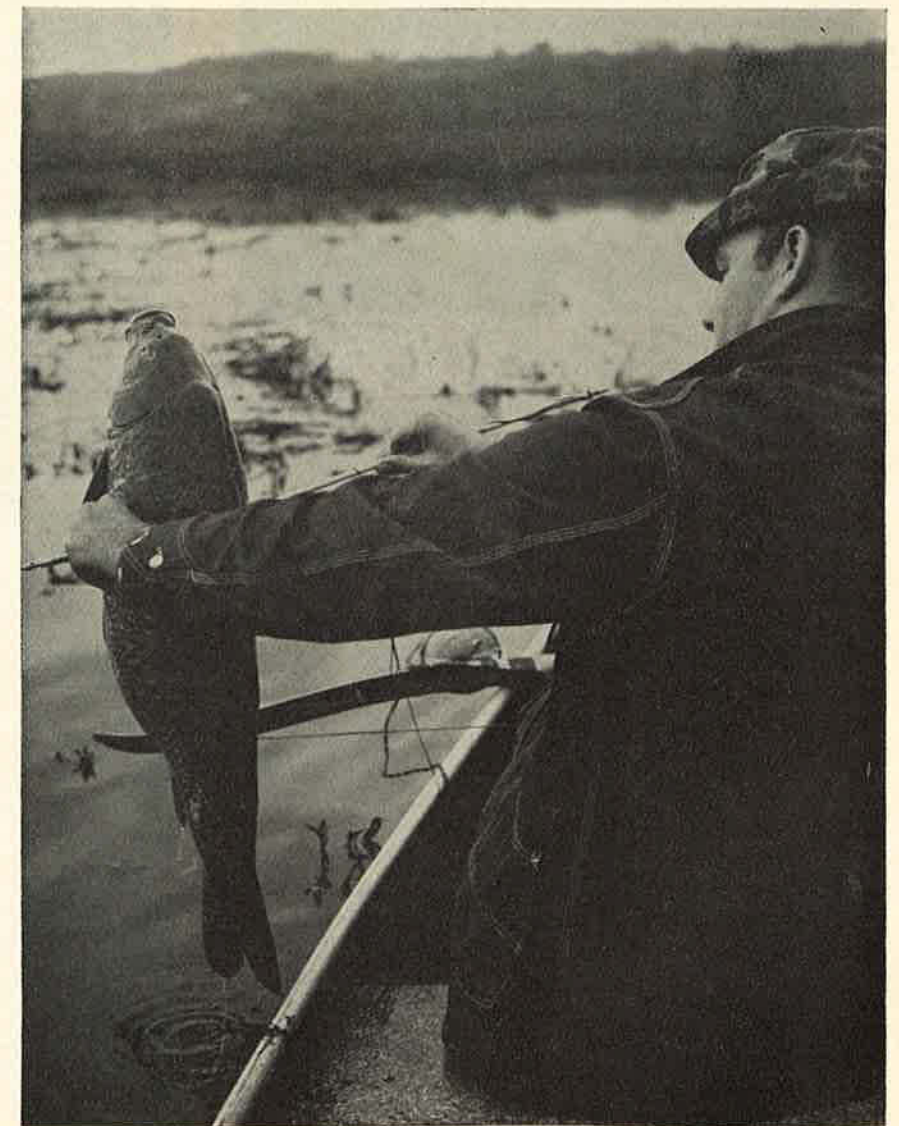
The bowfishing outfit I use consists of a 50-pound Bear Grizzly bow, a shoot-through bow reel equipped with 75 feet of 90-pound test line, and solid glass arrows tipped with a double barbed point. This point has a ferrule which permanently attaches to the glass

shaft and a double barbed head which unscrews for quick fish removal. With this style of point it is also convenient to carry extra heads to replace those which become dulled or broken.

The group of fish which previously spooked to deep water headed back my way in a few minutes and swam by broadside with half their backs out of the water. When the largest one was within 10 feet I drew and released. Instantly the red nock waved back and forth out of the water and the line went taut.

I dropped the bow and grabbed the line with both hands to stop the fish's strong run. After two fairly strong runs I brought her in close to shore where I could grasp both ends of the arrow and lift her free from the water. Once I unscrewed the barbed head and removed the arrow I measured her and found her to be 32 inches in length and estimated her weight to be in the neighborhood of 25 pounds. This was by no means a trophy carp but it was without question a good-sized fish.

A spawning carp taken at daybreak. It is best to grasp both ends of the arrow before lifting the fish clear of the water.







When standing up in a canoe, keep the feet far apart and the center of weight as low as possible. These crafts are not nearly as tippy as many people think.

A number of people seem to think carp reach four and five feet in length but this is not true. In the process of bagging close to 500 carp via bow and arrow I have yet to take one over 40 inches in length. The largest one I ever took only missed this by a half inch, but I can't recall taking more than a dozen which exceeded the three foot mark. It seems that most large carp get between 30 and 40 inches in length and then begin to put on weight instead of getting any longer.

During the next hour I hit and landed 14 carp with most of them running between 25 and 30 inches in length. All during this time groups of carp had been swimming by me regularly but I had only made a small dent in their population. However, they were becoming quite wary for they seemed to realize what had happened to some of their cronies, being more intelligent than many people give them credit for being.

When the carp became more wary a friend arrived to do some shooting also, and he fortunately had his 15-foot aluminum canoe along so we launched it promptly. By using this craft we could get to areas impossible to hunt by wading.

Shortly after noon I was standing in the front of the canoe watching for carp when three of the brown rogues headed straight toward me. Each fish looked to be well over 30 inches so I drew on the center one and sent an arrow its way.

The arrow cracked like a shotgun when it hit and the fish shot under the canoe. The glass shaft raked along the bottom making enough noise to frighten a pair of mallards into flight that had settled a hundred yards away. Twice it took most of my line but I had no choice but to let it go since a fish of this size can easily pull itself free from an arrow.



I try to jab the arrow completely through the fish before bringing it aboard the canoe.

I finally got the fish back into sight and noticed that the arrow was only embedded an inch in its body and that it was only holding fast by one barb. Getting the chance I grasped the arrow and rammed it in the fish further so I could safely bring it aboard the canoe. This fish measured 35 inches and weighed just slightly over 30 pounds when we checked it on my friend's fish scales.

The activity was slackening off in the lower end of the backwater area but I noticed large numbers of carp were still working the weed beds above us so we beached the canoe and headed toward them on foot. When we got there after crawling through 300 yards

of thick willows, my partner went above me 50 more yards and I began stalking a group of closer carp.

These fish were now just lying motionless among the thick weeds so I picked out what I thought was the largest and sent an arrow its way. It hit precisely where I had intended for it to strike. The arrow not only got the one I was shooting at but got a second one which I didn't even know was there. With two fish on the line instead of one I had twice as much fight but the line catching on the weeds slowed them down considerably. I landed these two and found the first one measured 33 inches and the second one 27 inches. I didn't feel I had done too badly getting 60 inches of fish with one shot.

Shortly after 4 p.m. the carp stopped spawning and I was glad. I had been shooting since 6 a.m. taking neither time to eat or get a drink of water, and the sun had been extremely hot for the past six hours. We wearily dragged ourselves and the canoe up over the steep grade to the road where we were parked.

A carp this size can be a rough customer. For fish this heavy, solid glass arrows are the only thing that can be used.



May, 1968

After loading the canoe I looked back to the river and couldn't see a sign of a carp now. I wondered whether or not they would be active the next morning but I was certain I would be back to see. Even if they weren't I wouldn't be disappointed for I had taken 37 of the large river rogues this day.

At daybreak the next morning I was back at the same area but the surface was as smooth as glass indicating that the carp had not returned. I watched closely for 15 minutes through my 6 x 30 binoculars but I couldn't see a sign of a cruising carp. Apparently they were done in this area for another year just as I had suspected they might be.

Three miles up river was another grassy flat where the carp which inhabit a large pool created by sand and gravel dredging operations spawn so I decided to check it. In previous years the fish generally spawn here a day or two later than they do in the other areas and I hoped it was true this year also.

As soon as I pulled the Jeep off the road I saw the carp were working so I hurried to the grassy flat. When I got to the first large weed bed I missed two easy shots but then settled down to do some good shooting, taking six fish in 20 minutes. All these were in the 30-inch class and fought well.

I then proceeded to work upstream stalking the various groups of spawning carp. Most of these fish seemed to be running large and they were as numerous as I had ever seen them to be during the ten years I have hunted them.

I climbed up on a rock where the carp were swimming past frequently and decided to wait here for a half hour. I seem to get about the same number of fish whether I stalk them or wait for them to come to me, but stalking through the knee deep mud tires me out rapidly.

Several medium-sized carp fell to my arrows, but I was hoping to get a shot at an exceptionally large female which was working near me but not quite close enough for a shot. Finally I did shoot at and land a 28-inch fish but just as I was removing my arrow from it the big carp I had been waiting for swam not more than three feet in front of the rock where I had been standing. Had I been ready it would have been an easy shot.

In the next ten minutes I passed up numerous shots at fair sized carp in hopes that the big one would swim by again but she seemed to disappear. I was finally tempted into shooting at some smaller ones and managed to get a pair of two footers with the same shot. I just removed the second of these from the arrow when I saw the tail of the large carp sticking out of the water 15 feet from me, so I screwed the point back in the ferrule and took a shot without even bothering to wrap the line back on the reel.





A 15-pound carp taken from the Allegheny during the height of the spawning period.

A pair of fish taken with the same shot.



Fortunately the line followed the arrow smoothly and the arrow embedded itself in the large carp. It fought as long and as hard as any fish I had ever taken and I wished that many people who think carp are not sporting could have been there to see the battle that carp staged. It was a 37-inch "beauty", as carp go.

The action was unbelievable up until 2:00 p.m. and then things began to taper off just as it had done in previous years. By 3:00 p.m. not a sign of a carp could be seen in the shallows for all of them had

retreated to the bottom of the adjacent 30-foot pool. Again, I was not disappointed for this day I had taken 35 carp, just two shy of the number taken the previous day.

The next morning I again arose before daybreak and was along the river as the first sign of light broke over the eastern horizon but only a few small carp were present. I shot three not much over 20 inches in length but these small fish soon left the shallows for deeper water.

Knowing that all the activity was over for another year I walked back to the Jeep. After putting my bowfishing outfit in the back and changing my boots I turned and looked back over the grassy flat. It was as calm and peaceful as a picture now that the giant carp had returned to the depths for another year. In another 12 months the same ritual will occur again and when it does I will be there waiting with my bow for there is great sport to be had when "the spawn is on."

A partial bag of carp taken during the height of the spawning period. These fish make excellent fertilizer for gardens or flower beds.







An old plastic ball gives a satisfying "thunk" when you put an arrow through it.

Bunny hunting with a bow is one of life's less rewarding pastimes (along with arguing with the Internal Revenue Service or your wife). But good archers hit the flying cottontails with enough regularity to keep them coming back for more.

Trying to hit a fleeting rabbit with an arrow is tough work. And trying to drop a pheasant or grouse or what-have-you with an arrow is even tougher.

It can be done. Just as in any other endeavor, practice makes better if not perfect. But how can you practice on pheasants when the season is closed? Or how can you

**What goes on here —**

**Football?**

**Flying Saucers?**

**Volleyballs?**

**For The Archer**

**They are . . .**

Get an arrow nocked and ready to go, then boot the football and watch it take off like a pheasant.



**by Joel Vance**

## Toy Chest Targets

practice rabbit hunting either when the season is closed or when there's so much cover you can't find the bunnies?

Well, you can take a trip to your local toy store—or if you have tots of the right age bracket, you can raid their toy chest. As the pictures show, you can create all sorts of lifelike situations with a few simple, inexpensive balls or common toys.

For example, a football which costs a couple of dollars becomes a bouncing bunny. One of the several "flying saucer" toys which sail like doves in a slight wind is a rocketing pheasant.

If you want a tougher wing-shooting challenge, try plastic beer coasters. All it takes is a little imagination to transform them into quail and either an accurate toe or a friend or family member who is willing to toss targets or kick the ball.

Who knows—if you get good enough with the football, you may earn yourself a job as an extra point specialist with the Green Bay Packers. But more to the point, you may earn a pheasant with your bow.



Author with all the equipment necessary for the fun described in the article.

If you have a budding quarter-back in the family, you can get him to lob passes out in front of you with the football for some wing shooting. Lacking help, it works just about as well to nock a flu-flu arrow, get ready to draw and boot the ball yourself.

Most of the time the ball will go up in the air. Lay it crosswise on the ground and tee it up on a tuft of grass. If it doesn't rise in the air, the erratic roll on the ground will give you a good simulated rabbit.

Shoot fast—the harder you kick the ball, the quicker it gets away from you. You're experimenting with true instinct shooting. If you take time to aim, the ball either will have stopped or will be too far away. The more shooting you do, the more times you'll hit the target.

When you first start, if you're an average archer, you should hit bouncing or rolling targets two or three times in every 10 shots. Wing shots will average less than that. But your accuracy will improve as you learn the mechanics of lead,





For wing practice the author uses a "flying" saucer," a plastic disc-type toy with ful-ful fletched arrows. Note arrow in the upper left of the picture.

quick draw and release and the other little subtle problems which mean the difference between a hit and a miss.

Your tendency always is to shoot under an aerial target, so look at the top edge of the target and you'll get more hits.

I found a blunt-tip flu-flu arrow will put a hole through one of the plastic "flying saucers" if you hit it squarely. But it won't penetrate a football—or at least it never has.

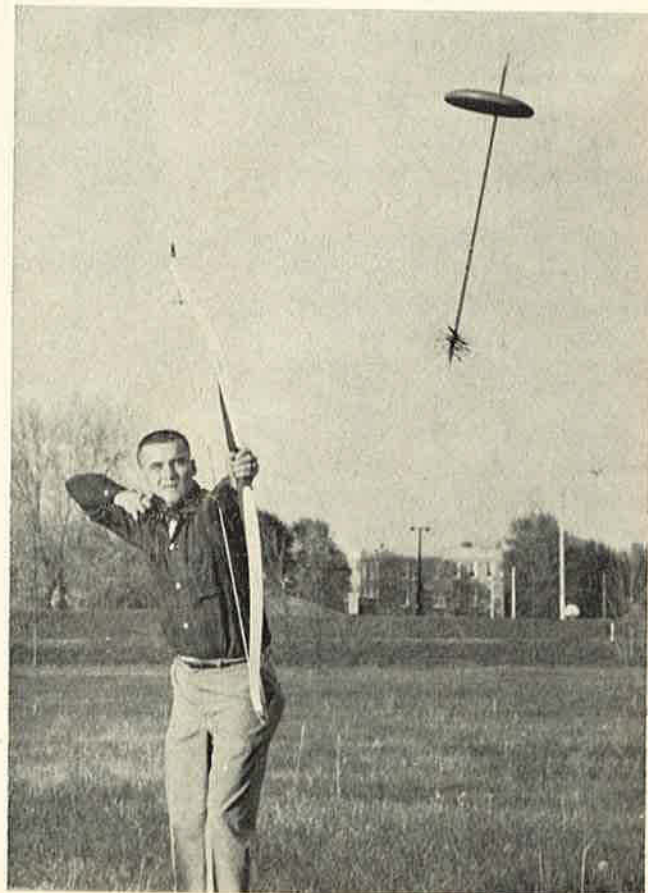
I deflate the football enough so that the flu-flu doesn't rebound sharply after a hit. I do the same to any of several round balls which I use to simulate rabbits.

Quick release is important, but if you aren't careful, you can breed some sloppy shooting habits—like not drawing full or "creeping" or throwing the bow or peeking to see where the arrow went.

So, it's important to do some plain old target shooting along with your "quick kill" shooting to correct any budding bad habits.

For starters, you need, of course, a bow. And you'll need some arrows to go with it. For ground targets, I use either plain feathered arrows either with field or blunt

One imitation "pheasant" downed.



points or flu-flu arrows with blunt points. The blunts won't puncture any balls you want to preserve, but there is something satisfying about a point "thunking" into a ball.

Flu-flus are easier to find in the grass when you miss, but they don't travel as far or as fast as the regular fletched arrow. Blunt points won't often slide under the grass like a regular point tends to do.

Make your practice a family affair. You can get your wife to pitch targets in the air and recruit the kids to go and get the flu-flus which travel about 50 yards when you shoot at aerial targets.

You can traverse a long field by yourself just kicking a football in front of you and trying to pepper it with arrows. When you get to the end of the field, turn around and go the other way. If you're easily amused, as I am, you can keep this up for hours—or until your shoulders begin to come unglued.

So, raid your children's toy chest and start enjoying those toy chest targets.

## Mail Quiver

(Continued from Page 5)

ers for many years and I have taught archery and bow-hunting throughout our state. We have hunted with the bow for trophy animals successfully throughout the United States and Canada.

Therefore, I feel somewhat qualified in passing judgment on this atrocious article where a man glorifies himself in the useless slaughter of bear cubs which have just had their mother killed and by "maternal training" have treed 10 yards from the "great hunter".

Let's never print any more such atrocious articles and ourselves supply the anti-bowhunters all the ammunition they will need to make our sport even more distasteful than it already is to them.

Sincerely,

M. W. Bowser, D.D.S.

York, Pennsylvania

\* \* \*



"Do you think it's my grip?"

Dear Sirs:

I would like to compliment you on your VERY fine magazine. I enjoy it and look forward to my new issue each month long before it is due to arrive. You have such good items for helping improve ones shooting such as the short article "Cut The String" a few months ago. I thoroughly enjoy the interviews of some of the archery greats of the country. I like the statistics on tournaments and the top shooters. How many feathers they use, type of arrow, etc. After all, they have all arrived at the equipment they are now using due to a long and tedious "trial and error" testing, and this gives some of us non-experienced archers somewhat of an idea what the "greats" are using and have decided on. Keep your wonderful magazine coming!!!

The only criticism I have of your magazine and I may be alone in this criticism of it. I don't care for this "Charles Angus" bit you put in the magazine from time to time. I feel that it borders on the ridiculous, and then a short time ago, you had a fiction story about a G.I. in Viet Nam and shooting the enemy with bow and arrow. I felt that it was a little bloodthirsty. If you have to fill up part of the magazine with something I would much rather see some true hunting stories from some of the archers across the country. They might not be as professionally written, but I would enjoy them much more than Charlie Angus.

Sincerely yours,

Bill Kopriva

412 N. Absaroka

Powell, Wyoming 82435

\* \* \*

Editor:

I enjoyed your article in the February issue of *Archery World* concerning bow specifications which was informative and interesting.

I began shooting a bow last Sep-

(Continued on Page 51)



by **Wes Blair**

Joe Blair, clad from head to toe in a pale brown and green camouflage suit and smelling of the most nauseous oils ever manufactured to erase the scent of man, huddled in the early morning shade of a house size boulder. The rolling hills of Eastern Montana stretched out to the horizon, spotted by an occasional dusty brown clump of brush and a few clusters of evergreens. Overhead the sky was an angry grey, the wind kicked up little sand devils, and a tiny drop of ice-cold rain beat against the rock. Seventy-five yards from Joe's rocky blind grazed a few stragglers from a herd of twenty antelope.

It was the second day of the season, antelope were everywhere, but getting close enough for a shot seemed to be a matter of luck. Stalking was out of the question. The only way to get close enough for a bow shot depended on finding cover in an area used by the pronghorns and waiting it out.

From a clump of evergreens about two hundred yards above I watched the scene unfolding. Joe blended in so well with the dun colored rock and brush that I often lost him and only picked up his outline when he moved. As the small band drifted closer, I could sense Joe shivering with excitement as the heat of the chase sent his heart to pounding and the adrenalin pumping through his veins. The largest of the antelope, a 110 pound buck looked as if he might walk right over Joe, "Why don't you shoot?" I wanted to shout.

The buck, nervously stopped, threw its head up, its huge dark eyes searching every inch of the prairie for signs of danger, its ears twitching to catch the faintest sound. Satisfied that no danger was present, it dropped its head and began feeding. At that moment Joe stepped silently from behind the rock, drew the fifty pound recurve and sent the deadly sharp razor head spinning towards the pronghorn. It was a beautiful shot. I traced the path of the red shaft as it formed a slight arc and pierced the right ear of the antelope, glanced off a horn and shot straight up. The buck, stung by the shaft and scared

*If you're planning*

*That "special" hunting trip,  
what about Wyoming  
for . . . .*

bad, shot out of the canyon at after-burner speed, its snow-white tail patch flashing a warning to the other members of the herd. In a split second the prairie was covered with antelope—all going at top speed away from us.

For a handful of archers, 1968 may truly be, the year of the antelope. Never before has a year held such promise for the bow hunter who wishes to expand his trophy collection to include North America's fastest and wariest animal, the pronghorn antelope. All the ingredients necessary for a successful hunt are present; large herds of animals that allow a generous allotment of non-resident tags, and at a reasonable price of thirty-five dollars, terrain that offers stalking cover, no guide restrictions excepting on national refuges, lots of free camping sites and perhaps most important, a sympathetic and cooperative game department. The State of Wyoming is extending a welcome to bow hunters that would like to hunt in their state. In a recent letter from Charlie Farmer, an information specialist with the Wyoming Game and Fish Commission and an ardent bow hunter he gave the following advice to archers interested in a Wyoming hunt: "Wyoming does have a large population of antelope . . . the largest of any state. But these animals are more in demand now than they ever were and request for antelope permits reached an all time high this summer and the demand will no doubt increase each year. So, as you can see, there is quite a bit of competition to obtain an antelope permit and quite a bit of luck enters into receiving one. Presently in Wyoming we do have several pre-season bow hunts in prescribed areas for both deer and antelope.

Bow hunting in Wyoming is in its infant stage now, but I think it will grow rapidly with the right kind of encouragement.

All types of equipment are used for antelope hunting, but due to the rolling prairie-type terrain, hunting on foot is still the best bet and certainly leads to the type of close in shots a bow hunter needs. Most hunting areas are accessible in ordinary cars.

The prospective deer or antelope hunter should write to the Wyoming Game and Fish Commission,

# THE YEAR OF THE ANTELOPE





Box 1589, Cheyenne, Wyoming 82001, as soon after the first of the year for antelope information and applications. This will insure him of getting information and applications in plenty of time."

**HABITS:** The antelope is the fastest mammal on the North American continent. When in top condition it can travel at speeds of forty miles an hour for several miles and when pressed can jet forward in bursts up to sixty miles per hour. When danger appears, the antelope throws up his head, its eyes that are reputed to be as powerful as a man using seven power binoculars, search the prairie for any signs of danger. It rotates its ears to catch the slightest sound. Any alarm causes a series of muscle contraction in the hind quarters fluffing up the white patches of hair on the rump. Simultaneously, musk glands discharge a strong odor which flashes a warning to the other antelope in the herd. The pronghorn will then dash swiftly across the prairie, but invariably stop and curiously look back. For the rifle hunter, this habit spells the difference between collecting a nice trophy and a hat full of dust, but for the archer the animals are far out of bow range.

The antelope is smaller than the deer with the bucks weighing between one hundred and one hundred twenty-five pounds. Both the male and the female have horns that grow larger each year (ANTELOPE shed only the outer layer of their horn each year). The doe's horns are rarely longer than five or six inches while a record buck may have horns with an outside spread of twelve to thirteen inches. One of the largest sets of horns ever recorded was taken in Arizona. This set measured twenty and five-sixteenth inches with a spread of sixteen and three-sixteenth inches.

Antelope are a social animal and are most often found in herds. On occasion one will spot a loner or a pair of bucks off by themselves, more often than not, antelope are found in herds of five or six to huge herds of a hundred or more. These animals are extremely cautious, all animals including fawns feed a few moments then take a good look around. Many naturalists feel that some of the herd act as sentinels and are on the alert all of the time.

In spite of its tremendous speed, the antelope does not wonder far. During good feed cycles, they seldom stray out of an area of three or four miles, however they do make seasonal migrations.

The antelope has an over-powering curiosity. It has been told that the pioneer hunter lured the pronghorn to within rifle range by waving sheets, handkerchiefs, even their hands. Today's heavily hunted antelope are not often fooled by these tricks and hunters will have to depend a lot upon luck, skill and a heck of a lot of hard work. At any rate,

antelope is an outstanding trophy, the meat is a gourmet delight and the head on a trophy wall marks you as a skilled hunter. If you are interested in a Wyoming antelope hunt, by all means contact the game department and ask for their camping guide, maps and information on bow hunting for antelope, it will be a trip you will long remember.

#### Application Facts:

1. Nonresident antelope license applications will be received by mail only at the Cheyenne office of the Wyoming Game and Fish Commission, Box 1589.
2. Applications will be accepted beginning June 1, on a first-come, first-serve basis.
3. All areas are open for bowhunting according to special season dates for each area. Most areas have season dates from approximately September 23 through October or early November.
4. Three areas allow pre-season bowhunting for ten-day periods.
5. Bowhunters must hold both a regular hunting license and a bowhunting permit. Applications for bowhunting permits should be sent to the Cheyenne office of the Wyoming Game and Fish Commission and should include the number of your hunting license and the game to be hunted.



by Ben Marler, Jr.

The water is clear as crystal after the tide has turned inward. The snow-white sandy bottom makes my favorite target with the sand shark visible from a distance of 100 yards or more. These 'denizens of the deep' move into the shallow waters of the Gulf of Mexico, in Northwest Florida, where I live, in May and stay until the latter part of September. At this time the light north winds cause the water temperature to drop. During this four to five month period, you can enjoy one of the finest sports that I know, bow fishing for sharks.

There are several ways sharks can be taken with the bow. They can be chummed up and shot as they go after a large piece of fish on a string. They can be spotted swimming on the surface in deep water, their fins exposed. If you approach quietly and not too fast, a shot at fifteen feet is possible. My favorite method is the rundown.

This method is the most exciting, and dangerous, I must confess, as there is always the chance you may be thrown from the boat right into the water with a very angry shark. This has happened to me.

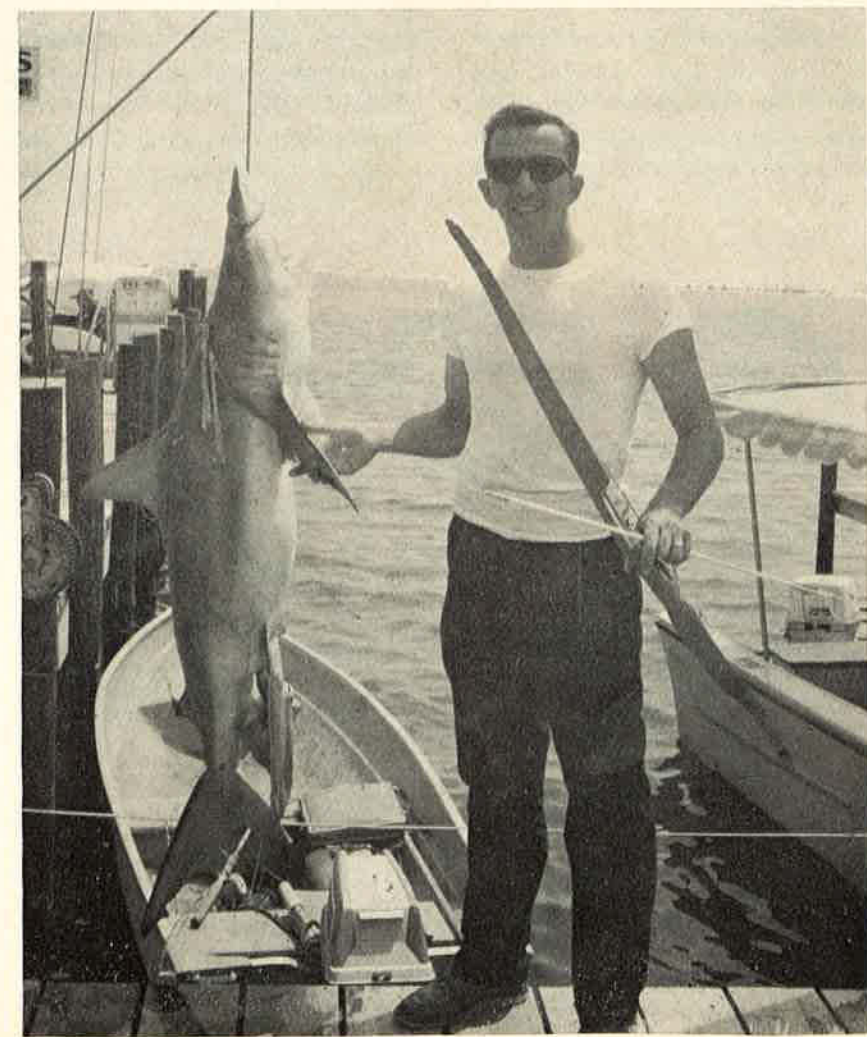
The sand shark is most often encountered in our waters at Destin. It is a dark grey-bodied shark with the well known seven rows of teeth. The largest one I ever put an arrow into was longer than my 12 foot boat. Most of the ones I shoot are about 5 to 6 feet long and weigh 100 to 125 pounds.

There is a sizable number of man-eating hammerhead sharks here but I've been unable to chase one into shallow water. They seem to prefer the deeper and darker water.

The sand shark is no pushover by any means. I feel that I give him a sporting chance by my 'run down' method. He is fast, smart and elusive.

## Tally Ho! The Shark

"The sand shark is no pushover by any means."





The chase begins after spotting a shark that is out of the small breakers or is moving into the calmer waters. I use a 50# Herter composite bow and solid fiberglass arrows. The arrows are attached to a 4/0 Penn reel full of 130# test dacron line, on a solid fiberglass boat rod, which is standard equipment on my Dad's deep-sea-party boats, "Her Majesty" and "Her Highness". The arrow points must be needle sharp as the shark is not only tough as shoe leather but sometimes must be shot in 3 or 4 feet of water at high speed. A solid fiberglass bow just doesn't seem to have the snap necessary to bury the barbs deep enough to hold the shark while he puts up the darnedest fight you've ever seen. I try to hit the gills when I shoot as this makes the fight on the rod a lot shorter. You should never try to hit the head with a fish point as the arrow will simply bounce off.

I've had to work for every shark that I've shot. I guess this is what makes it so interesting. The shark starts to move out at high speed when the boat approaches him in

the 5 to 6 feet of water. He instinctively heads for deep water. If your partner, who is running the motor, allows him to get on the outside or deep water side of your boat, you generally have to find another shark. However, the shark can be driven or herded close to the beach where the water is only a foot deep. This requires a small boat with a small motor. I find a 12 foot fiberglass boat with a 5 1/2 horse Evinrude to be pretty close to ideal. The small motor will not shear a pin when the prop strikes the bottom, which is often, during the chase.

A shark will run parallel to the boat and the beach if the boat is handled properly. Speed up too much and get ahead of the shark and 99 times out of a 100 he will double back on you. Then, when he sees the chance he lights out for the deep water. Many times when this has happened after a long chase, the shark will stop dead-still in water 10 to 12 feet deep and lay on the bottom. With my polaroid wrap arounds, a necessity, he is easy to see. At this point I get ready for

fast action as I have found how to make the shark, literally, attack the boat. I have my partner start the boat in a tight continuous circle over the shark at as high a speed as possible, without swamping the boat. After going around one way four or five times I start him around the other way. For some reason the shark can't stand it. He will come off the bottom like a bullet, ramming the boat or biting the prop.

On a sunny afternoon this past summer, I carried my good friends, Walker Williamson, his son Rodger, both of Granbury, Texas, on a shark shooting trip. After shooting one shark, we started after another that led us to the deeper water. Walker was circling the boat over the shark. Rodger was sitting on the middle seat holding onto the rail as well as he could. Without any warning, the shark rammed the

boat within a couple of inches of Rodger's hand. That sun-tanned Texan turned as white as our sugar white beaches and said "let's go back in the shallow water where they don't try to eat the boat."

We shot three sharks in less than an hour that day. Rodger gladly gave them the "coup de grace" with my .22 derringer. He said he "owed them something for nearly scaring him to death." I find that sharp broadheads are not the safest way of doing the job as the water is rarely calm and the footing isn't the best in the world.

My Dad has killed hundreds of sharks ever since one bit him on the hand about 30 years ago, as he tried to remove the 6 footer from his seine. He now uses a .30 Army carbine on sharks that are hooked and brought to the surface by anglers on our party boats, or, on those he sees swimming on the surface. The shark will cause the red snapper to stop biting everytime they appear.

I would never want to see the shark exterminated, even if it were possible. He is the 'coyote' of the shallow waters. He will eat anything that he can find, especially dead fish that could wash up on our beautiful beaches. But mostly, because he offers the greatest sport a bowhunter-fisherman could want.

Tally Ho! the shark.

### In The Next Issue: Green Bay Packers

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### Tackle Topics

(Continued from Page 9)

inum. Feathers stay on better, etc. Answer to number 2, shooting into a target butt either Forgewoods or aluminum will outlast the fletching many times over and you will probably want to change arrows before you could wear them out. However, no arrow, wood, glass, or aluminum will stand a direct hit on a rock when being shot from a heavy draw weight hunting bow. Answer to question number 3, you will have no problem with warp in a Forgewood arrow. Answer to number 4, Forgewood arrows are made by compressing cedar in a very complicated control process. You can still see the grain by looking on the end of the shaft. While there probably would be very little difference in the spine of the arrow from the edge grain to the flat grain, it isn't much trouble to mount them on the edge grain and most arrow makers would do so. However, if you wish to be sure about this you could write directly to Bill Sweetland in Yakima, Washington. His ad for Forgewoods appears in this magazine.

Dear Tom:

Possibly these questions have been answered in earlier issues of *Archery World*. I am in need of some technical advice on the purchase of a Bear Super Kodiak. My arrow will be a 29" glass, Bear Razorhead, spined for 60 pounds. My question is, 60" or 64" bow? What will be the tendencies of each? Also, I am looking for a custom-made quiver. Can you tell me who is doing first-class work of this type?

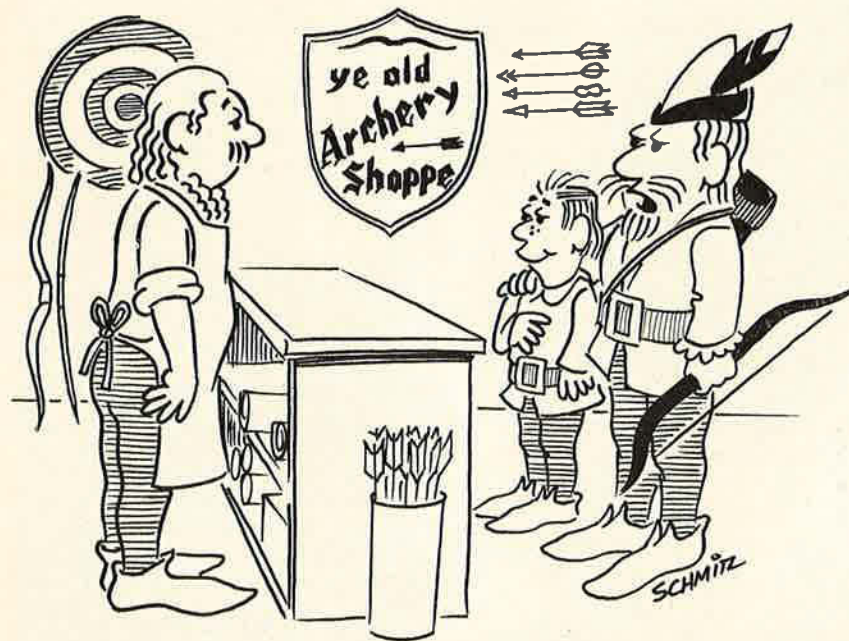
I am planning an early spring trip and would appreciate any assistance as soon as possible.

Sincerely,  
Ben H. Cauble  
454 Prater Ave.  
Sparks, Nevada

Dear Ben:

If your arrows are to be 29" to the back of a Bear Razorhead I will assume that your draw length is 28". My suggestion would be the 60" length in the Bear Kodiak Special. Frankly, the 64" bow was basically designed for the hunter with the exceptional long draw which would include only people with 30" or more of draw. In the

(Continued on Next Page)



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"NO, NO, NO, MISTER TIPPIT... LET'S REVIEW LESSON NUMBER THREE."



## Tackle Topics

(Continued from Page 49)

Bear Super Kodiak the 60" model should be slightly faster than the 64. The 64" model would be slightly smoother on the draw and, of course, have a wider string angle which would make it a little more comfortable on the fingers.

Frankly, Ben, I don't know anybody doing true custom quiver work anymore. Time has become so valuable that to make money in custom quiver work the price would be out of this world. However, if there is anyone reading the magazine who does custom work they may contact Ben directly. I have included his full address for this purpose.

Dear Tom:

I just received by first bow this past Christmas. A "Flexcraft". It has the following numbers on the side in hand-written ink. 60", 6-25-499, 52-56 1/2. I assume it's a 60" bow, drawing 52 to 56 1/2 pounds at 28" but how can I be sure? It also came unstrung and I bought a Pearson Dacron string 56" for up to 55 pounds. How do I find out if this is the proper length string? Pulling a 31" arrow full length is as easy as "pushing your finger into a tub of warm Bear grease."

Going to the store where it was purchased proved useless as it was a discount chain store and the fellow knows nothing about archery.

I am confused. Would appreciate any info you can supply such as manufacturer's address, proper string height, etc. Thank you.

James R. Roaix

Naugatuck, Conn.

Dear Jim:

Now you know. Never go to a discount house to buy archery equipment. Rarely is there anybody behind the counter who knows the first thing about archery. You were lucky that it was a Christmas present and you did not spend your hard-earned money.

The name "Flexcraft" means nothing to me. It is probably a name dreamed up by the chain discount store and they had one of the major manufacturers make these bows for them under this name.

## DEER LICK

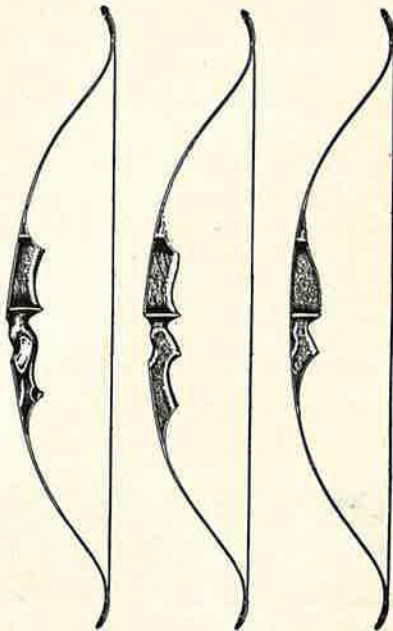
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This is a common practice. Pushing your finger into a tub of warm bear grease doesn't sound like a very tough chore but pulling a 52 pound bow 31" is not child's play. Frankly, I think you are misreading something on the side of the bow. Your best bet is to inquire around for the local custom archery store. It might take some digging but I am sure that there is somebody within a reasonable distance of you that specializes in archery equipment. It would be well worth an hour or two automobile drive to a larger city where there would be one. Any archery store worth its salt will have a scale and method of weighing your bow and determining the draw weight. The yellow pages in your local phone book are a good source of information on people that handle archery equipment.

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## Mail Quiver

(Continued from Page 43)

tember, I was lucky and shot a deer with my \$10 bow. Since then I've been trying to decide upon what brand of bow to buy. Everyone says, "It has maximum efficiency, minimum stack, and maximum speed."

If other archers are as excited about your article as I was, I hope you'll have a regular feature in Archery World analyzing two bows from each major manufacturer each month. I'm sure sales would increase as your magazine would then offer substantially more for the archer than any other archery magazine.

Sincerely,

Charles Greene  
513 West Fourth Street  
Charlotte, Michigan

\* \* \*

Dear Sirs:

Last year on my birthday I received my first issue of Archery World. Then through the entire year I enjoyed page after page of your wonderfully fabulous magazine.

I loved every page of the book;

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from the article on turkey hunting, to the story of "Foot Race to Fort George."

You have very talented writers on your staff, please keep up the good work!

Albert Marschner, Jr.  
906 W. Frances St.  
Appleton, Wisc. 54911

\* \* \*

Sir:

For years I have been reading with interest about Jack Witt (The Old South'n Kuhn'l) and ever since his column, "The Archery Clinic", first appeared, I've enjoyed and profited by what he's had to say.

It's time, I've been thinking, to say so.

His pointers always are a treat because they're intelligently and succinctly presented, always strictly practical and realistic, consistently of value to an archer whether novice or pro as "news" or just a reminder, and formulated in such a way that they stick in mind even when out on the shooting line—which is where they pay off.

Don't let anything stop the "clinic"—or the rest of your wonderful and still improving magazine! Many thanks for both!

Sincerely,

George A. Mann  
1401 Peaceful Lane  
Paint Branch Estates  
Silver Spring, Md. 20904

Dear Editor:

I was just finishing reading your very interesting March edition, when I had the misfortune to read Alex Barter's bias statement.

I and many other "clods" enjoy "stumbling into the woods," each fall in search for "dead bodies," as Mr. Barter puts it.

The name, Archery World, has the connotation to me to mean the whole realm of archery; not just a specialized fragmented part. All phases of archery are going to have to respect and live together har-

moniously if the sport of archery is going to progress in a sufficient way. I feel a letter of Mr. Barter's nature is truly a deprivation to the betterment of the archery world.

Glen Hollgren  
Omaha, Nebraska

Dear Editor:

We have just finished reading "Three Bears in 20 Seconds." We have a complaint. We, of the Fred Bear Bow Club in Burbank, California, think that shooting two bear cubs hardly old enough to eat on their own should not be allowed.

We think it is a sin to shoot a cub that way.

Fred Bear Bow Club  
Burbank, California

Dear Editor:

The object of my dismay, and the disapproval of many bowhunting friends of mine, was in your March issue. By now you may have guessed that I'm referring to Rudy Mione's, "Three Bears in 20 Seconds," story. I'm not sure where in fair chase the provision is made for the taking of a mother with Young. Whatever the species! It seems to me that common sense and morals would dictate to keep this a local matter. The very idea to publicize it is unheard of! Thus far my retort has been concerned with Mr. Mione's sense of sportsmanship and fair play. The bad taste that your magazine used in projecting your image of bowhunting I believe to be detrimental. Printing that picture of the sow

(Continued on Page 65)



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I told him not to shoot that bear!



# Some Conclusions

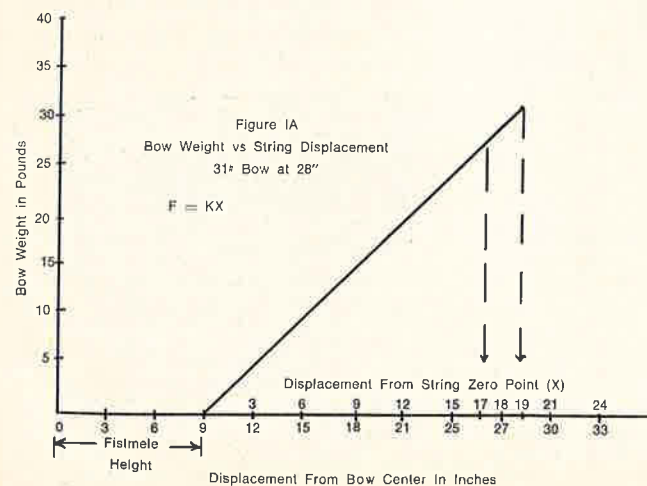
by R. J. Schlesinger

*Editor's Note: Mr. Schlesinger is Director of Research and Development for Packard Bell Electronics Corporation, Space and Systems Division, Newbury Park, California.*

It can readily be observed that a great range of archery equipment is available to meet a wide range of requirements. It can further be observed that some archers equipment frequently, experimenting with new bows, new arrows, and various other items in an attempt to improve performance in their chosen sport. While not all practitioners resort to continual equipment changes, most archers do consider from time to time the possibilities of a new bow or set of arrows. This paper is intended to assist in understanding some of the physical principles that determine performance and suggest techniques for evaluation.

One of the first questions to answer is: "What kind of improvement in performance can be expected from new equipment?" Obviously to determine the level of improvement new equipment might offer, it will be necessary to establish the performance of current equipment. (In this discussion consideration is directed at true equipment performance and the writer's poor shooting form is not a factor.)

The first relationship to consider is that between bow weight, bow constant  $K$ , and the resulting arrow velocity. It is well known that as the bow weight (measured in pounds) is increased, the arrow will



shoot farther and faster. It is also well recognized that the energy imparted to the arrow is related to the distance the bow is drawn. The amount of energy stored in the bow for each additional inch the bow is drawn back is a function of "K," or spring constant as it is sometimes called, of the bow. The relationship between string draw (displacement) and bow weight in pounds is shown in Figure IA. The straight line is actual data measured from a 31 pound bow, 62 inches long. Figure II is a photograph of the simple scale, pulley and yardstick device used to hold the bow at each deflection point while the scale reading in pounds was recorded. Notice in Figure IA that for the actual bow the draw is linear. That is, for each



FIGURE II: Bow being drawn along yardstick while force in pounds is recorded from scale reading.

# of Bow and Arrow Dynamics

inch the bow is drawn back, the force increases by a constant amount. Once a linear draw characteristic has been established for a bow, the bow constant,  $K$ , is simply:

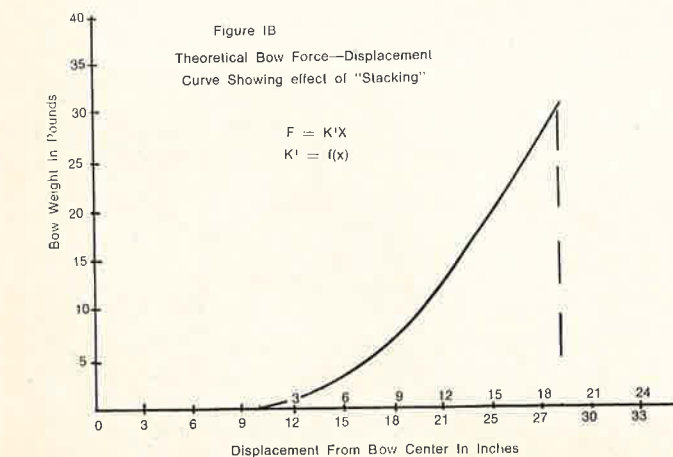
$$K = \frac{\text{Force (lbs)}}{\text{Displacement (ins.)}} = \frac{31 \text{ lbs.}}{19 \text{ ins.}} = 1.6 \text{ \#/inch}$$

For the example shown, notice that the displacement beyond the fistmele height is used, not the arrow length.

The energy stored in the bow is represented by the area under the straight line. A little inspection of this diagram will show that if the arrow were only drawn back 17 inches, the area (energy) under the last two inches of the line would be lost.

Figure IB shows the condition for a theoretical 31 pound bow that exhibits the undesirable effect known as "stacking."  $K$  for such a bow is no longer constant but becomes a function of draw distance  $x$ . The reduced area under the curve in Figure IB compared to Figure IA represents a reduction in stored energy of 26.5 percent for the theoretical bow. The purpose of the device shown in Figure II is to establish the true force-displacement characteristic of a particular bow. Fortunately, modern day laminated fiberglass bows are for the most part linear. A bow will perform most efficiently when this force-displacement curve is indeed linear.<sup>1</sup>

When the string of a drawn bow is released, the energy stored in the bow is transferred to the arrow.



The transfer of this energy, or work done on the arrow, imparts to it the initial velocity. This initial velocity,  $v_l$ , the velocity with which the arrow leaves the bow, is related to the energy stored in the bow:

$$\int_0^x F dx = \int_0^x Kx dx = \frac{1}{2} m v^2$$

This is a simple integral equation which the mathematically inclined will immediately recognize. However, it is not necessary to dwell on this beyond noting that it relates the bow's weight,  $F$ , the bow's constant,  $K$ , and the string displacement,  $x$ , to the arrow's weight,  $m$ , and arrow's velocity,  $v$ . The solution of this equation yields:

$$v_l = 140 \cdot x \cdot \sqrt{\frac{K}{m}}$$

where  $v_l$  = the arrow's initial velocity in feet per second

$K$  = bow constant in #/in.

$x$  = string displacement in inches.

$m$  = arrow weight in grains.

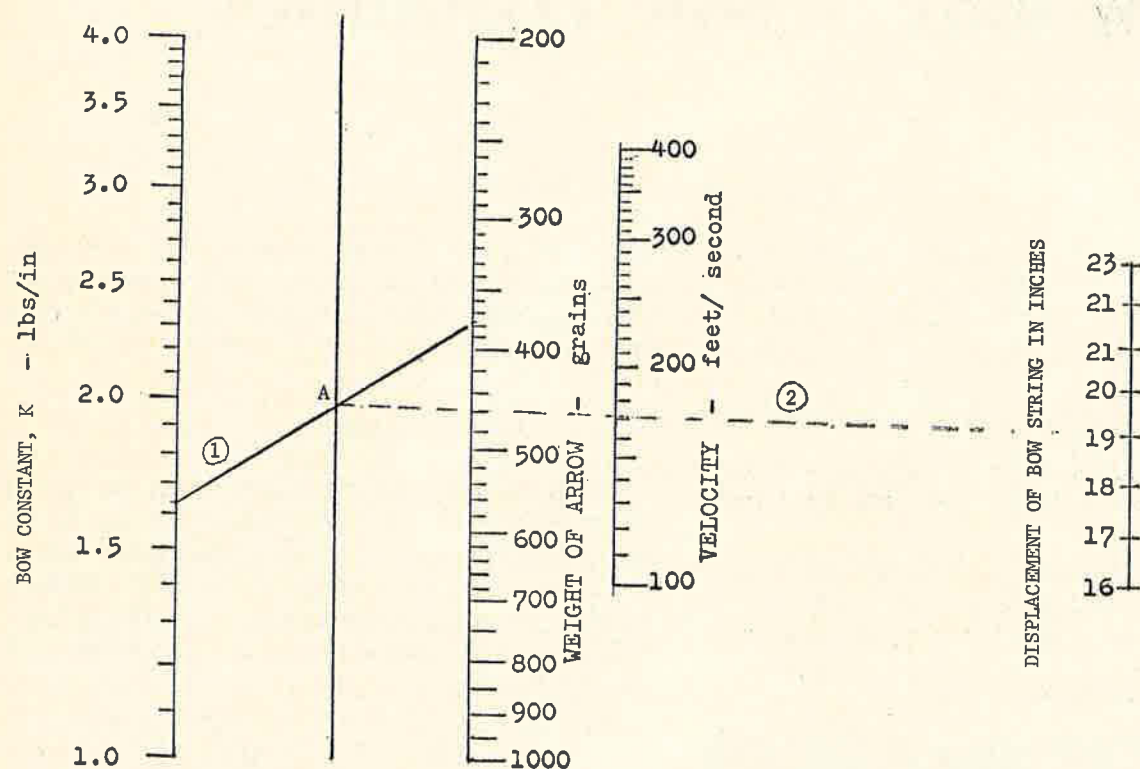
To simplify establishing the arrow velocity of a particular bow and arrow combination, a nomograph<sup>2</sup> is provided in Figure III. By use of this nomograph one can readily establish the effect of changes in arrow weight, bow weight ( $k$ ), and arrow length. Its use will be explained using the 31 pound bow and 28 inches, 378 grain arrow as an example. Recall that the constant  $K$  for this bow was found to be 1.6 #/in. Line 1 is drawn as shown connecting  $K = 1.6$  to the arrow weight 378 grains. It crosses the nomograph reference line at a point which has been marked "A." Now connect point "A" with a second line (line 2) to the bow string displacement distance of 19 inches (arrow length minus fistmele, i.e., 28" - 9" = 19"). The arrow initial velocity is now read at 172 feet per second.

<sup>1</sup> An improvement over the linear curve can be realized by the Compound Bow discussed by Tom Jennings in the May 1967 issue of Archery World. The complex force-displacement curve is given and encompasses more area than would a linear one for the same weight bow. Using the method described here, the initial velocity of an 1816 arrow from this bow was calculated to be approximately 256 fps.

<sup>2</sup> Appreciation is acknowledged to Mr. E. L. Cordell of the Packard Bell Electronics Corporation Research Staff for the construction of the nomographs used in this article.



FIGURE III  
 NOMOGRAPH FOR ESTABLISHING EFFECT OF ARROW WEIGHTS, BOW WEIGHTS,  
 AND DRAW LENGTHS ON INITIAL ARROW VELOCITY.\*

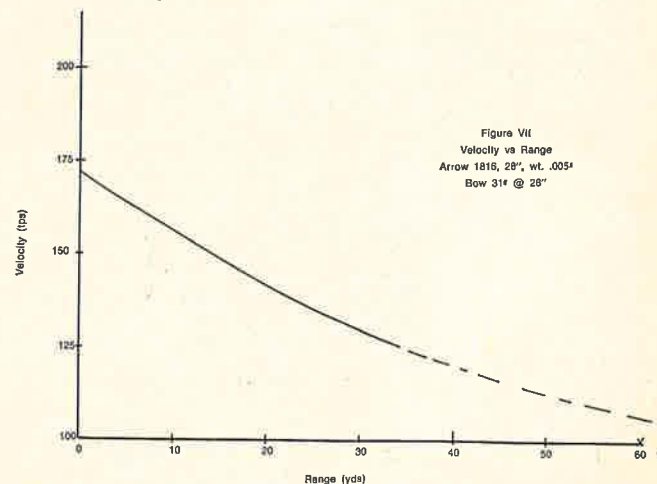


\*A few percent variation in arrow velocity will result for bows of the same weight but different lengths, i. e., a 40# - 58" bow will produce a slightly higher arrow velocity than a 40# - 68" bow. This relatively small variation is neglected here.

This nomograph can now be used to quickly analyze the results of changes in bow weight, arrow weight and draw length. It is interesting to note, for example, that a 41 pound bow ( $K = 2.15$ ) shooting a 500 grain arrow produces the same initial velocity as the 31 pound bow shooting the 378 grains arrow. Improvement in performance to the target shooter is realized due to the heavy arrows resistance to wind conditions; and for the hunter by the increased energy ( $\frac{1}{2} m v^2$ ) available for penetration.

This procedure provides an analytical determination of initial arrow velocity ( $v_1$ ) for various bow and arrow combinations. It was next desired to have experimental verification of  $v_1$  as well as establish the arrow velocity as a function of range. A search of the literature indicated that there was little or no data available on arrow drag coefficients. It was therefore decided to actually measure the arrow velocity at the various ranges of interest. The device to be employed for this measurement is known as a ballistic pendulum.<sup>3</sup> The concept employed here is based on the

principle of conservation of momentum. Hence, a pendulum of mass  $M$  will be displaced by a calculable amount when struck by an arrow of mass  $m$  traveling with velocity  $v$ .



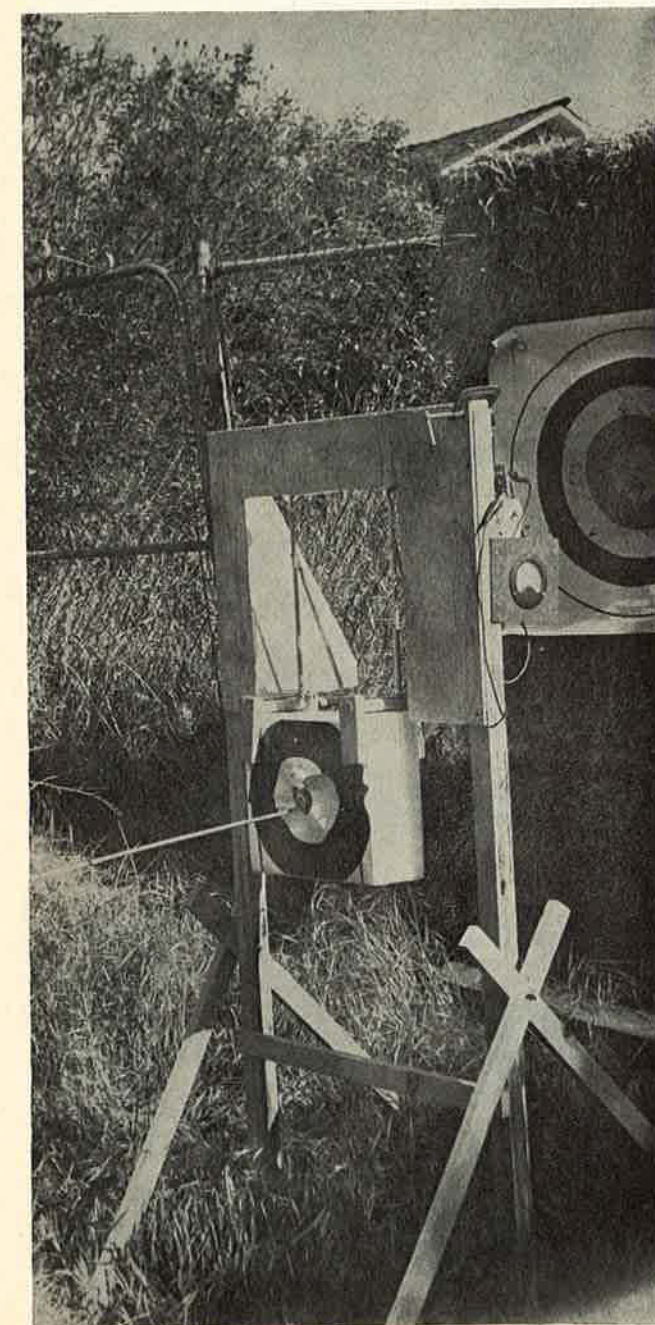
<sup>3</sup> Appreciation is acknowledged to Mr. Tom Jennings of S&J Archery, Burbank, California, for the suggestion of this device for use in this program.

Since the weight of both the arrow and pendulum are known, only the angle of displacement of the pendulum,  $\phi$ , needs to be measured to solve the equation for the arrow's instantaneous velocity.

$$v = \frac{M + m}{m} \cdot 2 \sqrt{gl} \sin \frac{\phi}{2} \text{ feet per second}$$

where  $l$  = length of pendulum  
 $g$  = acceleration due to gravity 32.2 ft./sec.<sup>2</sup>  
 $M$  = mass of pendulum  
 $m$  = mass of arrow

The ballistic pendulum built for this experiment is shown in Figure V. An arm coupled to the pendulum



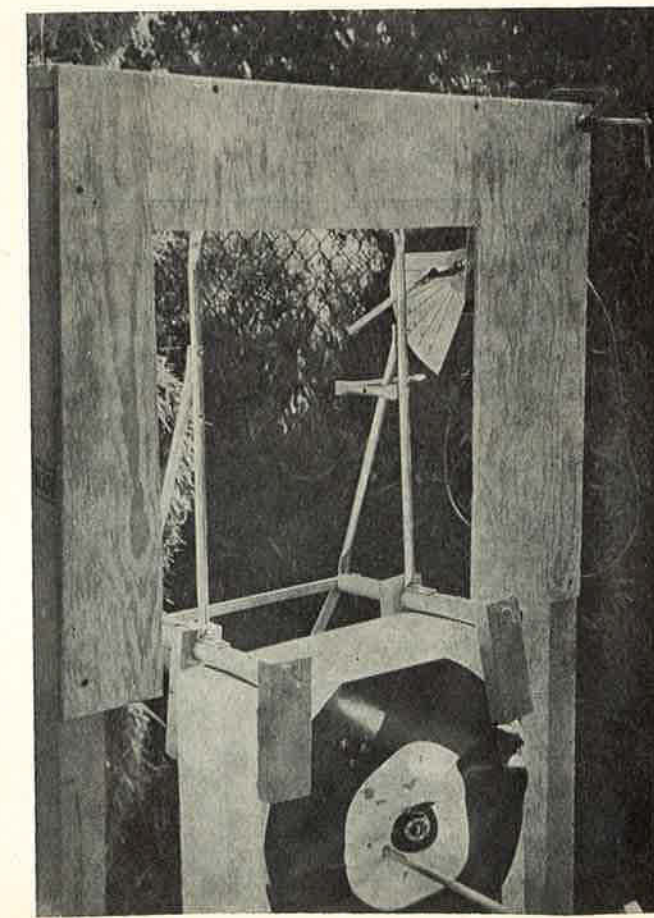
(see Figure VI) controls the balance of a D.C. amplifier. The motion of this arm indicates the maximum swing of the pendulum when hit by an arrow. The meter reads the arrow velocity directly.

Recall that the initial arrow velocity for the 31# bow was calculated at 172 feet per second. When the pendulum was hit with an arrow (aluminum 1816) from the same bow at a close range of five feet, it showed a velocity of 171 fps. This verified the results.

Next, a series of shots were made at distances out to 30 yards and the velocities recorded. Figure VII shows a plot of the results. The dotted section represents an extrapolation of the data out to 60 yards by fitting the equation  $v = v_1 e^{-\text{constant } R}$  to the data. Here  $v$  equals the arrow velocity at range  $R$

FIGURE V (at left): Ballistic pendulum for measuring arrow velocity. Notice indicating meter on right hand side of frame.

FIGURE VI (below) Close up view of ballistic pendulum where scale and pointer arm, coupled to recording amplifier, can be seen.



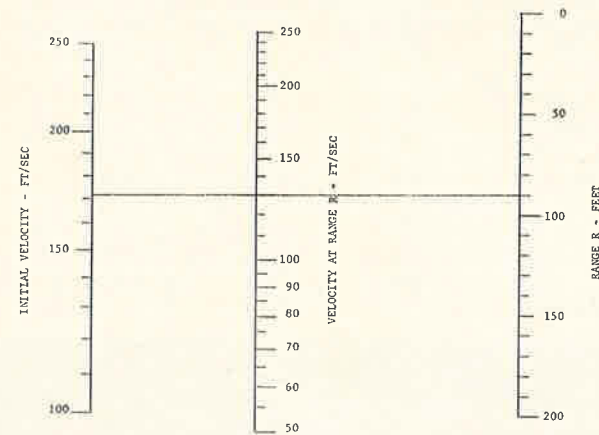


and  $v_1$  is the initial arrow velocity (172 fps). The constant (.0031) is the decay constant for this weight arrow.

Again to simplify the approach, a nomogram is provided in Figure VIII for determining arrow velocity as a function of range. This nomograph will provide reasonable accuracy for arrows that weigh within 50 grains of the 1816 three fletch arrow used here.

Starting with Figure III the initial velocity for a particular set of equipment can be established. Then by referring to Figure VIII the velocity of the arrow as a function of range can be readily determined. This data can then be plotted as in Figure VII to give a graphic picture of equipment selection.

A combination of such plots on the same graph can be used as a technique for comparison and evaluation in equipment selection.



EQUATION OF NOMOGRAM:  $V_R = V_1 \cdot e^{-0.0031 R}$

FIGURE VIII: Monograph for determining arrow velocity at any range, R, as a function of initial velocity.



I know why he's such a great hunter—he uses shotgun shells in his blowgun!



### SCORES ON BOARS

Shakespeare's Wilson scores on boars—Dick Wilson, Shakespeare Company archery division manager, is shown with one of two wild razorbacks he bagged recently at River Ranch Acres near Lake Wales, Fla. Dick was using Shakespeare's new Super Necedah bow and Rifled fiberglass arrows.



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DEALER INQUIRIES INVITED

## Tough Tom

(Continued from Page 15)

with a razor sharp broadhead on it, sticking out of a live still fighting cat, can kill or cripple a dog in a second. If there is a chance of this happening, I will usually chain up the dogs until the cat is dead even though the dogs would like nothing better than to get in a few licks of their own.

This very thing happened when I shot the cat mentioned at the beginning of the article. I figured I had better get that cat dead quick, but trying to get an arrow into the cat and not hit one of the four hounds was not the easiest task. I must have come to a full draw twenty times only to let down as a dog got in the way. Finally, the chance came and I turned a broadhead loose, aiming for the cat's rib section and hoping the razorhead would go all the way through and out the other side of the cat so the dogs could finish the job. My arrow was a slight bit forward and hit the cat in the shoulders and stopped with about eight inches of shaft protruding from the far side, tipped with the razor sharp head. The cat was mortally hit but could still whirl and cut a dog badly with the arrow, so without giving much thought to anything but the dogs, I jumped in and grabbed the broadhead and broke it off. Now I am not

the bravest guy in the world and I had complete faith in my dogs because when the cat turned toward me, two dogs had him from the off side and in a second I had the broadhead. It didn't take the dogs long to quiet old tom down for keeps and for all the roaring around the hounds had not a bad cut in the bunch.

It is always a good idea to take several of your old, nearly worn out arrows with you if you are in rocky country because many times a cat will "tree" on a rock ledge and any arrow you shoot at him, hit or miss, is going to be shattered on the rocks. I usually bring back about half the arrows I start out with but the thrill of getting a cat offsets the cost of the arrows lost.

One other piece of equipment that you do not want to forget on a cat hunt with hounds and that is a camera. You will have a chance for some action pictures that will make your friends drool with envy. Good dogs baying a cat either on the ground or in a tree will keep the cat occupied long enough for you to get fairly close for some great action shots. One word of warning here and that is as I said before, some cats are entirely unpredictable and don't take too kindly to being photographed at close range but then finding out just which cats these are is one of the aspects that makes cat hunting with a bow and arrow behind hounds the sport that it is!

## NEW ENGLAND OPEN

The fourth annual New England Indoor Open will be held on April 28 at Hall's Arrow Archery Lanes, 291 West Middle turnpike, Manchester, Connecticut.

The open, sanctioned by the PAA, will feature the shooting of Vic Berger, Bill Bednar, Jugger Gervais, and Jim Pickering. Range official will be Art Hall, PAA member and lane owner.

\$1000 in prizes is being offered in the men's division with 20 paying places. In the women's division, all registration fees received will be paid back in prize money.

Registration will be accepted up until 10 a.m. on Sunday, April 28, space permitting. Shooting partners will be chosen by chance drawing.

Occupying over 10,000 square feet of shooting area the lane can accommodate up to ninety-six archers in a single wave. There will be a \$2 spectator fee (no charge for wives of participants).

There are motel and restaurant facilities in the area. Anyone arriving at Bradley International Airport may call the Lanes for pick-up service.

For the benefit of early arrivals there will be an informal trophy shoot Saturday night, April 27. The Lanes will open at 8 a.m. Sunday morning, April 28. Participating archers may practice free of charge until the tournament opens.

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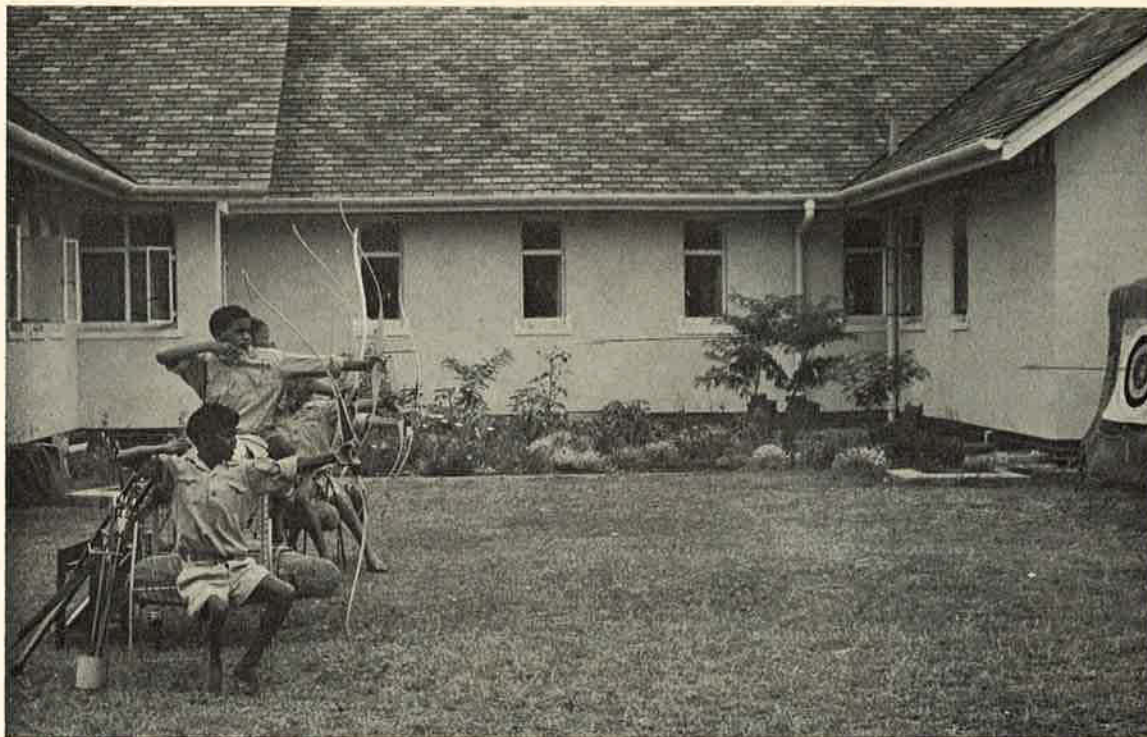
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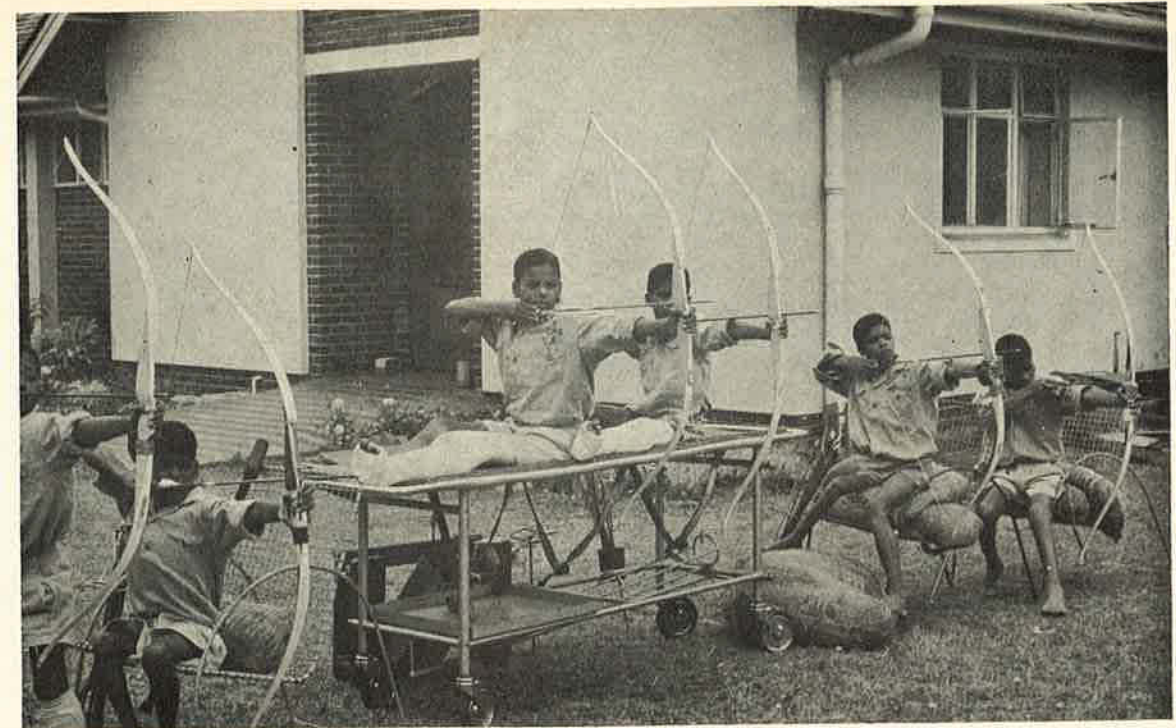
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Two arrows are still in the air. The boy sitting on the chair is showing very distinctly the "fist" method of Chester Seay. The boy shooting from the trolley is a good example of the "tilt," also Mr. Seay's method of shooting.



A non-European group of boys from ward 5, all under 12 years of age. They come to archery exercise sitting on the trolley. The boys are not allowed to walk after the operations. The legs of the two boys on the trolley are still in plaster of Paris.

### 3 Helpful ARCHERY Items

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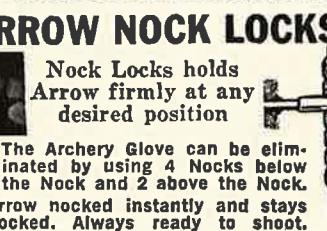
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## Taking Archery

These youngsters take their archery sitting down, but only because they are patients in an orthopedic hospital. This report came to Archery World from the Union of South Africa, where archery is being used in the rehabilitation of handicapped children.

Sending the photos to us was Chester Seay of Los Angeles, California, a longtime friend of Madam Irene Skorupska. Madam Skorupska, a former Polish national archery champion, is now living in the

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## Sitting Down

Union of South Africa, where she is on the staff of the Princess Alice Orthopedic hospital in Retreat, Cape, South Africa.

She has used her knowledge and skill in archery with young patients in their rehabilitation following orthopedic surgery.

The captions under the pictures were written by Madam Skorupska.

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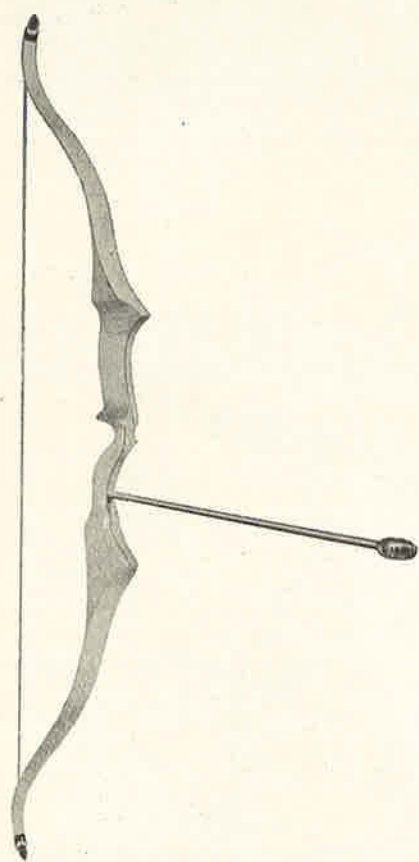


# The Archery Supermart

## NEW BOW

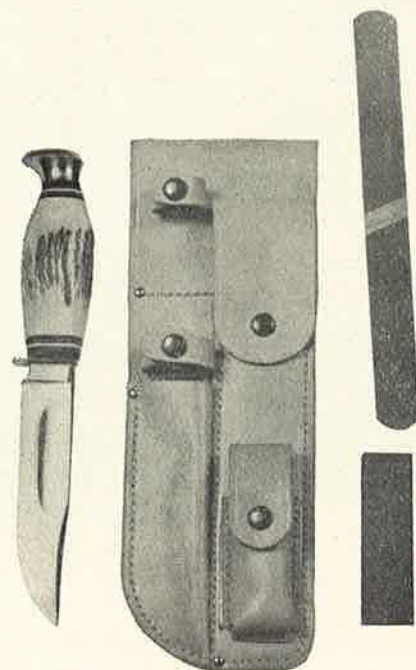
Herter's Incorporated of Waseca, Minnesota, has just marketed a new laminated composite wood and glass bow.

The UTOPIAN 72" and 75" bows are truly outstanding target bows for the competitive minded archers. Like its closely designed relatives, the 72" and 75" SITKA bows, the Utopian has the forward



two-point stabilized handle riser. The UTOPIAN comes complete with HERTER'S mercury-filled rod stabilizer. This combination offers the utmost in shooting comfort and accuracy.

To maintain the strength in the handle section and to add stability the handle has been constructed of beautiful laminated 1/8 inch maple



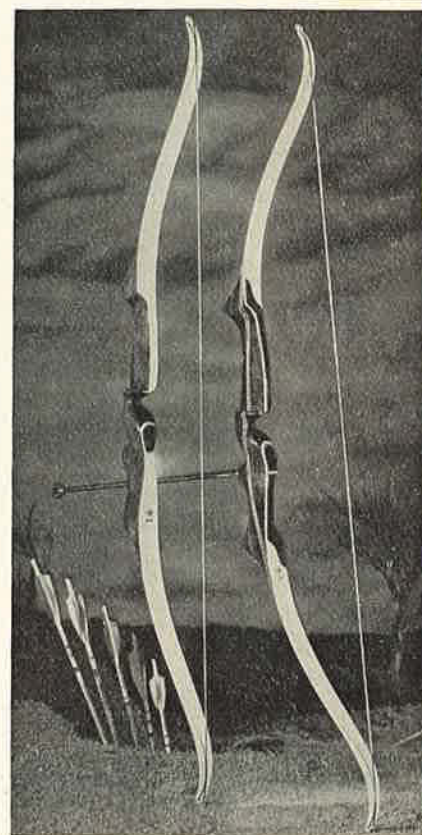
## BOW HUNTER'S KIT

A new item in the '68 Herter's catalog is their bow hunter's kit. It contains three necessary bow hunter's items, all in a handy, heavy-duty steerhide belt sheath.

The knife has a best quality Sheffield forged steel blade, 5 inches in length with simulated stag handle, four inches long. It is made in England to Herter's specifications. The kit also features a special 8-inch broadhead file and a 7/8" x 3/8" x 3" sharpening stone for knife and broadheads. About \$7.50 in price.

and two 1/16 inch pieces of high-tempered aluminum strips. Because of the strength obtained from the aluminum, it has made it possible to obtain a small 4 3/8 inch circumference grip and still maintain the comfort of the wide palming area. The small bow grip will allow for a minimum of bow torque.

Priced at about \$90.



## TARGET BOWS BY BROWNING

The Monarch and the Challenge (left to right) have been added to the Browning Arms Company assortment of target bows. Both bows are offered in 66, 68 and 70 inch lengths (AMO standards) and may be obtained in draw weights from 30 to 60 pounds. Left and right hand models are available in all specifications.

Both the Monarch and the Challenge feature a 5/16 inch threaded insert to accept the Browning Torque stabilizer. The 22-inch, 4.6 ounce stabilizer is an optional accessory with either bow.

Monarch Bow about \$84.50.  
Challenge Bow about \$127.50.  
Challenge Bow Set about \$165.50.



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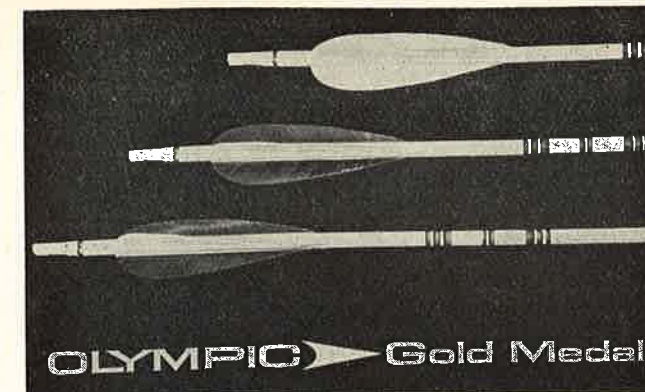
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## Archery and The Green Bay Packers



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## Instructors' List

A note from Earl E. Palmatier, secretary-treasurer of the Professional Archers Association, reads:

"We seem to be receiving more inquiries as to where beginning archers may receive professional instruction.

These inquiries tend to come from professional people such as physicians and persons who have been successful in another sport where they received professional coaching.

With this information in mind, the P.A.A. thought that your magazine would like to publish a list of the Certified P.A.A. Instructors so that the readers might know where to go to get proper coaching for the fastest and best results."

### CERTIFIED PROFESSIONAL ARCHERY INSTRUCTORS 1968

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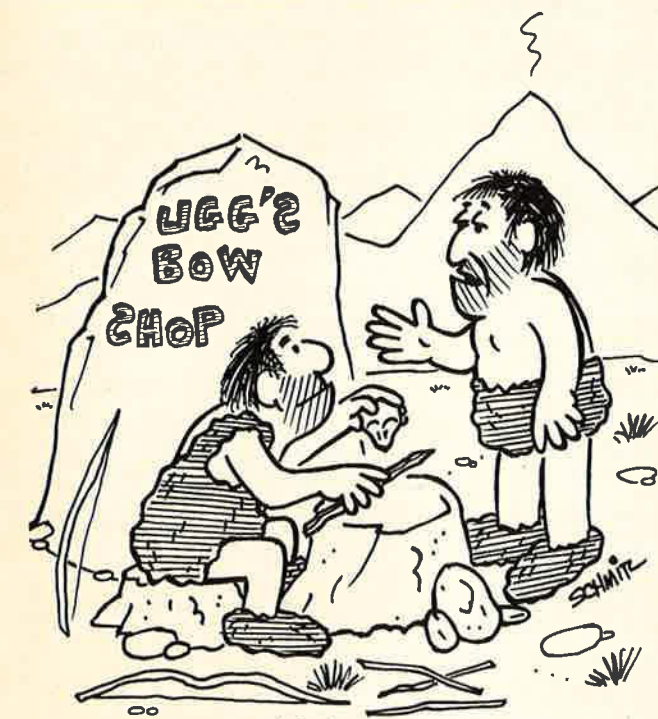
## Records Broken in Pennsylvania Deer Harvest

Archers demolished all existing deer harvest records for Pennsylvania during the 1967-68 license year, according to official figures released recently by the State Game Commission.

The count of big game kill report cards returned to the Game Commission showed that 3,251 archers took whitetails in the Keystone State during the regular and extended archery seasons.

The total for the year is an all-time record, and shows the remarkable growth of the sport in recent years. In 1964 bowmen reported taking 1,600 deer; in 1965 the figure rose to 2,119; and one year ago the total reached 2,337.

Reports filed by successful archers showed that an even 1,200 antlered deer were tagged, including 731 with three or more points and 469 spike bucks. The antlerless deer harvest of 2,051 included 1,574 does and 477 males. All of these figures are new records.



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Overall, slightly more males than females were taken.

Potter County, the leader in all big game harvest categories in 1967, also led all other counties in reported archery success. Bowmen there tagged 405 whitetails, another record. In second place in total harvest was Forest County with 215, followed by Clinton County with 142.

Resident archers reported taking 2,675 deer, and non-residents bagged 576 whitetails, also new records.

In addition, another eight archers, all Pennsylvania residents, reported taking deer with bow and arrow during the regular gunning seasons for whitetails.

During the regular gunning seasons, riflemen took 137,482 deer in the Commonwealth, shotguns accounted for another 3,503 and handgunners tagged 171.

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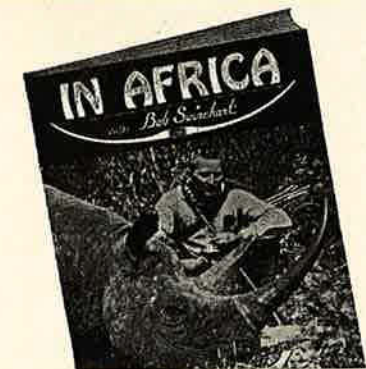
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Archery World  
24 S. Reading Ave.  
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## Mail Quiver

(Continued from Page 51)

with her cubs is just one point. There have been similar violations in the past.

It would be a friendly gesture that I make in suggesting that before printing pictures and stories of that type "just to fill," that they meet standard requirements exhibiting the best interests of bowhunting.

Wayne R. Rurri  
Sepulveda, California

Dear Editor:

Thanks for a fine archery magazine. Lots of hard work has made this book what it is today, it has helped me in many ways. I am now retired, not able to shoot very much, my health won't permit it. I now pull a 25 pound Recurve Bow and use 1616 shafts. I don't like to be on the side line where one can soften up. I love the line where the action is, and archery has a lot to offer inside and outside shooting.

Herman L. Meyer  
Kansas City, Mo.

Dear Sir:

In your magazine in March issue 1968, on Page 26, Three Bears in 20 Seconds by Rudy Mione, my team and myself do not think much of any hunter, much less a sportsman who kills a mother Bear with cubs at her side. I am surprised the game laws allow this type of hunting.

I am proud that the state of Wyoming, my state, does not allow mother bears with cubs to be taken in any way. We are sportsmen and wish to preserve our game. The team and myself were dis-

turbed to read such an item in your magazine. To a real sportsman and hunter this type of killing and hunting is not done. You have a fine magazine, do not spoil it.

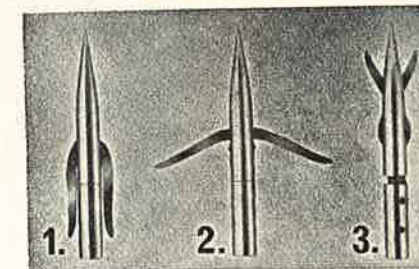
John F. Vielbok  
President  
Block Archery Team

Dear Editor:

After reading "Three Bears in 20 Seconds," I can't help but get a little sick to my stomach. I should think that any "hunter" would be ashamed of killing bear cubs, regardless of whether or not someone wants to stuff them. The photograph of the sow and 2 cubs hanging up looks disgusting beneath a photo showing a bunch of guys "enjoying a hearty meal." I think that this kind of stuff is in extremely poor taste on the part of the "hunter," and even more so on the part of your magazine for printing it.

I am an avid bowhunter, I have only killed 4 deer in the six years I have been bowhunting, but I

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hope I never get to the point where I enjoy this kind of "hunting."

Jack O'Day  
Seaford, Delaware

Dear Editor:

The old adage that "one picture is worth a thousand words" is certainly true when referring to the story "Three Bears in 20 Seconds" in the March issue of Archery World. As a matter of fact, one million words couldn't do as much damage to bowhunting and hunting in general as did the pitiful picture of the sow bear and her two cubs. I consider it very poor taste on the part of your magazine to print such a revolting picture which, in effect, puts a totally unscrupulous butcher on the back.

Sportsmanship must be at a low ebb for the game laws, the guides, and the hunters themselves to allow the killing of teddy-bear sized cubs.

I am hoping that the state of Maine awarded the author at least 1-1/3 colorful patches that "distinguishes bowhunters who bag a bear."

2Lt. M. L. Rooney  
Fort Lee, Virginia

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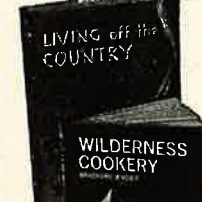
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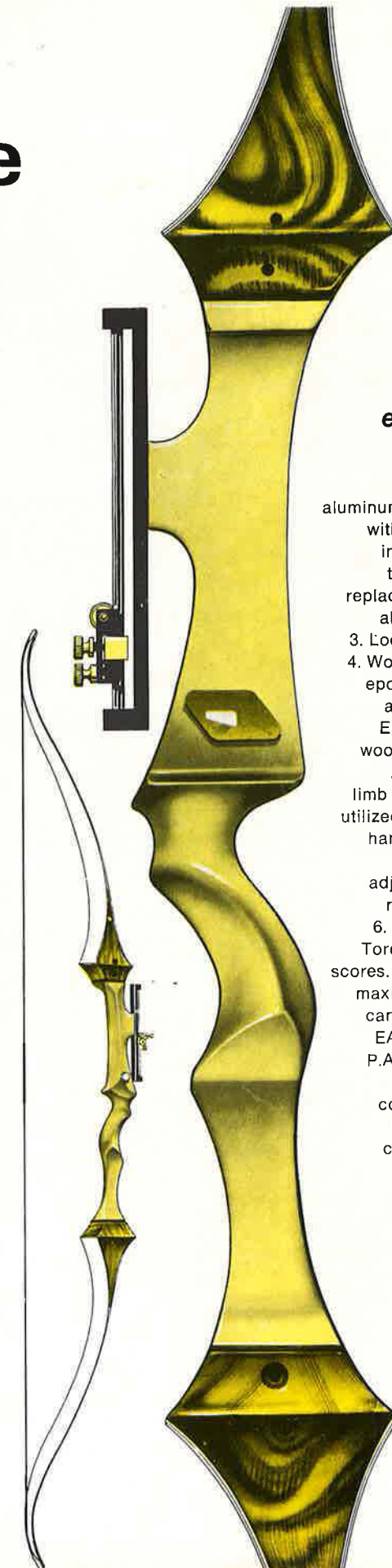
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