

90-120000

Standard

# HAND BENDING BRAKES

INSTRUCTIONS AND PARTS LIST



WHEN ORDERING REPLACEMENT PARTS BE SURE TO GIVE THE FOLLOWING

MODEL NO.

SERIAL NO.

- Model and Serial Numbers
- Quantity of Part Required
- Part Number and Name
- Whether for Right or Left Hand Side Facing Machine

**DREYER & KAUMER**

MANUFACTURING COMPANY

**CHICAGO**

STEEL BENDING BRAKES  
BOX and PAN BRAKES  
PRESS BRAKES

# GENERAL INSTRUCTIONS

## BENDING EDGE ALIGNMENT

When Bending Leaf is in down position, edge of Leaf should be  $\frac{1}{4}$ " below Bed edge at the center. To maintain this alignment:

1. Adjust Leaf center with Bolt (2).
2. Adjust Bed center with Bolt (7).

## ADJUSTING FOR METAL THICKNESS

Clearance for bends is obtained by moving Top Leaf back at bending edge. If material to be bent is within four gauges of capacity, move Top Leaf back twice thickness of the material. With lighter material, move Top Leaf proportionately forward if sharper bends are desired:

1. Loosen Screws (O).
2. Adjust Top Leaf with Screws (M) and (P).
3. Lock adjustment with Screws (O).

Clamping pressure is changed by adjusting Link Blocks (EE):

1. Loosen Screws (BB) which hold Link Adjustment Blocks (EE).
2. Adjust Blocks with Screws (FF).
3. Lock adjustment with Screws (BB).

## CAPACITY

The bending capacity of the brake is determined by the bending edge thickness of the various Bending Leaf Bars (S, SS, U, U5 and U6) when used in the standard position:

1. (S, SS) Angle Bars allow the full rated 1" minimum flange on capacity material.
2. (U6)  $\frac{1}{2}$ " Bars with the (SS) Angle Bars in the reinforcing, low position, reduce capacity of brake four gauges.
3. (U5)  $\frac{1}{4}$ " Bars with the (SS) Angle Bars in the reinforcing, low position, reduce capacity of brake seven gauges. These Bars are used only to make narrow offset bends.
4. (U)  $\frac{1}{4}$ " Bars without the (S) Angle Bars reduce capacity of brake seven gauges. These bars are used without Angle Bars only to make narrow offset bends.

## NARROW OFFSET BENDS

Attach (SS) Angle Bars in reinforcing, low position as provided by holes (14A) in Bending Leaf and use (U5) or (U6) Bending Leaf Bars in standard position.

If brake is style that uses (S) and (U) Bars, simply remove the (S) Angle Bars.

## DUPLICATE BENDS

Adjustable Stop (Q) may be positioned at any point on Stop Gauge Rod (GG) to limit degree of bend.

## LUBRICATION

Oil occasionally at points (C), (L) and (20) with SAE-30 oil (Government Specification, Mil-0-2104).

## COUNTERBALANCE

Balance Weights (R) can be raised or lowered to properly counterbalance Bending Leaf.

## CAUTIONS

Bend short pieces of material in center of brake to equalize the strain.

Never bend against seams unless Links (DD) are adjusted to clamp the full multiple thickness of seam, and, Top Leaf is set back for clearance of the same full multiple thickness.

Always have (SS) Angle Bars in the reinforcing, low position when using (U5) and (U6) Bars to make narrow offset bends.

When forming sections of wide girth such as cornices, equalize the buckles in the sheet:

1. Start bend near the center of sheet, or,
2. Make a kink in the opposite end of sheet from the bend first made.

Sheets are not always perfectly flat and a buckle left in one end while the other is straightened by clamping in the brake, will throw the first bend out of line when it, in turn, is straightened.

## CREEPING TOP LEAF ADJUSTMENT

Should Top Leaf creep forward when clamping material:

1. Check that brake sets level on floor.
2. Check tightness of Screws (O) and (P).
3. If still creeping, wedge up rear leg at point (8) under end that creeps until stopped. Replace wedge with permanent block of correct height.

## OVERBENDING ADJUSTMENT

If sheet bends over further on one side than on the other, set Top Leaf back on end where sheet is overbending:

1. Loosen Screws (O).
2. Adjust Top Leaf with Screws (M) and (P).
3. Lock the adjustment with Screws (O).

## BOWED BENDING LEAF ADJUSTMENT

If Leaf becomes bowed in center after use, tighten both Bolts (10) until center is brought into straight line.

## FORMERS (Not Standard Equipment)

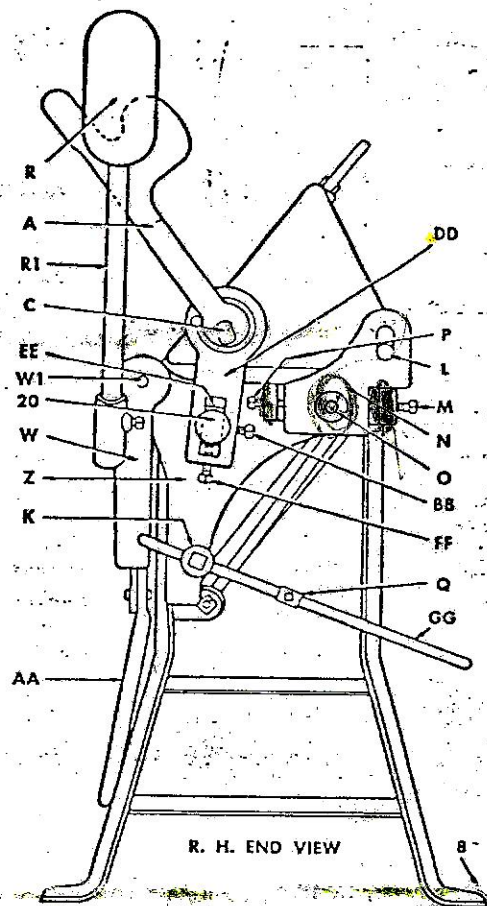
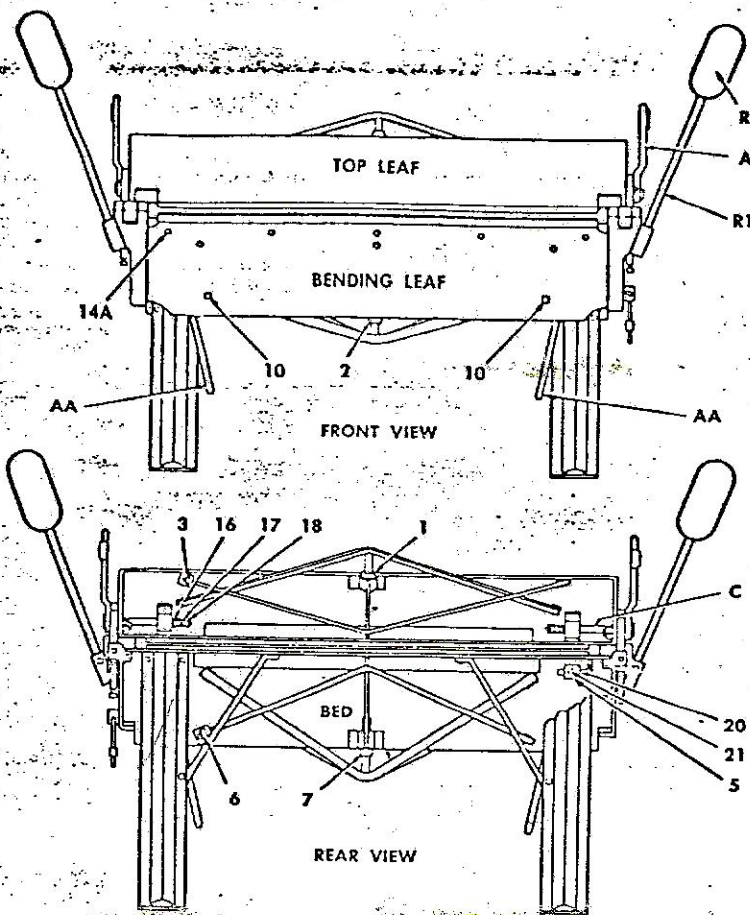
These moulds or Formers (V) can be obtained in half-round sizes:  $\frac{1}{8}$ ", 1", 1 $\frac{1}{2}$ ", 2 $\frac{1}{4}$ " and 3".

Attach to brake by means of Clamps (Y):

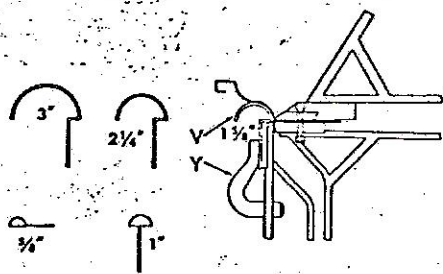
1. Place  $\frac{1}{2}$ " clearance side of Formers against Bending Leaf as shown in sketch.
2. Position Clamps and tap lightly with mallet. This creates enough friction to hold Formers.
3. To remove Clamps, tap upward or turn.

Square bends can be made on a number of sheets and the curves bent afterwards on Formers. The wide opening of the jaw permits these semi-formed sheets to pass over Formers.

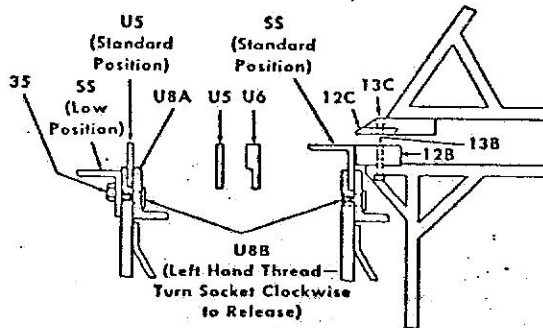
# PARTS LIST



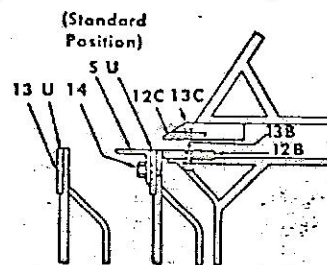
### Formers



### Cross Section of Brake Models Other Than Those Listed at Right.



### Cross Section of Brake Models: 316, 416, 518, 618 and 818 only.



NOTE—CLAMP HANDLES ARE CONNECTED ON 3 AND 4 FOOT BRAKES

- |                        |                              |                              |                                  |
|------------------------|------------------------------|------------------------------|----------------------------------|
| A—Clamping Handle      | M—Slot Casting Adj. Screw    | U6—Bending Leaf (1/2") Bar   | 12B—Bottom Bar                   |
| AA—Bending Leaf Handle | N—Slot Casting               | U8A—Bending Leaf Bar Holder  | 12C—Top Nose Bar                 |
| BB—Link Set Screw      | O—Slot Casting Lock Screw    | U8B—Bar Holder Screw         | 13—Bending Leaf (1/4") Bar Screw |
| C—Top Shaft            | P—Slot Casting Adj. Screw    | V—Formers (Specify Sizes)    | 13B—Bottom Bar Screw             |
| DD—Link                | Q—Adjustable Stop            | W—Bending Leaf Hinge         | 13C—Top Nose Bar Screw           |
| EE—Link Adj. Block     | R—Balance Weight             | W1—Bending Leaf Hinge Pin    | 14—(S) Angle Bar Screw           |
| FF—Link Adj. Screw     | R1—Balance Weight Rod        | Y—Former Clamp               | 16—Clamping Handle Spring        |
| GG—Stop Gauge Rod      | S, SS—Bending Leaf Angle Bar | Z—Bed End Housing            | 17—Clamping Handle Washer        |
| K—Stop Gauge Guide     | U—Bending Leaf (1/4") Bar    | 2—Bending Leaf Adj. Bolt     | 18—Clamping Handle Nut           |
| L—Slot Casting Pin     | U5—Bending Leaf (1/4") Bar   | 7—Bed Adj. Bolt              | 20—Bottom Shaft                  |
|                        |                              | 10—Bending Leaf Tension Bolt | 21—Bottom Shaft Set Screw        |
|                        |                              |                              | 35—(SS) Angle Bar Screw          |

**Note** →

When ordering parts give model and serial number of machine.  
Also advise whether for right or left hand side facing the machine.

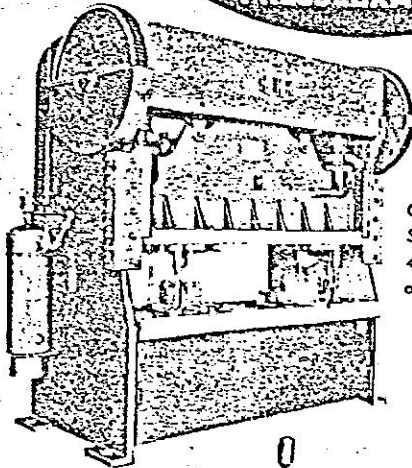
# Forming-Bending Sheet Metal and Steel Plate



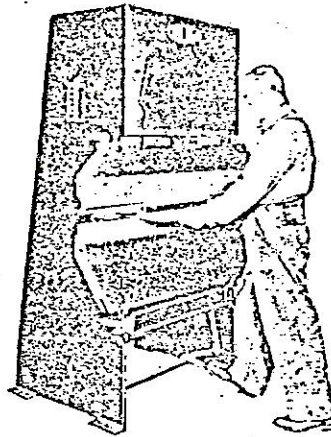
Steel PRESS BRAKES—BENDING BRAKES

for every requirement

**DREIS & KRUMP**  
INDUCTION-HARDENED  
**DIES**  
for all makes of  
PRESS BRAKES

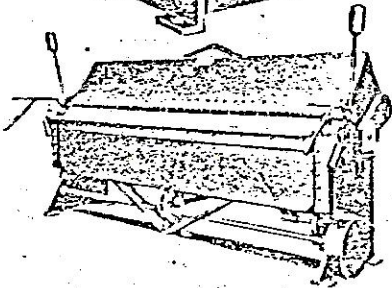
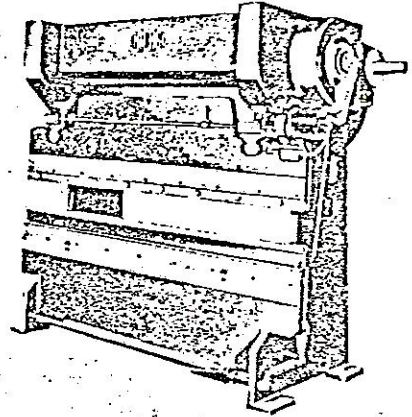


CHICAGO SS Presses.  
Standard capacities 30 to  
400 tons and in lengths  
of 4 to 16 feet.



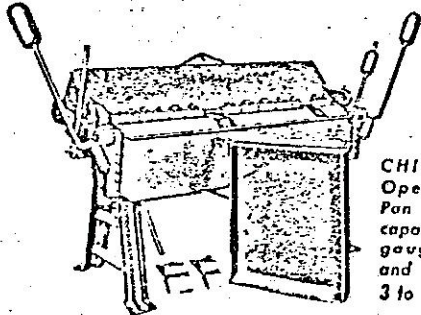
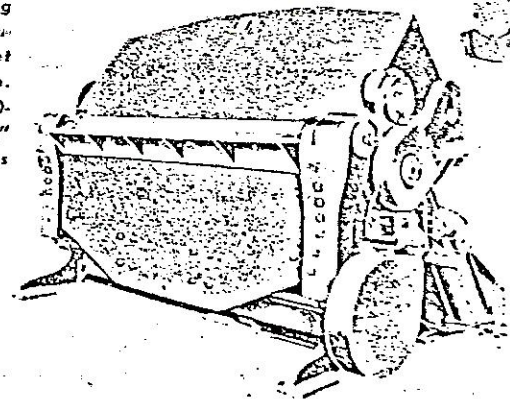
CHICAGO Steel Press Brake  
Model 131 for small, light sheet-  
metal work.

CHICAGO Steel Press Brakes with many  
exclusive features in three duty classifica-  
tions for 16-gauge sheet metal to 3/8"  
steel plate. Standard bending length  
capacities 4 to 16 feet. All models can  
be arranged for wide bed and ram bol-  
sters for large die area.

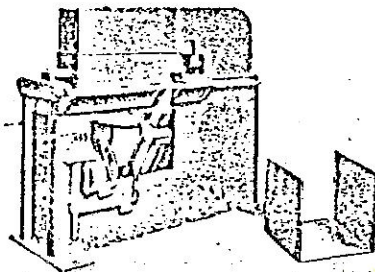


CHICAGO Power Box and Pan Brakes.  
Standard capacities 4 to 10 feet bending  
lengths up to 10-gauge sheet metal.

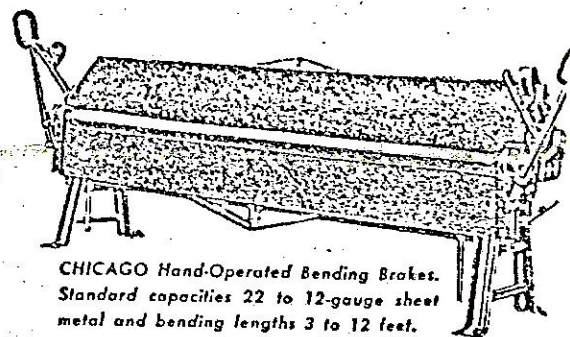
CHICAGO Power Bending  
Brakes for single and quantity  
runs bending sheet  
metal and steel plate.  
Standard capacities 10-  
gauge sheet metal to 3/4"  
steel plate, bending lengths  
4 to 16 feet.



CHICAGO Hand-  
Operated Box and  
Pan Brakes. Standard  
capacities 16 to 12-  
gauge sheet metal  
and bending lengths  
3 to 12 feet.

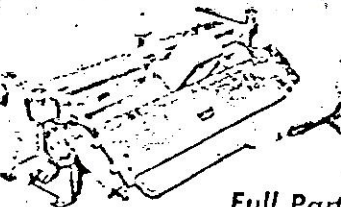


CHICAGO Double-Apron Brakes.  
Single-purpose brakes for high-pro-  
duction work, built in various lengths  
to suit individual requirements for  
sharp or radius bends.



CHICAGO Hand-Operated Bending Brakes.  
Standard capacities 22 to 12-gauge sheet  
metal and bending lengths 3 to 12 feet.

CHICAGO Bench  
Model Hand-Oper-  
ated Universal Box  
and Pan Bending  
Brake 18-gauge  
capacity and bending  
length of 24 inches.



Full Particulars and Recommendations for Any Job on Request

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STEEL BENDING BRAKES  
BOX and PAN BRAKES  
PRESS BRAKES