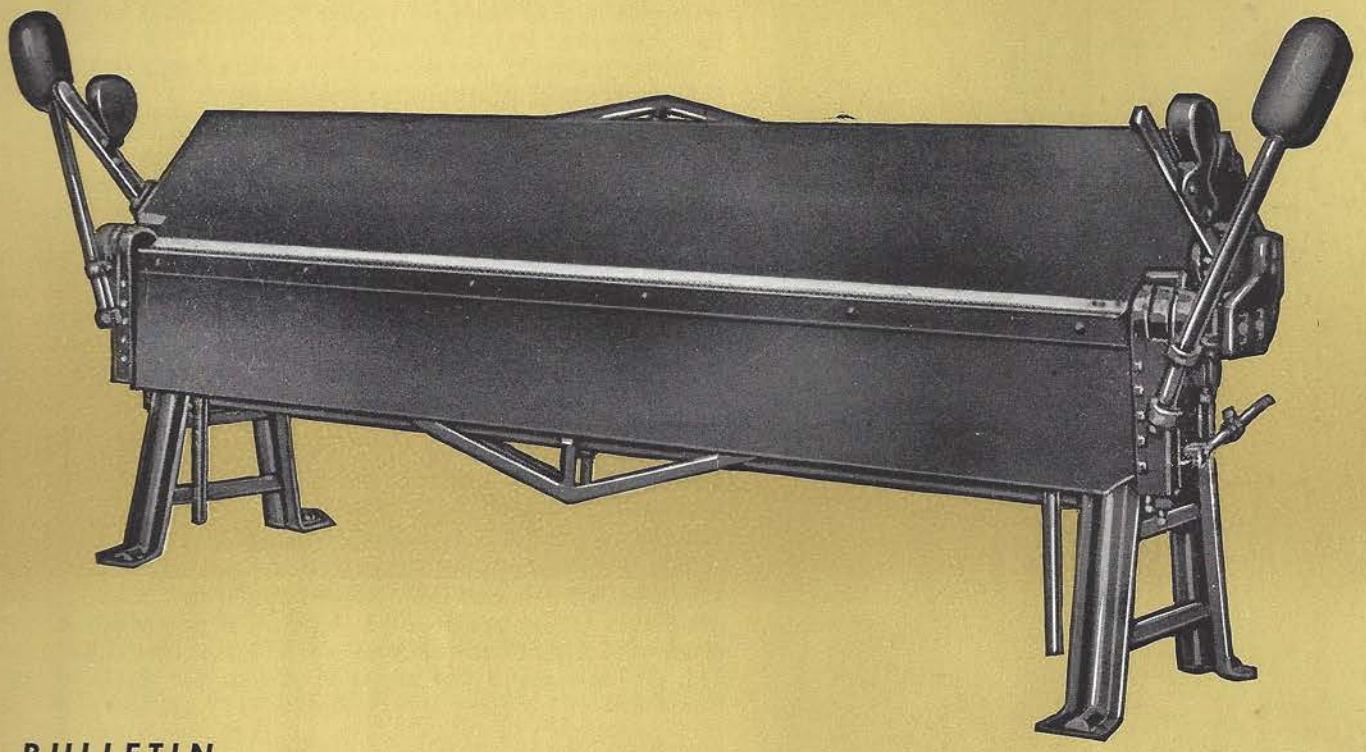
CHICAGO

HAND Steel Bending Brakes OPERATED



BULLETIN NO. 58-HB

WORLD'S LARGEST MANUFACTURERS OF HAND AND POWER BENDING BRAKES—ALSO MANUFACTURERS OF THE CHICAGO STEEL PRESS BRAKES AND DIES FOR ALL PRESS BRAKES...OVER 45 YEARS EXPERIENCE IN BUILDING STEEL PLATE CONSTRUCTED SHEET METAL WORKING MACHINERY

DREIS & KRUMP MANUFACTURING CO.
7400 LOOMIS BLVD. • • CHICAGO 36, ILLINOIS

Standard Hand Brake

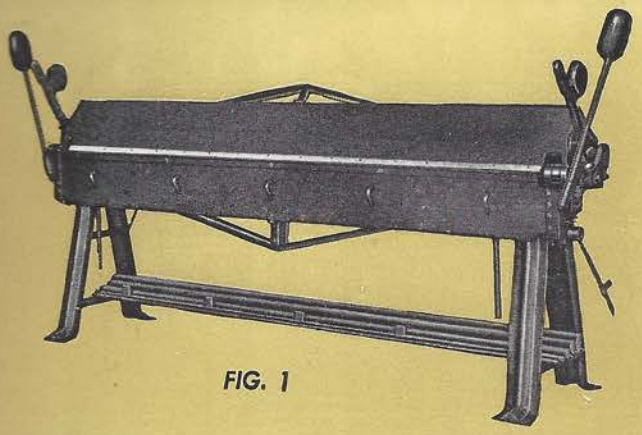


FIG. 1

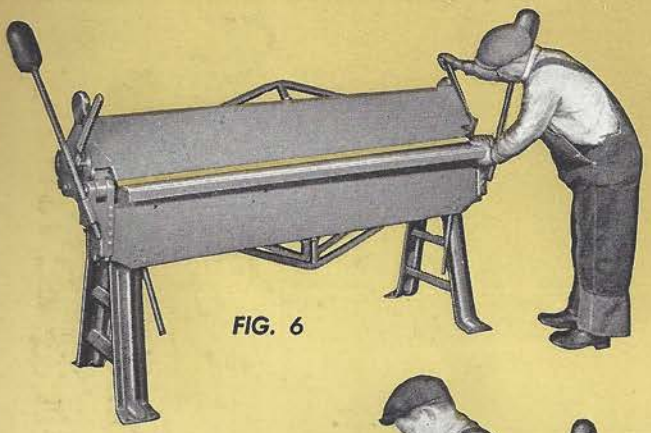


FIG. 6

FIG. 5

STANDARD OF THE WORLD

These brakes have attained the position of the accepted standard in this class of machinery. They have been improved for use in fabrication of modern metals such as stainless steel, aluminum alloys and high tensile alloys. They have attained this leading position due to the features detailed as follows.

RUGGED CONSTRUCTION

Improvement in these machines has been steady to keep in step with the current needs in sheet metal work. All efforts have been toward simplicity of design and the utmost in strength and long life.

The long useful life of these machines is proof of their superiority in design and strength. The first Chicago Steel Brakes made are still in operation. The ruggedness of design and trussing is shown in illustration Figure No. 2.

All main sections are welded steel plate with heavy truss rods and braces designed to give the greatest strength, perfect alignment and long life.

No parts can be permanently sprung, all can be adjusted if thrown out of line through overloading.

QUICK AND POSITIVE ADJUSTMENT

These machines have the simplest and most efficient means of adjustment so that the inexperienced, as well as the experienced workman, can set and operate this machine in the minimum amount of time.

Quick clamping adjustment is obtained with a simple link and block arrangement. Illustration Figure 4 shows workman regulating clamping pressure by adjusting screw at bottom of link. With this type of adjustable link, it is possible to clamp all gauges of metal. The wide range of adjustment allows forms and nose bars to be clamped for special shapes.

Adjustment of the top leaf back and forward is made with convenient set screws which positively lock the top at any setting.

ONE-MAN OPERATION

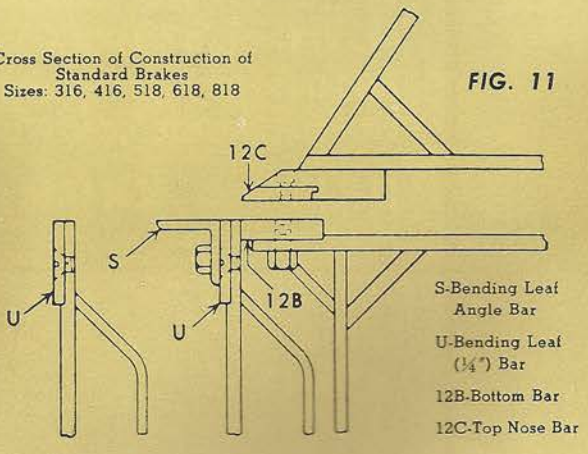
This is the only Hand Bending Brake manufactured today which is truly a one-man Brake. Each end clamps independently on Brakes over 4 ft. long. It is possible to clamp a sheet to a mark at one end of the Brake (see illustration Fig. 6) and move the sheet to clamp the mark at the other end.

FIG. 7

FIG. 4

Cross Section of Construction of Standard Brakes
Sizes: 316, 416, 518, 618, 818

FIG. 11



SEE SIZE AND SPECIFICATION TABLES—PAGE 7

Standard Hand Brake

TWO-POSITION HANDLE

Illustration Fig. 7 shows the two-position handle on bending leaf. Note that the handle can be placed so that the man can reach it without being handicapped by the position of the wide sheet.

EASE OF OPERATION

Simplicity of design with improved truss rod construction and a minimum number of moving parts makes this the easiest operating brake ever made.

No multiplicity of complicated parts. Machine is made to work in the most direct manner.

These machines require less effort in clamping, bending and flattening than any other machine of equal capacity.

REMOVABLE TOP AND BOTTOM BARS

All models of these Hand Bending Brakes are provided with easily removable top and bottom bars, 12C and 12B, Figs. 11 and 13. This construction feature permits renewal of the bending edges whenever required simply by replacing the bar. However, by turning the bottom bar, its four edges may be utilized, thus giving considerably longer life.

CAPACITY

Capacity of all machines is rated at 1" flange or wider on mild steel. NARROWER FLANGES can be bent on lighter metal. When brake is used for capacity work, the reinforcing angle bar S or SS must be in the regular position. When the angle bar S, Figure 11, is removed the capacity of the brake is reduced four gauges. When the angle bar SS, Figure 13, is removed and bending leaf (½") bar, U6 is substituted, the capacity of the brake is reduced four gauges. Whenever the bending leaf edge is reduced to ¼" thickness the capacity of the machine is reduced seven gauges. Minimum reverse bends of ¼" can be made. Clearance when top is open is shown on Page 7.

EXTRA EQUIPMENT

A set of five moulding formers are furnished at an additional cost. These can be used with any Standard Hand Brake or Universal Box and Pan Brake. The five standard sizes of formers are: ⅝", 1", 1⅝", 2¼" and 3". Illustrations, Figs. 8, 9 and 10 show method of attaching and using these formers.

Stop gauge for duplicate work is standard equipment.

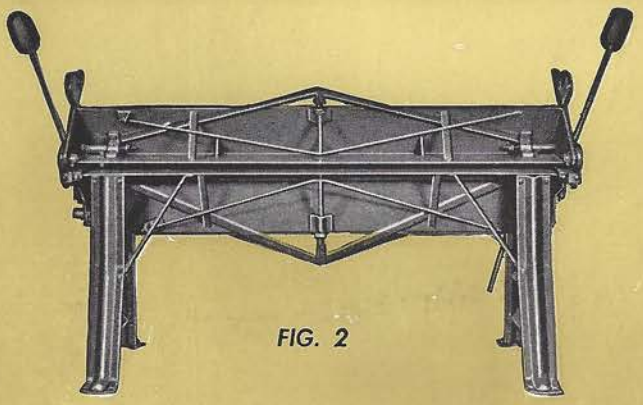


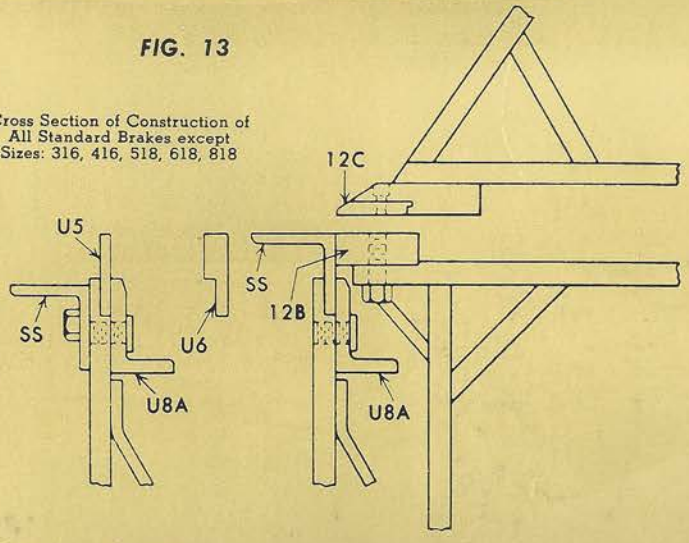
FIG. 2

FIG. 8

FIG. 9

FIG. 13

Cross Section of Construction of All Standard Brakes except Sizes: 316, 416, 518, 618, 818



SS-Bending Leaf Angle Bar
U5-Bending Leaf (¼") Bar
U6-Bending Leaf (½") Bar
U8A-Bending Leaf Bar Clamp
12B-Bottom Bar
12C-Top Nose Bar

FIG. 10

SEE SIZE AND SPECIFICATION TABLES PAGE 7

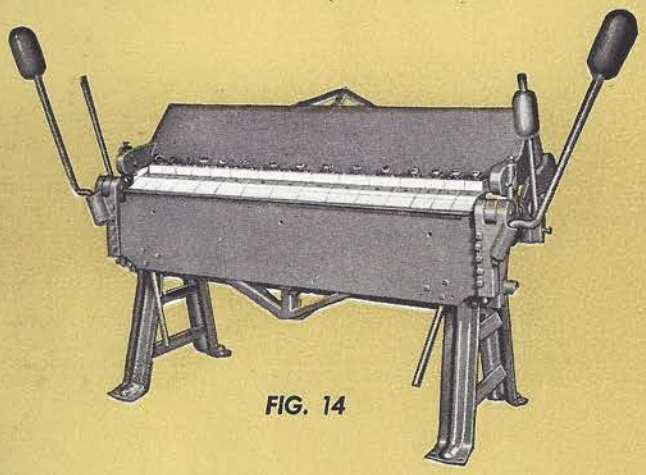


FIG. 14

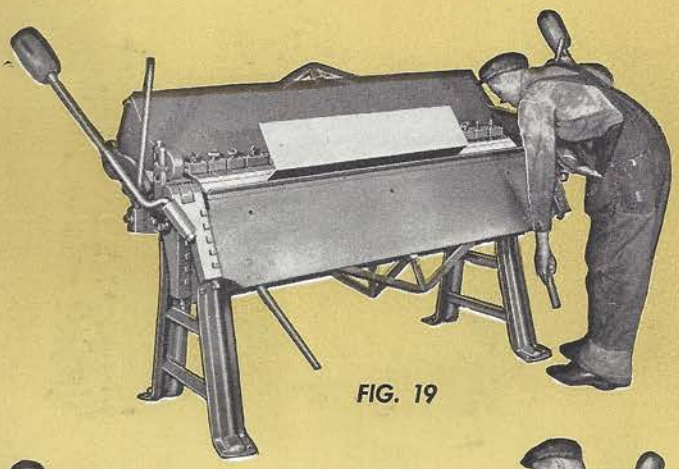


FIG. 19

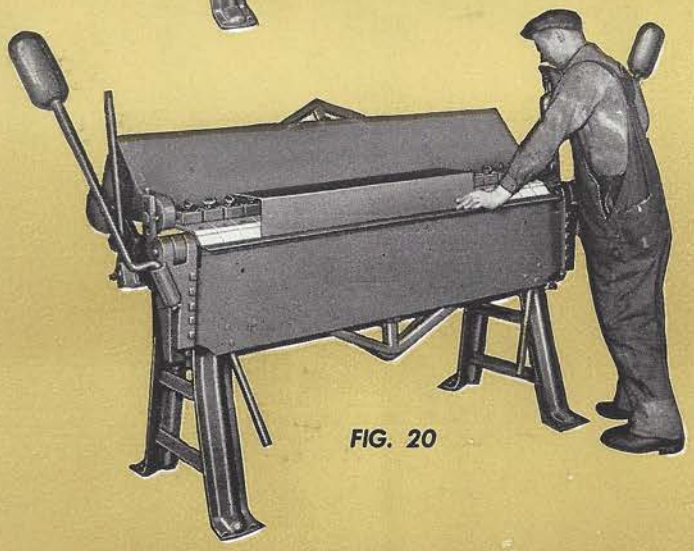


FIG. 20

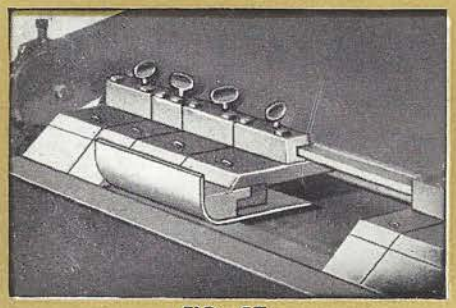


FIG. 57

UNIVERSAL BOX AND PAN BRAKE

This is the latest addition to the complete line of Chicago Steel Hand Bending Brakes. This machine replaces two machines and combines the features of three. It is correctly called a Universal Box and Pan Brake because it combines the features of the Universal Brake with the Box and Pan Brake as well as the Standard Hand Brake. It is the culmination of many years of experience in the manufacture and development of Hand Bending Brakes.

We offer this machine with a great deal of pride because of its wide range of use and its many advantages. Some of the main advantages are:

Can be used to form a box or pan of one piece of metal, including the four sides and bottom. In addition to this a narrow flange on the top of a box can be made as in the manufacture of electric switch boxes. The sequence of operations for making this type of box is shown in Fig. 15.

Nose bars are quickly interchangeable so that special bars such as radius types can be used as in the previous Universal Type Brake. Radius bends such as used in all modern metal furniture and cabinets can be made with these round nose bars shown in Fig. 57.

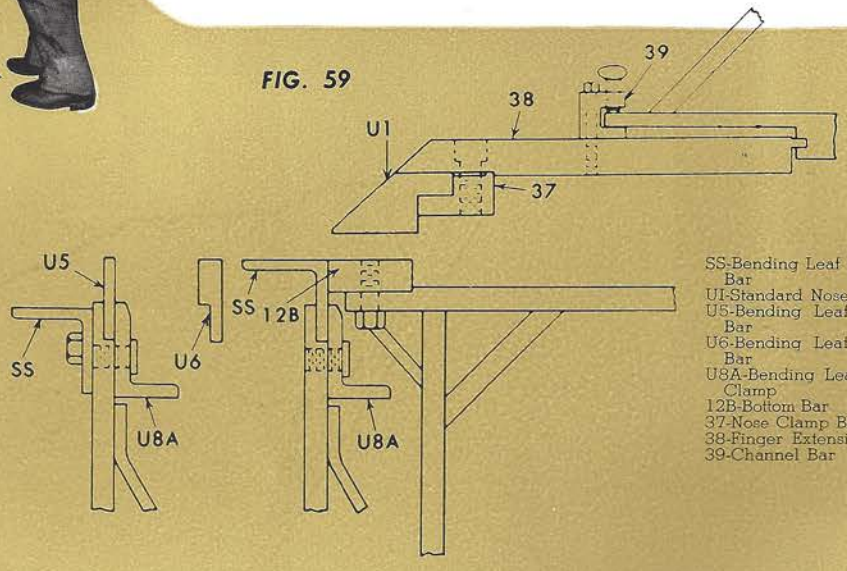
A full length nose bar can be used in place of the individual nose bars for each size finger. With the full length nose bar in place the machine becomes a standard straight brake.

Tubular shapes can be formed by extending nose bars between fingers as shown in Figs. 60 and 61.

With the fingers set in the regular manner large tubular shapes can be formed by allowing the metal to spring out of shape against the top side of the fingers. On most metals the shape is distorted only while it is being finished up. Just as soon as the tube is removed from the brake it springs back to the correct shape.

Deep channels Fig. 20 can be formed because of the finger extension.

FIG. 59



SS-Bending Leaf Angle Bar
U1-Standard Nose Bar
U5-Bending Leaf (¼") Bar
U6-Bending Leaf (½") Bar
U8A-Bending Leaf Bar Clamp
12B-Bottom Bar
37-Nose Clamp Bar
38-Finger Extension
39-Channel Bar

SEE SIZE AND SPECIFICATION TABLES—PAGE 7

and Pan Brake • • •

Standard assortment of box and pan fingers is a combination of 3", 4" and 5" widths. By grouping these fingers, any length from the 3" dimension to the full length of the machine can be obtained.

The fingers are made of rolled steel bars for maximum strength and light weight.

Adjustment or removal of fingers is easily accomplished with the use of the convenient thumb screws.

These brakes are used by manufacturers for forming electric switch boxes, cut-out boxes, and panel board cabinets. They are also used extensively in the manufacture of conveyor buckets, tote boxes, in fact all classes of box and pan work, as well as a large variety of other work.

The outstanding use for these machines today is in the forming of Radio Chassis.

The labor-saving qualities of these machines are apparent and the large demand for them has proved their efficiency for quantity production, as well as for variety of work.

CAPACITY

All machines are rated to bend a 1" flange or wider on mild steel sheets when the reinforcing angle SS is in place. Narrower flanges can be bent on lighter metal. When angle bar SS is removed the capacity of the brake with the ½" bar U6 is four gauges less than rated capacity. When U5 ¼" bar is in place, the capacity is reduced seven gauges. When either U5 or U6 bars are used the angle bar SS should be in the low position as shown in Fig. 59.

The bottom bar 12B, Fig. 59, is easily removable permitting renewal of the bending edge whenever required. By turning the bar, the four edges may be utilized.

Moulding forms can be used the same as on Standard Brakes and can be furnished as extra equipment.

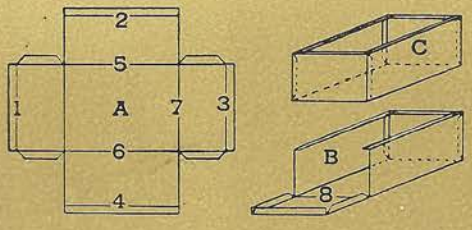


FIG. 15

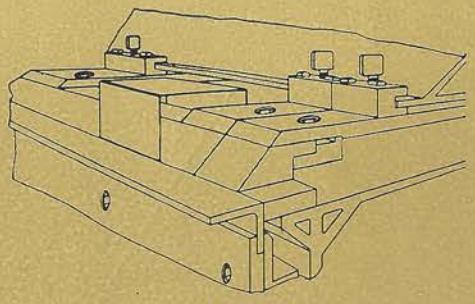


FIG. 60

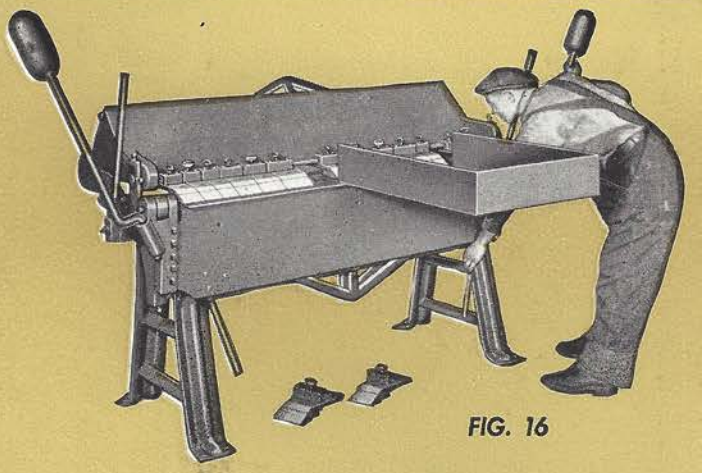


FIG. 16

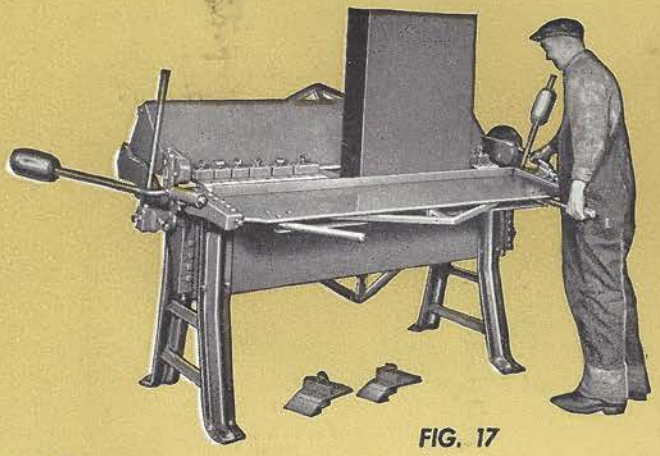


FIG. 17

FIG. 18

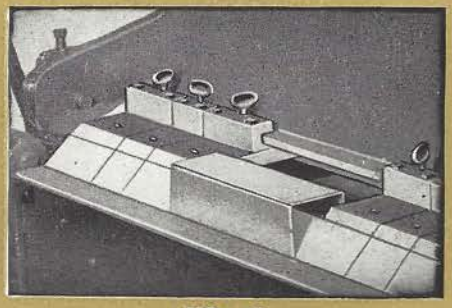


FIG. 61

SEE SIZE AND SPECIFICATION TABLES — PAGE 7

Special Hand Brakes

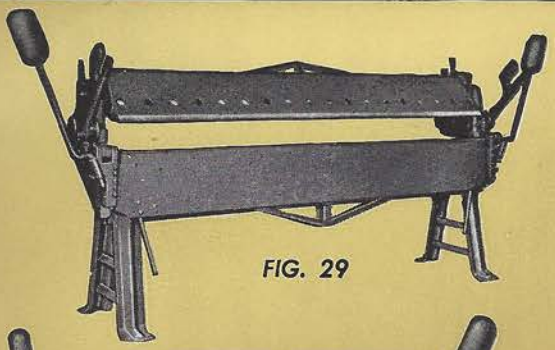


FIG. 29

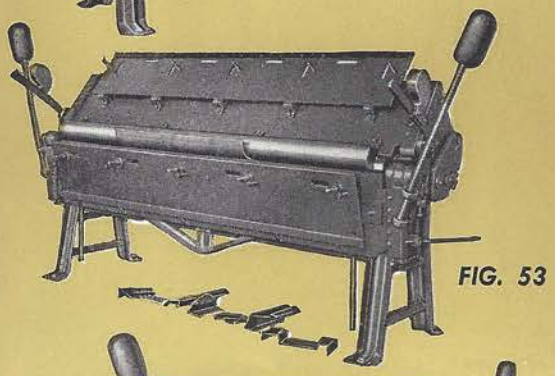


FIG. 53

FIG. 54

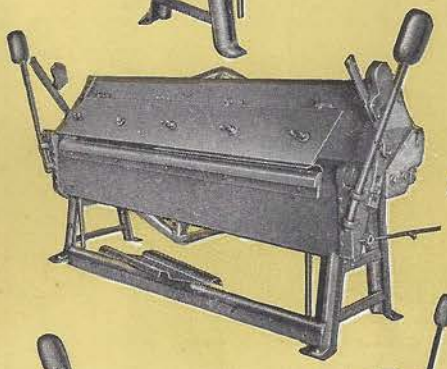


FIG. 52

FIG. 49

FIG. 51

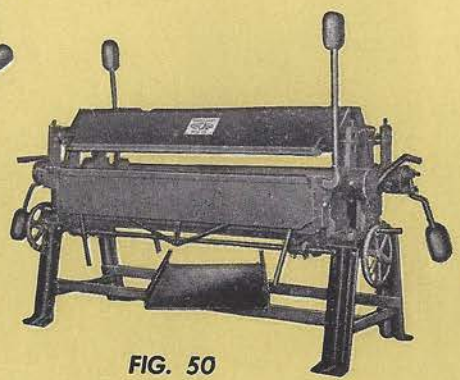


FIG. 50

FIG. 55

SPECIAL HAND BRAKES

For over forty-five years it has been our idea that no sheet metal bending requirement is too small or too difficult to warrant our full consideration. This is the driving force behind the advancement in hand bending brakes shown throughout this catalog.

On this page we show several types of Special Hand Brakes. Special brakes can be made in a wide variety of lengths and capacities, but it is absolutely necessary that we have details of sections to be formed in order to make our recommendations or quote prices. Descriptions of special machines shown on this page are as follows.

Fig. 29. Special High Adjustable Top Brake. This machine has provision for clamping high and low radius bars as well as standard nose bars. Special Box and Pan type fingers can also be used in this brake.

Fig. 49. Low top Brake particularly adapted for forming inturned flange after radius has been bent on metal casket tops.

Fig. 50. Adjustable Double Brake used for forming two bends at one setting. Used for forming sides of refrigerators, stoves and cabinets where absolute accuracy of distance between bends is required.

Fig. 51. Special Folder for making inturned flange and radius bend in one operation. For door sections such as used on stoves and refrigerators.

Fig. 52. Round mould and reverse bend for side of metal casket formed with die on bending leaf and auxiliary wiping leaf.

Fig. 53. Round form on top jaw and auxiliary wiping leaf attached to bending leaf used for plain radius bend.

Fig. 54. All forms removed and auxiliary leaf swung up out of the way of regular straight bends.

Fig. 55. Standard brake equipped with special sectional bending leaf for bending internal flanges such as used on Soda Fountains.

It has been our idea to show as many types of Brakes as possible in this catalog but it is impossible to cover every requirement.

Your work may require a machine somewhat different to any shown. If you have any troublesome problem, send us details of the work and we will advise the proper type of machine to use and will quote on same.

WE WILL BUILD SPECIAL HAND BRAKES TO TAKE CARE OF ANY INTRICATE BENDING OPERATION YOU MAY HAVE. SEND US DETAILS OF YOUR WORK.

Specifications

STANDARD HAND BRAKES

Size	Code	Length	Capacity	Domestic Shipping Weight, Lbs.
312	ORWOL	3 ft. ½ in.	12 gauge	1000
314	OUSEL	3 ft. ½ in.	14 gauge	726
316	OXALI	3 ft. ½ in.	16 gauge	483
412	OCLAR	4 ft. ½ in.	12 gauge	1230
414	OTIOS	4 ft. ½ in.	14 gauge	856
416	OWLET	4 ft. ½ in.	16 gauge	569
512	OBLIW	5 ft. 1 in.	12 gauge	1875
514	OWMIN	5 ft. 1 in.	14 gauge	1415
516	OWTIL	5 ft. 1 in.	16 gauge	1085
518	OSMUN	5 ft. 1 in.	18 gauge	733
612	OLWIT	6 ft. 1 in.	12 gauge	2095
614	OGNIN	6 ft. 1 in.	14 gauge	1620
616	ONAGE	6 ft. 1 in.	16 gauge	1216
618	ORCHI	6 ft. 1 in.	18 gauge	833
812	OWLAR	8 ft. 1 in.	12 gauge	2634
814	OLOIC	8 ft. 1 in.	14 gauge	2065
816	OMEGA	8 ft. 1 in.	16 gauge	1545
818	OMARO	8 ft. 1 in.	18 gauge	1060
1014	OBELU	10 ft. 1 in.	14 gauge	3000
1016	OCHRE	10 ft. 1 in.	16 gauge	2500
1018	OGIVE	10 ft. 1 in.	18 gauge	2043
1218	OAKUM	12 ft. 1 in.	18 gauge	4250
1222	OASIS	12 ft. 1 in.	22 gauge	2950

UNIVERSAL HAND BOX AND PAN BRAKES

No.	Code	Length	Capacity	Finger Extension	Domestic Shipping Wt., Lbs
L30	WULIR	3 ft.	12 gauge	6 inch	1315
W30	WUROL	3 ft.	14 gauge	6 inch	960
L31	WURLA	4 ft.	12 gauge	6 inch	1700
W31	WURAW	4 ft.	14 gauge	6 inch	1252
L32	WUWAL	5 ft.	12 gauge	6 inch	2320
W32	WULOS	5 ft.	14 gauge	6 inch	1800
L36	WUWLI	6 ft.	12 gauge	6 inch	2550
W36	WULWA	6 ft.	14 gauge	6 inch	2030
L37	WUSIL	8 ft.	12 gauge	6 inch	3100
W37	WUNAR	8 ft.	14 gauge	6 inch	2600
W38	WUPLO	10 ft.	14 gauge	6 inch	3750
R38	WULAP	10 ft.	16 gauge	6 inch	3200
W33	WUSTR	3 ft.	14 gauge	8 inch	1060
W34	WULKI	4 ft.	14 gauge	8 inch	1570
W35	WUWOL	5 ft.	14 gauge	8 inch	1920
W39	WUAMW	6 ft.	14 gauge	8 inch	2215
W40	WUSOL	8 ft.	14 gauge	8 inch	2900

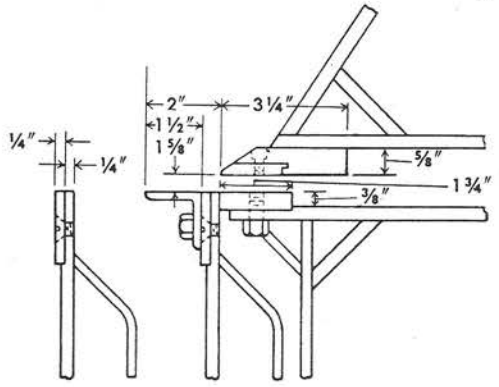
PORTABLE HAND BRAKES

Size	Code	Length	Capacity	Domestic Shipping Weight, Lbs.
420	ODLUW	49 in.	20 gauge	393
520	ODUCT	61 in.	20 gauge	436

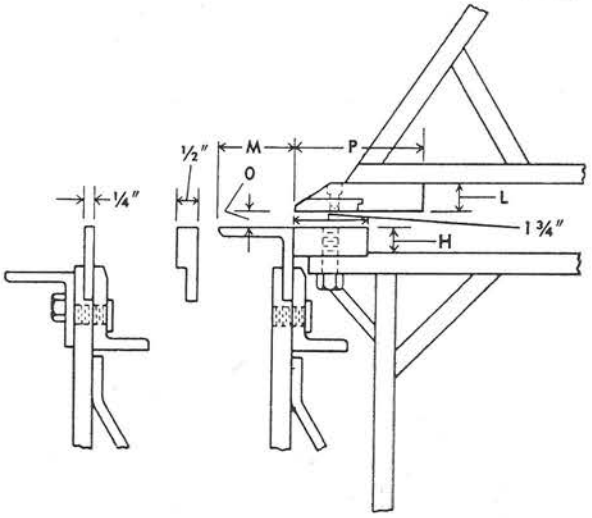
HAND FOLDER BRAKES

Size	Code	Length	Capacity	Domestic Shipping Weight, Lbs.
25	OFOLO	36 in.	20 gauge	520
26	OFRUM	42 in.	20 gauge	595
27	OFLOR	48 in.	20 gauge	803

Detail Dimensions of Standard Hand Brakes Sizes 316, 416, 518, 618, 818 only

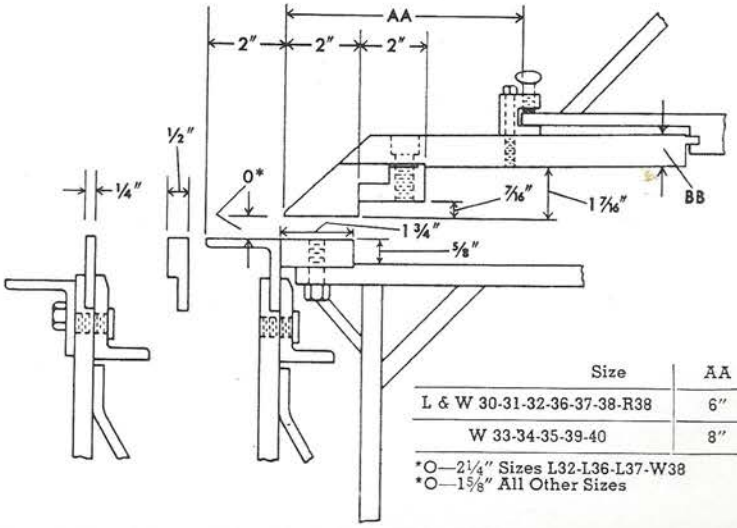


Detail Dimensions of Standard Hand Brakes For Sizes Listed in Table below



Size	Dimensions, Inches. H	L	M	O	P
312	5/8	5/8	2	1 5/8	3 1/4
314	5/8	5/8	2	1 5/8	3 1/4
412	5/8	5/8	2	1 5/8	3 1/4
414	5/8	5/8	2	1 5/8	3 1/4
512	7/8	1	3	2 1/4	4 1/4
514	5/8	5/8	2	1 5/8	3 1/4
516	5/8	5/8	2	1 5/8	3 1/4
612	7/8	1	3	2 1/4	4 1/4
614	5/8	5/8	2	1 5/8	3 1/4
616	5/8	5/8	2	1 5/8	3 1/4
812	7/8	1	3	2 1/4	4 1/4
814	5/8	5/8	2	1 5/8	3 1/4
816	5/8	5/8	2	1 5/8	3 1/4
1014	7/8	1	3	2 1/4	4 1/4
1016	5/8	5/8	2	1 5/8	3 1/4
1018	5/8	5/8	2	1 5/8	3 1/4
1218	7/8	1	3	2 1/4	4 1/4
1222	5/8	5/8	2	1 5/8	3 1/4

Detail Dimensions of Hand Box and Pan Brakes



Size	AA	BB
L & W 30-31-32-36-37-38-R38	6″	3/4″
W 33-34-35-39-40	8″	1″

*O—2 1/4″ Sizes L32-L36-L37-W38
*O—1 5/8″ All Other Sizes

Portable Hand Brake

FIG. 22

FIG. 23

FIG. 24

Brake Being Carried By Two Men

Note that legs are hinged to swing up and make a very compact piece to carry. Note also that the clamping handles are used for carrying. Swinging the hinged legs into position is the only change necessary to get the brake ready for transportation.

Setting Up Machine

One man can easily set up brake on the job by bringing the hinged legs to the upright position and locking them with the convenient thumbscrews.

Light Weight—Maximum Strength—Powerful Clamping

It is general practice on large ventilating and air conditioning jobs to set up shop right on the job. Because of ease of transportation Chicago Steel Brakes have been the most popular.

Now a Chicago Steel Brake has been developed to use on the small job as well as the large one.

This brake is built to fill a definite need in air conditioning work, yet it retains all the features of the regular Chicago Steel Brakes except for the great difference in weight.

It is not a bench machine. It is a standard brake in every way and is ideal for general shop use and in trade schools. All bending is done in the same manner as on the larger machines.

There is a radical change in the fabrication of the three main sections on these brakes. Top and bottom sections are made of embossed steel plates to give the greatest strength with minimum weight. The bending leaf consists of a solid plate reinforced with a specially formed plate.

Top section and bending leaf can be quickly detached without disturbing any adjustment; this allows one man to carry machine as heaviest section weighs less than 200 pounds on 5 ft. size.

Clamping handles operate independently and move downward instead of forward when clamping or flattening. By this method the brake always remains firmly in place while in operation and bolting to floor is unnecessary. It also imparts enormous power with minimum effort when flattening seams.

Bending leaf has a detachable 1/4" bar so that reverse bends as narrow as 1/4" can be made. Clearance is provided on both ends of bending edges as on regular brakes.

No counterweight used on these machines.

Clamping Capacity

Bend and flatten 1/4" or wider seam on 22 gauge. Bend 1/2" flange or wider on 20 gauge.

Hand Folder Brake

FIG. 46

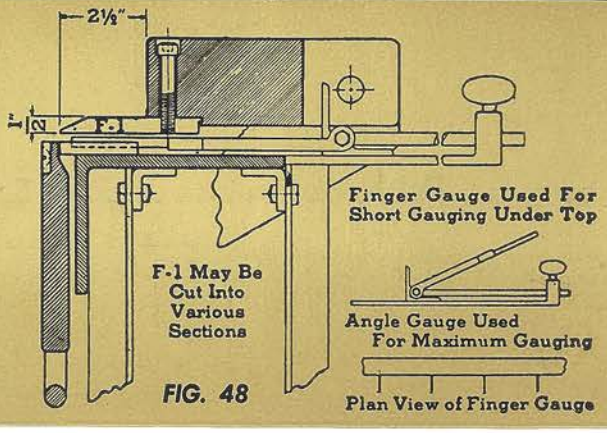


FIG. 48

FIG. 47

This Folder Brake is light in weight, but the clamping and bending are done in such a way as to leave the machine set solidly on the floor. Fig. 46.

The simplicity and ease of operation make it a very desirable machine for light sheet metal work, cabinets, novelties and advertising displays. Fig. 47.

Equipped with adjustable back gauge and stop gauge for regulating size and angle of bend.

All sizes have foot treadle clamping. Nos. 25 and 26 have one counterweight on bending leaf; No. 27, two.

This folder can be used for any kind of work that can be done on a standard brake within its capacity. It is like the regular machine, that is, it is open front to back.

The top nose bar extends outward from the main part of the top jaw and has an acute angle so that seams and locks can be made efficiently.

Form DK-58-HB

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