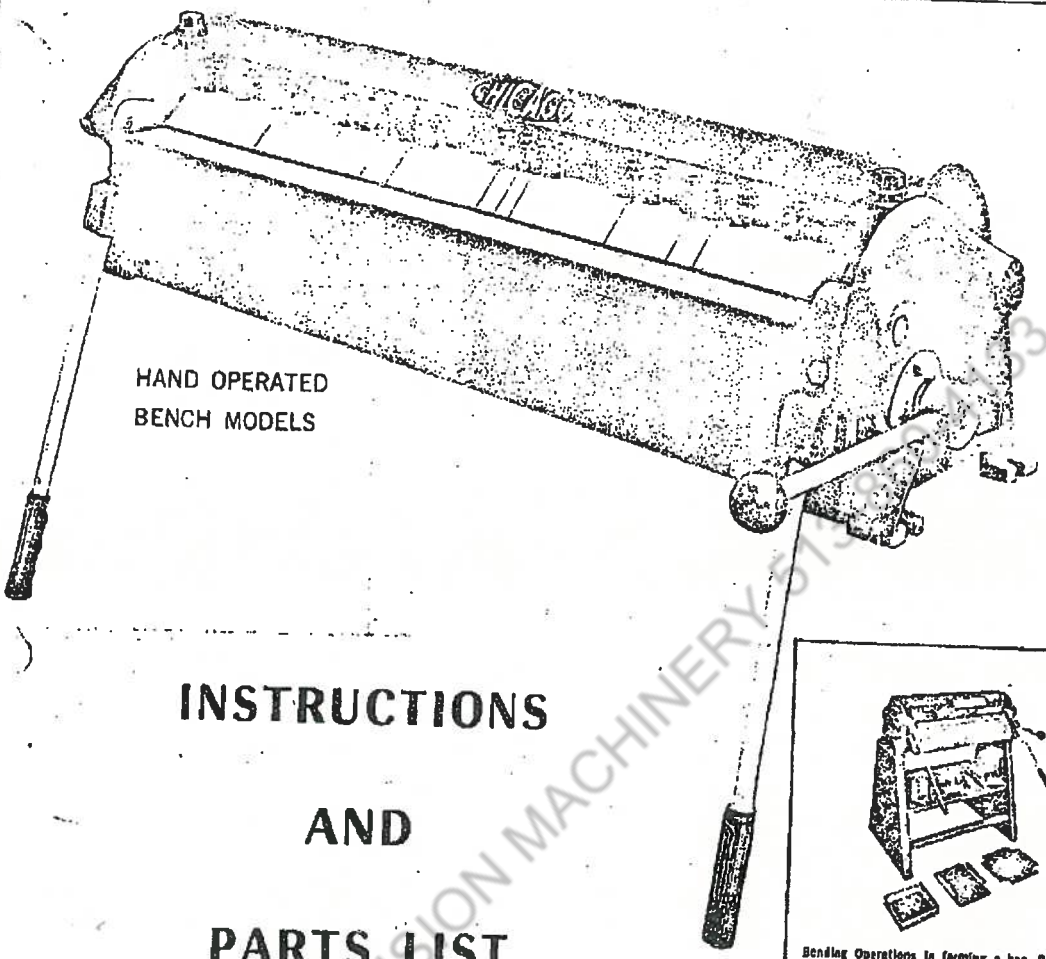
UNIVERSAL BOX AND PAN BENDING BRAKES



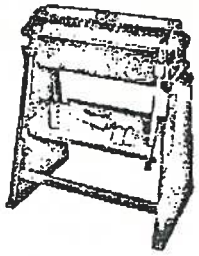
HAND OPERATED
BENCH MODELS

INSTRUCTIONS

AND

PARTS LIST

Bending Operations in forming a box. Parts in front of machine show sequence of operations: blanked sheet at right, first and second bends at center, and completed box showing thru and fourth bends at left. Final bend in machine shows clearance around fingers. Adjustable angle stop that controls angle of bends is at the left end of the machine frame.



Model BB-216 CHICAGO Bending Brake mounted on stand. Stand is available as an optional extra for either of the two models.

IN GOD WE TRUST

GENERAL INSTRUCTIONS

BENDING EDGE ALIGNMENT

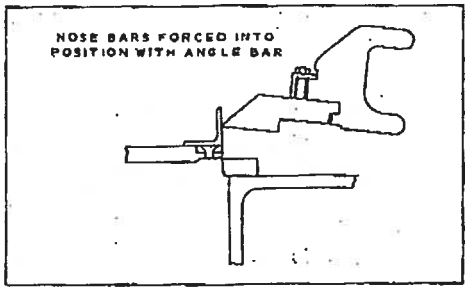
When Bending Leaf is in down position, edge of Leaf should be flush with edge of Bottom Bar (122). To maintain this alignment:

1. Adjust Leaf ends with Hinge Screws (95).

JAW ALIGNMENT

To insure that Jaws form a straight bending edge at the Nose Bars (34):

1. Set Nose Bars in partially opened Top Leaf with Clamp Bar Bolts loose.
2. With Angle Bar (81) in position bring up Bending Leaf 90° using its pressure to straighten line of Nose Bars.
3. Tighten Clamp Bar Bolts, and adjust for metal thickness as described below.



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 Top Adj Lock Screws (20).
2. Position Top Leaf with Screws (21).
3. Lock adjustment with Screws (20).

Clamping pressure is changed by adjusting Link Nuts (60).

CAPACITY

The bending capacity of the brake is determined by the bending edge thickness of the Bending Leaf Bars (81 and 83) when used in the standard position:

1. Insert Bar (83) with or without Angle Bar (81) allows the full rated 1" minimum flange on capacity material.
2. Removing both Bars (81 and 83) reduces capacity of brake seven gauges. These bars are removed only to make narrow offset bends.

NARROW OFFSET BENDS

Remove Angle Bar (81) and Insert Bar (83) using Bending Leaf alone.

RADIUS BENDS

Angle Bar (81) must be in place, with Insert Bar (83), to wipe material around radius.

DUPLICATE BENDS

Adjustable Stop Gauge (100) may be positioned at any point by means of Lock Bolt (102) to limit degree of bend.

CAUTIONS

Never bend heavier material than rated capacity, even in shorter lengths.

Never bend against seams unless Links (56) 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 Angle Bar (81) and Insert Bar (83) in position when making capacity bends.

CREEPING TOP LEAF ADJUSTMENT

Should Top Leaf creep forward when clamping material:

1. Check that brake sets level on bench or floor.
2. Check tightness of Top Adj Lock Screws (20).
3. If still creeping, wedge up rear Leg under end that creeps until stopped. Replace wedge with permanent block of correct height.

OVERBENDING ADJUSTMENT

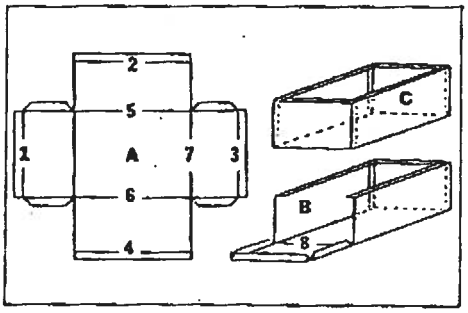
If sheet bends over further on one side than on the other, set Top Leaf back on end where sheet is overbending:

1. Loosen Top Adj Lock Screw (20).
2. Position Top Leaf with Screw (21).
3. Lock the adjustment with Screw (20).

LUBRICATION

Oil all moving parts occasionally, especially at points [Lube] with SAE-30 oil (Government Specification, Mil-0-2104).

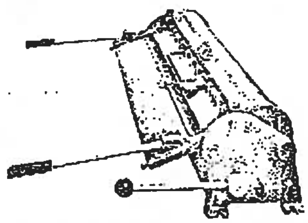
SEQUENCE OF OPERATIONS IN FORMING BOX SHAPE WITH INSIDE FLANGES.



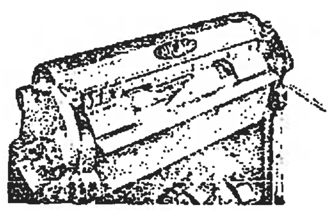
UNIVERSAL BOX AND PAN BENDING BRAKES

SPECIAL FINGERS

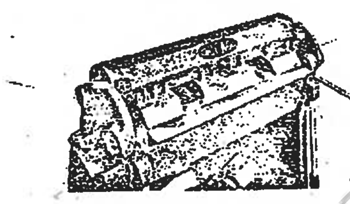
As extra equipment, where required, CHICAGO Bench Model Bending Brakes can be supplied with radius fingers for fast duplication of radius bends up to 1"; open end fingers for forming triangular, square, tapered and rectangular tubes; and pairs of right and left extension fingers for use when it is necessary to clear inside flanges on boxes. All types can be used in place of standard fingers.



RADIUS FINGERS and reinforcing angle bar on bending leaf provide accurate radius bends. This bar is also used in bending full-length capacity. Clamping lever is at right end of machine.



OPEN END FINGER for forming triangular, square, tapered and rectangular tubes and similar forms. Finished parts slip off open end finger easily.



EXTENSION FINGERS (right and left) showing clearance for bending sections with inturned flanges.

FINAL BENDING OPERATION on piece with inturned flanges showing extension fingers clearing the flanges.

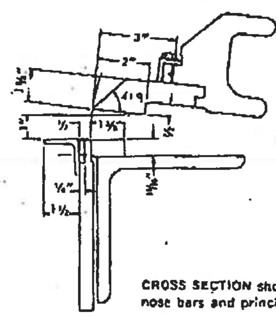
SPECIFICATIONS

MODEL NO.	BB-216	BB-316
*Capacity—Mild Steel	16 Ga.	16 Ga.
Capacity—Stainless Steel	20 Ga.	20 Ga.
*Maximum Bending Length	24"	36"
Clearance through Top Opening	1"	1"
Maximum Angle Bend	135°	135°
Minimum Reverse Bend	¼"	¼"
Maximum Depth of Box or Pan	3"	3"
Undercut Box Fingers	½"	½"
Back Gauge Adjustment	¼"-24"	¼"-24"
Radius Bends up to	1"	1"
Bench Space	12" x 32"	12" x 44"
Net Weight, Approximate	275 Lbs.	390 Lbs.
Shipping Weight, Approximate	320 Lbs.	445 Lbs.
Width of Standard Fingers	¾", 1", 1¼", 1½", 2½", 3", 4", 5", 5"	¾", 1", 1¼", 1½", 2½", 3", 4", 5", 5", 6", 6"

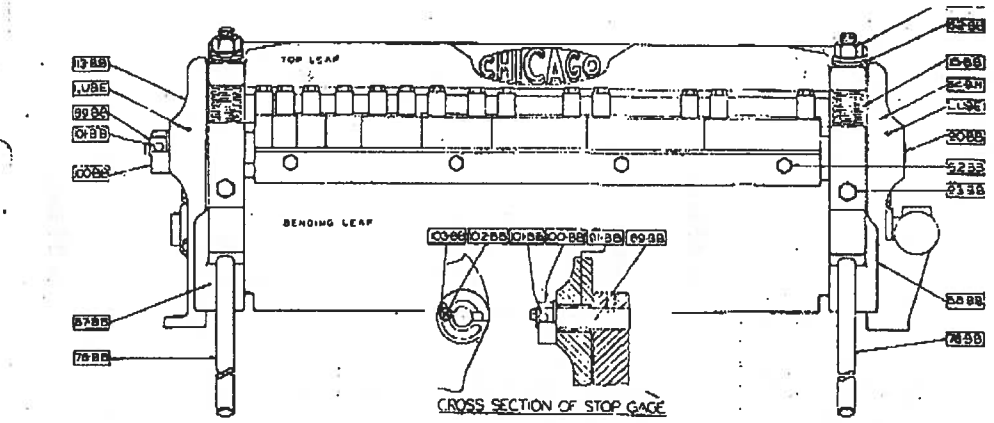
* Capacity is based on mild steel. In bending full-length capacity, the reinforcing angle bar should be attached to the bending leaf. Proportionately heavier gauges or narrower flanges can be bent on more ductile materials.

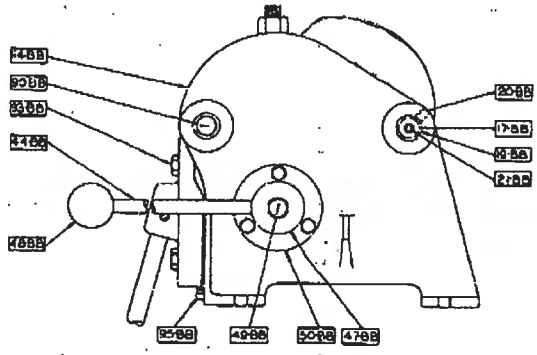
OPTIONAL EQUIPMENT CHECKLIST

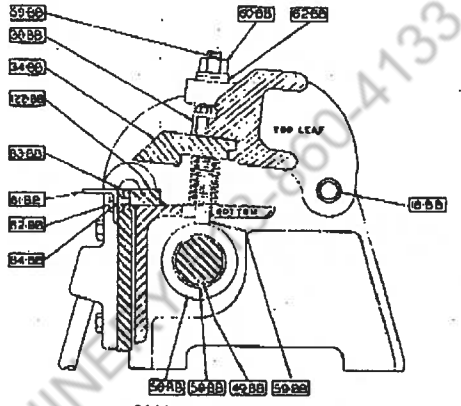
- BACK GAUGE • Range from ¼" to 24" .... ☐
- OPEN END FINGER • For forming triangular, square, tapered and rectangular tubes .... ☐
- EXTENSION FINGERS • Right and Left, used to form inside corners of box with flange across top .... ☐
- RADIUS FINGERS • Interchangeable with standard fingers, used for radius bends from 1/16" to 1" radii .... ☐
- SECTIONAL BENDING LEAF • Sectional bending leaf bars, used for bending internal flanges, as on soda fountains, etc. .... ☐
- FLOOR STAND • All steel welded construction, complete with tray.... ☐



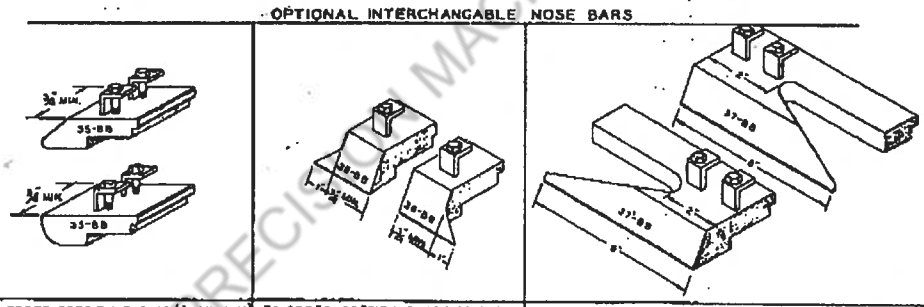
CROSS SECTION showing mounting of nose bars and principal working dimensions.







OPTIONAL INTERCHANGABLE NOSE BARS



TO ORDER, SPECIFY RADIUS (1" MAXIMUM) AND BENDING LENGTH (3/8" MINIMUM)	TO ORDER, SPECIFY SHARP OR RADIUS (1/8" MAXIMUM) NOSE, BENDING LENGTH (1-3/4" MINIMUM) END SIDE OF EXTENSION.	TO ORDER, SPECIFY SIDE OF OPEN-END

15-BB Top Spring
17-BB Top Adj Shaft
18-BB Top Adj Brg-Inner
19-BB Top Adj Brg-Outer
20-BB Top Adj Lock Screw
21-BB Top Positioning Screw
34-BB Nose Bar-Sharp (Specify Length)
35-BB Nose Bar-Radius (Specify Radius & Length)
36-BB Nose Bar-Extension (Specify Radius, Length & Side)
37-BB Nose Bar-Opposend (Specify Ride)
38-BB Nose Clamp Bar
44-BB Clamp Handle
47-BB Clamp Handle Socket
48-BB Clamp Handle Knob
49-BB Clamp Shaft
50-BB Clamp Shaft Brg
56-BB Link
58-BB Link Brg
59-BB Link Rod
60-BB Link Adj Nut
62-BB Link Nut Washer
76-BB Bending Handle
81-BB Angle Bar
82-BB Angle Bolt
83-BB Insert Bar
84-BB Insert Screw
87-BB Hinge-LH
88-BB Hinge-RH
89-BB Hinge Pin-LH
90-BB Hinge Pin-RH
91-BB Hinge Pin Brg
93-BB Hinge Bolt
95-BB Hinge Adj Screw
100-BB Stop Gauge
101-BB Gauge Pin
102-BB Gauge Lock Bolt
103-BB Gauge Washer
113-BB Bottom End-LH
114-BB Bottom End-RH
122-BB Bottom Bar

When ordering parts give model and serial number of machine