

BOW & ARROW



50 CENTS

NOV.-DEC. 1964



Champ Versus Ringnecks

OKLAHOMA DEER HUNTING

TRI-COLOR CUSTOM FLETCHING

Follow The NFAA Champs



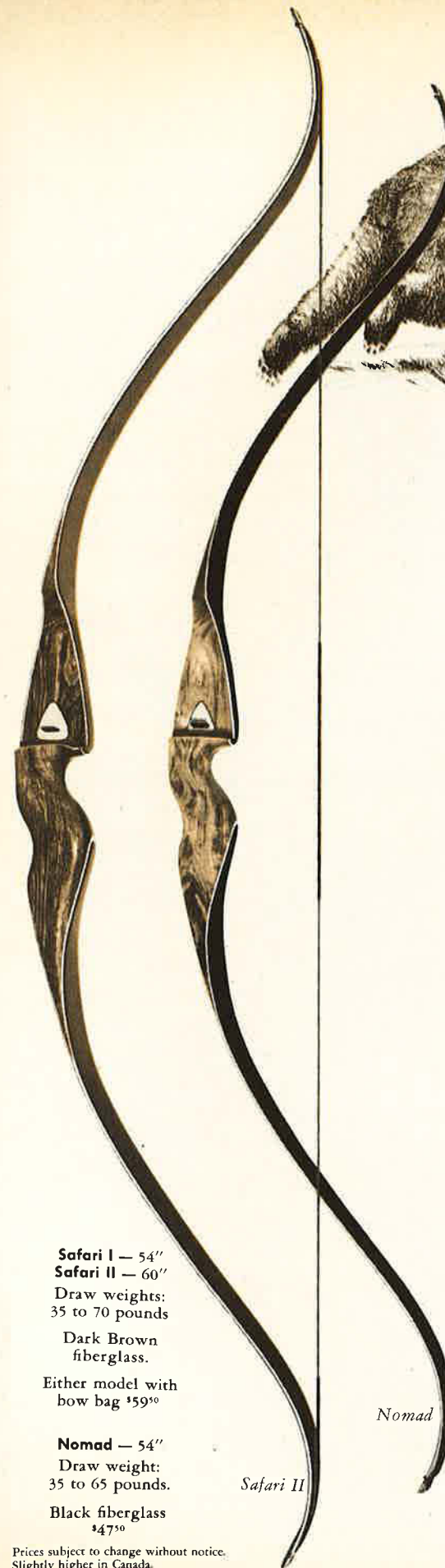
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FROM CREATIVE MASTER CRAFTSMEN...A NEW SOVEREIGN HUNTER

This bold new hunting bow was designed from the desires and wishes of bowhunters . . . for heavy brush country, hunting from trees, or rough terrain. Designed and tillered to accept a 30" draw . . . 5' length. Maroon Gordon Glass on back and front and rich Rosewood handle, with thumb-rest . . . The Golden Knight issues a challenge to any hunting bow on the market.

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Golden Sovereign Division
Ben Pearson, Inc.
 Pine Bluff, Arkansas



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 35 to 70 pounds

Dark Brown
 fiberglass.
 Either model with
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Nomad — 54"
 Draw weight:
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Black fiberglass
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Prices subject to change without notice.
 Slightly higher in Canada.



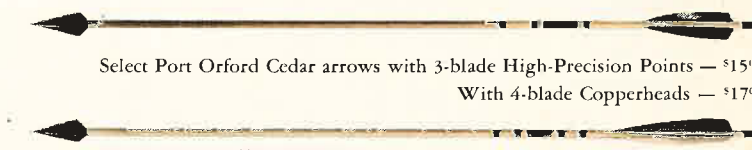
CONFIDENCE TO SPARE

Good equipment is fundamental to self-assurance and a hunter needs both to shoot his best. Were you to nock a broadhead and check its flight from a Browning hunting bow, you would sense a driving power and velocity that inspires *confidence to spare*.

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 With 4-blade Copperheads — \$17⁰⁰

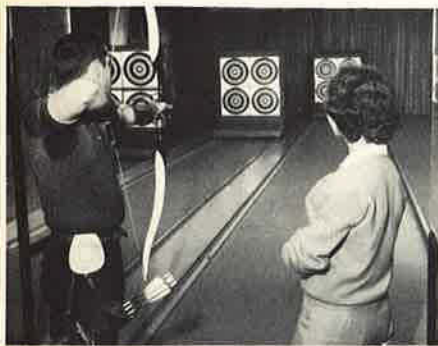
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BOW & ARROW
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VOL. II, NO. 4 NOVEMBER-DECEMBER 1964

ON THE COVER: Wayne Harris makes a stand beside his favorite waterhole in the Nevada desert. He is equipped with the Redwing Hunter bow, cedar arrows fletched by Kittredge Archery, a new King quiver and Bausch & Lomb binoculars.—Photo by Ray Rich.

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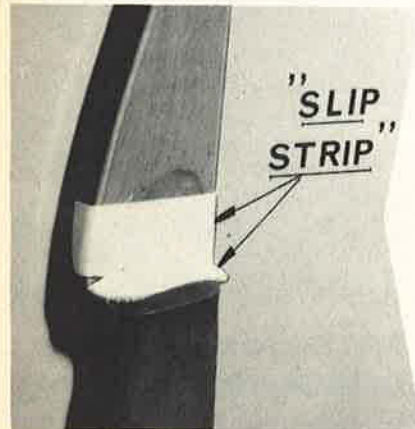
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NO CHILD'S PLAY

Several people in the past have told me that archery, they thought, was more or less a children's game.

I try to explain to them how popular and growing archery is, but they just laugh at my explanations. They don't realize that it isn't a children's game and that it does take patience as well as skill.

I am for archery one hundred percent, and I need an expert's advice as to how to explain the importance and sport to them.

Lee Woodruff,
Cadiz, Kentucky

(There are some people who would rather have their own opinions than genuine knowledge. However, you might point out to them that there are an estimated 7,000,000 archers in this country. If that doesn't work, challenge one of them to a match. Let him find out the hard way that it requires more than a child to put one in the gold at eighty yards or to down a wary deer.)

NEW BEGINNING

I wish to congratulate you on an excellent publication. I have read each copy many times. Each time I seem to find something new and interesting.

Last fall, I resumed the interest in archery I had as a youngster. Little did I realize the progress made in archery, and I credit most of my information to your magazine. I am enjoying the sport more and more as my ability progresses. My interest leans toward hunting and I have spent many hours in the field.

Milton P. Keesler,
Utica, New York

THAT'S THE KIND

Thanks for all of the very good stories on varmint calling. Varmint calling is one of my favorite pastimes and your magazine has helped a lot.

Would you please tell me the type of bow Jim Dougherty is shooting in the picture on page 65 of your Jan-Feb '64 issue?

Michael Olson,
Minneapolis, Minnesota

(A little close inspection shows that Our Man in Pasadena was using a Red Wing Hunter made by Wing Archery for that particular outing. He does a complete test on the latest model in this issue.)

ETHIOPIAN BRANCH

As you can tell by my address, I am overseas. As an avid archer and bowhunter, I find your articles exciting and enjoy going back and re-reading the articles several times.

There are several archers here in Asmara, who are in the process of extending the sport to Ethiopia, and so far, local response has been excellent. Keep up the good work with B&A.

1st Lt. John D. Harder USAF,
APO, New York, New York
(We doubt that we'll have an Ethiopian translation, but your coming members may be interested in our special rates to clubs. Also, it's our understanding that the bowhunting possibilities in that remote land are virtually unlimited. How about a story on that facet?)

POLICE INTERFERENCE

I am a dedicated archer. I have been shooting a year and have gotten six of the boys interested, too. I have been target shooting in an eighteen-acre field for nearly ten months, but now the police say "no," when some factories are going up.

We are over half a mile from where these factories are being built. I talked to the police in my location and they said it was illegal to shoot in the field at all; not just because of the factories.

One of my friends, who is a very good shooter, is ready to quit and sell his bow. We live too far from an archery club and can't get there often enough.

I won't quit, but I want to shoot. Would an archery club of our own help? If so, send me information as to how to set it up legally. We would like to set up a field range.

Denny Fray,
River Grove, Illinois

(First off, we would advise checking with the local city attorney to find out exactly what the law says. Laws often are open to misinterpretation. The next step might be to check with the Recreation and Parks Commission for the town in which you live to see whether they cannot help with plans for a range if there is sufficient interest.)

(Also, your problem should be presented to the National Field Archery Association, Redlands, California. This organization may be able to help you in clearing the way for field archery shooting.)

BIG IN BERMUDA

I would like to add my congratulations to those of your many appreciative readers. BOW & ARROW, with its wide range of
(Continued on page 27)



JOHN RUDY — National Free Style Field Archery Champion 1964

Always a tough competitor, this "Mighty-Mite" took the measure of all the big names in archery and rewrote the record book in doing so.

Like so many other champions, John shoots a Wing Bow. (42 lb 66" Presentation) He chose Wing because he wanted a bow he could depend on when the going got tough.

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pend on a Wing Bow for top performance when the going gets tough or when you need that something extra. Champions choose Wing . . . How about you?

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Soon your family and friends will be shooting with you too! Archery's great relaxation.

MATT IS IDEAL INDOORS
Convenient and clean. There's practically no mess with a burlap covered Saunders Matt. So have the gang in... have a ball! Invite those special friends you can never get out to a range (it's sneaky... but it works!)



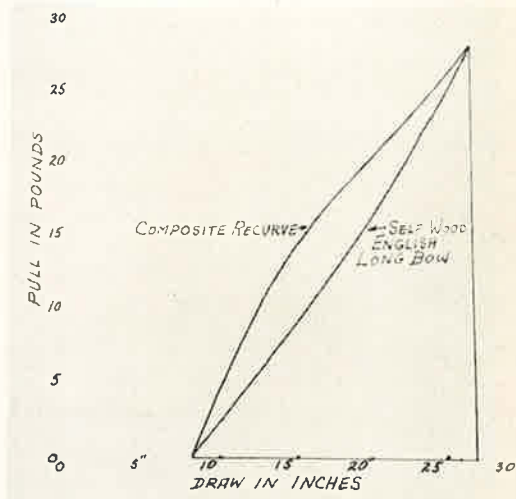
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COLUMBUS, NEBRASKA

TACKLE TIPS

Tom JENNINGS



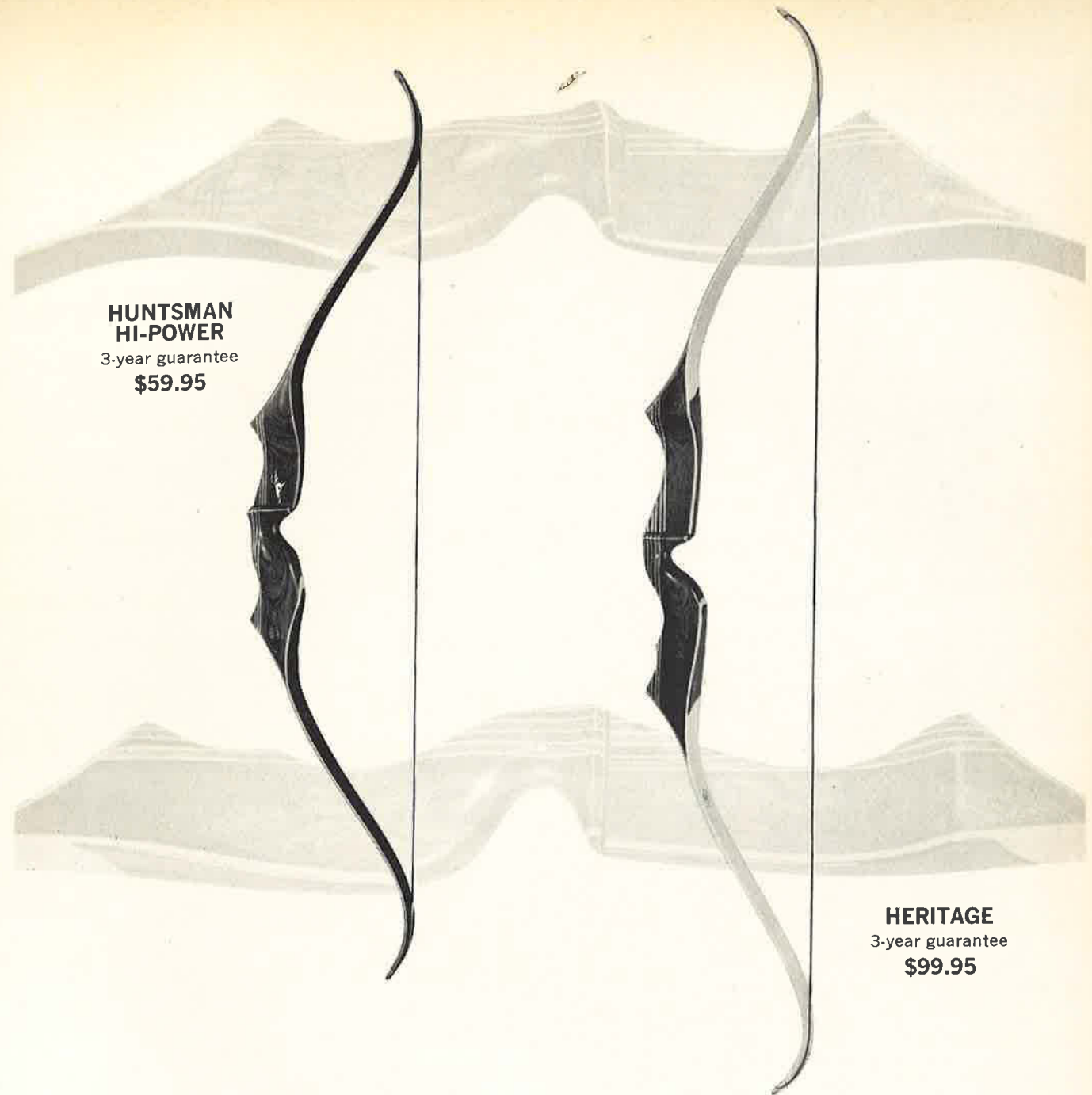
DRAW FORCE CURVE

Now don't panic. Nothing scares me more than to look down a column of a magazine article and see a whole series of complicated algebraic formulae. I am only going to ask that you study and understand one simple graph chart.

Through the course of our formal education, we all had a spattering of higher mathematics. It is amazing how quickly (through lack of use) a person can forget how to use these more complicated mathematical processes. To illustrate how quickly these mathematical procedures can be forgotten, just ask any friend of yours who has somewhat of a mathematical background to do a simple square root calculation. This is a sure drink winner in any gathering.

You will notice on the chart that there are two curved lines. One plots the draw curve of a modern composite glass faced and backed recurved bow. The other charts the draw force curve of an old self Lemonwood English long bow (Cira 1937), one of my early endeavors in bowmaking. The reason for charting two bows on this graph is to illustrate the difference between two completely different bow designs. You will note that both bows weigh 28 pounds. at 28 inches of draw. These draw curves were plotted by using a simple spring scale to draw the bow. Each two inches we would make a point on the graph at the intersection of pull weight and distance in inches. This gave us a series of dots from string height to 28 inches of draw that was connected together with a French curve. Anybody can plot his own draw force curve.

Another method, if you do not have a spring scale, is to use a series of different weights. The bow is fastened by the riser section in a horizontal position on a wall with a measuring stick placed directly behind in a vertical position to measure the draw. The weights are placed on the bow string and the draw force curve is plotted exactly as if you were pulling with a scale. (Continued on page 50)



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3-year guarantee
\$59.95

HERITAGE
3-year guarantee
\$99.95

Two new champions from Colt

New Colt Huntsman Hi-Power, a husky 56" hunting bow with big-game accuracy and power. Easy to handle in brush. Can be shot from any position. Modern stabilized design with man-sized handle of rich, laminated woods. Quiet carpet-type arrow rest and leather arrow plate. Draw weights 40-60 lbs.

New Colt Heritage. A showpiece of tournament precision. Balanced deflex-reflex limb with full-working recurve. Forward-flowing handle of tough imported woods provides exceptional stability without compensators. Hand-tailored thumb rest. Lengths: 66" and 68"; draw weights: 30-50 lbs. Other Colt bows, all designed, developed and tested by Colt, from \$5.95.

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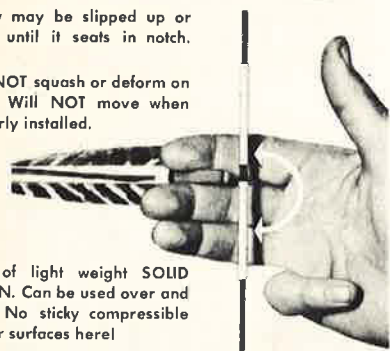
Will NOT roll string. Gives extremely accurate "Hair trigger" release.

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TECH TALK

QUESTIONS & ANSWERS

WEATHER WATCHER

I am writing in regard to weather. I possess a Black Widow X-99 31 at 28, and being a fair archer, have experienced different performances in the bow on the first three or four targets before the bow seems to settle down to the markings I have on the sight.

Granted, it could be me, but I am wondering. I have been very cautious of my anchor but the problem persists. Would sudden climate conditions, such as taking it out on a hot — or cold — day affect the bow?

C. K. Steelman,
Wilmington, Delaware

(Most bows will change sight settings slightly after the first few shots — or after having been braced for a time. However, once they settle in, they should stay there all day. Hot sun will have a slight effect, as will a sudden cloud cooling off the bow. It is necessary to compensate for this during serious outdoor tournament shooting.)

(It is also possible for the archer to anchor slightly different as the day wears on and he becomes tired. He will not draw quite as far, or he will tend to anchor a bit higher, making the difference.)

BIG SWITCH

I recently changed from bare bow to free style and am using the under-the-chin anchor. There has been some debate over which is better: Using a high anchor with a prism sight or the low anchor with a non-prism sight. Does Don Cavallero use a prism? What degree would be used to cover up to 80 yards?

Kenneth L. Ulmer,
Old Town, Maine

(Often a person can adjust his anchor so the point of the arrow will just be on the target at the maximum distance being shot. In field archery, there are only two shots on the range at 80 and two at 70 yards for a regular 28-target round. By anchoring at the corner of the mouth, most bows of normal weight and trajectory permit a point of the arrow on target at least at 60 yards, the longest four-shot target on a field range. With the couple of shots at the longer

distances, just hold accordingly over the target.

(By dropping your anchor just below your mouth corner, about where you can feel your lower gums, you usually will move your "point on" point another 20 yards out. Once the anchor you wish is found, practice it until it is second nature.)

(For regular target shooting of the York Round with its distances up to 100 yards, and for serious outdoor tournament field archery, a prism probably is best and is used by Don Cavallero when necessary. The disadvantage is that slight rotation of the bow can magnify drastically your sighting error, and it is a somewhat unnatural way to shoot from a hunting standpoint, if you are practicing for participation in this part of the sport.)

(If you wish to try a prism, four-degrees usually will do the job up to 80 yards.)

WHERE & HOW

Would the Ben Pearson 45-pound fiberglass (not laminated) bow, with razorhead arrows be enough to kill a deer? Where would be the best place to hit a deer and would you recommend a heavier bow?

Stan Tebbe,
Breese, Illinois

(The bow mentioned is satisfactory for big game hunting such as deer, but some areas require a 50-pound draw. The 50-pound is an ideal hunting bow, providing you can handle it with reasonable ease.)

(The Bear Razorhead is an excellent hunting broadhead. Another fine head to consider is the popular Little Shaver, which uses actual razor blades for cutting edges.)

(The best place for an immediate kill is through the heart, but a hit almost anywhere is deadly, providing you are using actual razor blades for cutting edges. It is best to shoot a deer broadside, or when quartering from you, rather than head-on or directly from the rear. Reason is that the bone structure of the animal prohibits much of the hit penetrating.)

SIZE DOES IT

I would like to know whether shooting a light arrow (match for a 50-pound bow, but a thinner shaft; using a 9/32 instead of a 11/32) makes any difference in shooting. Would it let the arrow fly farther than a heavier shafted arrow that would drop more quickly?

Melvin Hanning,
South Rockwood, Mich.

(Arrows are matched to bow weight primarily in spine (the measure of stiffness of the shaft)

(Continued on page 58)

Terrific Trio . . . from USAC!



Here are three masterpieces of the bowmaker's art, supremely accurate bows reflecting all the care and precision which have gone into their design and manufacture. All three give you velvet smooth draw, unsurpassed strength, comfort and speed.

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King of the Hunters

With camouflaged glass built right into the bow, you get added strength, stability and tremendous cast. Precision made of tapered, rock-hard white maple laminations . . . true working recurves actually deflexed, reflexed and recurved beyond 90°. Absolutely no stack due to double tapering.

SPECIFICATIONS

Length—60" Draw—to 31" Weights—to 60 lbs.
Sight Window—6" Fist Mele—7" to 8"

(Add 10% for weights over 60 lbs.)

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(B) CALIFORNIAN

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SPECIFICATIONS

Length—68" Draw—to 32" Weights—to 50 lbs.
Sight Window—7½" Fist Mele—6½" to 7½"

(Add 10% for weights over 50 lbs.)

\$69.95

(C) NEW YORKER

All-Around Target Hunter

Here's power plus pleasure in a high quality bow. It's smooth and stable in any weight, insures your arrows to make their mark. Exotic zebra wood, pistol-grip handle with full center shot, fast cast compressed core for full working recurves.

SPECIFICATIONS

Length—66" Draw—to 30" Weights to 60 lbs.
Sight Window—7½" Fist Mele—7" to 8"

(Add 10% for weights over 50 lbs.)

\$59.95

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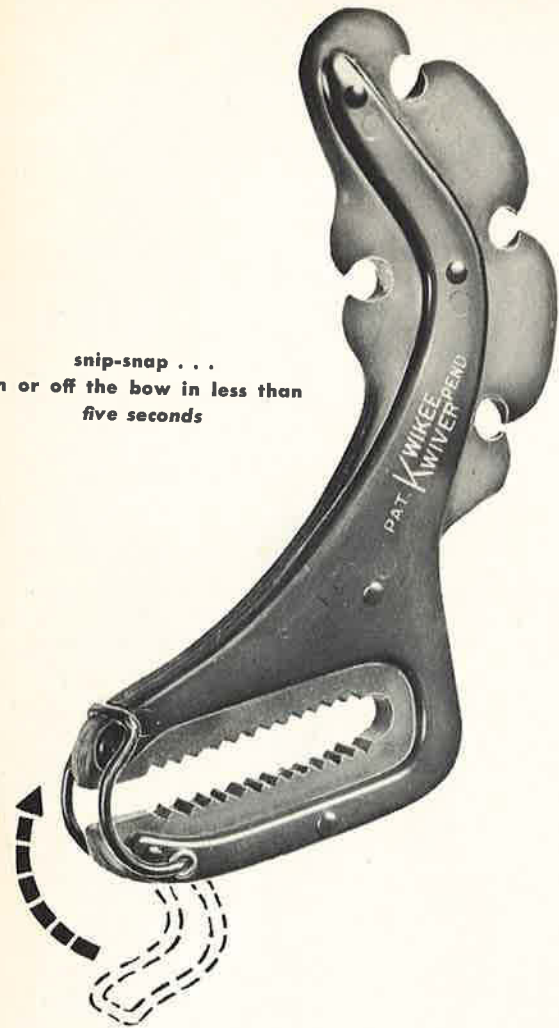
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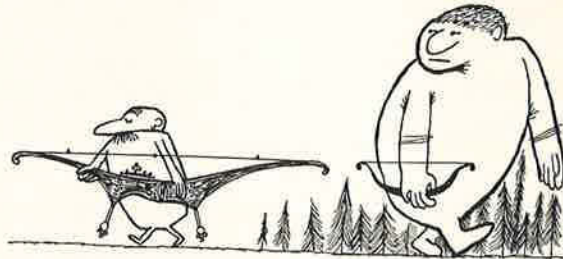
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Regular KWIKKEE KWIVER, same as above but with closed end, \$2.95 pr.

KWIKKEE KWIVER Mfg. Co. Acme,
Michigan

HUNTING WITH Doug Kittredge



Hunting for a hunting bow

What do you want in a good hunting bow? When you pass by the bow rack in the local sports shop, do you stop to grip a handle or two, maybe string up a flashy model and draw it a bit just to get its feel? You probably are not really in the market for a change in bows, yet the old club you used this last season is beginning to show its age and this new super-sonic double-deflexed purple-critter-eater just seems to fit the hand. A salesman slithers up saying, "Mighty fine bow you've got your hand on there."

"Sure is," you sort of mumble as you unstring the bow and put it back on the rack, explaining to the salesman that you are only looking. You wander around the store a bit more, soon finding yourself again back at the bow rack with your bow hand fondling the smoothness of finish and your mind turning over the fact that it is only umpteen dollars that you could probably raise if you just pinched a little here and there.

Some artful persuasion by the salesman and you become the owner of a new hunting bow. But is it really what you want?

Many bows are bought solely because of their brand name being well known, the appearance being unusually attractive, or that particular model being the bow choice of a hunting buddy who has been speaking of buying one for himself for months.

The new 1965 models are just about to make their appearance in the dealer's show rooms. You can count on them being acclaimed the greatest ever! They will have more speed, will be smoother drawing, fancier in appearance, and whatever else that can be crammed into the advertising literature calculated to heat up the buying blood pressure of the prospective purchaser. Some serious forethought can make your shopping easier and prevent the purchase of equipment not suitable for your real bowhunting needs.

QUALITY QUEST

First is to decide what qualities of performance you are after . . . speed, smoothness of shooting, stability, draw without stack, quietness, etc. Bow performance is a compromise. As you increase one feature, you often decrease another. The bowmaker balances the performance in his bow to give results he feels will produce the most customers. He may strive for maximum speed, knowing many sales are made simply because the bow has the reputation for shooting like a cannon, yet having to sacrifice the intangible quality of stability in the process.

Generally speaking, every bowhunter wants good speed

from his bow. He wants a flat trajectory to his hunting arrow, with deadly penetrating power. Actually, all modern laminated fiberglass bows are fast shooting with but a moderate speed difference between any of them. An archer buying primarily speed, can be buying more shooting difficulties than the satisfaction of a little extra speed warrants.

On the other hand, stability varies to a considerable degree with different bow designs. A bow which is sensitive to mistakes in shooting technique can be a great handicap to the hunting archer who must take shots where and when he finds them, without first warming up with a series of practice arrows. The hunter buying stability, buys dependable accuracy under hunting conditions.

Smoothness of shooting and smoothness of draw is often overrated. Different bows have a different feel, dependent upon their limb design. You might shoot a friend's pet bow only to find it seems to "stack" as it reaches full draw. You mention it and find your friend thinks you are just finding fault, for he has become used to this bow with it feeling normal to him and not affecting his shooting in any way. A person soon becomes used to the feel of any bow once he has shot it a while.

Second in decisions is the general length of the hunting bow to buy. Most bows sold strictly as hunting weapons are of short length under 62 inches. There is a fascination about the hand feather lightness of a short bow which attracts a vast majority of bowhunters. For as long as I can remember, bowhunters have been demanding shorter and shorter bows . . . often feeling they were not only handier in the brush, but much faster shooting.

The length of the bow to use should be determined by the type of hunting terrain the bowhunter frequents, his technique of hunting, and his style of shooting. Thick, brushy country and a bowhunter who works his way through the middle of it requires the convenience of short length. A hunter who makes his play from a tree stand or other confining space needs the handiness of a short bow. Though it is generally accepted that the longer bows of 66 inches or so are more stable and thus more accurate, to the hunter whose shots are at the relatively close range of thick country, convenience in handling could be far more valuable.

FOR ACCURACY

For the deliberate type of bowhunter who perhaps shoots with a bowsight, who takes his shots mainly at standing game, who hunts the open spaces with shooting ranges as much as sixty yards and over, the greater accuracy of a longer weapon dictates his choice.

How heavy a pull should the new bow have? The archery newcomer has the tendency to over-bow himself, buying on the heavy side, resulting in a bow he has difficulty drawing steady enough for sharp accuracy. With the high degree of efficiency in the modern fiberglass bow, weights need not reach into the strongman class to have top killing power.

The average hunting bow weight falls between 45 and 55 pounds. An archer using the same bow for both tournament and hunting will often select from the 45 to 50-pound range. He who has two bows, usually selects his hunting bow in the 50 to 55-pound class, feeling the extra poundage affords flatter trajectory and the deeper arrow penetration of a heavier hunting arrow. Bow weights over 55 are the exception, demanding a high degree of physical prowess to be shot well, and giving only a relatively small increase in hunting performance.

As a rule of thumb, the bowhunter should shoot as heavy a bow as he can comfortably shoot with accuracy.

Brand name is important. A bow is a highly stressed spring, subject to occasional failure in material or workmanship. The well backed guarantee of a major manufacturer wards off possible disappointment in the case of breakage or other difficulty. In addition, a nationally known product of good reputation holds its value when a trade-in is contemplated as that ol' bow hand again starts its roving amongst the shiny new bows on the sport shop bowrack.

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Champ VERSUS Ringneck

WITH the wind, snow flurries, and low pressure day in general, I was having enough trouble trying to hit a big pheasant with a shotgun. For a further handicap, I was up against a former world and current U.S. champion shooter and had to try to make a good showing. I did have one thing going for me; the champ was using a bow and arrow.

Rarely does any hunter have the chance to go hunting with a pretty gal and a champion as well. He is even more fortunate when the girl is Nancy Vonderheide, known internationally for her prowess and currently the top shooter in the U.S.

Nancy is a record breaker at hitting the bull's eye some eighty yards away in both U.S. and International competition. When she requests that you take her on a pheasant hunt, then you do have a unique hunting trip. That was the setup on a cold, crisp morning with a thin covering of snow on the Ohio Valley.

With Nancy was her husband of a few months, Marvin Kleinman, Cincinnati attorney, veteran archer and her coach. I was to be the guide, advisor, pointer, bird flusher and general flunky for the party. Marv is

a good target shooter but also has had much practice in field archery on the stalk for rabbits, deer — even fish with the bow and arrow. Not so with Nancy; this was to be her first attempt for a live target.

To look at Nancy, you never would think she got away from the cocktail lounge or the secretarial pool. Tall, graceful, with a quick smile and a toss of her flaxen, shoulder-length hair, she would appear to be more at home on the ballroom floor, not on the ridged rows of a sorghum patch stalking pheasant.

That is probably what fools the competition and lulls her international rivals into a false sense of security. Beside those European and Russian girls with their bulging muscles and stocky frames, she seems frail, indeed.

When it comes right down to the firing line, however, Nancy is as deliberate and precise and automatic as a Marine Corps gunnery sergeant instructing on the shooting range.

She plants both feet firmly on the ground, rocks back and forth to get perfect balance, brings down the

bow and arrow to eye level, then ever so slowly pulls back and gets ready to turn loose an arrow to be arched some eighty yards away at the target — a target that this old duffer can hardly see, let alone hit in the center.

This deliberate type of shooting is one of the problems Nancy had to overcome when hunting game. Before our day was over she was a much frustrated and subdued young lady.

We met at a local restaurant for breakfast. With me was young, wiry Pete Peters, who had been taking pictures of Nancy for several years during her reign as queen of U.S. Archers. The twenty-mile drive to the small town of Bethel, Ohio, to Dick Bee's pheasant preserve, gave me time to explain how we would hunt. We also wanted to take a few practice shots at the circular, cardboard discs which are tossed into the air to simulate the flight of a ringneck.

Bee and his wife, Lucille, took us into their converted farmhouse where we lounged before a big stone fireplace. Maple and hickory logs from the Bee farm

Nancy Vonderheide Tries Her Hand At Wing Shooting!

*BY BOB RANKIN
Photos by Pete Peters*



Below: In the warmth of the Ohio lodge, Nancy strings a favorite bow before venturing into the cold for pheasant. Right: She practices first on target thrown into air by husband.



Red-tipped arrows were used in this hunt to make them easier to recover in the fields covered by light snow.

Below: Nancy receives instructions on the move from Dick Bee on whose Twin Pine Preserve the hunt was held.



felt good and smelled good. Nancy and Marv strung their bows. They put on their various finger and wrist guards, quick-draw quivers, stocked with flu-flu arrows, and after a last hot coffee, we moved outside.

The flu-flus come by their name because their larger, heavier feathers make a noise said to sound like "flu-flu" as they sing through the air. The bigger and gaily colored feathers also make the arrows easier to find, should you miss your target in an open field. Also, the large feathers serve as a brake. As a result, the arrow flies at near normal velocity for a short distance, then drops abruptly to the ground.

We met Don Stewart, who had brought along some of his hunting dogs; for with a low-pressure, overcast day in store for us, the birds might be hard to shake out of their warm sorghum and corn shock refuge.

Marv got out the practice discs and the two archers took turns trying to hit them as we tossed the red cardboard discs high into the air. To wake up the group and to take the edge off any reticence they might feel with our new friends, I secretly fired one shot up in the air from my pump gun, just as Marv tossed the first target. Several of our associates "hit the deck" and the others looked around wildly for the source of that unexpected boom in the midst of silent arrow shooting.

Bee, Stewart and I had to be the back-up men with

our shotguns, so we could salvage some of the birds that escaped from the two archers.

Well, sir, we had quite a morning. We must have walked every inch of 175 acres of the 200 on the preserve. With his experience in field archery, Marv got some near-misses. Nancy got better but failed to hit one bird. This is disconcerting to a gal who had only recently set a new world record of 758 points for the U.S. title at York, Pennsylvania in the fall of 1963. She had broken her own previous record of 1962 of 756 points, which had broken her 1960 record of 754 points.

The dogs worked well; they pointed, we stalked. When King, a one-eyed German short hair, held to a good point, we formed a semi-circle around him; Pete flopped on his belly waiting for a shot to record in both color and black and white.

With hands and feet close to the freezing point, we returned to the warm fire at the farmhouse. Nancy rarely shoots in the winter months, especially in northern climes, so she was especially chilled.

Over coffee, barbecue sandwiches and a lot of nimrod talk, Dick Bee disclosed that he had been saving one field that contained older, bigger pheasants.

"If we don't hit any there, then I give up," Bee told Nancy. Big Marv, who weighs 235 and stands six feet, two inches, was also eager to beat his star



Acute consternation seems to have set in as Nancy wonders which way a freshly flushed pheasant has flown.



Winner in this type of shooting was her husband, Marv Kleinman, who was able to down ringneck with bow.



With a mug of coffee in hand and her field boots exchanged for slippers, Nancy relaxes following this hunt.

Below: Nancy Vonderheide's personal concentration, which has made her one of the world's leading archers, is reflected in this photograph taken during the 1963 NAA championships.



Although she participates in field archer rounds, she utilizes the same slow, concentrated draw, taking her time with each shot. She never before had hunted game.



Here Nancy Vonderheide is surrounded by some of the major trophies she has won in national and international competition. She is holding the FITA championship trophy.



She became interested in archery while working as a legal secretary for Marvin Kleinman, an ardent archer. He became her coach, developing technique; then were wed.

pupil, and he wanted birds for the table. Kleinman takes great pride in Nancy's accomplishments, as she started on the championship at his suggestion.

Nancy was a legal secretary in Kleinman's law office when he suggested she take up archery as a hobby. By practicing each afternoon and eight hours a day on Saturday and Sunday, she managed to progress slowly up the tournament ladder to acquire a place on the U.S. archery team that invaded Oslo, Norway in 1961. There she shot arrows for three consecutive days to best European and former world champions from Czechoslovakia, Poland and the British Empire.

Cold weather and fast-flying ringnecks weren't about to stop us, so after being thoroughly warmed and filled with food, we picked up another dog, a high-stepping Irish setter, and walked to the new field. The dog flushed two birds before we could get near enough for a good shot.

A short walk later, a huge Chink was flushed by the setter, and it took off straightaway almost halfway between Nancy and Marvin. It must have known it was dealing with a champion on the left, for it quickly veered to the right and right into the sights of Marv's heavy bow. He let an arrow go, and we had our first — and only — bird of the day as it plummeted to the ground.

The dogs hurriedly moved in to pick up the bird and brought it back to Stewart. It had been stopped by a wing shot by Kleinman. Out of birds and with a snow cloud crowding in on us, we retreated again to the farmhouse. We had four other birds we had dropped with our shotguns during the day.

"The difficulty with shooting at a bird on the wing is that it violates every rule for target shooting," Kleinman explained as we packed up our gear.

"As you know, Nancy takes her time. She lines up the target, and deliberately shoots ever so slowly. These birds move so fast and change direction so quickly, you can't get them with deliberate shooting.

"You must turn and shoot without any aim, just like you point a shotgun," he added.

For the record, both Nancy and Marv were getting near misses and with a couple of more practice rounds, might have been bringing down birds regularly. Marvin vetoed any more pheasant shooting for the champ, however.

"If she becomes adept at this type of shooting, it could cause her to lose her current title and up and coming tournaments," he said.

What did Nancy say? She agreed but she isn't going to give up pheasant hunting.

"I'm ready to go again, but I'm coming back equipped with a shotgun; you fellows make it look easy," she said. And when you come to think of it, comparing that tiny arrow point to the big spread of the shotgun pellets, she may be right. Heaven help us menfolk if Nancy becomes as proficient with a gun as she is with the bow and arrow. Those big time shooters at nearby Vandalia, Ohio, better look out; that site is only about an hour's drive from her home.

Nancy has already challenged ex-Green Bay Packer two-way end, Dan Orlich, last year's champion of champions at the Grand American. She may be up there this year for a try at a novice round. ●



THE RED WING HUNTER

BY JIM DOUGHERTY

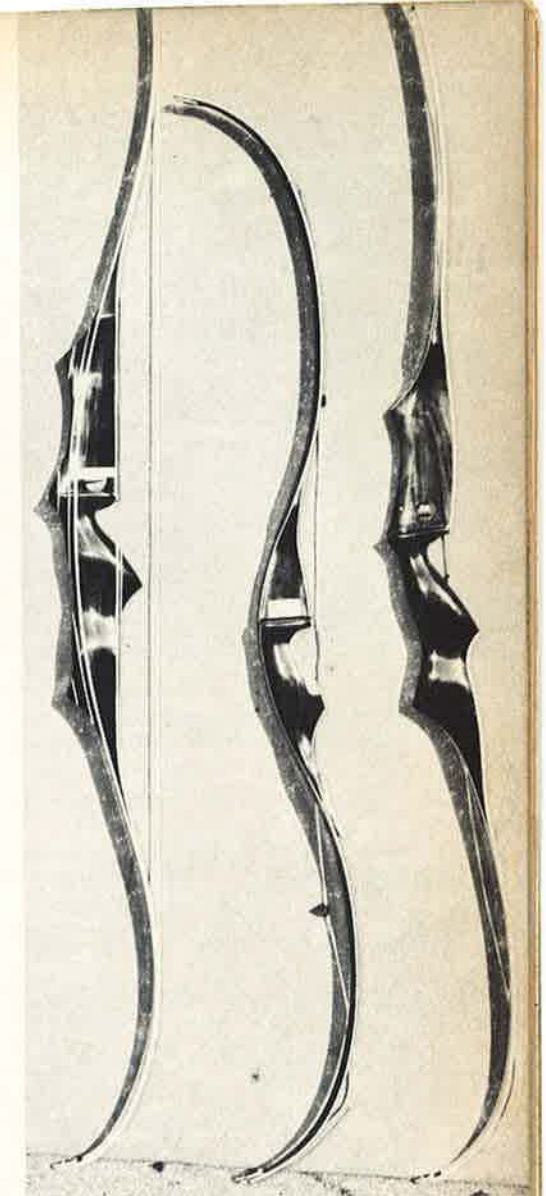
BOW &
ARROW
TEST

THE *Red Wing Hunter* is one of six bows manufactured by the Wing Archery Company of Houston, Texas. In the past fourteen or so years, the Wing outfit has come a long way in the developing of top flight sticks, be they target or hunting models, and several of them are excellent combination bows.

The *Red Wing* was the model selected for me to run through a few paces and see just what developed. I was glad to get another opportunity to fiddle with this bow as some past association had been quite pleasant.

I am not too hot on the shorter bows mainly because I am really not a good enough archer to shoot one well. Some of the shorties and I just are not compatible, as my wildly far-flung shots will attest. The *Red Wing*, being a fifty-eight inch power stick, is shorter than I normally would choose for a one-purpose, only bow.

The assured look of the bow reminds me of her creator; to me the *Red Wing* and Bob Lee kind of go together. It has been my privilege to talk and visit with Bob on a few occasions and one takes to this likeable Texan immediately with his quiet manner of speaking—backed with a vast knowledge of what he is speaking about. As far as I'm concerned, it takes a hunter to make a hunting bow and Bob is for sure a topnotch bowhunter. A quick look in the Pope & Young records will bear this out.



From left are: Wing Presentation bow; The Red Wing Hunter, tested in this article, and firm's White Wing model.



Left: Dougherty found this short bow ideal for tree stands such as this; it is maneuverable in little space.

Red Wing Hunter and the guide's bow were held in specially constructed rack on the vehicle that took them into Santa Catalina hunting area.

Wing bows, primarily the *Red Wing*, have been instrumental in taking big game from the Yukon and Arctic Circle to the broad plains of Africa. It was a *Red Wing* in the hands of Bill Van Houten that felled a trophy polar bear and huge brownie, a good endorsement in any hunter's language.

I figured the best I could do for a semi-dangerous species would be a wild boar on the B&A testing grounds of offshore Catalina. It made a good opportunity for me to try to take a big pig, as many had been spotted recently, and with all other seasons closed, it was about all we had to operate on. Before the hunt I would spend some time with the *Red Wing* and get to know her better. Pigs do not eat people, but



Dougherty checks ground in a likely looking area for sign of wild boar tracks. He is pointing to fresh track.

This Bow
Is Faster
Than It Looks,
And Our Hunter
Was Forced To
Revise His Thinking!

they will bite the hell out of you, if given a chance.

I selected a fifty-pound at twenty-eight inch *Red Wing* for the excursion, and on a sudden impulse grabbed up a thirty-pound model, thinking it would be a dandy for my wife. Design-wise, there has been little change in this model for several years, the makers having felt that they had done what was necessary for a good shooting product. In this day and age of incessant struggling by the manufacturers to get something different on the market, the man who goes out to select any bow had best be prepared to do a lot of looking and a bunch of claim analyzing. When this is done and the subject of price comes up—as it will with a crash—the hunter will be pleasantly surprised at the modest tag on the *Red Wing*: \$49.50.

This bow is simplicity in a compact bundle of energy. No knobs or flourishes will you find; it is designed solely as a functional piece of equipment. The rather stiff and straight limb of the *Red Wing* indicates that the bow is pretty quick, and my first series of shots on the roving range completely threw me as I overshot consistently. This was not nearly as surprising as the fluid smoothness of draw which totally impressed me. Most of the short hunters will begin to create irritating finger pinch from twenty-seven inches out. The hunter usually can accept this feature moreso than the tournament archer as not as much shooting will be done by comparison. To me, though, the smooth feel of the target bow incorporated into the hunters is just that much better. I see no reason why you can't be comfortable shooting game as well as targets.

Checked out on a draw chart, the *Red Wing* was considerably smoother on the graph per inch over twenty-seven than several of the other models we have analyzed. As far as my high shooting was concerned, practice would work this out. The reason for this trait appears to be a stiffer lower limb, which although not producing a kick, certainly gives the arrow a lift. Speedwise, the baby really hurled them down the air lanes and a point on distance of sixty-seven yards with a corner of the mouth anchor and 525 grain arrows was to my satisfaction. My wife, plinking along with the thirty-pounder and some field arrows of 308 grains at twenty-

This blunt beat its way through this 1¼-inch pine board at twenty-five yards when released from 50-pound *Red Wing* Hunter. Arrow weight was a total of 490 grains with the head.

six inch draw lengths, came up with a point on distance of right on fifty yards. That is pretty doggone good and those short draw individuals should give this bow a go-and-see to possibly solve some of their cast problems.

With the parallel core construction and this particular limb design, the *Red Wing* has a stiffened recurve that adds greatly to her speed, although the bow is quite highly stressed in the fadeout section of the limb. Based upon a good many years, it can be stated safely that this high stress has not proved to be a bow-breaking feature. Long life, in fact, is a habit of *Wing* bows.

Bob Lee told me that he personally likes a fast and stiff limb on his hunters. When stability becomes a topic of conversation, the *Red Wing* need not take a back seat as she is as stable as they come. This is largely attributed also to the parallel core. Torquing the string severely while shooting in practice caused little, if any, erratic flight and twisting the limbs by hand; something that can easily be done on some models was a pretty hard chore with the *Hunter*. The combination of duo-flex design and the stiff or parallel laminations adds up to a stick that meets the full and exacting requirements of the manufacturer who is quite a stickler when it comes to what wears his brand name.

By the time I was ready to venture afield with the *Hunter*, I had familiarized myself with it to a pretty good edge. A few short before-work jackrabbit shoots were enough to get me in shape for something of a bigger variety and the boar hunt was drawing close.

The *Red Wing* is easily maneuvered due to its compact length and light weight. The weight of 1½ pounds is less than the other hunters hanging in my den and there was considerably less jar than one would expect. This is not to say that the bow does not kick at all. It does to a slight degree, but it is nothing that would cause poor shooting due to grabbing the bow or flinching as a result. About two seasons ago, I had a *Red Wing* of some fifty-eight pounds with which I was bent on dispatching some big game critters. This particular bow did kick quite badly, but I have to admit that I was way overbowed in that this heavy a string gun is more than I should shoot in any combination or design.

In looking back, though, I note that it handled 600-grain arrows beautifully and when it came to hitting something — look out! The problem was that I didn't hit things with any degree of consistency.

The *Red Wing* has what I would



Doug Kittredge, BOW & ARROW staffer who was along on this outing to test the *Red Wing* Hunter was the first to score blood and return to camp with his trophy tusker.

consider a universal handle in that it should fit anyone's style well, depending on how radical a grip some may have. The literature on the bow refers to it as a *Special Contoured Handle* and this, I suppose, is a very good description, although it does not have a thumbrest which has become almost standard equipment today. You can have a thumbrest on a special order basis but the price makes a jump of about twenty bucks American, which is expensive thumb pampering.

The model I have been toying with is a teeny-weeny too wide through the throat and I finally was forced to take a bit out with a file as extensive shooting began to irritate the pad of my thumb. Altering any handle to a more exact fit is easily accomplished with a little file and sandpaper work, and a thumbrest can be fashioned with common plastic wood and finished off by even the most amateur craftsman.

I once again attached string silencers which the bow needed badly and went with an arrow rest of the rug type and an arrow plate of teflon tape. The nocking point was set a bit on the high side. Generally, I am about an eighth inch high of ninety degrees, but with the *Red Wing* a bit more leeway was required to get the flight I wanted out of my shafts. I would assume, based on some study, that this would be a necessary move with all hunters shooting the *Red Wing*.

After a considerable bit of fiddling I settled on a nocking point one-fourth inch above right angles and a fistmele of 7¼ inches. Those

of you who prefer to chalk off the high nocking point to poor shooting habits are more than welcome to, but it is quite the norm with all shorties. Recommended brace or fistmele height is 6½ to 7½ inches as measured from the back of the overdraw. In many bows the altering of this height will oft times make a radical difference in speed or trajectory of the missiles. A for instance would be the famous Howard *Gamemaster* which, on a past string comparison, we found that three-fourths inch difference was ten yards further point on. That's a lot of yards one could lose.

I found little difference in experimenting with strings in one-fourth inch increments and settled on the 7⅛ simply because it was in the middle. I would have liked to have gotten my hands on Jim Easton's shooting machine and really check it out but time would not permit this particular test.

One thing that really tore me up on this adventure was my snap-on bow quiver. I could get it snapped on by pulling in the brackets as close as possible but when shooting, she unsnapped with a crash and scattered my shiny new pig stickers all over the ground. With certain modifications, I would have been able to mount it satisfactorily, but decided to use my *King Silent Stalker* and keep the weight off the bow.

Hunting wild boar is to me a thrilling sport. The pig is quite shy and the bigger the boar, the more elusive. Doug Kittredge, Ron Holdstock, and Jim Cooke had been looking forward to a serious pig hunt for quite awhile, so we were travel-



Dougherty, tired, a bit the worse for wear from rugged terrain, but nonetheless happy, poses with his pig and the equipment that he used in scoring after slow start.

ing light and fast to cover a lot of country on this three-day outing.

Two hours after our arrival, I had a chance to break in the *Red Wing*, and am sad to report that I thoroughly embarrassed the bow by shooting high on a neat fifteen-yarder with a nice, big pig as the subject. My comments at this point are not exactly for publication. By the end of the day and three more such neat experiences, I had reached a conclusion: Pigs are not as tall as they should be.

The second day of this hunt did not offer the opportunities of the previous day's hunt with the exception of a fleeting shot at a real

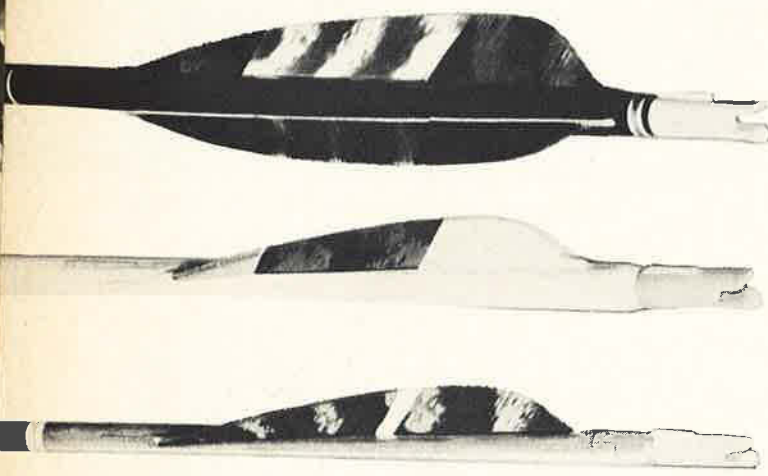
(Continued on page 52)



Van Houten, Texas big game hunter, used this bow to down this polar bear during recent trek in Alaska wilds.

FANCY FLETCHING

BY STEVEN BARDE



THE next time you fletch arrows, don't throw away the good remnants of the feathers. One way to use the remnants is to make your own bow feather rests and another is to customize your fletching by multi-fletching on one shaft.

This process is easy, but requires time and patience. When the rain won't let up and you can't get out to shoot, take advantage of that time and make a set of multi-fletched arrows. The reaction from your fellow archers will be well worth the effort.

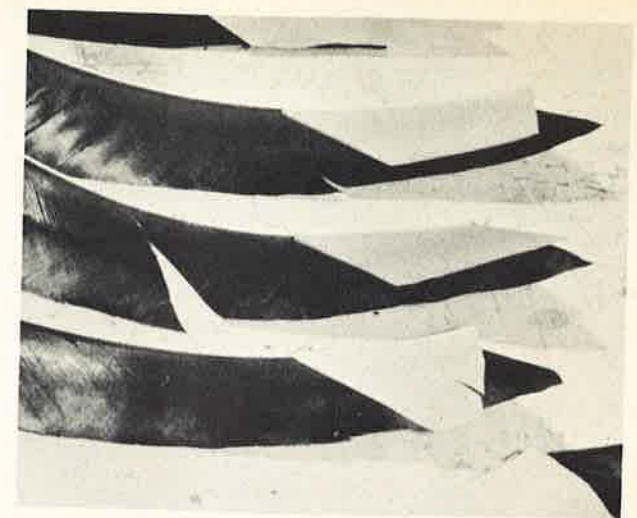
These fletchings may be very elaborate or quite simple according to your time, patience and desire. Some archers have multi-fletched their hunter round arrows with a single strip for the first shot, a double strip for the second shot, and a triple strip for the third shot. This gets complicated but the best method to determine how many strips or colors you want is to try some.

The barbs on the feather vanes will act as zippers and hold the vanes together. It is not as strong as a single fletch, but will last as long under the same conditions. Some fletchings have been used for over three years in hunting, perhaps the roughest use for a fletch. These fletchings looked good and there was no separation between the vanes anywhere.

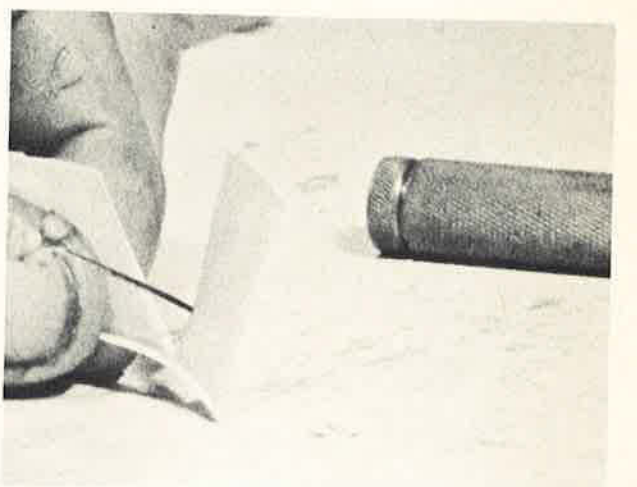
If you fletch your own arrows now, you have all the equipment necessary for multi-fletching. You will need different colored fletching materials, a fletching jig, and a burner. Perhaps the only other item you may not have been using is a large needle set in an old arrow shaft used to seat the quill on the shaft more securely; it is easily made.

The craftsmanship illustrated is that of Nick Giardina, of Chula Vista, California, who uses his multi-fletched shafts both for hunting and target. He uses a Voth helical fletching jig and buys his fletching materials from Bervil Morris of Fresno, California.

LEFT-OVERS CAN BE USED TO ADVANTAGE IN THIS PROJECT!

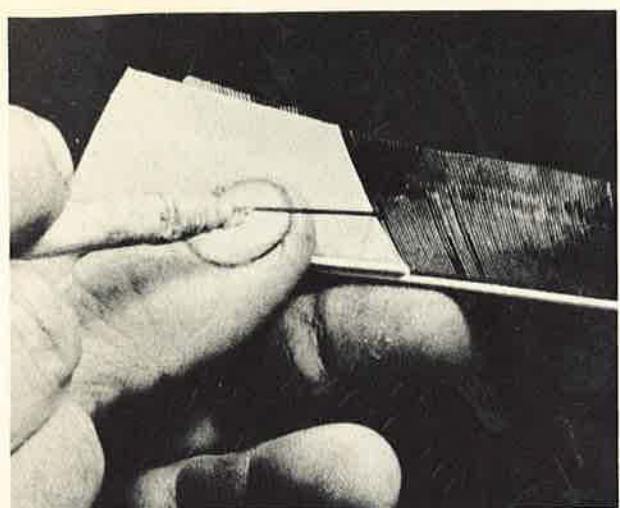
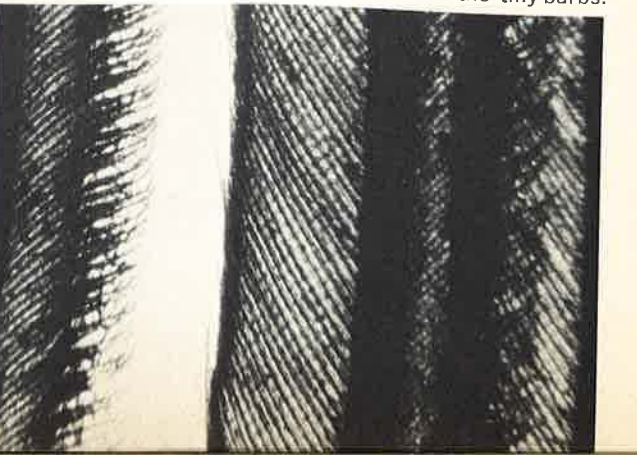


1. First step in multi-fletching is to pick out remnants of your last fletching session, sorting them out for the color combinations you want, selecting the best of the feathers.



4. Then take a heavy needle which is mounted in an old arrow shaft, using it to separate the vanes on both of the feathers that are to be multi-fletched. Neatness is aim.

7. This micro-photo shows the zipper action to be found on feathers. On left is quill base, next is one side of the vane, separated here intentionally to show the tiny barbs.

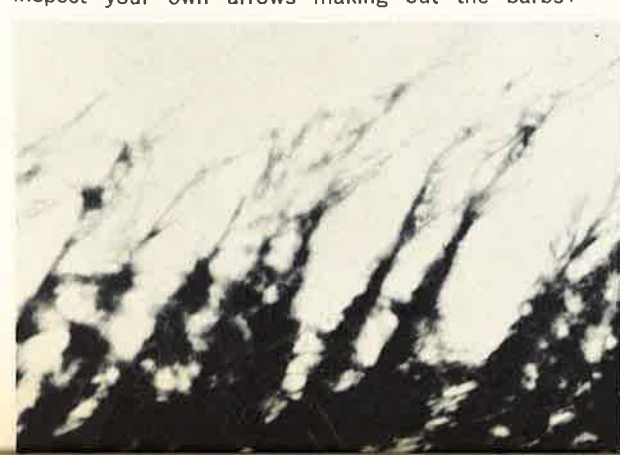


2. Take each combination and check the vane angle. This may be done as illustrated simply by laying one feather over the other. Such matching requires patience and care

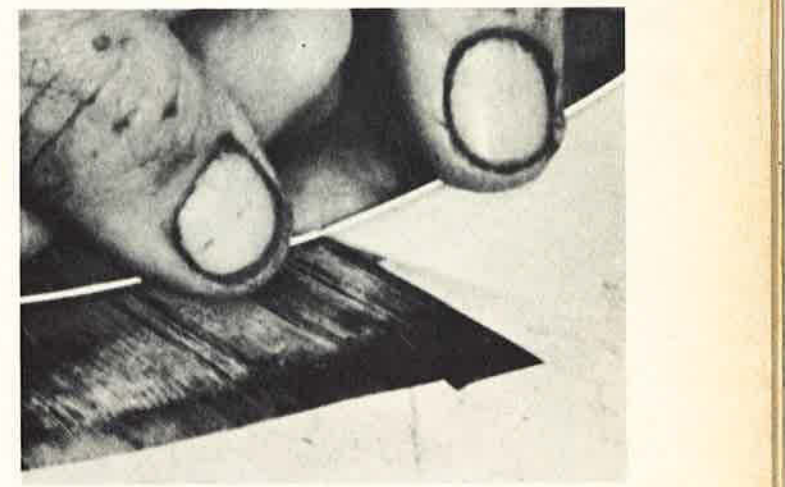


5. Cut quill on both fletches at same angle. Beginners may find a straight vertical cut easier, but the angle cut will give the quill line a cleaner, neater look, as illustrated.

8. This feather, enlarged 100 times, shows the small barbs on the side of the vanes. With a hand magnifier, you can inspect your own arrows making out the barbs.

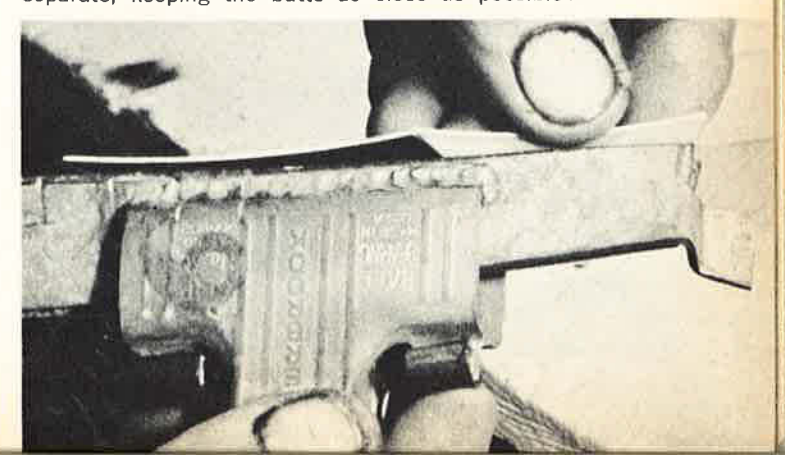


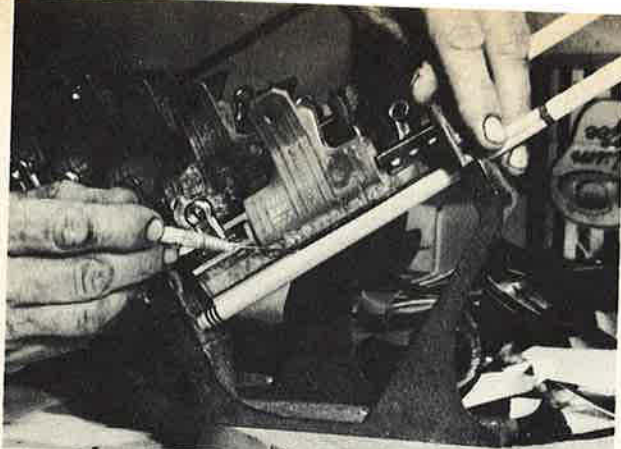
3. The width of the quill also is checked. If the widths do not match up, this is easily remedied with a pair of scissors. Cut the quill base to get same widths for quills.



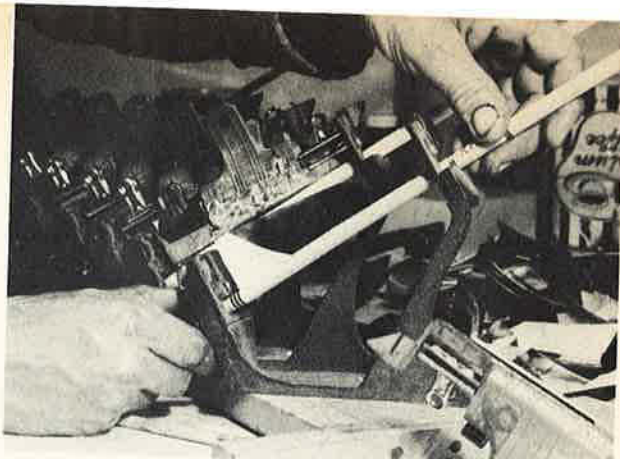
6. Place two sections together to check alignment of the cut, correcting with scissors. Then join the two pieces together. Barbs on feather vanes will hold the two together.

9. Place the fletch, after you have joined the barbs, in a fletching jig in the usual manner, being careful not to separate, keeping the butts as close as possible.

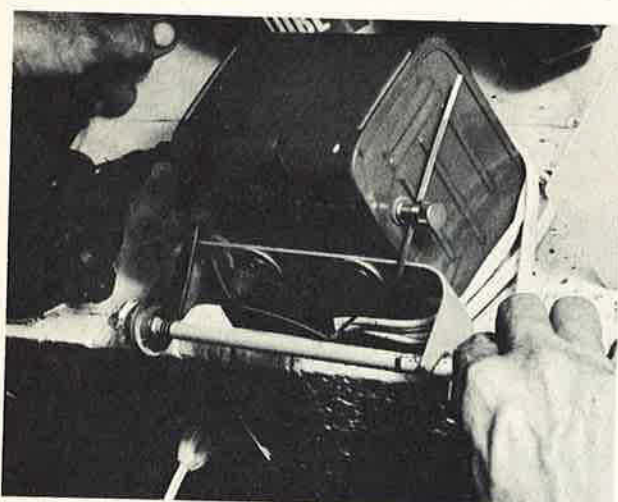




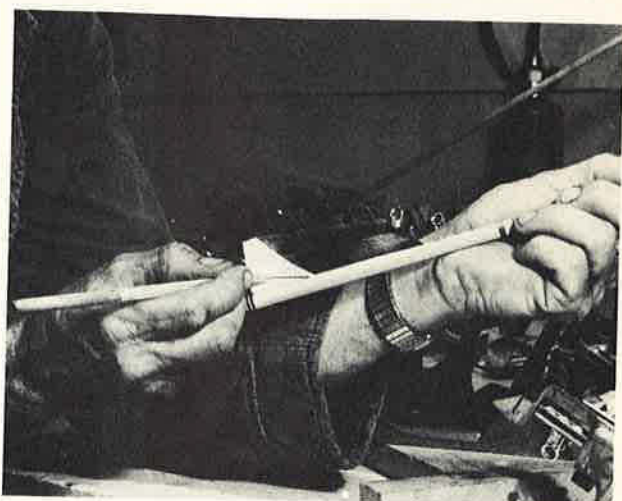
10. Run glue line down the quill and place on shaft in the jig. Run the needle down shaft on quill to seat and check butt of joint for alignment. Clamp should afford work room.



11. After allowing proper time for drying, you can remove the clamp and take out the shaft. Removing clamp too early will distort the fletch as it will creep during drying.



12. Again using the needle, the craftsman should check the joints of the quills in order to determine that it is properly seated on the shaft. Voth Helical fletcher is used.



13. Once the fletching has dried and alignment is seen to be proper, the craftsman can burn to his own specifications. Used in this sequence is Young feather trimmer.

14. After the fletch has been burned, the mounted needle can again be brought into play, using it to remove the rough edges. Fine grade sandpaper also may be used.



Admiring some of his handiwork is Nick Giardina. A triple stripe arrow requires six cuts and butts for desired results, not to mention a wealth of patience and craftsmanship.



MAIL POUCH

(Continued from page 6)

interests, is appealing to all archers. You might be interested to hear that your magazine is rarely to be seen on open sale — the copies are either set aside for special requests or sold the moment they arrive. However, among the superbly informative articles, your various interpretations of FITA cause some alarm — Federation Internationale de Tir a L'Arc, in future, please.

Cyril Enoch,
Honorable Secretary,
Bowmen of Bermuda,
Devonshire, Bermuda

(And here we sit with a French aviator as an advertising manager. He shouldn't have known that, shouldn't he?)

We have long since wanted to write you to congratulate you on your fine archery publication. Gene Jones article, *Forget About Shooting 'Secrets'*, in the July-August 64 issue, and other fine articles prompt us to take time out to tell you we were indeed happy to read the content. It was a pleasant relief to read the common sense therein, which is of real value to the neophyte trying to get off to a good start as well as being helpful to the advanced archer.

We have been favorably impressed with BOW & ARROW since the first issue. Having been promoters of archery for the past thirty-plus years, we appreciate the high standards of your publication.

Myrtle and Ed Miller,
Upper Saddle River,
New Jersey

(The Millers are operators of Tella - Wooket Archery Camp in Roxbury, Vermont, which is known as the "Archery Training Center of the World." The camp has been in being since 1937.)

SELF-HELP PROGRAM

I recently took up archery. After the purchase of some tackle, I was amazed at the lack of good written material available giving use, care and building information concerning archery tackle. I was even informed by some enthusiasts that they knew of no periodicals with good basic information.

I am not one to give up easily when in pursuit of information, so I continued to search bookstores and newsstands for material. To my amazement, I found BOW & ARROW, which I purchased immediately.

As a beginner, I learned about two of the most fundamental problems confronting the novice archer.

(Continued on page 47)

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This
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Never trust a white tail!

By George S. Turner

SOMETIMES it is difficult for adults to communicate with and fully understand the younger generation. Recently this problem arose when my sixteen-year-old friend, Phillip "Blade" Davis, after hearing of my accomplishments during the state-wide Oklahoma bow and arrow season for deer, openly and without expression greeted me with the salutation, "Hello, Robin Hood," instead of "Hello, Mister Turner, sir," as I was taught to address my elders in my youth.

Now the point is, should I have considered this a greeting of respect and admiration or was the boy being disrespectful and sarcastic? Of course he knew that during a day's hunt at the Naval Base at McAlester, Oklahoma, I had actually drawn my bow, with malice aforethought, thirteen times at eight different deer and recorded twelve clean misses and one maybe. To credit the boy with showing the proper respect under these circumstances, I would have to assume Blade knew and appreciated the extraordinary conditions which were the sole causes of my failure to bring home the bacon. I certainly would like to assume that he made this remark with full knowledge and proper respect of my hunting ability and proficiency with the bow. After all, I have befriended this boy many times by camping with him and my son, Dick, on pre-

vious deer hunts and have taught him many of my deer hunting secrets.

This all started with the Oklahoma Wildlife Commission announcing that in co-operation with Naval personnel, a part of the sprawling McAlester Naval Ammunition Depot would be open for a special bow and arrow hunt. The base herd had built up in numbers to such an extent that there would have to be a reduction or the farmers with land bordering the base would incur excessive damages to crops. One deer of either sex would be legal.

Seventy-two hunters a day on six different days were to be accommodated. One half were to be selected by the Oklahoma Wildlife Conservation Department in a Statewide drawing and the other half would be base personnel to be selected by the base commander, Captain A. H. Galvani.

In prior seasons the areas open to bowhunting were too far from home base for me to generate any interest. Now with the season in my own backyard, and with my superior knowledge of deer habits, I figured all I needed to do was to buy me a bow and arrows, practice up for a week or two, get a permit to hunt and kill a nice buck or doe.

The mere fact that I never had shot a bow and

arrow more than a half dozen times didn't seem too important. After all I could learn, and even the best archers had to start sometime.

With this in mind, I purchased a Ben Pearson bow, with a forty-pound pull, and some arrows. This was the minimum weight allowed and I didn't see any need to break my back. When I arrived home with my purchase I was surprised to find the little wife not entirely in sympathy with my plan. It seems that she has some idea that my hunting interferes with my business. Naturally I refused to be discouraged with my wife's lack of enthusiasm.

The main gate of this naval installation is properly impressive, but beyond it one can find some of the best deer hunting country to be found in the Sooner state.



I set me up a backstop of three bales of hay and was quite elated to finally get to the point where I could hit this backstop three out of five times at seventy-five feet. Although I would have liked to have been a little better, I figured this was good enough. After all some of my hits were dead center.

Opening day finally arrived. I had been unlucky in the statewide drawing for permits but had heard that the base commander allowed substitutions for the hunters who failed to show up if hunters properly equipped and licensed presented themselves at the base at five o'clock a.m., the time prescribed for escorting the hunters to their respective areas on the base. I decided to go try to get in on the second day.

I set the alarm for three o'clock as it would take about an hour to drive to McAlester and an hour to dress and eat. When the alarm went off, I got up very quietly, so as not to disturb the wife, dressed and left. In spite of my care the little woman complained as usual that I sounded just like a horse.

I arrived on the base as planned, just a little before five a.m. As anticipated, some of the base personnel hunters failed to show up, and after checking out all the hunters with previously issued permits, the base commander assigned some of us hunters without per-





Harold Skidmore of Claremore, Oklahoma, poses with the largest deer taken out of the naval base during a single season. Permission is granted civilian hunters by drawing.

mits to areas showing vacancies. I was assigned to Area "D" which was described to me as being very good.

After all of us were assigned, the Marine officer-in-charge, Major R. F. Maiden, briefed us as to the special rules in effect. We were first all required to sign a formal release of damages, no smoking or drinking was allowed, no cameras or field glasses were permitted in the base, we were to hunt only in our assigned areas and one deer of either sex was the limit. Two species of deer abound in the area, whitetails and white fallow deer. Either species was legal game. We were assembled by areas in our cars and escorted by a tough marine sergeant to designated parking for each area. Four hunters were assigned to each area which on the average covered about two square miles.

Dawn was breaking when we got parked, our bows strung and quivers filled. I started hunting at good daylight by dropping down from the parking area on the side of a hill into a typical Oklahoma creek bottom.

The creek itself averaged about twenty feet in width and was mostly dry at this time. It meandered through a strip of heavy, mostly hardwood timber which was from a couple of hundred yards to a quarter of a mile wide. Old fields taken out of cultivation in the forties when the base was activated bordered this bottom and were now grown up in high grass, weeds, briars, and these fields were bordered along the old abandoned fence rows with quite large second growth blackjack and post oak timber. It seemed an ideal setup for deer and I found many deer trails crossing and re-crossing the creek as it meandered.

I hunted down this creek about two hundred yards when I jumped my first deer. The first thing I knew there was a snort behind me about fifty yards and a doe bounded across the creek, into and through the bordering timber. Knowing that there are usually two or more deer together under these circumstances, I drew my arrow and pointed it generally toward the opening the first deer had gone through. Sure enough along came another deer. I was not sure it was a buck or a fawn. As it appeared, I led it carefully and let fly. I was extremely confident. This was nearly too



Captain A. H. Galvani, commanding officer of the ammunition depot, admires another buck that was taken by this hunter, J. D. Mullins during special bowhunting season.

easy. My hunt would end too soon. This of course would have been true except for one thing. The light was bad and I miscalculated the range a little. After the deer was gone, I discovered that the crossing was sixty yards from where I had been standing, instead of fifty. I found my arrow sticking in a mud bank ten yards shy. This experience left me anything but discouraged; the day was young. The only thing hurt was that my arrow was a little dull. I had five more in a bow attached quiver.

I went a little further and came up out of the bottom to the edge of one of the old fields. I decided to really take advantage of the deer. I began looking for a tree a fat man could climb. I would let the deer come to me instead of trying to sneak up on them. By this time it was about sunup.

I finally found a tree, a medium sized post oak. About twelve feet above the ground, I got out on a four-inch limb growing at right angles from the trunk. Standing out on this limb I was surprised to find so many different ways a five-foot bow could get tangled up in the branches. I finally broke off enough of these small branches to free the bow and started looking around for deer.

I had picked a good spot. After about twenty minutes of watching and as I slowly turned my head to the right, I caught sight of a slight movement out of the corner of my eye. I turned a little further and there, standing about fifty yards away and just across a ditch, was a beautiful, mature, eight-point white-tail buck. This was better, I was glad I missed the first shot, now I would have a real trophy as well as plenty of good venison. I might even get my picture in the paper. All I had to do was turn around, draw my bow and release. I started to square around. Unfortunately, the limb I was standing on wasn't growing in the right direction. As much as I could twist, I couldn't turn far enough to bring the arrow in line

This bowhunter, hidden high in the branches of the tree, blends well with the foliage as he draws for a shot at a deer. Author has less luck with this type of hunting.

by at least fifteen feet. I would have to change over to another limb. In doing this I ran into a little trouble. In twisting around the first time, I had developed a little catch in my back. This slowed me down a little, also my bow string caught on several branches I had overlooked. I finally got set on my new position.

All this time the buck stood in the trail hardly moving, with the morning sun shining on his well polished antlers and the light hairs on each side of his neck. Just as I was drawing my arrow, the buck finally moved. He hopped down, up and out of the ditch. He stopped again, standing on the near bank. This put him a little closer but just far enough out of my line of fire for me to have to do some more twisting. In this position and just as I drew the arrow, the buck started walking toward the thick timber just a few feet from him. I let fly at him broadside. After all this unfortunate trouble, I am sure the arrow would have met its mark except that





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the arrow hit one small twig between me and the buck. This caused the arrow to fall short about ten feet. The last I saw of the buck was his big white tail wagging.

I'm not easily discouraged but I have to admit that I was a little disappointed at this stage. Nevertheless, I still felt that my luck was bound to change. I was through with that tree. I crawled down and retrieved another dulled arrow.

When I left the fence row, I worked across some of the old grown-up fields, still hunting. In the corner of one of these fields I met another hunter. He looked real experienced. Perhaps I could get some good tips for him. I started swabbing him real good. No, he hadn't seen much that morning, just a doe and two fawns. I found out he had hunted the day before, he said, "Yes, I saw quite a few deer, I lost six arrows and had to quit to go buy more arrows."

On leaving this greenhorn hunter, I moved down the valley toward a place where a fair sized timbered hill footed against the creek bottom. Between the two I found a good game trail which generally followed the course of an old abandoned wagon and farm implement road. I moved up this trail and jumped three or four deer without getting a shot. This looked like a good place for me to locate another tree stand.

On up the trail I found the right tree. Up I went. This time I had a thirty to forty minute wait. Everything was relatively quiet except for the scolding of jays, crows, and the calls of various other wintering birds to be found in the fall in the timbered areas of our creek bottoms and hillsides. The flickers and woodpeckers are especially noisy when you are listening for the footsteps of a deer.

Finally I caught a glimpse of a movement through the trees. Into the trail tiptoed a beautiful little fat round bodied doe. Well, this wasn't as good as the buck but doe meat sure was good. On she came, she would pause with one foot up like a pointer, look around, smell of the ground and pick up an acorn, move a few slow steps closer. Just a little closer and I would let her have it.

The doe came right in under the tree where I stood. I wanted her to stop, so I pulled an old deer hunter trick on her by speaking to her out loud in a conversational tone, "Hello lady," I said. She stopped still as I knew she would. I started to draw the arrow. Just at this instant, by odd coincidence, I was taken with a chill. My hands began to shake and I began to have trouble breathing. I just couldn't keep the arrow on the target. I got to shaking so bad that I feared I was going to fall out of that tree.

I am sure that you will agree that under these circumstances, it is little wonder that I missed her by about six inches from about fifteen feet. The doe snorted and ran off about twenty feet and stopped again, when I spoke to her again. By this time I felt a little better and am sure that I would have connected except that this time I forgot to brace myself against the bole of the tree. I missed her this time by about five feet, nearly falling out of the tree. This time she snorted in earnest and took off for keeps. This caused a commotion up the trail. Two fawns had been following her, they now came running through the woods toward an open spot about thirty yards from the tree. I grabbed another arrow. By this time I had completely recovered from my chill. I drew this arrow back, calculated range, lead and let fly just as the second fawn came through the opening. This time I was on target. I lost sight of the arrow but heard a thud as it hit something. I quickly got out of the tree and went to the opening knowing with-in reason that I would find the fawn a little ways up the trail breathing her last. I looked around, no fawn, no arrow. I looked some more. I finally found that

arrow sticking through the side of a two-inch sapling six feet above the ground. Such is fate.

In the rest of the hunt, I saw about fifteen more deer. I made clean misses on three more whitetail does. They were all within rock throwing distances. I could tell about these shots but I just don't feel like it. It is certainly a strange thing for me, a normally healthy person, to develop so many chills. My doctor can offer me no logical explanation or diagnosis. This, of course, is not the first time I have been affected with these symptoms. I can recall several other attacks. It seems odd enough that in the past, it always occurred just as I was about to shoot a goose, deer, turkey, or just as a big bass hit a top water plug.

I did finally meet up with a giant white fallow buck which I cut loose at just as he turned back out of sight over a rise. I didn't see the arrow strike but this time I was sure I had connected. I looked and looked. I couldn't find arrow, blood, hair or buck. Later I talked to a hunter which had been on a stand about a quarter up the same draw at the time I had jumped the buck. He had sighted a big white buck running too far for him to shoot, apparently uninjured. I figured it must have been my buck and if he had my arrow, it wasn't hurting him any.

When I checked out of the base that night, the Marine major in charge of the hunt seemed real unhappy with me for not helping him bring the herd under control. I am hoping that he will forgive and forget by next fall so I can go back and redeem myself.

I am sure, too, that next year, when I come home with a nice buck cooling out in the back of the car and my young friend Dave refers to me as the "Robin Hood of the Blackjacks," I will not be able to question his motives.

Of course, before I go I intend to brush up with a little archery practice and next time I am going to try and get my doctor to prescribe a little something for those chills. Certainly the base commander's rule against nipping wouldn't apply to prescribed medication. ●



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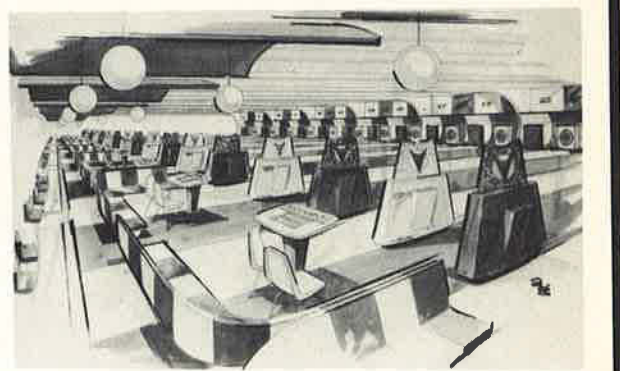
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FROM that ancient and important day buried in the murkiness of the prehistoric past when the bow was invented, archers have developed distinctive techniques, stances, favorite methods of aiming and shooting. Somewhere along the line, all these sometimes have combined into a touch of genius with the bow and arrow. But the combination must be just right.

Eight short years ago, Clifford Necessary of Richmond, Virginia, decided to take up archery. He was twenty-six years old and wanted a hobby. His first shooting was at the Chilhowie Archery Club Range in his native state; his first bow was a Hoyt fifty-pounder. His draw was smooth enough for a begin-

ner, his method of shooting conventional. His score, however, was not exceptional. His start in archery might be called inauspicious; he was just one of many who had found something they wanted to do in their spare time.

But that was eight years ago and Cliff, an unknown quality to those who outshot him that day, had the rare combination, the unpurchasable gift, the coordination that makes champions. He also possessed — and still does — a remarkable instinct in the use of the weapon which has survived as such for more than 10,000 years.

All that was needed was development.

And Cliff Necessary was just the guy to do it. In July, climaxing an eight year career of practicing to perfection, he outshot every competitor in the National Field Archery Championships at New York State's picturesque Watkins Glen, and when the dust settled, he was the country's 1964 Instinctive Archery Champion, holder of a record high score of 2537!

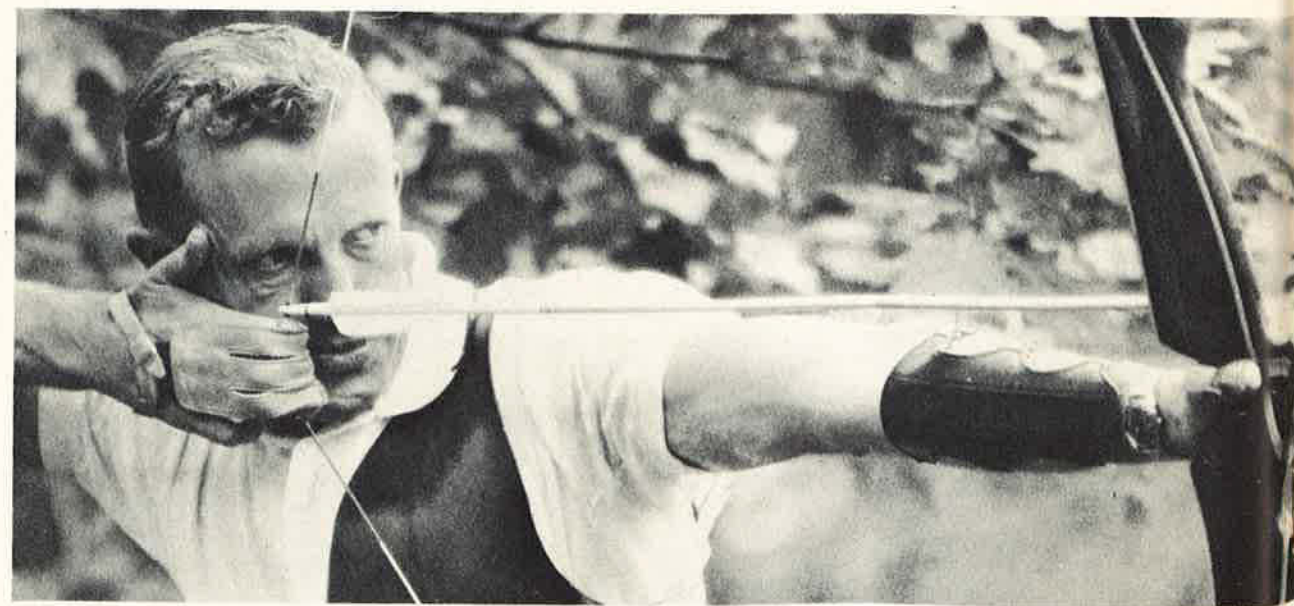
Many factors have combined to make the Virginian tops in his class. For one thing, he has a canniness about bow weight; he dropped the fifty-pound bow and adopted a Hoyt forty-pounder. That helped. He settled on 2013 xx75, 29-inch arrows made by Cox Archery Co. of Chilhowie. That move helped, too. He

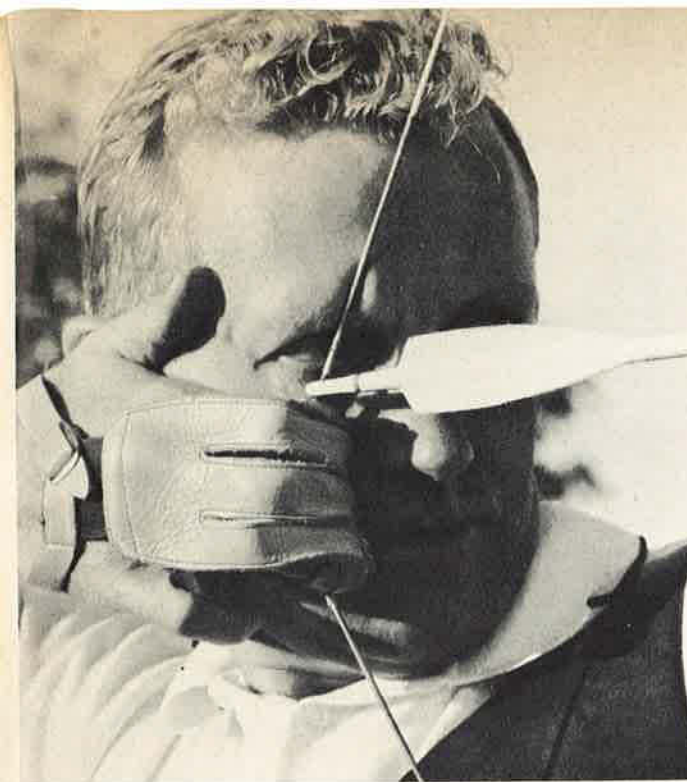
PROFILE OF A CHAMP:

CLIFF NECESSARY

HIS TRIP TO A NATIONAL CHAMPIONSHIP WAS NECESSARY, BUT IT REQUIRED EIGHT YEARS! By Joe Higgins

Above: Cliff Necessary appears to be in deep concentration as he nocks an arrow. (Right) Head is canted in line with bow, which features stabilizers. (Below) Anchor point is unorthodox in that thumb is held tightly against his temple. (Far right) His follow-through is relaxed as arrow departs.





At left, the new instinctive champ demonstrates the three anchors he favors. Note the three-finger hold with nock atop glove.

used three fletch (four inches, half inch high) arrows, and that also helped. The fact that he chose white feathers might have boosted him, too; who knows in the making of a champion?

By and far, however, his developed method of delivering an arrow into the precise spot in which he wants it proved the biggest assistance of all. He uses a King arm guard and glove; has three anchors; holds high, looking down the shaft, almost as one would sight a gun. He establishes a pressure point, using his thumb high and pressed against his right temple. His stance is generally both feet together — the theory is that there is flexibility in this — it sometimes varies with the roughness of the ground.

When he shoots, he presses on his jawbone with his thumb and allows his fingers to touch specific sections of his right cheek at each of his three different anchor points. Once the sighting is done, once his procedure is accomplished, the rest is easy — he lets fly and the arrow, if it knows what's good for it, high-tails into its appointed station in life, which is usually the bullseye.

Cliff, as are most champions, is somewhat soft spoken, quiet and relaxingly modest. A resident of Richmond, he is married (wife's name, June, and she doesn't shoot), and has a thirteen-month-old boy, Russell Ray. (He doesn't shoot either, obviously, but Cliff has high hopes eventually.)

In the work-a-day world, Cliff is a building construction engineer employed by the Virginia Electric and Power Company at Richmond.

His advice to would-be archers? It's neatly summed up: Find a reliable archery dealer when buying initial equipment. Let the dealer match the equipment to the individual. Then join an archery club and learn from first-hand observation how qualified shooters let fly. Then practice, practice, practice!

Cliff's shooting record is impressive. He won the Virginia State Bare Bow title in 1962 and 1963 and the mid-Atlantic title this year with scores of 460, field; 471, hunter, and 484, animal.

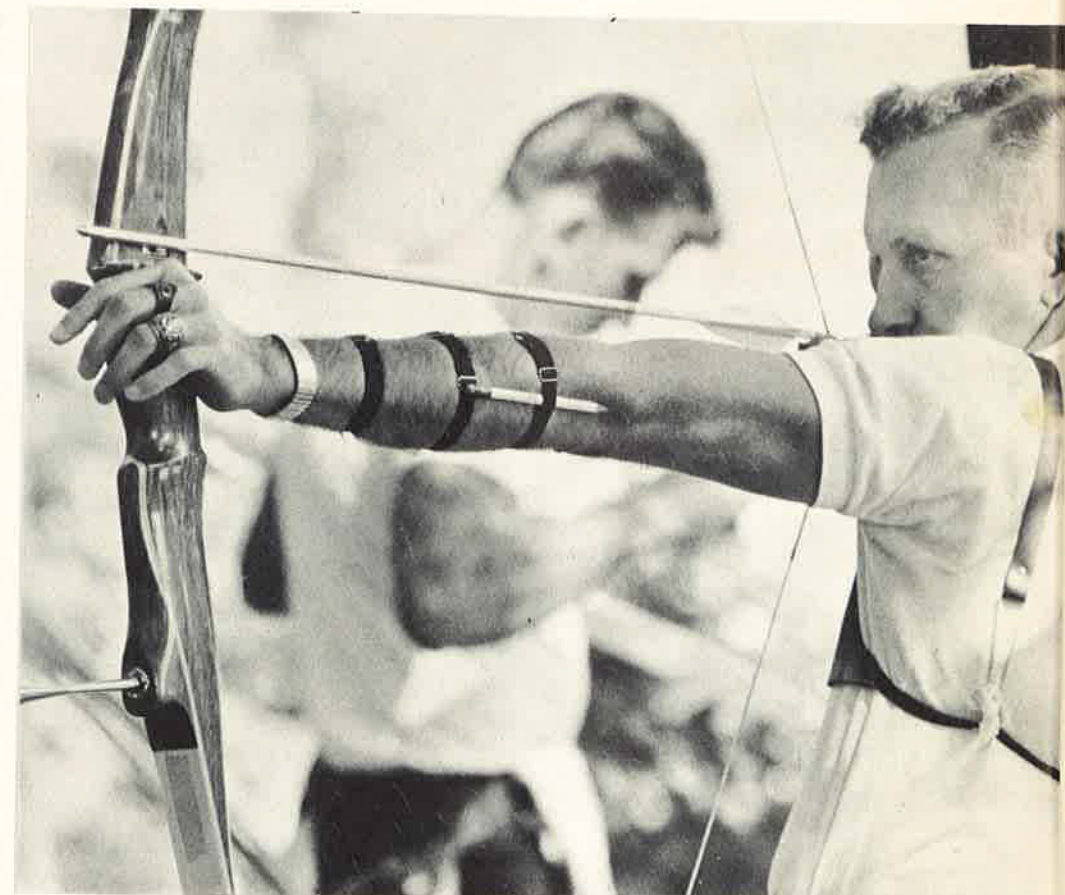
In his latest accomplishment, he broke Jim Bells' record of 2368 to set a new national record of 2537, with rounds of 487-513, 1,000, field; 517-512, 1,029, hunter, and 508, animal.

At the Nationals, praise understandably was widespread and profuse. The writer's opinion is that Necessary's skill was fantastic.

Bob Akin from New Jersey, shooting in the group with Cliff, continued to watch the new champ pull one extraordinary shot after another, finally said: "I wish he would do something else for a change — this is getting monotonous!"

And one of his closest competitors asked after the hunter round was finished: "Cliff, was your trip necessary?"

Insofar as Cliff Necessary is concerned, it was. It was a long trip — eight years long — but it ended where he hoped it would. Right up there with the champions. ●

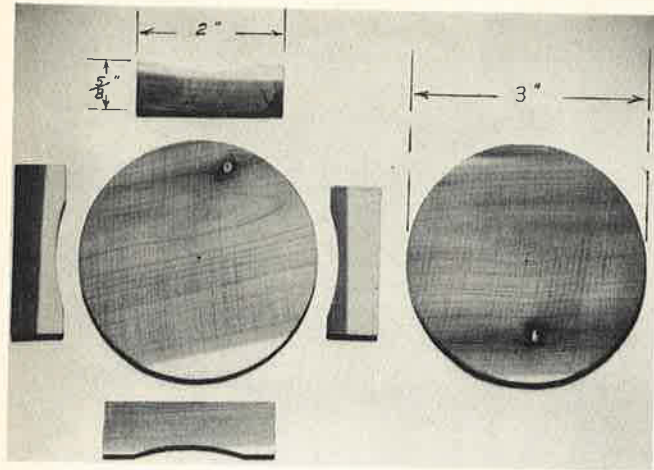


Left: Necessary shoots with feet fairly close together. Note that his Hoyt bow appears slightly canted.

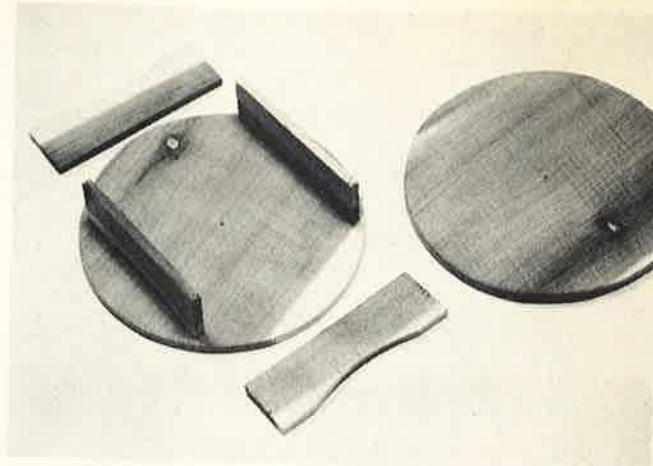
He utilizes custom-fletched arrows and draws point to within an inch of the face of the bow as he makes shot.



Above: In the winner's circle, Cliff accepts trophy from NFAA president Gil Boenig. (Left) He receives congratulations on win from Earl Hoyt.



All that is necessary to make this unique but effective turkey caller are two disks, four sides to complete box.



The narrow sides are glued to the cedar circles in order to form the hollow box. Take care in sealing the joints.



One must make certain that the "sound holes" or slots are of suitable size in each end of box when completed.



The gobbler turkey, always a suspicious creature, cannot ignore the sound from the call; then is instant dinner.

HOW TO SUCCEED BY USING FOWL LANGUAGE

BY DON SHINER

BRINGING down a turkey gobbler with an arrow is no mean trick, but there is a chance that you can make it an easier chore through the trickery of calling him in.

The cedar box call shown here can help this hope to become actuality. This box is small enough to fit in the pocket and has several scratching surfaces.

The call is actually two circles of thin wood with a four-sided sounding box fitted between the discs. Cold weather cannot foul it, for there are four lips that can be rubbed with a chalked stick to lure in the turkey. If one or two of the lips should break or crack, there still are two more that can talk turkey for you.

The cedar "bun," as some call it, is not difficult to make, either. A few bits of dry cedar — or for that matter walnut or mahogany — a little work with a jigsaw and you have the parts ready to assemble.

The sides should be sanded to one-sixteenth-inch in thickness. If the material is slightly thinner, it will lower the tone quality, while thicker walls tend to raise the pitch. By intentionally varying the thickness of the side plates, the caller can alter the pitches. In this way, the hunter can sound like more than one turkey.

So, with this wooden sandwich a rubbing stick and a piece of chalk, you're ready to talk turkey on that bird's own ground.●

With a little practice, almost anyone can operate one of these pocket-size calls, imitating the sound of a turkey.



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COMPLETE FIELD GUIDE TO AMERICAN WILDLIFE by Henry Hill Collins, Jr., 683 pp., \$6.95. Published by Harper & Row. There is no doubt that this is a scholarly work and was meant to be just that. Generally speaking, it covers every species of bird, mammal, reptile and amphibian, food and game fish that occur regularly in the United States and Canada east of the Rocky Mountains and north of the Carolinas and Oklahoma — although not necessarily in that order.

Some idea of the degree of labor that went into its preparation is reflected, too, in the fact that there are more than 2000 illustrations and maps designed especially for this book. Some 700 species are pictured in full color.

THE COMPLETE BOOK OF ARCHERY by Robert Gannon: Coward-McCann, \$4.95, 256 pp.

In early chapters, as it should be, the author discusses the basic needs in the type of equipment needed by the beginner as well as that favored by the experienced archer. As the book progresses, the information becomes increasingly aimed toward the individual who is progressing in form, competence et al.

There are complete sections on field and target archery, tournaments, strings and stringing, and useful tips on how to avoid the more common shooting problems.

THE YOUNG SPORTSMAN'S GUIDE TO ARCHERY by G. Howard Gillean. Thomas Nelson & Sons; \$2.50; 96 pp.

This thin volume is put together in eight easy-to-read chapters that will give the young or beginning archer full insight into the sporting aspects of the bow and arrow.

PROFESSIONAL AND AMATEUR ARCHERY TOURNAMENT AND HUNTING INSTRUCTIONS AND ENCYCLOPEDIA by George Leonard Herter and Russell Hofmeister; Herter's, Incorporated, Waseca, Minnesota; \$2.57; 288 pp., with 263 illustrations and photos.

THE BIG GAME ANIMALS OF NORTH AMERICA by Jack O'Conner. Published by Outdoor Life and E.P. Dutton & Company; \$10; 264 pages.

O'Conner discusses his hunting exploits with his usual relaxed style and good humor.

And nothing seems to have been left out; in these pages, the author takes us from the glaciers of the Yukon on a Dall sheep hunt to the jungles of Southern Mexico, where he hunted jaguar. In between, he discusses at length another twenty animals in the big game category and all of them native to this continent.

It's a top book, whether it's for your own hunting reference shelf or it's an educational project for the kids.

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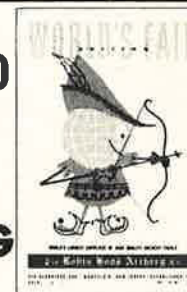
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PROTECT YOUR BOW

THIS SIMPLE RACK CAN BE BUILT IN AN HOUR
WITH AN INVESTMENT
OF LESS THAN A DOLLAR

By Roger Wrenn



ARCHERY is becoming more popular throughout the country and with it is coming better bows. If the bug has bitten you, you may have received a new bow as a gift or have purchased one of the beauties on your own.

Some of these bows can run into a very nice piece of change, and should be cared for properly. Never stand that new recurve bow on end in some corner of the den. It should be hung or better still placed on a rack on the den wall. Here is how I made a quick bow rack to keep my bow and display its beauty well. This was done for about a dollar and less than an hour's work.

A piece of scrap lumber, or a good piece with handsome grain, about four inches wide and thirty-six inches long, is required, along with the following:

- 2 Coat hooks of the screw type
- 1 Wood file or rasp
- 1 Foam rubber tape
- Several pieces of sandpaper

The only tools needed are: A hammer; a sharp knife; stain and a brush; a nail set; a pencil, and a ruler. As can be seen these tools can be found in nearly every home.

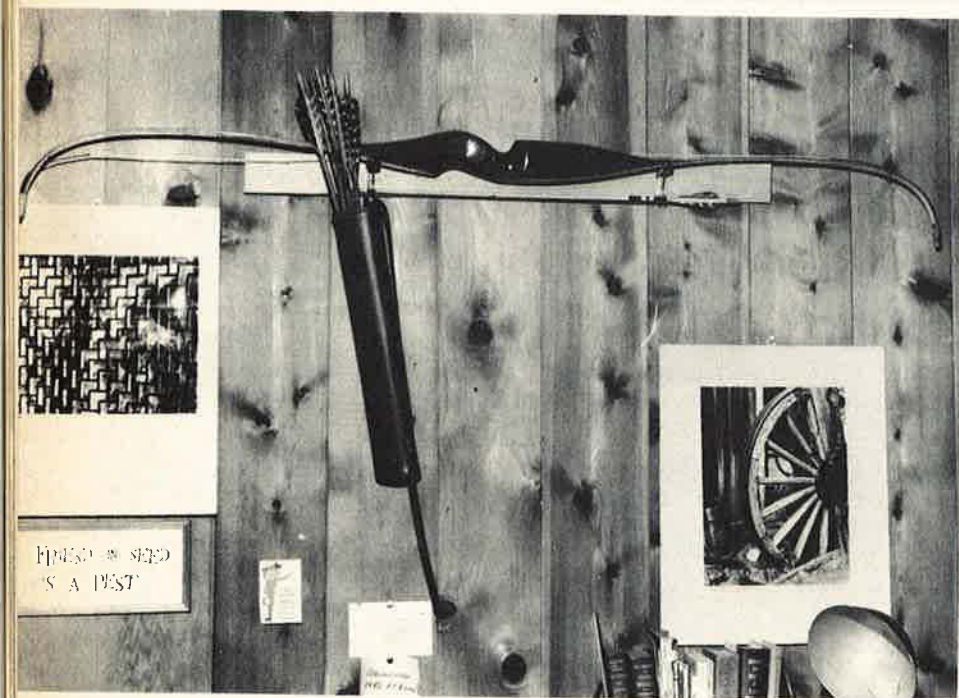
To start with, take the thirty-six inch piece of wood and with a wood rasp bevel the edges about one quarter inch on both sides, the length of the board as well as on the ends. This finishes the base a little better. Stain this piece, after sanding, with a good penetrating stain of the color of your choice.

Measure ten inches from the end and using a nail set to start the eye screw, place one on each end as in Photo #3. This is for hanging the rack on the wall.

On the flat side or front of the board, measure eight inches from each end and down from the top one inch. Use a nail set to start the hole for the coat hook as seen in Photo #4.

On the top of this coat hook, where the bow will rest, wrap foam rubber tape, which is available in dime stores or your favorite hardware store and is used for placing on the bottoms of ash trays or lamps to keep from marring the furniture.

By using a hook of this sort, one can lay the bow across and hang a quiver of arrows from the lower hook, as seen in the final picture. This rack can be made to suit your wants by substituting deer feet in place of the hooks, etc. But this type of rack will prevent your bow from becoming weak on one of the limbs as will happen if it stands in a corner.

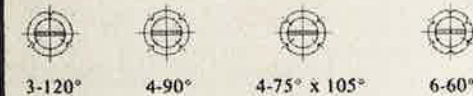


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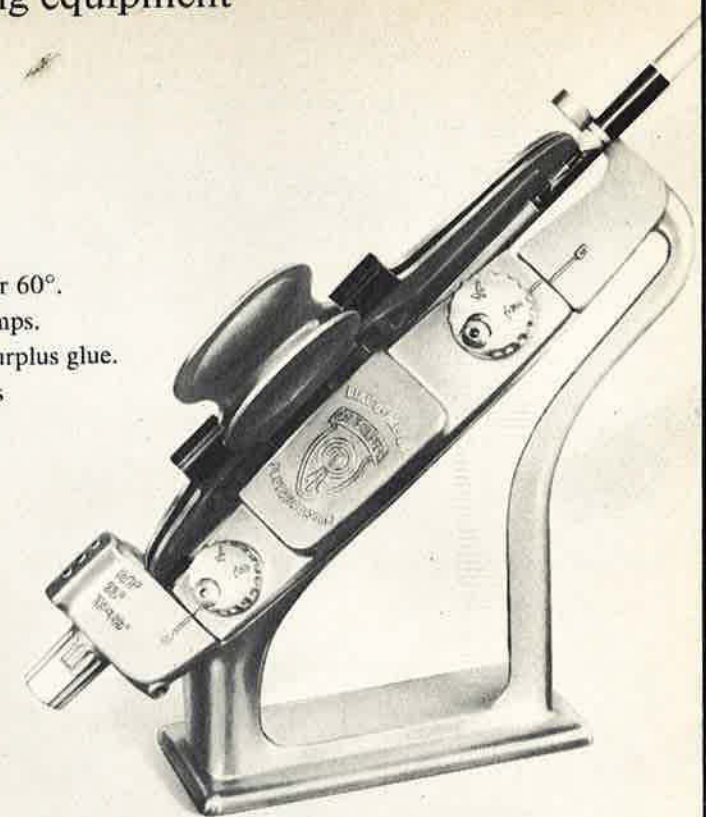
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What The Brazilian Indian Lacks In Equipment, He Must Make Up In Hunting Skill!

ON a recent trip to the frontier country of Brazil, I became interested in the hunting bows and arrows that the Indians used. The arrows are approximately sixty inches in length and are made with bamboo as the shaft. Some arrows are even longer than the bow so there seems to be no set rule on their length. A cut notch is the nock and the two feathers are taken from either parrot or domestic chicken. One Indian hut had three parrots around for the sole purpose of supplying feathers. It was no great surprise to see a partially plucked parrot finding refuge on the rooftop. The wrapping design on the arrows designates the tribe that made it. The arrowhead is made of a sharp piece of bone that is securely wrapped, then glued on. If a fishing head is desired, another sliver of bone is

lashed onto the head to act as a barb. No barb is used for game hunting, as this point is dipped in poison.

When shooting fish, no line is attached to the arrow. Apparently the extremely long, hollow cane shaft is buoyant enough to wear out the scaled victim and also mark the location of the fish shot with it.

The bow is of a native wood and is tapered slightly at each end and is approximately five and one-half feet long. The bowstring is of a hemp type, stranded and about one-quarter-inch thick. It also is left long and the surplus end is tied to the bow. Compared to modern archery this gear is crude — but the Indian is clever enough to make up in what is lacking in the gear. Maybe there is a lesson here. — *Al Goerg.*

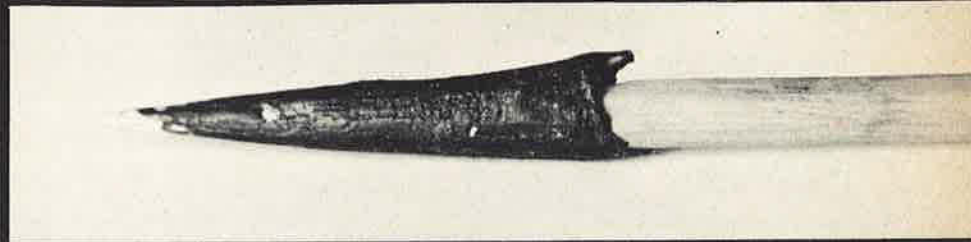
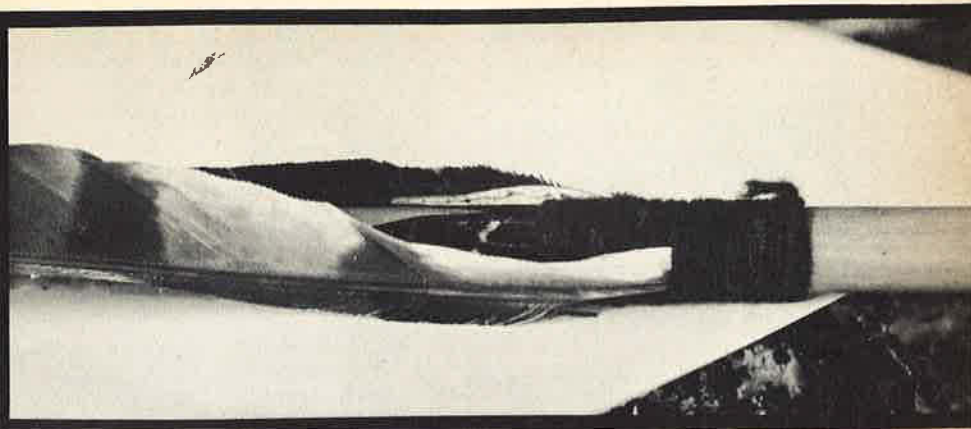
ARCHERY-- AMAZON STYLE



By modern standards, the fletching for these Indian arrows is indeed crude. Feathers are held on by twine.

Arrow heads are fashioned from bits of bone. Here, for bowfishing, an added barb has been installed.

Parrots and chickens are maintained by the Indian villagers for specific purpose of supplying fletch material.



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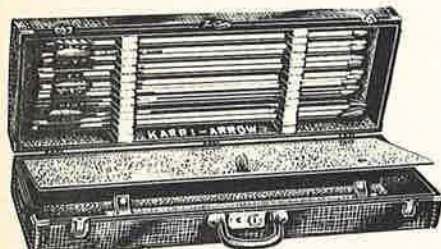
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CLUB CALL!

THIS is a new column, but you'll be seeing it in these pages from now on. It is devoted strictly to ideas and thoughts that might make the operation of your archery club a bit more simple; to afford some ideas in how to publicize archery in your own area and to gain the public acclaim and acceptance for archery that it justly deserves.

Now in conducting such a column, we are certain to need help, so if your club is doing something unusual, such as tying in a tourney with some local celebration, carrying out some program that can aid a charity . . . or even if you have come up with a simplified means of maintaining records, we are certain this can prove of interest to other clubs; they may well want to emulate you.

Therefore, we'll be looking forward to any ideas or thoughts that you have. Full credit for such ideas, of course, will go to the club forwarding the thoughts.

But first things first.

RECORDS

Before any club can be a going function, it must maintain a system of records, and any club secretary can tell you that this can be a real headache.



But there is an outfit which can certainly help you to simplify such account keeping. Club Records Company, Box 93, College Park Station, Detroit, Michigan 48221, can provide a variety of time and work-saving, fill-in-type forms that many clubs throughout the country already are using to maintain uniform records and reports.

The complete assortment includes forms for minutes, dues, membership lists, financial and committee reports and other special purpose

forms. The individual forms, of course, can be used to supplement existing record systems.

This outfit is offering a special introductory kit of assorted basic record forms — about a year's supply for the average club — for \$1.50. Or if you want to investigate a bit further, a free catalog is available upon request.

PERSONALIZED CLUB SHIRTS

And here's an outfit up in Rochester, New York, that has made it possible for clubs to order their own sweat or tee-shirts with your organizational name imprinted. An exclusive process developed by the manufacturer makes small lot orders possible now at a price that isn't going to break either you or your club treasury.

According to the dope we get, the sweat shirts are of heavy water repellent material, lined with absorbent, soft double-napped cotton fleece and are available in white or navy with contrasting letters. The minimum order here is two for \$9.95, postpaid, but you can get special prices on larger orders.

The tee-shirt has a dacron reinforced stitching at the neck for better fit and these are priced at six for \$9.95. Only color available here, though, is white.

But for full information on kind of lettering, price for full club orders et al, we'd suggest that you write to P-B Enterprises at 114 Monroe Avenue, Rochester, New York. They'll send you all of the information you want.

AND DON'T FORGET

We'll be looking forward to receiving your thoughts that can help to make this column suitable and helpful for all clubs. There is a good deal of information that can be exchanged through such a media. Just send along your suggestions to: Club Editor, BOW & ARROW Magazine, 550 S. Citrus Avenue, Covina, California.

One last thought: If you haven't already heard about this, BOW & ARROW is offering special group subscription rates to archery clubs. Why not have your Club Secretary write today and ask about these savings? ●

MAIL POUCH

(Continued from page 27)

One was how to properly string a bow; the other was how to take care of a bowstring. I wish to thank you for your great help.

In future articles, I am in hopes that you might pursue such things as how to make strings, how to make arrows, proper form and use of equipment, care of equipment and other fundamental aids to the novice. Some of these might even be of help to the more experienced.

I believe this would be a big help in developing a greater interest in potential archers who are afraid to take up the sport for fear of getting off to a bad start. When one doesn't know anything of archery nomenclature or proper use of equipment, he feels he is too much of an outsider. We need to help these people if we are to build a greater interest which will benefit us all.

M. Ronald Wright,
Salt Lake City, Utah

THE GREAT RELAXER

Being a clergyman and being so busy, I have never taken any time for a hobby or sports. After deciding that I should take up a hobby, I made a decision for archery. I went to a newsstand and bought a copy of your magazine, BOW &

ARROW. Right off, I began to enjoy the book and it sold me on archery as a hobby.

Rev. Ralph H. Palmer,
Knoxville, Tennessee

ARCHER-HOLICS ANONYMOUS?

Purpose of this organization would be to help the seemingly hopeless victim of archerholism kick the habit.

The society would operate on the principle that misery loves company — that only a victim of the insidious malady, himself, knows how another feels.

Like all other forms of addiction, it is found in various stages of development and among persons in all walks of life. And like most other vicious habits, it starts innocently, its grip tightening so slowly the victim is seldom aware until too late.

First, there's the "social archer." He really doesn't care much but occasionally shoots with the boys "just to be sociable." At this stage, it's quite harmless, but one shaft leads to another. Soon the archer finds himself starting earlier and earlier each day.

Next comes the "quiet archer." The more he shoots, the quieter he gets. He sometimes will spot a dozen shafts without uttering a word, and prides himself on how much he can shoot without showing it.

There's the "secret archer," in the worst shape of all. When he started, he wasn't at all ashamed. He may even have bragged a little. But now he realizes he shoots too much and tries to hide it. He invents elaborate cover-ups for (a) his boss: "I've been called out to search for a nose cone"; (b) his wife: "The boss is sending me out to the range. We'll have to arrange the furniture in 1968."

He shuns his old friends and starts running with a new crowd, all of whom indulge as much as he does.

There are three usual methods of quitting the stuff, all of doubtful effectiveness:

(1) The Taper-Off Method: "I won't shoot before noon." (But he wastes the entire morning in planning for the afternoon.)

(2) The Quit-It-Cold Method: The archer burns every bowstring in the house (except for one — just in case.)

(3) The Substitute Interest Method. One archer took up weight-lifting, but a year later sold his forty-five pound bow and bought a seventy pounder. One even took up the javelin, but a year later, returned to archery to become a flight champ. Is there any hope?

Roger O. Des Marias,
Skookum Archers,
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BOW BITS

IT'S FOR LIKE FREE

A colorful eight-page booklet entitled *The Care & Treatment Of Broadheads* is being offered without charge by some cat who calls himself "Arrowmate." But upon inspection, we find that Arrowmate is an arrowhead, and it's pretty obvious that this helpful check list of equipment and supplies for a hunting trip was done by some flesh and blood-type.

But the booklet offers useful tips on mounting hunting heads, how to sharpen, store and carry hunting arrows, what to do after the deer has been hit, to trail and recover your trophy, and how to dress, clean, store and transport your deer.

That's all in the eight pages, believe it or not, plus a few commercials. But you ought to take a look and it's available simply by writing: Rose Tool & Plastics, 12247 West Fairview Avenue, Milwaukee, Wisconsin.



NEW COLT'S EQUIPMENT

Colt's Patent Firearms has announced the expansion of its archery division to include the manufacture of the Colt Hilbre and Super Hilbre hunting arrow heads. The Connecticut firm will be the archery industry's exclusive source of supply for these effective broadheads.

These heads, Colt's reports, have been improved through the use of a ferrule material far stronger than that utilized in the past. And the new steel blades can be sharpened easily with the use of a smooth mill file.

Volume purchasers are invited to write directly to the manufacturer for bulk prices. Write to Archery Division, Colt's Patent Fire Arms Manufacturing Company, Hartford, Connecticut.

THE CARE AND TREATMENT OF BROADHEADS

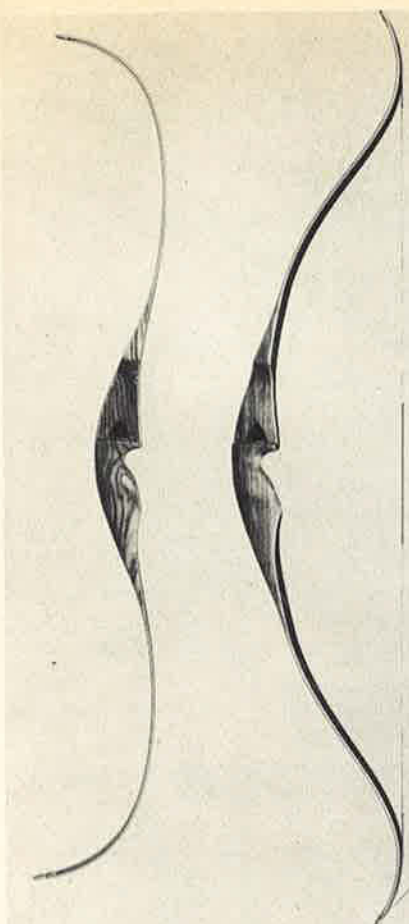


FOR TURKEY HUNTERS

The Turkey Hunter's Guide, a new volume by Leon Johanning, is pretty well self-explanatory by title. It contains some seventy pages, amply illustrated, and sells for \$2.50 postpaid.

Since the book is by a man who has specialized in turkey hunting through most of his life, it is only natural that it should contain a wide assortment of material to give you the nature, habits, characteristics, likes and dislikes of the turkey. According to the author, it is themed as "one hunter confiding in another" to offer knowledge on guiding, coaching and revealing means for being successful in turkey hunting.

The book can be ordered from Leon's Shop, Lexington, Virginia.



PEARSON'S NEW HUNTERS

Ben Pearson has come up with two new bows for hunters, one logically called simply *The Hunter*. The other, marketed under the firm's Golden Sovereign trademark, has been designated the *Golden Knight*. Both are in approximately the same price category.

The *Golden Knight* was "designed from the wishes and desires of bow-hunters for heavy brush country, hunting from trees or rough terrain," according to Jack Witt of the Golden Sovereign division. It is designed and tillered to accept a thirty-inch draw. The bow is five feet in length with maroon Gordon glass on front and back. This hunting bow has a rosewood handle with a thumb rest and is priced at \$52.50.

The *Hunter* is of rare zebra wood, combined with Gordon glass. The fact that it measures only fifty-eight inches should prove that it has been designed for maneuverability, fast handling and light weight. It has contrasting colors on facing and back to blend with natural surroundings.

The bow, selling for \$50 even, is available from 30 to 65 pounds at a twenty-eight inch draw. For further information on either bow, check with Ben Pearson, Incorporated, (Dept. BA), Pine Bluff, Arkansas.

ABOUT TIME

The 1965 World Archery Tournament will be held in Philadelphia, according to Clayton B. Shenk, president of NAA. This will mark the first time that the biennial event will have been held in the United States.

Dates for the tourney are July 20-23, 1965, when it will be held on the grounds of the Philadelphia Cricket, Archery and Lawn Bowling Association.

Philadelphia's history in archery is the longest in the United States, having started with the establishment in 1828 of the first archery club in the nation, the Club of United Bowmen. This organization, still active, will serve as host club for the 1965 world meet with NAA handling the organizational facets.

CAR CAMPER

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BOW BITS

NEW FROM BUSHNELL

Bushnell, a well known name in the riflescope and optics field, is now perfecting a bowscope and hope to have production models available about November 1st.

Appropriately named the Bushnell Bow Scope, it's to be a 1.3-power scope with crosshair reticle and weigh in at eight ounces. The cost will be less than \$50 which will include a mount designed to fit most all bows. The long eye relief scope will present a 17 yard field of vision at 100 yards.

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Additional information may be had by writing D. P. Bushnell Company, Dept. BA, Bushnell Bldg., Pasadena, Calif.

TURKEY TAKER

Alfred Hirt of Pine Bluff, Arkansas, finally climaxed five years of bowhunting for wild turkey when he downed an eighteen-pound gobbler in the Helena-St. Francis Game Refuge just north of Helena, Arkansas.

The big bird sported a seven-inch beard, and according to the records of the state's Game and Fish Commission, was only the fourth wild turkey ever killed with bow and arrow in modern times in the state.

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TACKLE TIPS

(Continued from page 8)

What does this draw force curve prove? The area under the curved line and bounded by a right angle represents graphically the stored energy in a given bow. By mathematical calculations, you can actually figure the foot pounds of stored energy in a given bow. It's easy to see that there is considerably more area under the composite recurve draw force line than there is under the old style straight end English long bow. All right, what good is more stored energy? The old saying, "You never get something for nothing" is never more true than in the world of physics. If a bow is to shoot faster and harder than another bow, it must store more energy.

Remembering that we never get something for nothing, the drawing arm must expend more energy to draw the

glass faced and backed recurved bow a given number of times than it does when drawing the straight ended bow. This is contrary to popular belief because the recurved bow is so smooth on the draw that it fools the archer into thinking he is expending less energy. The difference between the draw force curve of most all modern composite bows is very little. As a matter of fact, it doesn't look like we have come very far in the last twenty-seven years. As a guess (we still aren't going to do any mathematical calculations) I would say that the recurved bow is only superior in stored energy to the long bow by about twenty percent. Now to say that modern composite recurved bows are only twenty percent better than the old self wood English long bow would be doing a disservice to our modern bow builders. We still have to recover that stored energy and transmit it to an arrow. But that's another story, so hang on to this graph and we will take that subject up next month.



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RED WING TEST

(Continued from page 23)

trophy boar that was flat high balling it for the other end of the island. The shot was hurried from a kneeling position and the adrenaline really pumped as the shaft cut a tuft of kinky hair from his tail. A miss of this type is as thrilling as a hit — almost. Jim Cooke had scored a hit on a dandy pig late in the evening and was sure he would find it stoned the next morning. Kittredge already had hung a boar and was generously telling us the hows and whys of pigging while preparing the evening meal from our little base camp.

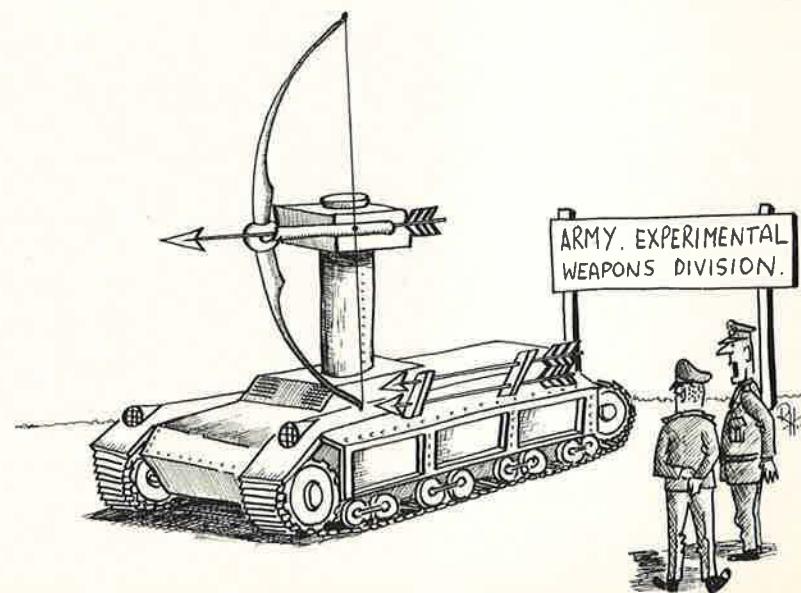
I was sitting under a tree mentally bashing myself for missing the great chances that had come my way. As the sun had set, I had taken a shot at a goat of record proportions, and shot high. This is not the fault of the bow. I had practiced with it and figured the whole deal out. I simply refused to believe that the bow was that fast when the moment of truth was at hand.

The morning dawned as though someone had lifted a shade. With words of encouragement, we split up, each to go his way and give the pigs a last go before the hunt was ended. Doug and I planned a little hunt and agreed to meet at the top of the mountain in whatever time it would take the two of us to arrive. Hunting together for years has given each an insight as to what the other will do and when and where he'll be. It's a good combination.

I spotted pigs immediately and began a long stalk which ended in dismal failure when the wind shift-

ed on me. I soothed my frustrated bow with a few consoling pats and assured her I would make her a veteran before the day was done. Walking the hills like this can be work and carrying the little hunter was a pleasure. She would ride over my shoulder without restricting movement and be instantly ready for a fast feeding from the *Silent Stalker*. In the hand she is light and pleasant to carry and the end of the day would not be time for a good cramped hand massage.

With time running out, my morale was reaching a low ebb. I reach points where I begin to carry on rather stimulating conversations with myself, and this particular discourse involved the talents of certain individuals who couldn't kill a pig in a pig pen. Within the next quarter-mile, I pushed hunting from my mind and shot arrows at every object that was feasible in hopes of doing something constructive such as teaching myself to shoot. I discovered that I had not been canting the bow enough and by laying it over a bit further I began to lay arrows where they should go, instead of high where they shouldn't. Having come to the untimely conclusion that I might possibly get with it, all I needed now was something suitable on which to try my new method. Sometimes a guy gets out of the right side of the old sleeping bag. A low hanging cluster of oaks lay in front of my downhill path, casting late morning shadows. Amid this stand of trees was a scattered pile of rocks. When one of the rocks flicked a rather long skinny tail, I became instantly interested, as this was something that didn't happen often. Closer observation through the Bausch &



"Great idea, but we haven't figured out how to string it!"

Lomb 7 x 35 glasses brought a herd of about fifteen pigs into focus, grunting and gurgling in pleasure over the abundant forage.

Carefully I eased into position and took stock of the situation. There were several dandies and one stood out a good eight inches taller than his cohorts and black as the night was his ebony hide. Wind situation was great; stalking terrain excellent; hunter's nerves cool; bow adequate; shooting capabilities — zilch.

On hands and knees, the bow looped over my right shoulder, I began to infiltrate the ranks.

The gap was closed quickly and soon the distance was narrowed to twenty yards from the closest pig which naturally was not the one on which I had my sights set. At this great moment, this helpful dude decided it was siesta time and plunked her carcass down to rest right in my path!

The reclining critter was shootable and I weighed the odds, then decided to try for the big one, but if Lazy One spooked, I was going to shove a large 2216 right in her ribs. On with the crawl.

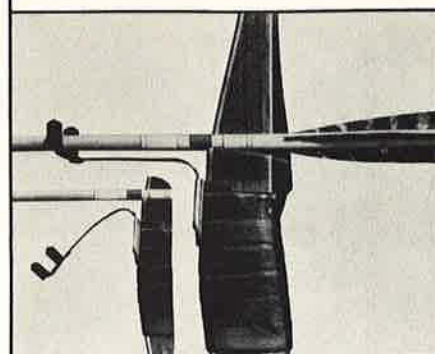
Being amid a large group of large pigs is stimulating. When I noticed that two sows had brought the kids to dinner, it became doubly intoxicating. A guy could really get chomped on, so I keep a tree within close scampering distance.

I crawled right up next to Lackadaisical Lolly and studied her untroubled breathing as I waited for the big one to turn broadside, I knew damn well if the party was blown I could sure nail her at five lousy feet. The big pig turned and the shot was off. The *Red Wing* was blooded; white feathers merged with a dark shoulder as the air was rent with a startled squeal and pigs went everywhere.

My sleeping partner bolted to her feet at my shoulder and ran right by me unaware of my presence due to the stout wind pushing up the draw. I leaped to my feet and headed downhill with the fleeing pork chops, trying to keep the mortally struck pig in sight. The pigs milled and looked for trouble and the wounded animal turned on one of the group and made a pass with his tusks. Suddenly there was Kittredge, pigs running all around him. As my quarry came into sight, he brought up his bow only to have the pig collapse and roll right past him. The confusion had lasted but seconds and the boar had traveled only a short distance.

Summing it up, the *Red Wing* has to be considered an excellent hunting bow. She has all the qualities of modern stick shooters and is without a doubt a leader in the hunting bow field. ●

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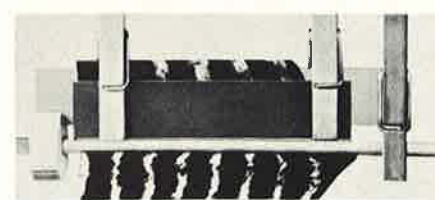


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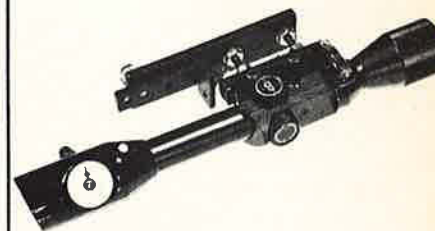
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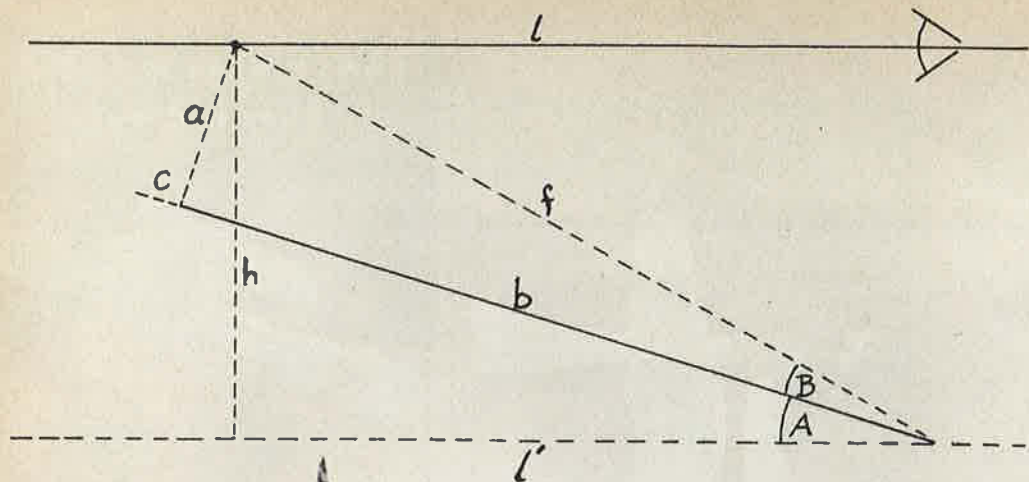


FIGURE 1

THE SCIENCE CORNER:

NEW TIPS ON CHECKING VELOCITIES

BY MARSHALL H. SWITZER

LAWRENCE LUTERMAN published an article in the Jan.-Feb. 1964 issue of *BOW & ARROW* entitled *A Simple Route To Arrow Speed*. A chart and instructions were presented for calculating the discharge velocity of an arrow based on sighting measurements. The discussion dealt mainly with the problem as related to use of a high or cheek anchor and required the findings of that range distance at which the point of the arrow could be used as a sight bead to hit the spot sighter over this bead. A brief paragraph in the article referred to application of this principle, and the method of calculation, to bows equipped with sights.

In attempting to apply the principles of Luterman's method to a bow with a sight, the directions given were found to be deficient. Some changes in the method of gathering the data had to be made in order to provide the arguments for entering the chart. Since the procedure which was finally found necessary was somewhat more complicated than one would be led to believe by Luterman's brief reference, it is the purpose of this article to spell out the steps to be taken.

For many years, I have been interested in the measurement of arrow discharge velocity as a necessary adjunct to the study of the internal ballistics of bows. Most methods for this determination require rather expensive, complicated and cumbersome equipment if suitable accuracy is to be obtained; the cost of such equipment is well beyond the means and inclination of most archers. Nevertheless, archers need some way of numerically assessing bow performance for comparison purposes, and this need is increasing as the price of bows increase. The method to be used must be reproducible and reasonably accurate and must be of a nature that little equipment, and that inexpensive, is required. The method proposed by Luterman

Original velocity figures were based upon findings with electronic chronograph, but later experiments showed that further controls were needed.

answers the requirement of minimum equipment and it was therefore the further purpose of this study to estimate to what extent reproducibility of results could be obtained.

When using the point of the arrow at full draw as the sight bead, and when using also a fixed anchor position, there should be one range distance at which the spot aimed at will be hit. This range distance must be found; it will be dependent on the sighting geometry, as described by Luterman, and on the internal and external ballistics of the bow and arrow. In this method, the sighting geometry is considered constant for any one archer (arrow length and anchor distance).

On the other hand, when using a sight, the range distance becomes independently selectable and the sight position is adjusted until hits on the target at this range are obtained. A sight may be considered as a convenient way of adjusting the anchor distance to suit the range distance although it is more conventional and simpler to consider it as a means for fixing and controlling the angle of elevation of the arrow. The use of a sight makes possible, theoretically at least, the use of any convenient range distance for the velocity determination; or the determination can be made at a number of different ranges by finding a suitable sight setting at each range. The average of a group of determinations made at different ranges is probably a better indicator of combined tackle and archer performance than is the single range determination of the previous paragraph because it takes into account the subtle changes in the archer's position that occur with change in range distance.

In order to enter Luterman's chart, the cosecant of the angle of elevation of the arrow is required; this is equal to the reciprocal of the sine of this angle. Consider in Fig. 1 that (1) represents the line of sight from the eye through the sight bead to the target. The line (1') is parallel to (1) and is displaced from it by a distance (h) equal to the anchor distance. The line (b) represents part of the arrow length rising from the anchor point at the elevation angle (A). The line (a) is perpendicular to the arrow and passes through the sight bead. The line (f), from the anchor point to the sight bead, completes the right triangle b-f-a, the longer side and hypotenuse of which enclose the angle (B). The line (h) through the sight bead, perpendicular to (1) and extending to (1') along with (f) and 1' forms a second right triangle, the longer side and hypotenuse of which enclose the angle (A+B). If the lengths of (h), (a) and (b) are known, then

$$\tan B = a/b \quad \text{and} \quad B = \arctan(a/b)$$

$$\sin B = a/f \quad \text{and} \quad f = a/\sin B = a/\sin \arctan(a/b)$$

$$\sin(A+B) = h/f = (h/a) \arctan(a/b)$$

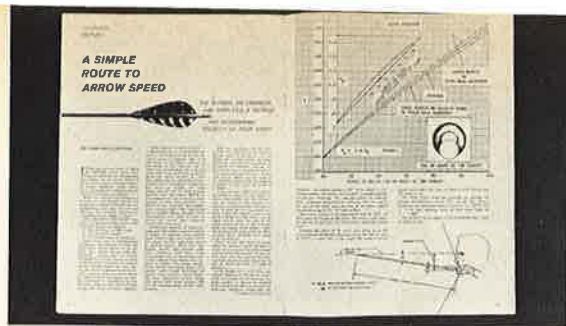
$$A+B = \arcsin[(h/a) \arctan(a/b)]$$

$$A = (A+B) - B = \arcsin[(h/a) \arctan(a/b)] - \arctan(a/b)$$

provides a solution for the angle of elevation.

The value of (h) may be determined as follows. Set up a target butt with a target face fixed to it so that the top edge of the target is about shoulder height and horizontal. Stand about three yards, but not more than five yards, from the butt and shoot, aiming with the sight bead at the top edge of the target. While the arrow is still imbedded in the butt, measure the distance, in unit of thirty-seconds of an inch, from the top surface of the arrow to the top edge of the target face extending the measuring scale downward at right angles to the target edge.

Next, nock an arrow at the nocking point on the string of the braced bow and lay it on the arrow rest; pinching the nock will cause it to grip the string and hold the arrow in position. Place one leg of a small carpenter's square against the upper surface of the



The article that started this series of theories — and disagreements — was published in an early issue.

*We Started Something,
When We Tested Speed
Of Arrows; Everyone's
Improving The System!*

arrow with the measuring scale leg of the square extending upward toward the sight bead. Using the scale on this second leg, measure the distance, again in units of thirty-seconds of an inch, from the top surface of the arrow to the center of the sight bead. In Fig. 2, the distance indicated by (a) minus half the arrow diameter illustrates the measurement that is being taken here. Continue shooting and measuring in this manner with resetting of the sight until by trial and error it is found that the distance of the sight head above the top surface of the arrow is the same difference between the top edge of the target and the top surface of the arrow in the butt as shot using this sight setting. When this equality is achieved, the distance measured plus one-half the arrow diameter will be (h), the anchor distance.

Considerable care should be taken in measuring this dimension. Since the measurement to the top surface of the arrow is a characteristic of the archer rather than of his tackle, the same value should be obtained regardless of the bow used or of the arrows used with any bow. It, therefore, should be a constant for any one archer unless he changes his anchor point. Note that although the distance to the top surface of the arrow should be a constant, the anchor distance (h) is not a constant in this sense but depends on the diameter of the arrow used. The value of (h) should be constant for archer and arrow diameter but will change if the archer uses arrows of a different diameter.

It is suggested that the final sight setting for de-

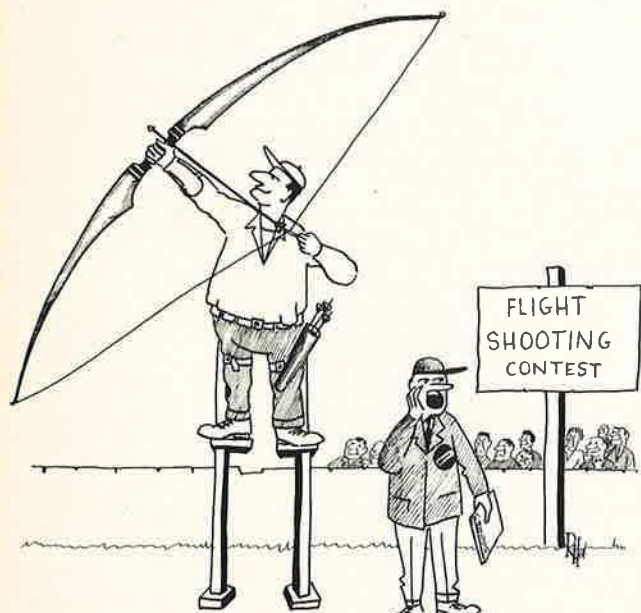
termining the distance to the top surface of the arrow be verified by shooting several arrows (perhaps ten) in a line across the target face and taking an average of the impact distances for comparison with the sight setting distance. Repeating the entire experiment on several days will indicate whether or not this distance is consistent. Be careful not to cant the bow; hold it strictly vertical during shooting. Do not exceed five yards shooting distance; the assumption is made here that the time of flight of the arrow over such a short range is so small that the effect of the trajectory is negligible.

The sight setting preparatory to measuring the distance (a) is obtained by shooting from some selected convenient range distance with the sight bead on the target spot. The sight is adjusted by trial and error until the arrow hits the spot aimed at with the bead. There will thus be a sight setting and a different distance (a) for each selected range distance. Measurement of (a) is carried out in essentially the same manner as that for (h). Referring to Fig. 2, the carpenter's square is placed against the top surface of the arrow with the scale extending upward toward the sight. The distance from the center of the sight bead to the arrow surface is added to half the arrow diameter to provide the measurement of (a). Again, measure in units of thirty-seconds of an inch.

The distance (b) is generally *not* the length of the arrow. This distance will depend on the position of the sight on the bow and on the position of the arrow in relation to the bow at full draw. Fig. 2 will illustrate this. On the arrow shelf, ahead of the arrow rest is shown one form of draw check. It is made of a piece of rubber band so mounted that when the point of the arrow is drawn past it, it stands up vertically and becomes visible at the point of the arrow. Thus, if used as intended, the draw length is assured of being a constant for all shots. Place a mark on the sight window (m') corresponding to the draw check in its upright position. When measuring (a), place a mark (m) on the arrow at the base of the perpendicular through the sight bead; be sure that the bow string is not forced away from its straight line braced position when the position of this mark is determined. Now measure the distance (units of 32nds of an inch) from (m) to (m'); this is the distance (c).

The value of (c) will be positive or negative depending on which side of the perpendicular through the sight bead it lies. As shown in Fig. 2, it is negative. However, if the sight bar were to have been mounted on the back of the bow instead of the belly, then (m') would have been to the right of the perpendicular through the sight bead and the distance (c) would have been positive.

The arrow length is now measured (units of 32nds of an inch) from the base of the nock to the point; this is the distance (e). The distance (b) then equals (e+c). In this case (c) is negative and $b = e + (-c) = e - c$. If the perpendicular through the sight bead had fallen to the left of (m'), then (c) would have been positive



"Harry! Quick, the rule book!"

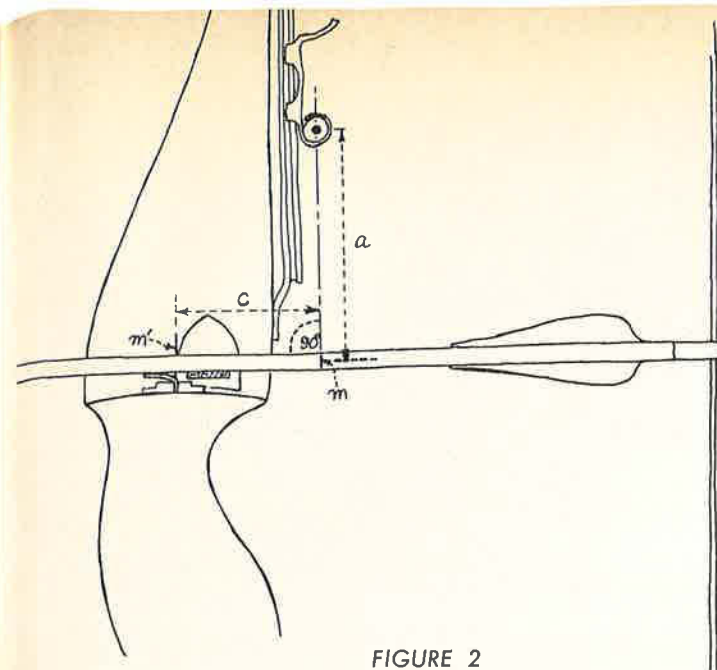


FIGURE 2

and $b = e + (+c) = e + c$. The position of the distance (c) as illustrated in Fig. 2 is shown in its geometric relationship in Fig. 1

The distance (b) must be computed for each change of sight setting. The sight bars as mounted on most bows are only exceptionally disposed at right angles to the arrow shaft; their positions will depend on the shape of the back or belly of this handle to which they are fastened. In any case, their angular relation to the arrow shaft will depend on the position of the nocking point on the string. Hence, as the sight bead slider is moved along the bar, it will not generally be moving along a line perpendicular to the arrow shaft and, thus, the position of the mark (m) on the arrow will change with the sight setting.

Some archers use a small mirror as a draw check. This mirror usually is mounted relatively high in the sight window and is so disposed that at full draw it is possible to see the position of the point of the arrow in relation to a line on the arrow shelf of the bow handle. In this case, the position of the line (m') can be as readily determined as when the erecting type of draw check is used.

A situation in which it is more difficult to define with exactness the position of (m') occurs when no draw check system is used. Here it is necessary to choose some naturally distinguishable mark on the arrow, such as the shoulder of the arrow head, and to have an assistant watch to determine a line on the sight window opposite which this mark on the arrow stands just prior to release. This line on the sight window, then, is (m') and the arrow length (e) is measured from the base of the nock to the chosen mark on the arrow. This same procedure, of course, also applies when the arrow used is of such length that at full draw it extends out beyond the nock of the bow. Here a mark on the arrow where it is crossed by the back of the bow will define the point to which to measure from the base of the nock to determine the arrow length (e) and the line (m') will fall along the back of the bow where it is crossed by the arrow.

Situations of this kind are as manifold as are the styles of bows and sights, the sight mountings, and archers' preferences respecting arrow length and nocking point. The methods used in the situations described should be sufficient as guide posts for individual initiative in any case. It is well to point out that the best reproducibility in discharge velocity measurements will be obtainable when some sort of positive draw check is

used. It is difficult to obtain the same draw length each time when dependence is placed solely on muscle tension and the setting of the bone structure.

The concepts portrayed here were put into practice using a 66-inch bow with a draw force of 40 pounds at 28 inches, drawn to 29½ inches. A draw check was mounted on the arrow shelf (as in Fig. 2) with the point of the arrow used as a reference against the check. Other conditions were also as generally portrayed in Fig. 2. The arrows were 1818, four fletch 2-3/4 x 5/16 inches, weighing 367 grains; these were classed as heavy and small fletched, suitable for application of the lower velocity curve in Luterman's chart. At a range of three yards, the distance from the top edge of the target to the top surface of the arrow and the distance from the center of the sight bead to the top surface of the arrow were found to equalize at 223 (32nds of an inch). By shooting and adjustment of the sight, the settings were obtained for ranges at five yard intervals from 40 through 70-yards. Since the arrows were 18/64-inches in diameter, 4.5 was added to those measurements requiring addition of half the arrow diameter. The following table shows the measurements obtained and the calculation for the discharge velocity.

Range yds.	a	e	c	b	B°	sinB°	xsinB°	B°+A°	A°	cscA°	Cv	V	Vo
40	165.5	906	-58	848	11.04	.1917	2635	15.28	4.24	13.51	1.207	139.0	167.7
45	158.5	906	-58	848	10.58	.1838	2639	15.30	4.72	12.15	1.144	148.0	169.3
50	152.5	906	-58	848	10.19	.1772	2643	15.32	5.13	11.14	1.095	156.3	171.1
55	146.5	906	-58	848	9.73	.1692	2646	15.34	5.61	10.21	1.049	164.7	172.7
60	138.5	906	-58	848	9.28	.1612	2649	15.36	6.08	9.44	1.009	172.2	173.7
65	131.5	906	-58	848	8.82	.1532	2650	15.38	6.56	8.76	.970	180.0	174.5
70	122.5	906	-58	848	8.23	.1431	2658	15.41	7.18	8.00	.927	187.1	173.4

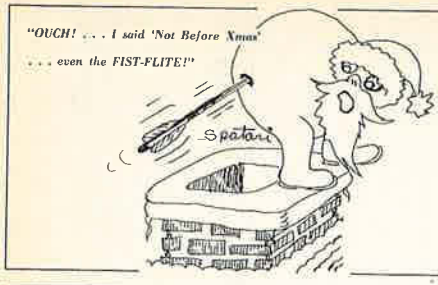
Ave. 171.8

It is interesting to note from the above table that this bow and sight and its mounting forms one of the exceptional cases that have been referred to where the value of (c) does not change with the range. Correspondingly, since (e) is constant throughout, the value of $b = 848$ was also found constant. The sixth through the tenth columns show the solution of the equation for the angle of elevation, (A), for each of the ranges. The figures in the eleventh column were obtained by taking the reciprocals of the sines of the corresponding (A) angles shown in column ten; these were used to enter Luterman's Cv chart to obtain the corresponding factors shown in column twelve.

The velocities shown in the V column were taken directly from Luterman's low limit velocity line for each of the yardages in the first column. As was stated earlier in this article, a change of sight position can be interpreted as a change of anchor distance. Since for each selected range the sight is adjusted, one can interpret that the anchor distance corresponding to the sight setting is providing hits at that range. The result is that the value of V corresponds to range only, and is independent of archer, bow, arrows, etc. Hence, the value of V is fixed when the range is selected and the factor Cv adjusts this basic velocity in accord with the angle of elevation found to be required.

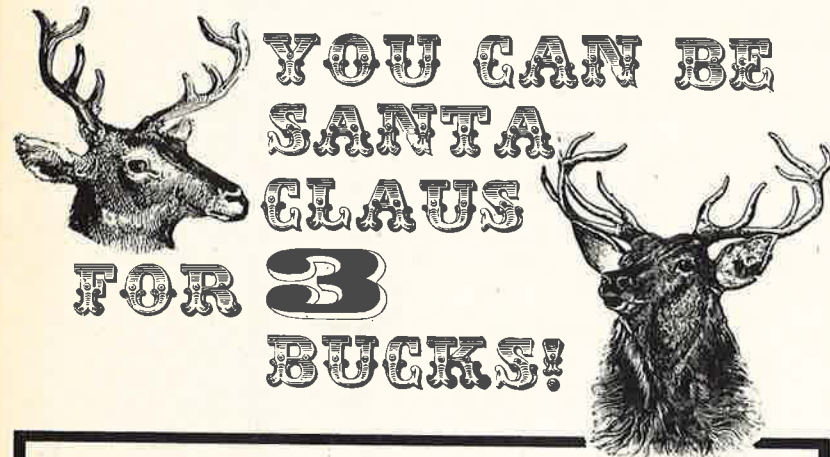
The final column in the table shows the discharge velocities calculated as the product of Cv and V. The average value found for Vo is shown at the bottom of the last column.

The agreement among the results shown in the last column appears to me surprisingly good, all things considered. There is always, of course, the question as to whether or not a calculated value such as this is accurate on an absolute basis; it would be interesting to check this directly if suitable timers were available. However, if accuracy on an absolute basis may be assumed, then the measurement procedure proposed here to provide the data, and the use of Luterman's chart to complete the analysis, should provide the archer with quite suitable tools for quantitatively assessing the truth of the rather broad qualitative claims that are frequently made respecting bow performance. ●



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TECH TALK

(Continued from page 10)

ing.) The spine must be right for the combination of bow weight, arrow length and weight of the head being used. If it is too weak, the arrow will bend too much from the strain of the bow weight and will not shoot straight. If too stiff, the arrow does not bend enough to have the feathered end clear of the bow, where it strikes; thus it is deflected from its true course.

(In wood shafting, there are limits to which a certain diameter can be obtained in stiffness, both weak and stiff. In a 28-inch arrow length, for a bow weight of 50 pounds, it is possible to obtain shafting of 5/16 inch stiff enough to shoot well. However, these may prove difficult to obtain in all seasons of the year, as they are in short supply. This is the smallest diameter this bow weight and arrow length will permit.

(Both aluminum and fiberglass shafting is normally of smaller diameter than wood for the same bow weight.

HOW HIGH

I would like some information on how high should an arrow rest be set on a 47-pound bow, which I use for all-purpose shooting. I draw thirty-inches and the bow is 62 inches long.

J. R. Randolph
Thomson, Georgia

(Don't set your arrow rest more than a half inch above the regular cut-in shelf rest of the bow. Be sure to reset your arrow nocking point on the bowstring. This should be done so the arrow points slightly downhill, by having the nock end about an eighth to three-sixteenths of an inch above the horizontal.)

VERSUS SECTION

What are the advantages of a recurve over a flat bow, if any, or vice-versa? I use a 60-pound flat bow and shoot it every day. I have been told I should use a lighter bow and that it should be a recurve. I am only interested in hunting and having a good time, which I do. I just wonder if people who keep telling me I should change know what they are talking about. Please help set the record straight and let me know if I am bound by tradition and just don't care to yield to progress.

John B. Schamel, Jr.
Waverly, New York

(Both the straight and recurve styles have been around since the dawn of history. It always has been generally accepted that the recurve design gives the greater efficiency, thus the greatest shooting power, but in olden days, it was difficult to

(Continued on page 65)

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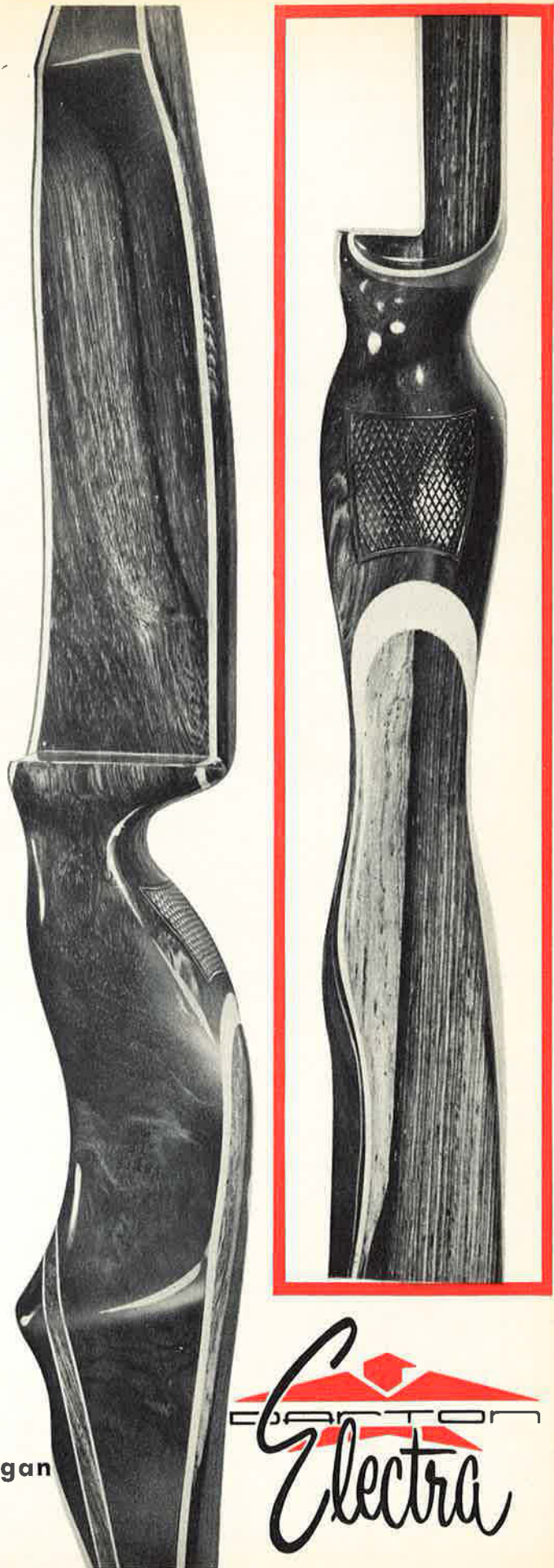
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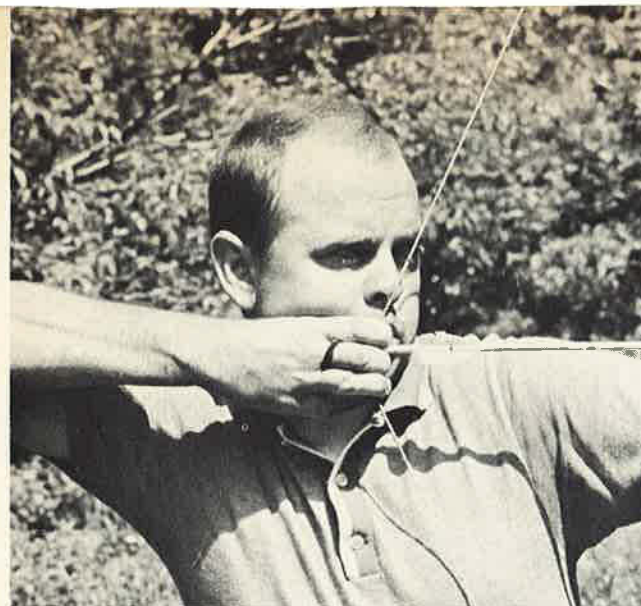
We Assigned
Our Man To Trail
Potential NFAA Champs
Through Watkins Glen;
Here's His Report!



Follow The Leaders - 1964

(**JOE HIGGINS**, following a **BOW & ARROW** custom, observed the efforts of top archers in the animal round, on the last day of the National Field Archery Association's Free-style Championship competition. In the group under observation were John Rudy of North Syracuse, New York; Bill Bednar of Suffield, Ohio; and George Clauss of Saginaw, Michigan. The men already had shot field and hunter rounds, and the animal round was decisive. A gesture by Rudy, when he was declared winner, may have set a precedent in future competitions; he presented his winning arrow to the writer.)

THE final day of the animal round was rather like watching a long distance run in a track meet; John Rudy paced himself with the precision of a marathon runner, set an early lead and maintained it throughout. He racked up a string of ten straight 20s on the first fourteen of the animal round. After this, he not only had the physical lead, but the psychological one as well. Bill Bednar ran a close second all the way;



JOHN RUDY led the freestyle field virtually from the first arrow to set a new national record for the event.

as a matter of fact, in the final scoring, Rudy's 2634 topped Bednar's 2619 by a narrow fifteen-point margin.

George Clauss developed a strong personality in the round. He's about the next best to Jack Sauls as the "clown prince" of archery. He's a strong shooter and remained third all the way, but he seemingly enjoyed the game a lot more, judging from his remarks and obvious lack of tension. George stopped at almost every target to add a bit of verbal cheer when the tension had set in for other shooters and spectators, and Rudy and Bednar appeared in pretty deep concentration over their efforts.

The aerial bomb boomed out the official start at 10:12 a.m., but there was a brief waiting period before the archers got moving. A fourth archer was due as a group member, but never did show, so the actual competition got underway at 10:25 a.m.

When the competitors moved out, the first target



BILL BEDNAR, winner of this year's Ben Pearson Open, is always a tough contender but trailed by 15 points.



GEORGE CLAUSS, who combines humor with form, was matched against Rudy in Watkins Glen and came in fifth.



Amid unusual lighting conditions, Bill Bednar draws an arrow to shoot at the silhouette of a wild turkey (left). Above are displayed the telling shots with three arrows.

have been more intense if the archers were starving and the animals the real thing.

As time went on, however, it became clear to all that Rudy was the new champ; consistency in shooting was paying off. Rudy sensed it, too, and it apparently made him a bit skittish, for on the last target — a crow — he dropped his first arrow out of the kill for a low of 16. He later told the writer this was the only target that made him nervous.

When the men finished their stints with the final target, congratulations were in order. That's one of the nice things about the game; the winner doesn't win alone, nor does the loser lose alone or without solace. There was, incidentally, quite a crowd waiting for the final results.

Bednar was asked if the pressure build-up from target to target bothered him particularly, and he replied it didn't; that he likes this kind of shooting best of all. He did feel, however, that his string was down slightly and that he should have allowed another yard at most targets. He felt this might have made a big difference. But at no time did he minimize Rudy's victory; his analysis of why he lost was as methodical and practical as his shooting.

Clauss, despite his jocular, seemed calm during the shooting time, appeared to thoroughly enjoy the competition and the shooting with archers of the caliber of Rudy and Bednar. As a matter of fact, just after placing a chew of tobacco in his mouth, he turned to the writer and said: "You know, I'm really enjoying this!"

He had us wondering for a moment if he meant the round, the competition, the national, itself, or his favorite chew!

In the final results, Rudy scored 2634; Bednar 2619; Ed Rhode (who was in another group) 2607, Dick Roberts totaled 2597, and Clauss 2596.



After scoring 20s all the way through the first fourteen targets, John Rudy dropped some points on this crow image. He admitted this was the only target that bothered him.

George Clauss lines one up at the beginning of the 1964 National Field Archery tournament, while John Rudy at left keeps score and Bill Bednar awaits turn at stake.



Rudy receives congratulations from his two opponents on the target-go-round at conclusion of this tournament.

Gil Boenig, NFAA president, (left) offers congratulations and trophy to Ed Rhode who placed third in the shoot-out.



markmanship brought 20 for Rudy, 20 for Bednar and 16 for Clauss. The terrain wasn't too different from that experienced in other nationals and the men moved from target to target, thoroughly engrossed in the job at hand, with conversation limited, as each archer awaited his turn at the stake. The boys were playing for keeps at this point, with no holds barred.

There was good reason for concentration; this round was the deciding factor in the overall picture. Its winner would move into the archery spotlight as the new National Field Archery champion. Despite brief moments of levity on Clauss' part, it was obvious that each archer was grimly determined to score a kill on each of the twenty-eight animal targets.

The deliberation, the dedication to each shot couldn't



Archers at NFAA tournament came from far reaches of the nation and competitors were in all shapes and sizes.



Charles Sandlin, who placed third in amateur freestyle event (left); Bill Partin and Bill Bednar relax over a cup of coffee following a day of shooting at the stakes.

The tournament was not without minor problems. On the weekend preceding actual competition, the weather was exceedingly warm and those from the cooler climes were suffering.

On Wednesday, competitors were supposed to shoot their second animal round and have the afternoon off. Old Man Weather disrupted things by turning in a veritable monsoon. At this writing, NFAA officials in Redlands, California, are still attempting to wring the water out of the score cards and come up with full information. As a result of this switch in the weather, shooters spent the entire day plodding through the mud of Watkins Glen, mucking from one target to another.

But at least the heat let up. And while the freestyle shooters, with this writer trailing behind, were battling it out, Dave Keaggy Jr. was proving his abilities in the Amateur Class by scoring 2561 to top all comers in that division; George Slinzer of Pennsylvania was wrapping up second spot with 2535, and Charles Sandlin, who had come all the way from Flagstaff, Arizona, was taking third with 2526.●

TECH TALK

(Continued from page 58)
find materials and glue suitable for its construction.

(With use of modern fiberglass, bows could be laminated into any shape man wanted. New plastics and plastic glues eliminated breakage. The growing popularity of archery made it economical for archery companies to employ top flight engineering talent. The combination has resulted in today's wide assortment of different types of bows, all engineered to give the archer maximum performance. The recurved style gives up to 25 percent more speed for the same bow weight over the straight style.

(If you can handle a 60-pound bow with control, there is no reason to go to a lighter weight, particularly as you are interested primarily in hunting.)

MENTAL APPROACH

I am a beginner at archery and have a psychological problem that may make me give up the sport. It is impossible for my bow arm to bring the sight post on target and hold it there.

Anyone watching me will say I have a very long hold, but actually, my hold has been completely eliminated because I hold the sight, aiming high of the target and try to bring my bow arm down slowly. It seems to be paralyzed and I snap it down, then release.

What is the name of this and is there a remedy?

G. Marshall,
Winnipeg, Man. Canada

(Experts pretty well agree that all serious archery is about nine-tenths mental. You have a problem encountered at one time or another by a majority of shooters who use a bow sight.

(It is going to take a good deal of work and time to lick this problem, as you have now formed a habit pattern and you must overcome this and form an entirely new habit.

(The most effective means, perhaps, is to first start by aiming your bow and not actually shooting. You draw, aim, hold, but do not shoot. If you find you can't actually draw the arrow without releasing, then draw without an arrow at first... or you might find you have simply to hold the bow and aim without drawing at all for a time.

(After you have done this for a day or so, try drawing, not shooting for one arrow, shoot the next, don't shoot the next, et cetera. When it goes okay, shoot as many as you want, but if you start to freeze, go immediately back to not shooting.

(Another possible solution is to start shooting left-handed.)●

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books for bowmen



BOWHUNTING FOR DEER by H. R. "Dutch" Wambold: The Stackpole Company, \$5.95; 160 pp. This book is being recommended by such greats as Howard Hill and Fred Bear, both of whom reviewed the manuscript prior to publication. That, in itself, gives the volume stature in the field of bowhunting.



And for even the seasoned hunter with bow and arrow there is a wealth of knowledge, for the author has drawn from his own quarter of a century of bowhunting to offer much of the information contained here. Although the approach is practical and down-to-earth, he also has taken a scientific approach in many instances, going to science sources for help and information for such chapters as "Blood Volume and Shock" and "Deer Anatomy—Where to Shoot." These particular subjects, of course, have been the subject of a good deal of pro and con over the years, making it necessary that he provide something more than the personal tales of other hunters. His own discoveries coupled with scientific data will go a long way toward enabling others to bring home that deer.

Wambold also concentrates upon some specialized areas, devoting a number of pages to the latest equipment and techniques of bowhunting, aiming this knowledge at the neophyte or the would be bowhunter. He offers advice on how to choose a bow, arrows, quiver and accessories. There also are passages on hunting safety, the habits of deer which can be used to the hunter's advantage, and methods of hunting.

—JL

THE DEER HUNTER'S GUIDE by Francis E. Sell; The Stackpole Company; \$5; 192 pp. This sort of book has been done before. In fact, there are several to come out each year when deer season rolls around. But that is to be expected; publishers know a good market when they see it.

However, there are none who can deny that Francis Sell is an authority on his own section of the country, the Pacific Northwest, and an expert on the game to be found there. Much of the lore which he imparts in this little volume has been gained in first hand hunting with Indian friends who have had such information handed down generation after generation for centuries.

Not only is there a good deal of information for the rifle hunter, but the bowhunter can learn much from this book, too. Sell has taken the time and patience to hunt with a stopwatch. In this way, he has compiled data on the speed of deer and what you need to know about proper lead on such running targets. This, of course leads to practical tips on successful snaphooting.



Included are chapters on woodcraft and deer habits, all gained from practical hunting expeditions. Trail watching is a fine art, as is learning about deer hot spots and habits, how the winds can help or hinder, how to read trail signs and the need for proper noises — at the crucial time — for a successful deer hunt.

And for the man who has spent little time in the field there are appropriate chapters on choosing the proper armament; what to do when a deer is wounded, and how to insure well preserved meat and trophies. It's all there for an evening's reading. MH.

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There seems to have been a thriving business years ago in selling "authentic 24 karat gold bricks." This happened because people by nature seem to be drawn to what they think is a great bargain or a fast dollar. The real value of these "bargains" usually shows up in a comparatively short time and the purchaser ends up feeling cheated and maybe a little unwise. □ Similarly, the serious archer wanting valuable, quality arrow shafts will soon realize that aluminum is the best material he can buy. The problem here is that just being aluminum is no guarantee of a high quality shaft any more than a glittery surface guarantees an object being gold. Only Easton Aluminum arrow shafts are made to the precise tolerance limits of weight and spine that go back to the original masters made in 1946. This consistent uniformity within every size of both weight and spine means absolutely identical arrows every time you buy a set of Easton Aluminum shafts. □ It is this NO difference that has given Easton 24SRT-X and Easton XX75 Aluminum arrow shafts the reputation of the world's finest and has won the confidence of amateur and professional archers throughout the world. □ The next time you buy a set of arrow shafts, don't judge by surface glitter, specify Easton 24SRT-X or XX75 Aluminum arrow shafts—the difference could be perfect scores. Write for complete new catalog.

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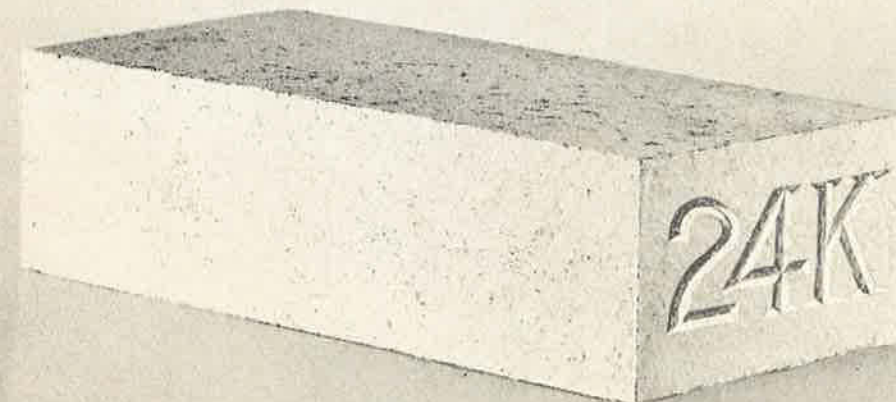
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