

PROFIT PROFILES IN

HAND BRAKES

BULLETIN HB-66

by
DREIS & KRUMP



Since 1899 . . .

*world's largest producer
of hand brakes, box & pan brakes
and special bending machines*

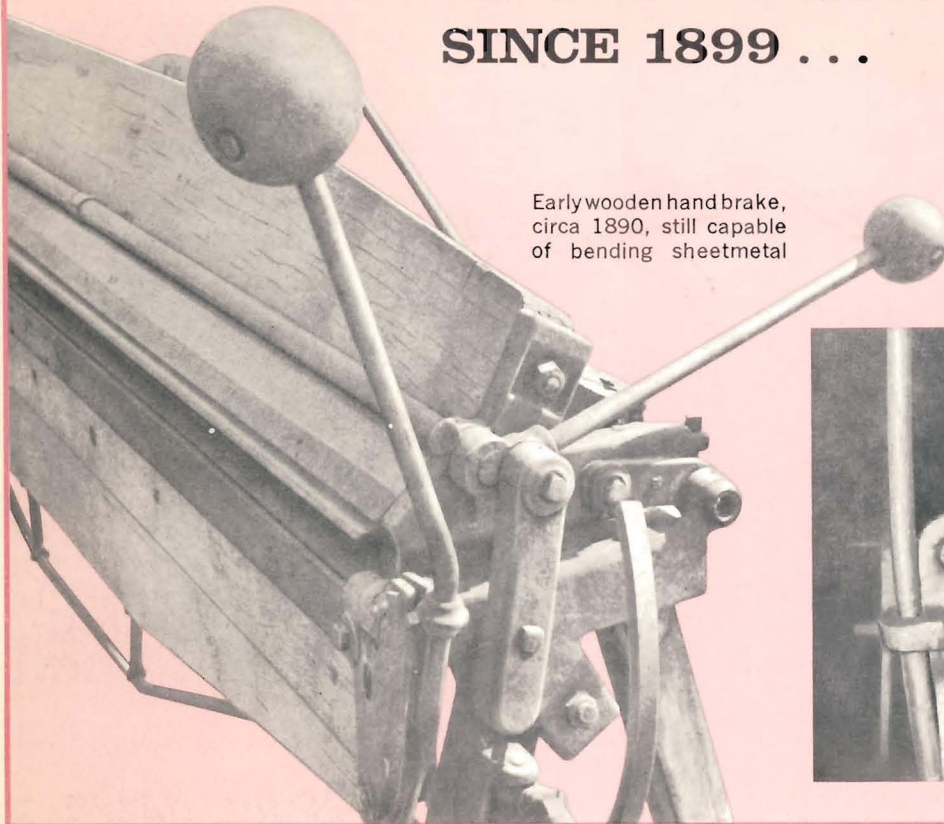
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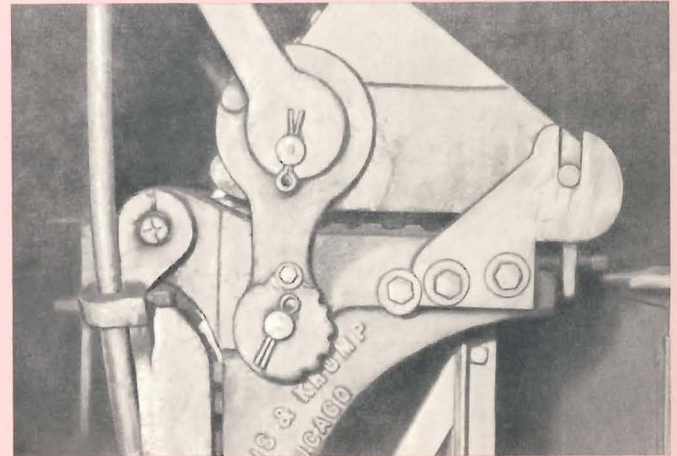


A PROFILE OF HAND BRAKE LEADERSHIP SINCE 1899 . . .



Early wooden hand brake, circa 1890, still capable of bending sheetmetal

Multiple adjustments marked the early designs of hand brakes.



One of the most important events in the history of the development of sheetmetal working machinery took place in the fall of 1898, when Herman Carl Dreis, a highly skilled worker in metals, invented a sheetmetal bending brake that was far in advance of the machines then available.

In a store located in Chicago, working after regular hours with the aid of helpful friends, he completed his first brake designed to make bending and forming easier for sheetmetal workers. The machine also performed operations that previously were impossible on the then available tools.

This first brake embodying ease of operation—which was later to become a basic mechanical factor in steel bending brakes—was constructed of oak planking. The oak was cured over a wood-burning kitchen stove. But the variable properties and behavior of wood were soon apparent, so oak was superseded by strong steel plates.

In 1899, Nic Krump, an energetic, progressive individual, joined Mr. Dreis and together they formed Dreis & Krump Manufacturing Co. With this ideal partnership the success of the company was assured from the start. The new steel bending brakes combined great strength with comparatively light weight—features that found ready acceptance in sheetmetal shops.

Dreis & Krump hand bending brakes became the accepted standard in this class of machinery. Since those early days, more than 200,000 of these machines have been bought and

used by sheetmetal workers the world over—and many of the early models are still in daily use!

Forward thinking by the founders put power on the bending brakes. Power meant faster operation, less fatigue for operators, greater ability to handle heavier gauges. Larger and heavier models were progressively added.

Another pioneering addition to the line became known as the box and pan brake. The bending edge of the top leaf was made up of extension fingers of various widths. This machine revolutionized the forming of boxes, pans and a variety of special work in sheet metal.

The company prospered. In 1910, active management came under the direction of Walter H. Dreis, son of the founder. For more than 45 years, his leadership produced a continuing list of “firsts” in metal bending and forming.

He was succeeded by today’s president and general manager, A. J. DeWolf, who has brought the company new expansion and achievement. There are more than 400 employees. The manufacturing facilities have spread out over an entire city block in Chicago, with affiliate plants in Europe and Latin America, devoted exclusively to the production of metal bending and forming machines sold under the trade name, CHICAGO. More than 500 distributors and sales agents make Dreis & Krump machines available to sheetmetal workers throughout the world.

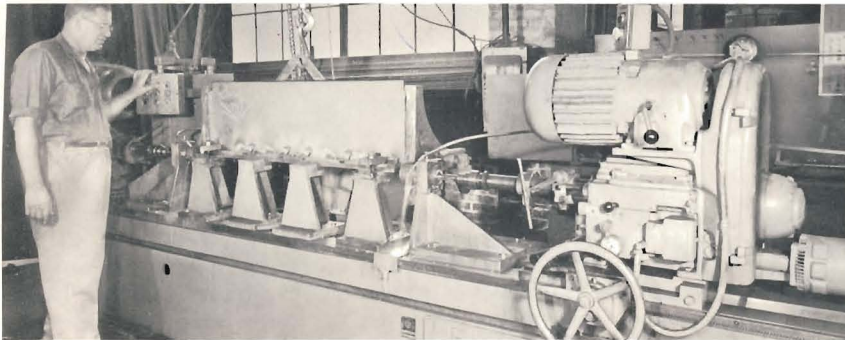
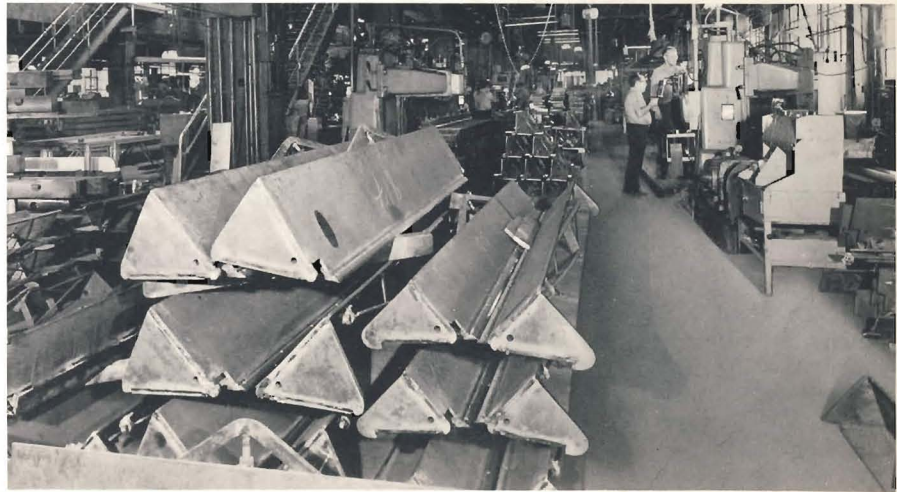
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INTRODUCTION

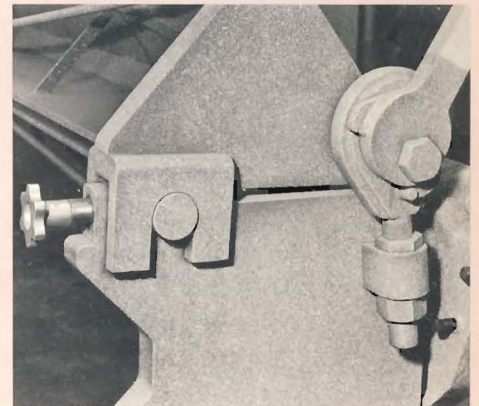
Through the years, CHICAGO hand brakes have kept pace with modern technology. They have been improved for use in fabricating contemporary metals such as stainless steels, aluminum alloys, high tensile alloys and other exotic metallurgical developments. They have been used by many government agencies and in production plants and maintenance facilities throughout industry.

They have attained leadership because of outstanding strength, good design and desirable operating features. Now Dreis & Krump proudly presents the modern culmination in CHICAGO hand brakes. Use them to solve your trickiest bending and forming problems—and help your sheetmetal operations show a better profit!

Hand Brake Production Line at Dreis & Krump starts at the far end of this shop, where raw materials are received. Initial production stages include shearing, notching and straightening of plates, welding, planing and drilling. All operations are done on fixtures, to assure quality control and perfect alignment. In foreground, beds and top leaves are stacked ready to move to the assembly area.



Double-Head In-Line Drilling Machine, complete with fixtures, is used to produce all Dreis & Krump hand bending brakes. This drill-and-fixture technique assures utmost accuracy and alignment of the finished hand brakes. Both ends of the hand brake bed and apron are drilled simultaneously. Then dual bearings will be inserted for easy operation. This highly automated production, watched over by skilled Dreis & Krump craftsmen, is mandatory today, to help us meet our order demands, and to assure you the quality in hand bending brakes for which Dreis & Krump has been famous for more than 65 years.



Front-to-Back Adjustment for various gauges of materials is readily achieved on the CHICAGO hand brake by means of the hand turned knob conveniently located on each end of the rear of the brake. Rugged in construction and simple in design, it permits the operator to make necessary adjustments for materials being bent—simply, positively. Large bearing area over the pin locks the complete assembly securely when maximum load is applied, and still permits ample movement over the pin when the top leaf is raised. What a contrast this modern end view of the machine presents, compared with the loose, cotter-pinned assembly shown on the previous page!



A Current Day's Production at Dreis & Krump is shown in this plant view. Skids, nameplates and serial numbers are applied, and one more final inspection is checked off before shipment to our customers.

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PROFIT PROFILES IN STANDARD HAND BRAKES

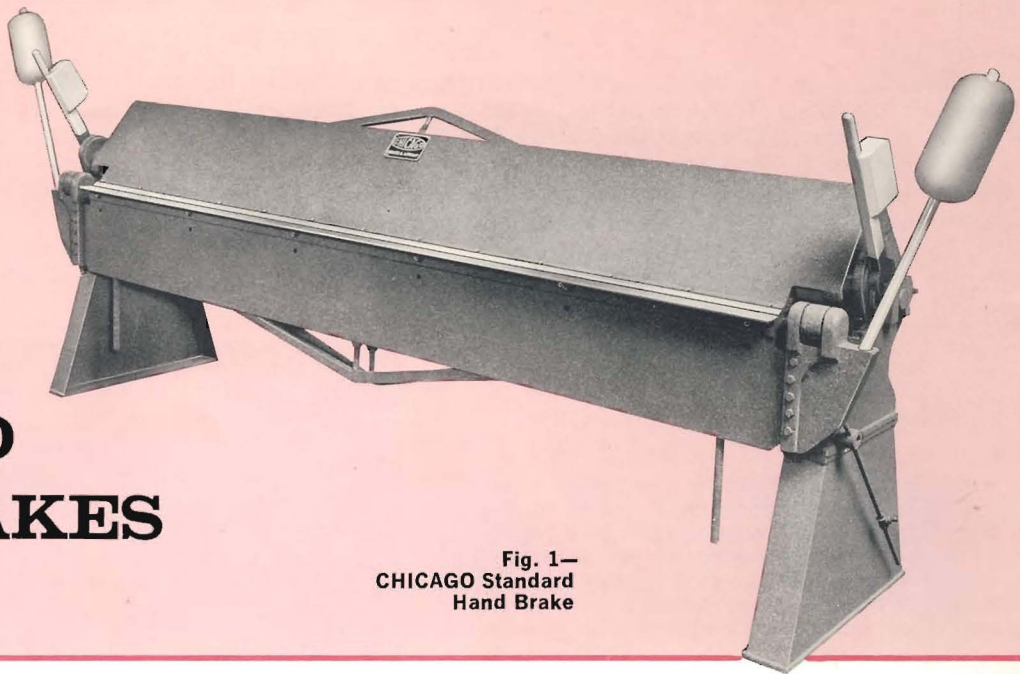


Fig. 1—
CHICAGO Standard
Hand Brake

Rugged Construction

Steady improvement in CHICAGO hand brakes has kept pace with current needs in sheetmetal work. Dreis & Krump engineering and production efforts have been dedicated to simple design, utmost strength and long life.

The useful life of these machines is proof of their superiority in design and strength. The first CHICAGO steel brakes ever made are still in operation. The ruggedness of their construction and trussing is shown in Figs. 1 and 2.

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

Both bed and apron are bored in-line on special new machines for perfect alignment at all times. Bed and castings are precision fitted with dual bearings for smooth, easy operation (See Fig. 12).

Quick, Positive Adjustment

CHICAGO hand brakes have the simplest, most efficient means of adjustment so inexperienced and skilled workmen can set up and operate these machines in the minimum amount of time. Quick clamping adjustment is achieved by a simple link arrangement. Fig. 3 shows a workman regulating the clamping pressure by the adjusting nut at the bottom of the linkage. With this type of adjustable link, it is possible to clamp all gauges of metal within the brake's rated capacity. The wide range of adjustment permits forms and nose bars to be clamped for special shapes.

Backward and forward adjustments of the top leaf are made with a convenient hand turned knob which stays locked at any setting.

Easy Operation

Simplicity of design, improved truss-rod construction and a minimum number of moving parts make this the easiest operating brake ever built. There is no proliferation of complicated parts. The machine is designed to work in the most direct fashion.

On brakes over 4 feet long, each end clamps independently. It is possible to clamp a sheet to a mark or prick punch at one end

of the brake (See Fig. 4) and move the sheet to clamp the mark or prick punch at the other end. These machines require less effort in clamping and bending than any other machine of equal capacity.

Removable Top Nose Bar

All models of CHICAGO hand bending brakes are furnished with easily removable top nose bars (See Fig. 5A).

Capacity

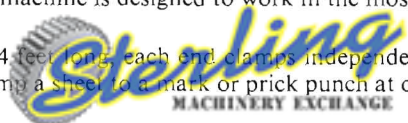
Capacity of all machines is rated at 1" flange or wider on mild steel. Narrower flanges can be bent on lighter metal. Refer to Figs. 5A and 5B. When the brake is used for capacity work, the reinforcing angle bar must be in the normal or top position. When the angle bar is removed, capacity of the brake is reduced four gauges. When the $\frac{1}{4}$ " insert bar is removed—reducing the bending leaf edge to $\frac{1}{4}$ " thickness—the capacity of the machine is reduced seven gauges. Minimum reverse bends of $\frac{1}{4}$ " can be made.

Optional Construction

Figs. 6A and 6B illustrate cross section of construction with removable bottom bar. This permits renewal of the bending edge whenever required, by simply replacing the bar. Bending leaf insert bars are interchangeable, and are ideally suited where frequent changeovers are required. This type of construction can be furnished as optional at reasonable cost. Capacity details are the same as indicated directly above.

Extra Equipment

A set of five molding formers (See Fig. 7) can be furnished at additional cost. These formers can be used with any standard hand brake or box and pan brake. The five standard size formers are: $\frac{3}{8}$ ", 1", $1\frac{1}{8}$ ", $2\frac{1}{4}$ " and 3". Figs. 8 and 9 show the method of attaching and using these formers. Special radius top nose bars are available for all standard cornice type brakes. Maximum radius is $1\frac{1}{2}$ ". Special top opening, clearances and extended nose bars are available at additional cost. When special applications are required, consult your closest Dreis & Krump distributor, or contact the factory.



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PROFIT-MAKING PROFILES IN BENDING— FROM THE GREATEST PROFILES IN HAND BRAKES

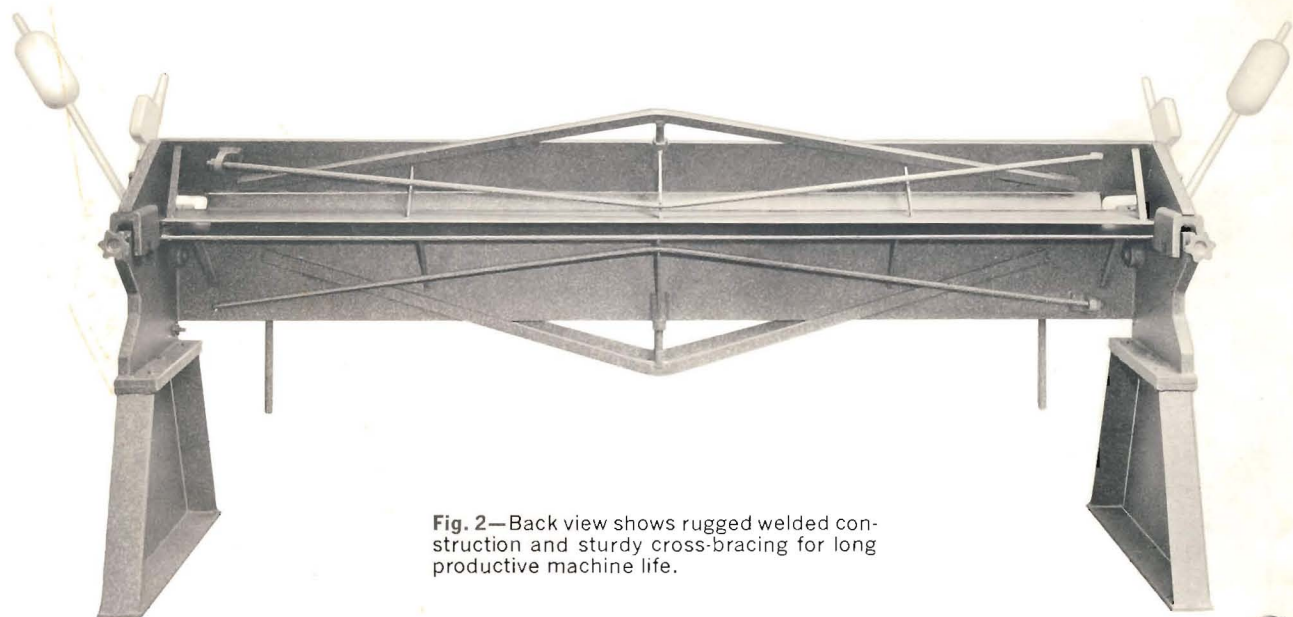


Fig. 2—Back view shows rugged welded construction and sturdy cross-bracing for long productive machine life.

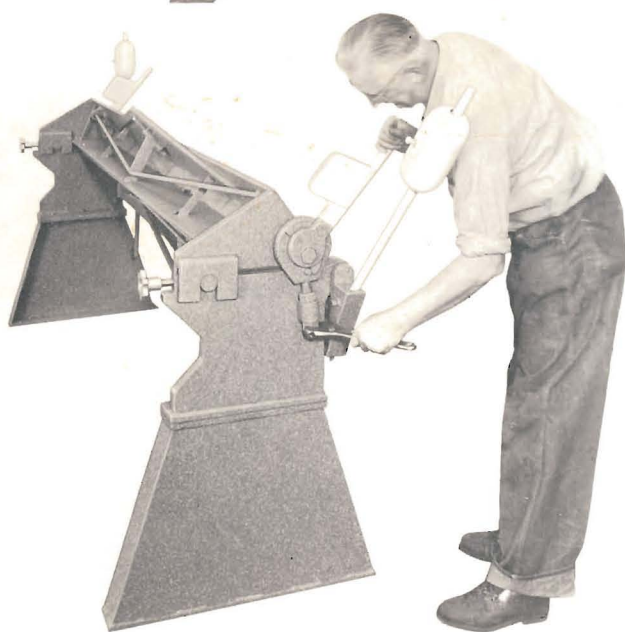


Fig. 3—Simple, positive bronze-bushed link arrangement on CHICAGO hand brake assures positive clamping on any gauge of material within the rated capacity of the brake. By means of a crescent or open-end wrench, one nut is released and the other tight-

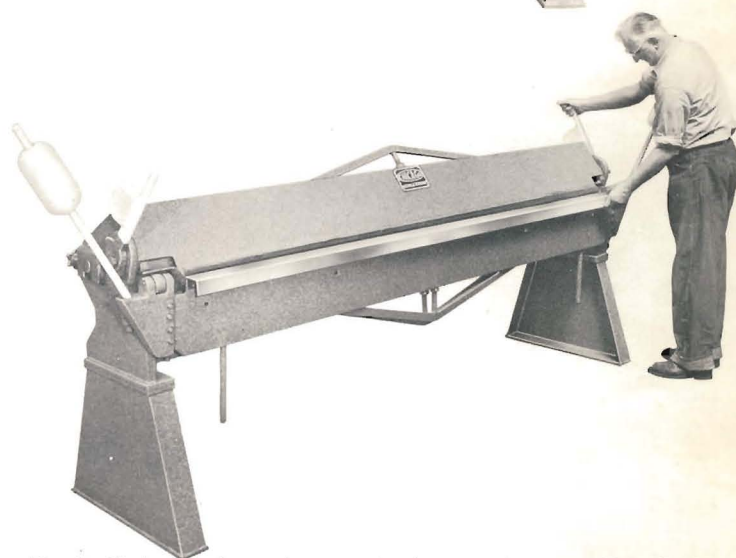
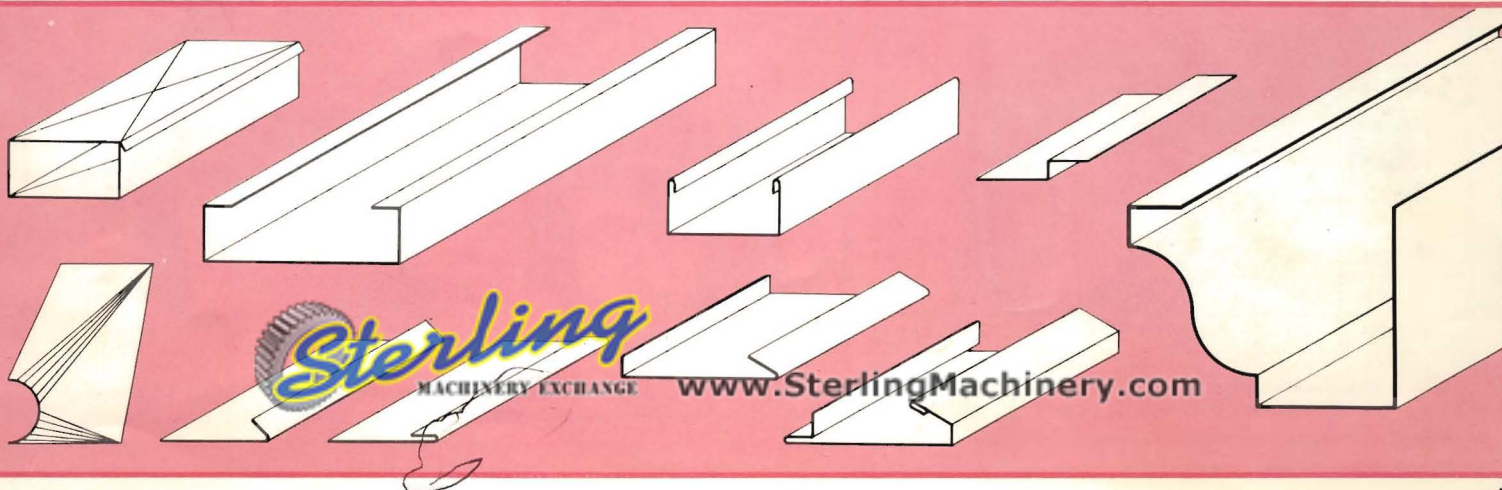


Fig. 4—Each end clamps independently on brakes more than four feet long.

ened, until the material to be bent is securely clamped in the machine. Positive stop lugs located on the clamp handles allow the top leaf to clamp even the lightest of materials and lift to maximum opening.





PROFIT PROFILES IN STANDARD HAND BRAKES... (continued)

Fig. 5A—
Description,
Standard Hand Brakes

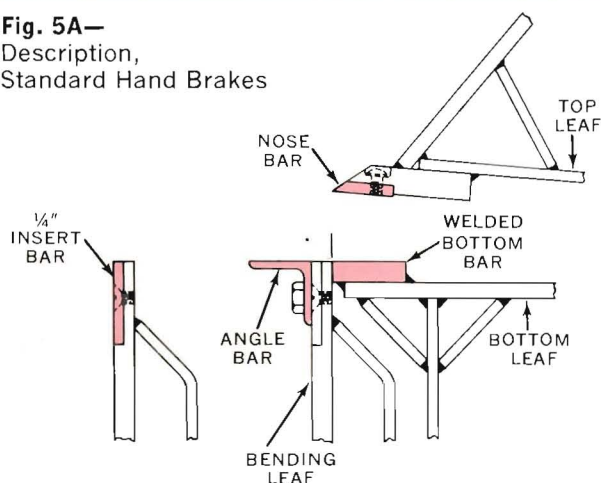


Fig. 5B—
Cross Section,
Standard Hand Brakes

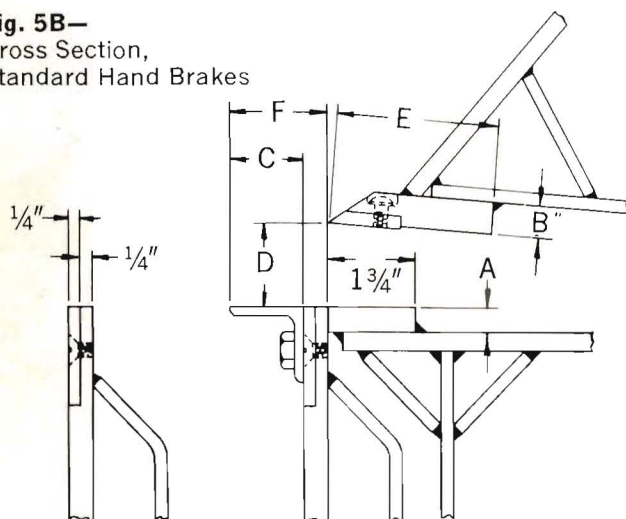


Fig. 6A—
Description, Optional
Construction, Standard
Hand Brakes

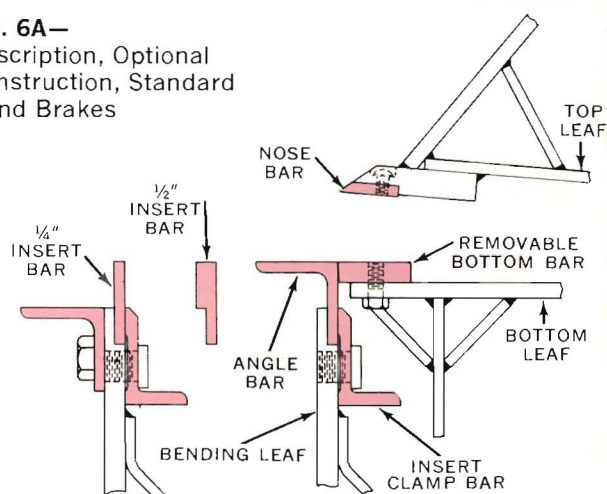


Fig. 6B—
Optional Construction,
Standard Hand Brakes

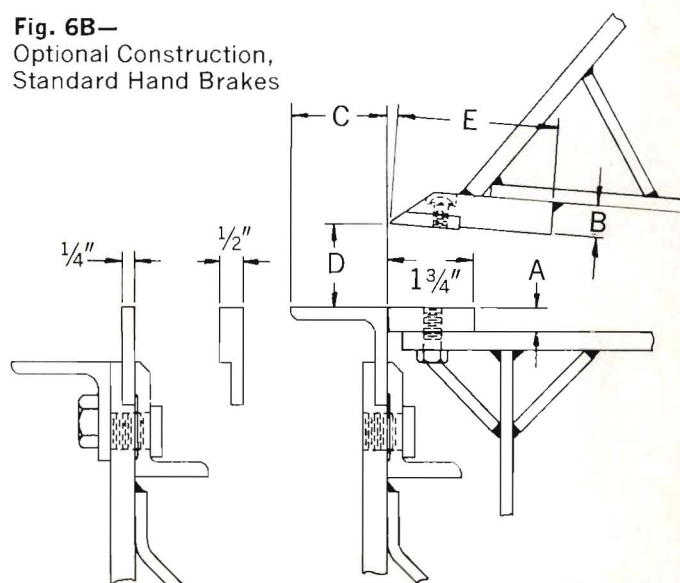
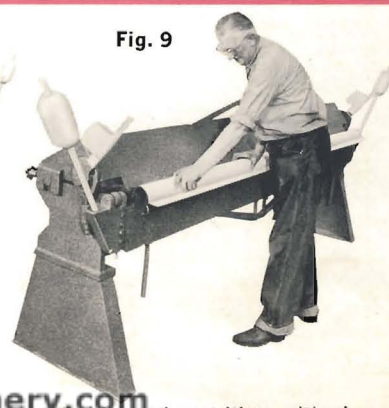


Fig. 7—Hand Brake with Standard Formers
in $\frac{5}{8}$ ", 1", 1 $\frac{5}{8}$ ", 2 $\frac{1}{4}$ " and 3" sizes.

Fig. 8



Fig. 9



Figs. 8 & 9 show hand brakes with molding forms in position, with piece part being wiped over the molding form manually to desired radius.

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Fig. 10—Front Elevation, Standard Hand Brakes

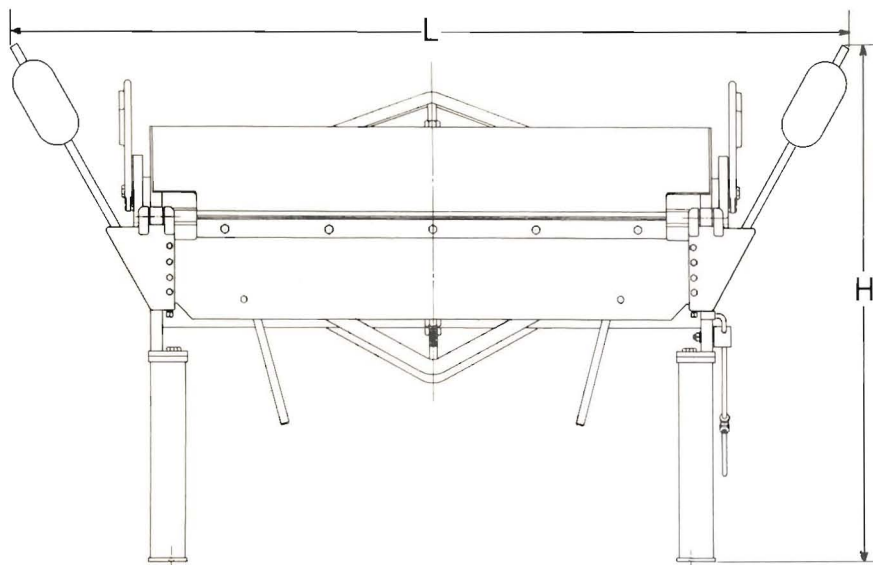
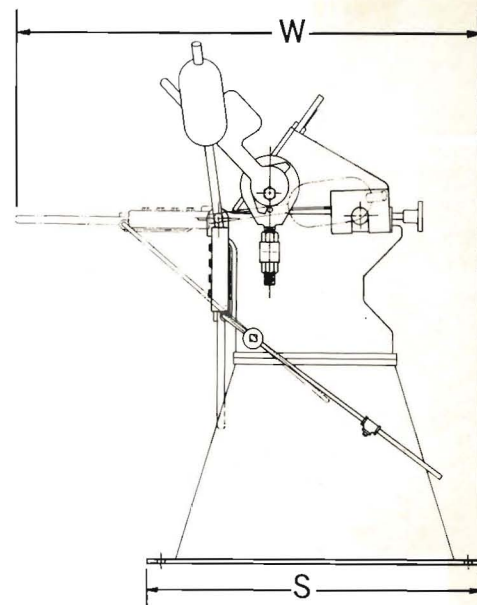


Fig. 11—Side Elevation, Standard Hand Brakes



SPECIFICATIONS

Standard Hand Brakes

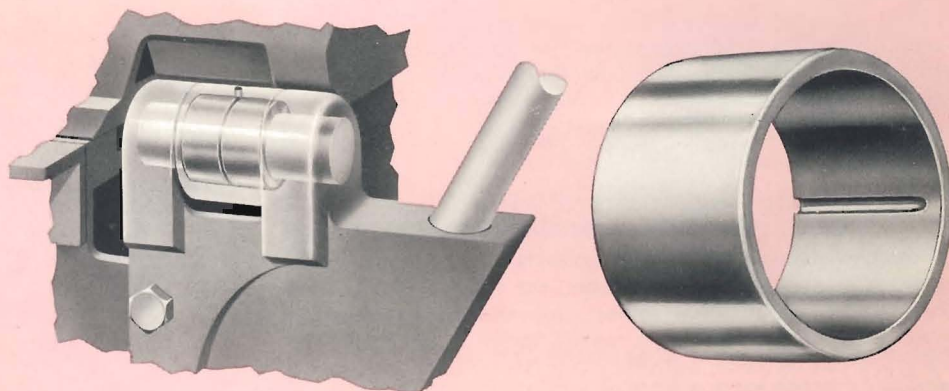


Fig. 12—Cutaway view illustrates dual bearings mounted in end housings of all CHICAGO bending brakes for smooth, easy operation of the bored-in-line bending leaf. Closeup photo at right shows precision bearing with oil groove.

Note: To order Optional Construction, simply add letter "O" after prefix "S" in **Size** listed below; example: S-412 would become SO-412.

Size	Bending Length	Capacity, Mild Steel	Capacity, Stainless Steel	Domestic Shipping Wt., Lbs. (Approx.)	DIMENSIONS									
					A	B	C	D	E	F	L	W	H	S
S-412	48½"	12 GA.	16 GA.	1250	⅝"	⅝"	1½"	1⅞"	3¼"	2"	97½"	50"	60"	35"
S-416	48½"	16 GA.	20 GA.	980	½"	⅝"	1½"	1⅞"	3¼"	2"	84"	48"	59½"	35"
S-612	73"	12 GA.	16 GA.	2250	1"	1"	2"	2¼"	4¼"	2½"	114"	55"	62"	35"
S-616	73"	16 GA.	20 GA.	1450	¾"	⅝"	1½"	1⅞"	3¼"	2"	126"	50"	63½"	35"
S-812	97"	12 GA.	16 GA.	2750	1"	1"	2"	2¼"	4¼"	2½"	137"	55"	60½"	35"
S-814	97"	14 GA.	18 GA.	2450	¾"	⅝"	2"	2¼"	3¼"	2½"	140"	53"	62½"	35"
S-816	97"	16 GA.	20 GA.	1675	¾"	⅝"	1½"	1⅞"	3¼"	2"	140"	50"	59½"	35"
S-818	97"	18 GA.	22 GA.	1370	½"	⅝"	1½"	1⅞"	3¼"	2"	138"	48"	59½"	35"
S-1014	121"	14 GA.	18 GA.	3235	1"	1"	2"	2¼"	4¼"	2½"	161"	55"	64¼"	35"
S-1016	121"	16 GA.	20 GA.	2875	¾"	⅝"	2"	2¼"	3¼"	2½"	161"	53"	59½"	35"
S-1018	121"	18 GA.	22 GA.	2300	¾"	⅝"	2"	1⅞"	3¼"	2½"	167"	50"	60¾"	35"
S-1218	145"	18 GA.	22 GA.	3550	1"	1"	2"	2¼"	4¼"	2½"	185"	55"	66"	35"
S-1222	145"	22 GA.	26 GA.	3200	¾"	⅝"	2"	2¼"	3¼"	2½"	188"	53"	65½"	35"



PROFIT PROFILES IN BOX & PAN BRAKES



Fig. 13
CHICAGO Box
and Pan Brake

The CHICAGO box and pan brake is the culmination of many years' experience in the development, manufacture and application of hand bending brakes. This style of brake incorporates all the outstanding features of a standard hand brake. In addition, it has removable, sectioned fingers, offers added depth and increased clearances, providing greater versatility and range of uses in the sheetmetal shop.

Advantages Of Operation

Dreis & Krump offer this machine with a great deal of pride, because of its wide range of applications and its many advantages. Some of the primary benefits: the machine can be used to form a box or pan having four sides and a bottom from one sheet of metal. In addition, a narrow return flange on the top of a box can be made, as in the manufacture of electric switch boxes.

Nose Bars

Nose bars are quickly interchangeable so that special bars such as radius types can be used, as in the universal brake, Pages 12 and 13. Radius bends such as those in modern metal furniture and cabinets can be made with these round nose bars, as shown in Fig. 14.

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

Tubular shapes can be formed by extending nose bars between fingers, as shown in Fig. 15. With the fingers set in the regular position, large tubular shapes can be formed by allowing the metal to spring out of shape against the top side of the fingers. In most metals the shape is distorted only while it is being finished up. As soon as the tube is removed from the brake, the metal springs back to the correct shape. Deep channels can be formed with the help of the finger extension.

Fingers

The standard assortment of fingers for each size box and pan brake is given in the table on Page 11. By grouping these

fingers, any length bend from 3 inches to the full length of the machine can be obtained.

Fingers are made of rolled steel bars for maximum strength and light weight. Adjustment or removal of fingers is easily accomplished by use of the convenient thumbscrews.

Applications And Uses

CHICAGO box and pan brakes are used by manufacturers for forming electrical and electronic switch boxes, cutout boxes and panel board cabinets. They are also used extensively in the manufacture of conveyor buckets, tote boxes and all classes of box and pan work, as well as a wide variety of other work. The predominant application for these machines today is in the forming of radio, TV and other electronic chassis. The labor-saving features of CHICAGO box and pan brakes are obvious. They are in great demand due to their efficiency in quantity production and in a variety of job work applications.

Capacity

Capacity of box and pan brakes is the same as that of standard hand brakes. It is rated at 1" flange or wider on mild steel. Narrower flanges can be bent on lighter metal. Refer to Figs. 18A and 18B. When the brake is used for capacity work, the reinforcing angle bar must be in the normal or top position. When the angle bar is removed, the capacity of the brake is reduced four gauges. When the 1/4" insert bar is removed—reducing the bending leaf edge to 1/4" thickness—the capacity of the machine is reduced seven gauges. Minimum reverse bends are 1/4".

Optional Construction

Options available on box and pan brakes are the same as those for standard hand brakes. Figs. 19A and 19B illustrate cross section of construction with removable bottom bar, which permits renewal of the bending edge whenever required, simply by replacing the bar. Bending leaf insert bars are interchangeable and are ideally suited where frequent changeovers are required. This type of construction can be furnished as optional at reasonable cost.



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EXTRA EQUIPMENT

Radius Nose Bars—These nose bars are used in place of standard nose bars for radius type forming on cabinets, chassis, metal furniture, trims and similar work. Radius sizes from $\frac{1}{32}$ " up to and including $1\frac{1}{2}$ " can be furnished. Full length radius nose bars are also available if desired. See Figs. 20 and 21.

Half-Round Radius Nose Bar and Bending Bar—This accessory is used primarily to form half-round edges on sink troughs, counter tops for kitchen equipment and similar types of applications. See Page 15.

Extension Fingers—Right and left hand extension fingers are available and can be used with, or in place of, the regular box fingers for forming inside corners of boxes, cabinets or chassis with a return flange across the top. One or both can be used with the other standard fingers in position. See Fig. 22.

Open End Fingers—Open end fingers make it possible to form triangular, square, tapered and rectangular tubes on your CHICAGO machine. The formed part can be slipped off the open end of the finger with ease. The open end finger can be used in place of regular box fingers. See Fig. 23.

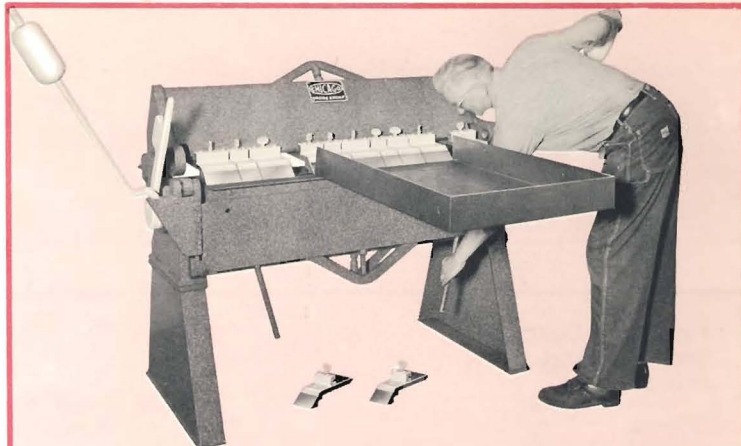


Fig. 16—Operator makes final bend in typical pan forming operation.

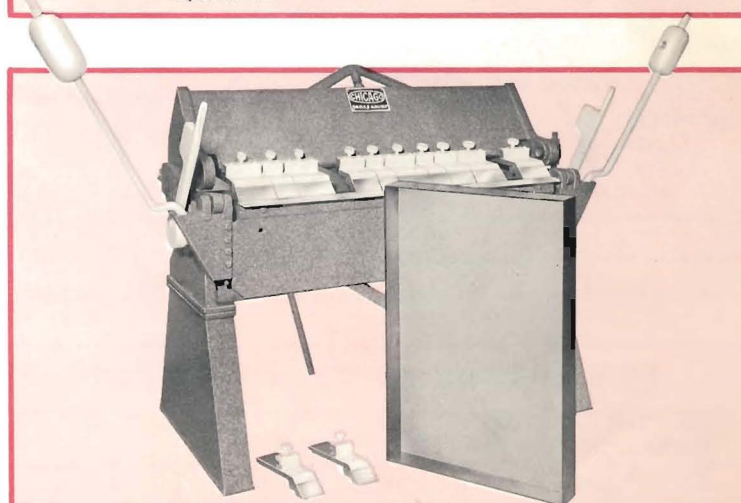


Fig. 17—CHICAGO box and pan brake with typical completed box shape.

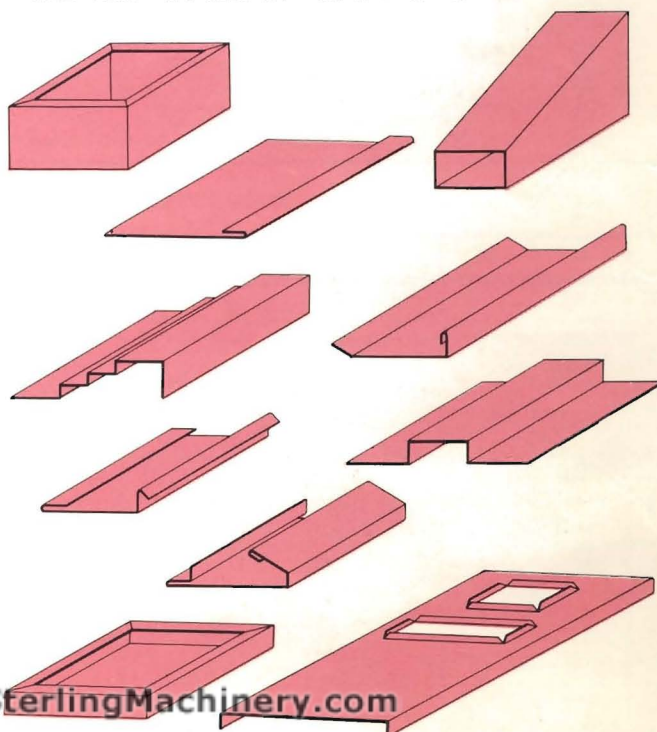


Fig. 14—Radius nose bar used in lieu of straight bending fingers for forming contemporary furniture, cabinets.



Fig. 15—Bridge-type nose bar extended between fingers to form tubular shapes.

PROFIT-MAKING PROFILES IN BENDING . . . FROM THE GREATEST PROFILES IN BOX & PAN BRAKES



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Fig. 18A — Description, Box and Pan Brakes

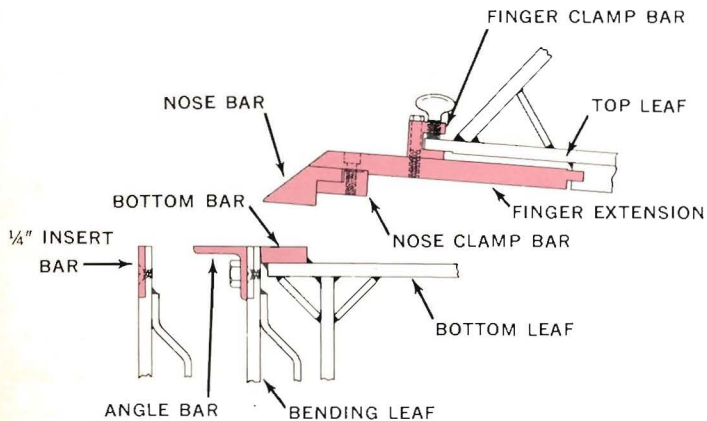


Fig. 18B — Cross Section, Box & Pan Brakes

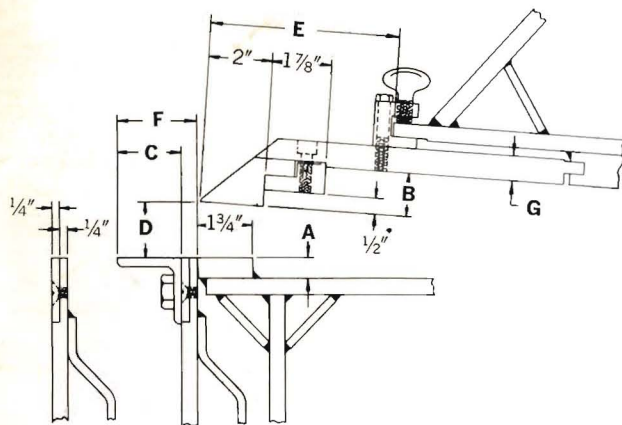


Fig. 19A — Description, Optional Construction, Box and Pan Brakes

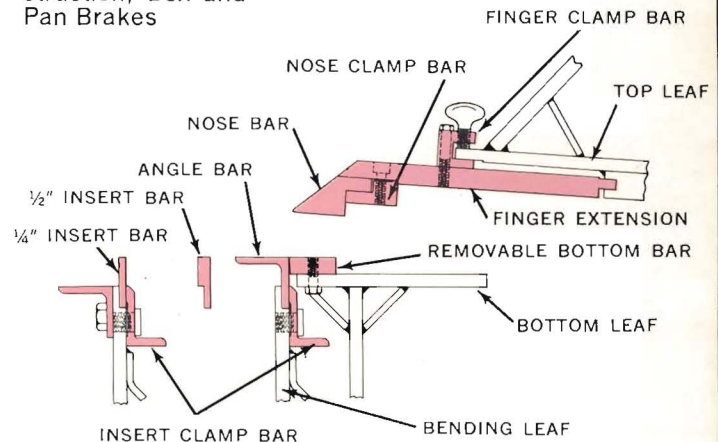
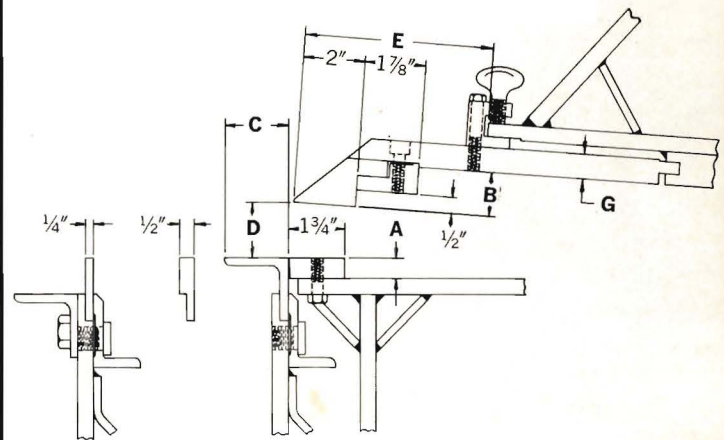


Fig. 19B — Cross Section, Optional Construction, Box and Pan Brakes



OPTIONAL NOSE BARS AND EXTENSION FINGERS

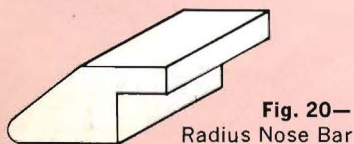


Fig. 20—
Radius Nose Bar

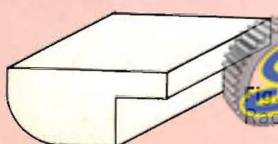


Fig. 21—
Radius Nose Bar

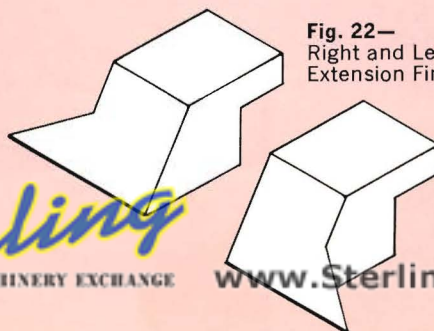


Fig. 22—
Right and Left
Extension Fingers

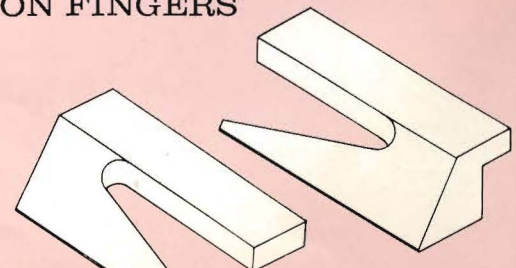


Fig. 23—
Right and Left
Open-End Fingers

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Fig. 24—Front Elevation, Box and Pan Brakes

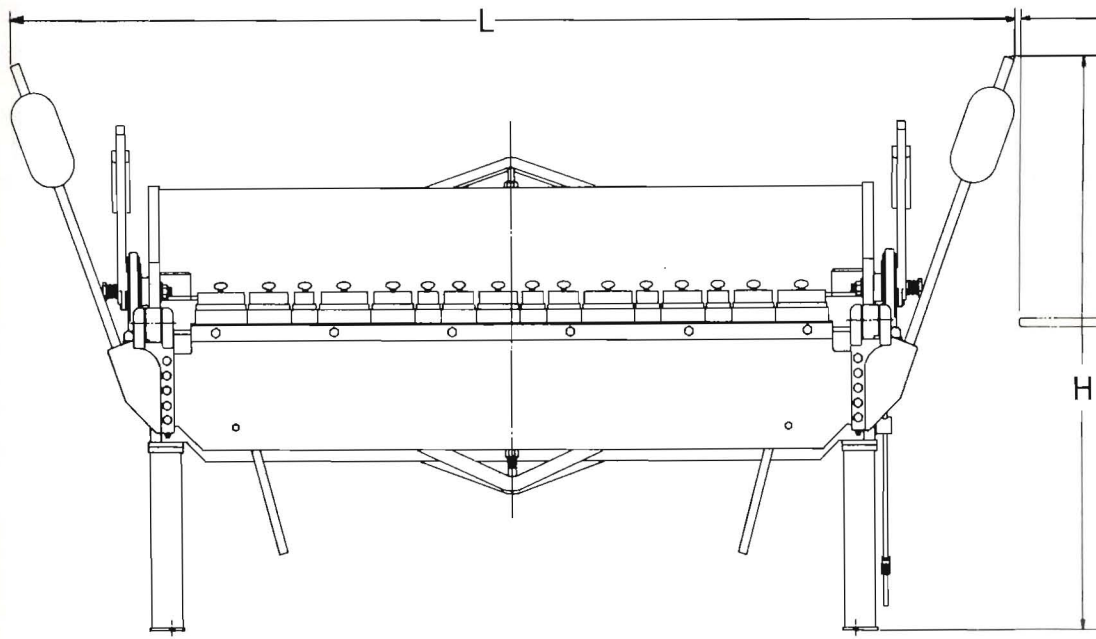
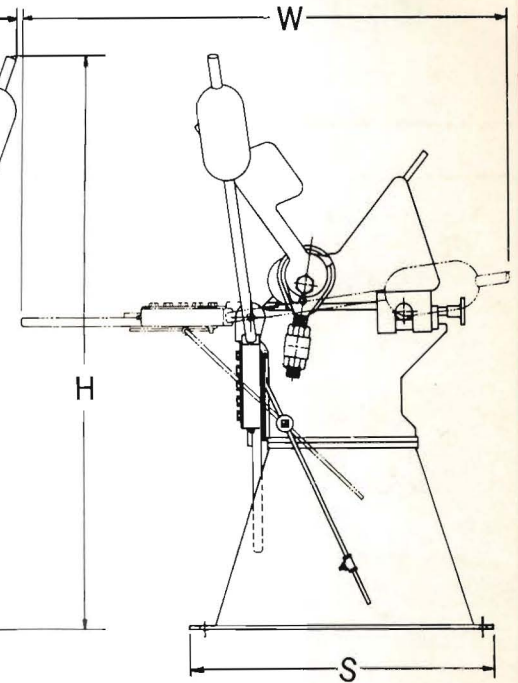


Fig. 25—Side Elevation Box and Pan Brakes



SPECIFICATIONS

Box & Pan Brakes

STANDARD FINGER ASSORTMENTS

Size	Width and No. of Fingers				Total
	3"	4"	5"	6"	
314-6	4	1	4	0	9
412-6	5	2	5	0	12
414-6	5	2	5	0	12
612-6	5	4	7	1	17
614-6	5	2	5	4	16
812-6	5	6	9	2	22
814-6	5	2	5	8	20
1014-6	6	10	10	2	28
414-8	5	2	5	0	12
614-8	7	4	7	0	18
814-8	9	6	9	0	24

Note: To order Optional Construction, simply add letter "O" after prefix "BP" in **Size** listed below; example: BP-314-6 would become BPO-314-6.

Size	Bending Length	Capacity, Mild Steel	Capacity, Stainless Steel	Domestic Shipping Wt., Lbs. (Approx.)	DIMENSIONS										
					A	B	C	D	E	F	G	L	W	H	S
BP-314-6	36"	14 GA.	18 GA.	1250	5/8"	1 5/16"	2"	1 5/8"	6"	2 1/2"	3/4"	80 1/4"	47"	56"	35"
BP-412-6	48"	12 GA.	16 GA.	1750	3/4"	1 5/16"	2"	1 5/8"	6"	2 1/2"	1 1/4"	90"	49"	62 1/2"	35"
BP-414-6	48"	14 GA.	18 GA.	1460	5/8"	1 5/16"	1 1/2"	1 5/8"	6"	2"	3/4"	97 1/2"	47 1/2"	68"	35"
BP-612-6	72"	12 GA.	16 GA.	2460	1"	1 5/16"	2"	2 1/4"	6"	2 1/2"	1 1/4"	116 1/2"	52"	64 1/4"	35"
BP-614-6	72"	14 GA.	18 GA.	2200	3/4"	1 5/16"	2"	2 1/4"	6"	2 1/2"	3/4"	114"	50"	62"	35"
BP-812-6	96"	12 GA.	16 GA.	3350	1"	1 5/16"	2"	2 1/4"	6"	2 1/2"	1 1/4"	140"	52"	60 1/4"	35"
BP-814-6	96"	14 GA.	18 GA.	2800	3/4"	1 5/16"	2"	2 1/4"	6"	2 1/2"	3/4"	140"	50"	62"	35"
BP-1014-6	120"	14 GA.	18 GA.	4000	1"	1 5/16"	2"	2 1/4"	6"	2 1/2"	1 1/4"	164 1/2"	52"	64 1/4"	35"
BP-414-8	48"	14 GA.	18 GA.	1800	3/4"	1 5/16"	2"	1 5/8"	8"	2 1/2"	1"	90"	49"	62 1/2"	35"
BP-614-8	72"	14 GA.	18 GA.	2400	3/4"	1 5/16"	2"	2 1/4"	8"	2 1/2"	1"	113"	50"	62"	35"
BP-814-8	96"	14 GA.	18 GA.	3000	3/4"	1 5/16"	2"	2 1/4"	8"	2 1/2"	1"	140"	50"	62"	35"



ANOTHER PROFILE IN BENDING . . . THE UNIVERSAL BRAKE

This CHICAGO universal brake makes *all types of bends used in modern sheet metal work*. Yet it retains all the essential and desirable features of CHICAGO hand brakes used for 90 per cent of manual sheetmetal bending.

The crowning achievement of years of experience building thousands and thousands of special machines, this universal brake performs work quickly and efficiently—work that heretofore had to be performed on special brakes or with expensive die setups.

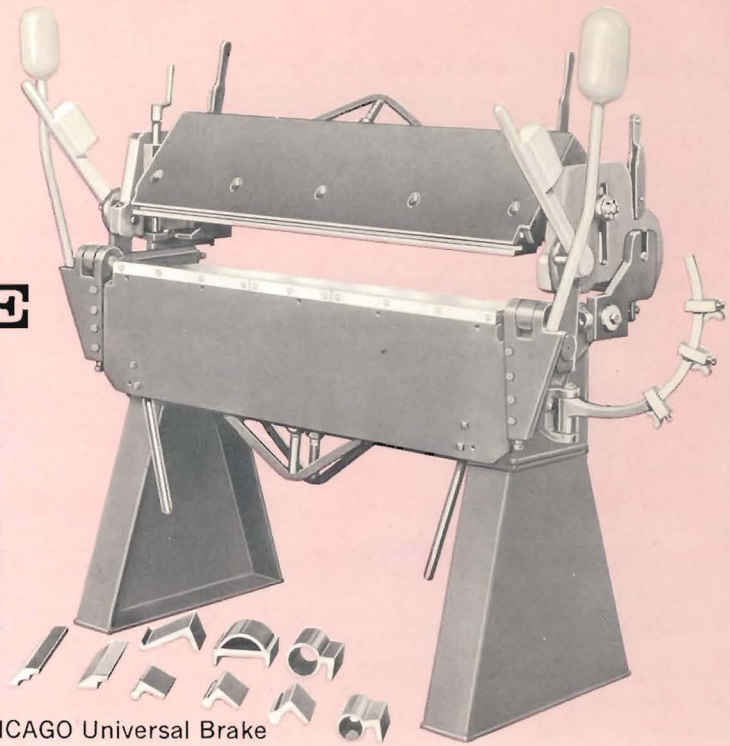


Fig. 26—CHICAGO Universal Brake

FEATURES

- Radically improved design for securely holding all bending edges, yet permitting simple removal and quick changeover of edges.
- Instantaneous forward and back eccentric pin adjustment of top leaf.
- Rapid up-and-down top leaf adjustment for raising leaf to obtain up to 5" clearance for crosswise flanges, boxes and pans. This adjustment also provides clearance for insertion of high radius nose bars for any radius up to $3\frac{1}{2}$ ". See Figs. 36 and 37.
- Vertically adjustable top leaf can be clamped securely in any position, eliminating bending strains on adjustment screws.
- One piece or sectional bottom bar can be used for work requiring flange clearance in the bottom bar. (Can be cut into sections as optional at additional cost.) See Fig. 27.
- Sectional bending leaf permits bending of internal flanges or flanges on only one part of a sheet, leaving the remainder flat. This is optional at additional cost.
- Swinging quadrant gauge with multiple stops for regulating angle of bend. See Fig. 29.

Fig. 27—Cross Section, Universal Brakes, showing method of holding all bending edges securely.

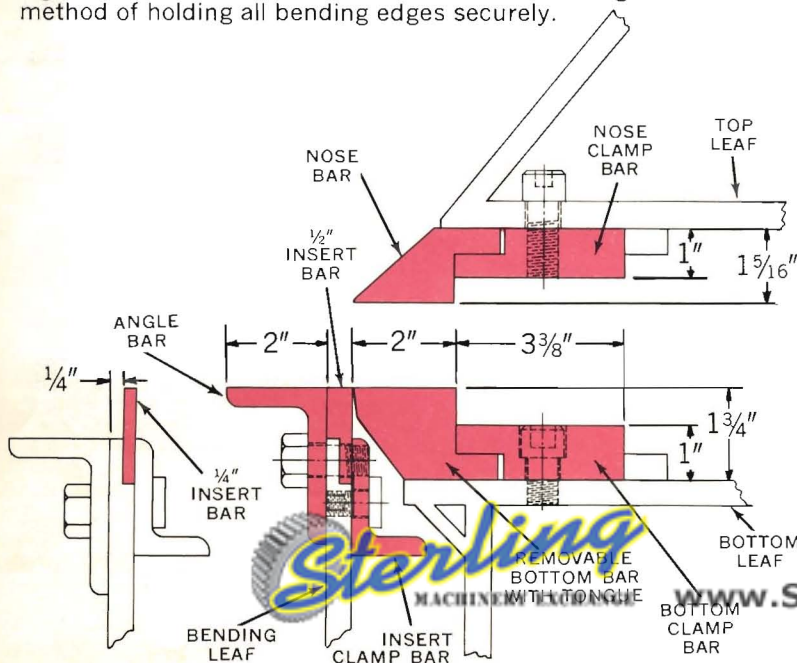
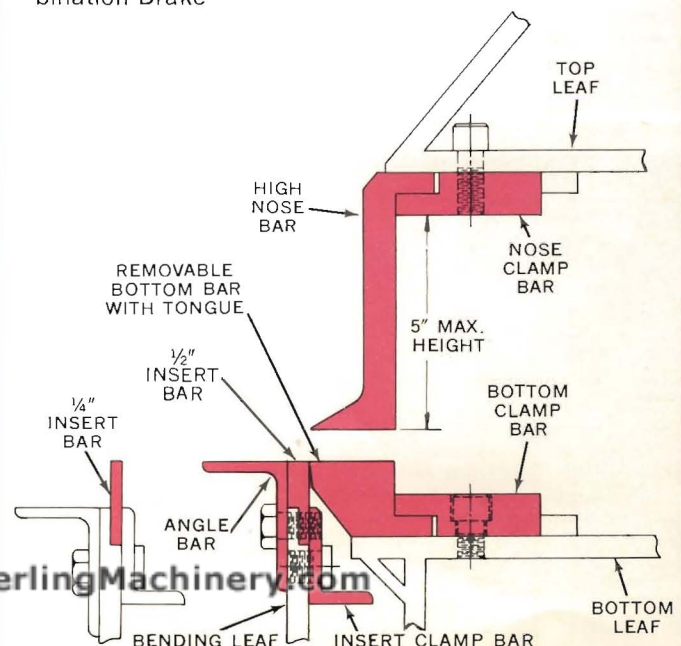


Fig. 28—Cross Section, Universal High Top Combination Brake



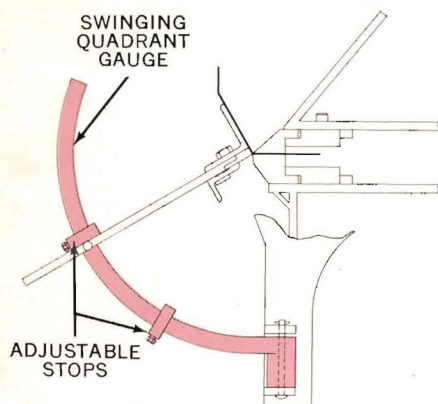


Fig. 29—Cross Section, Swinging Quadrant Gauge with Adjustable Stops

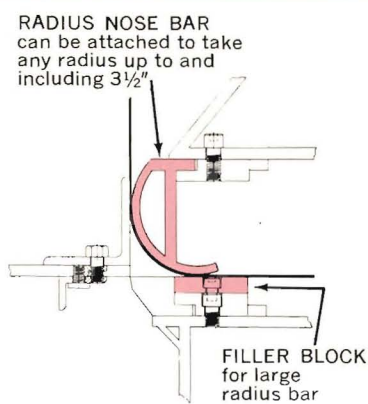


Fig. 30—Cross Section, Large Radius Nose Bar used with Filler Block

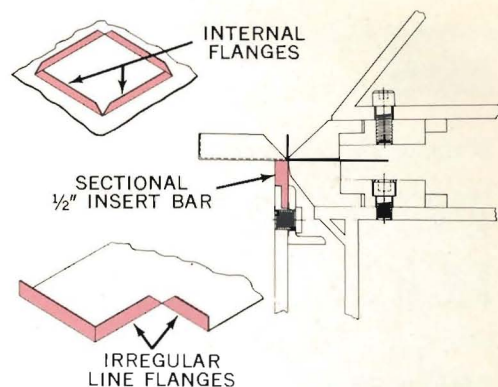


Fig. 31—Internal Flanges and Irregular Line Flanges Bent with Sectional $\frac{1}{2}$ " Insert Bar

SPECIFICATIONS—UNIVERSAL BRAKE

Size	Bending Length	Capacity, Mild Steel	Capacity, Stainless Steel	Domestic Shipping Wt., Lbs. (Approx.)	DIMENSIONS		
					Length, Over-all	Width, Over-all	Height, Over-all
U-414	48"	14 GA.	18 GA.	1170	97 $\frac{1}{2}$ "	50"	56"
U-614	72"	14 GA.	18 GA.	2360	114"	55"	56"
U-814	96"	14 GA.	18 GA.	2990	140"	53"	56"
U-1014	120"	14 GA.	18 GA.	4430	164 $\frac{1}{2}$ "	55"	58"

EXTRA EQUIPMENT

Sections of nose bars, bottom bars and insert bars can be furnished in any length. Box and pan fingers (standard 5" wide) can be furnished in any width from 2" to 5". Molding forms can be furnished with any size machine. Five sizes of formers are available: $\frac{5}{8}$ ", 1", 1 $\frac{5}{8}$ ", 2 $\frac{1}{4}$ " and 3". Radius bars are available in any size up to 3 $\frac{1}{2}$ ".

UNIVERSAL BRAKE ATTACHMENTS

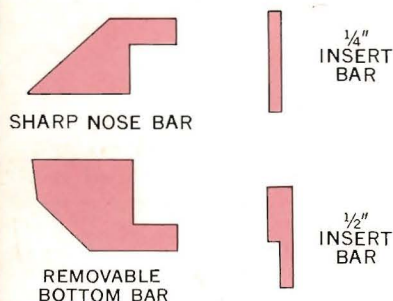


Fig. 32—Standard Bending Edge Bars

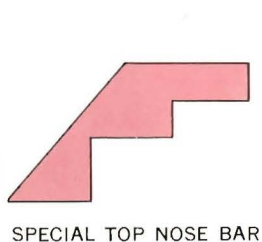


Fig. 33—Special Nose Bar

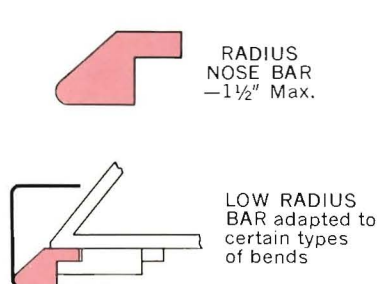


Fig. 34—Low Clearance Radius Nose Bars

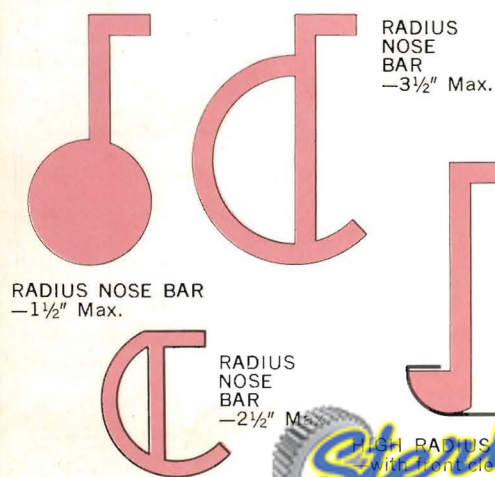


Fig. 36—High Clearance Radius Nose Bars

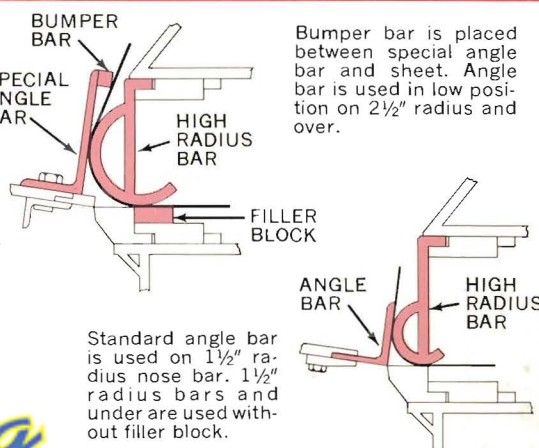


Fig. 37—All High Radius Nose Bars Have 5" Clearance for Crosswise Flanges

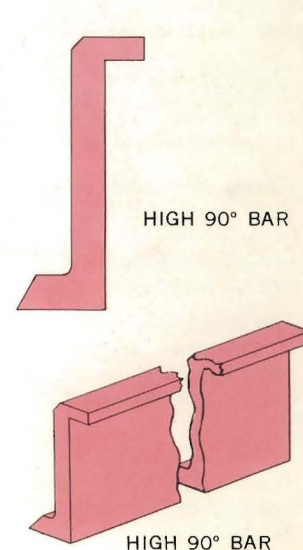


Fig. 35—Regular Duty Box and Pan Fingers

SEND US DETAILS OF YOUR WORK AND WE WILL RECOMMEND THE CORRECT TYPE OF ATTACHMENTS TO USE.



PROFIT PROFILE . . . the **PORTABLE HAND BRAKE**

Set up shop on job - site
with this powerful, lightweight unit!

It is general practice to set up shop right on the job for large ventilating and air conditioning jobs. Because it is so easy to transport, the CHICAGO portable hand brake has proved itself the most popular machine available for on-site jobs.

Developed for use on both small and large products, this CHICAGO portable brake fills a definite need in air conditioning work—yet retains all the worthwhile features of the regular CHICAGO hand brake, except for weight, which is greatly reduced.

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

Construction

There is a radical difference in the fabrication of the three main sections of the CHICAGO portable hand brake. 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 detached quickly without disturbing any adjustments. This permits one man to carry the machine. The heaviest sections weigh less than 200 pounds in the 5-foot size.

Clamping handles operate independently. They move downward, instead of forward, for clamping and flattening. By this method, the brake always remains firmly in place while in operation. Bolting to the floor is unnecessary. The handles impart power with minimum effort for closing seams.

The bending leaf has a detachable $\frac{1}{4}$ " bar for reverse bends as narrow as $\frac{1}{4}$ ". Clearance is provided on both ends of the bending edges, as on standard hand brakes. No counterweights are used on these machines.

Capacities

The CHICAGO portable hand brake has a rated capacity of bending and flattening $\frac{1}{4}$ " or wider seams on 22 gauge material; and bending $\frac{1}{2}$ " or wider on 20 gauge material.



CHICAGO Portable
Hand Brake in
Operating Position



The portable hand brake can be carried easily by two men, without dismantling. Note that the legs are hinged to swing up, making a very compact carrying unit. Also note that the clamping handles are used for carrying. Swinging the hinged legs into position is the only change required to prepare the brake for transportation. One man can set up the brake on the job by swinging the hinged legs to the upright position and locking them with a convenient thumbscrew.

SPECIFICATIONS—CHICAGO PORTABLE HAND BRAKE

Size	Bending Length	Capacity, Mild Steel	Capacity, Stainless Steel	Domestic Shipping Wt., Lbs.	Dimensions		
					Length Over-all	Width Over-all	Height Over-all
P-520	61"	20 GA.	24 GA.	420	64"	30"	43"

Fabricate difficult or unique parts . . .
even bend exotic metals on a

CHICAGO

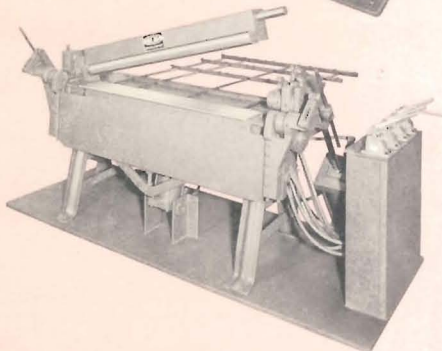
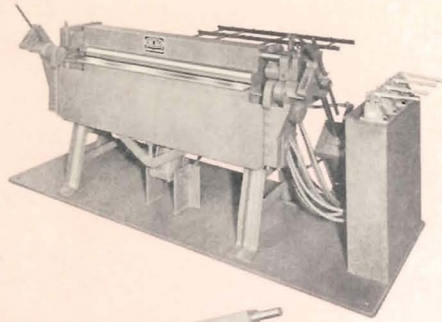
SPECIAL HAND BRAKE

Here are a few typical modifications of standard hand brake design that meet special bending requirements. These special hand brakes can be built in different lengths and capacities to provide special clearances, incorporate an auxiliary bending leaf, accommodate radius attachments, or make special bends and shapes in sheetmetal. If you're facing a bending problem that standard machines can't solve, a CHICAGO special can probably be built to meet the situation. Submit drawings and complete details of work you wish to do, and we'll make a prompt,

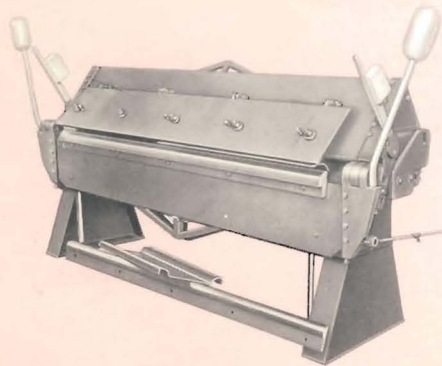


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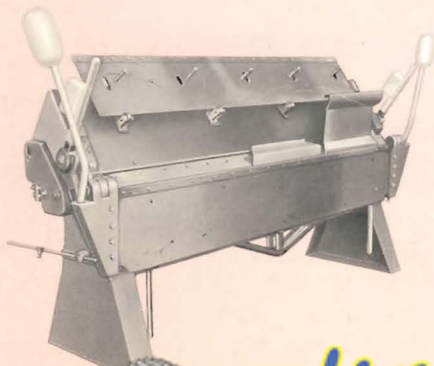
PROFIT PROFILES IN SPECIAL HAND BRAKES



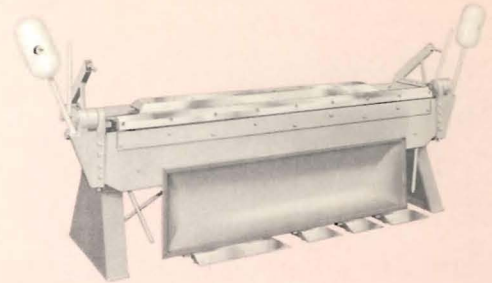
This special slip-top air-operated bending brake is designed for forming tubular, rectangular or square shapes. The upper photo shows the top in the closed position. The lower photo shows the top in the open position for easy removal of a finished tube shape. Optional but desirable features include pneumatic operation of the top and bending leaves, and hand air valves or electric type operating controls.



Special casket brake for forming round mold and reverse bend for side of metal casket, using die on bending leaf and auxiliary top wiping leaf. Various other mold forms are available.



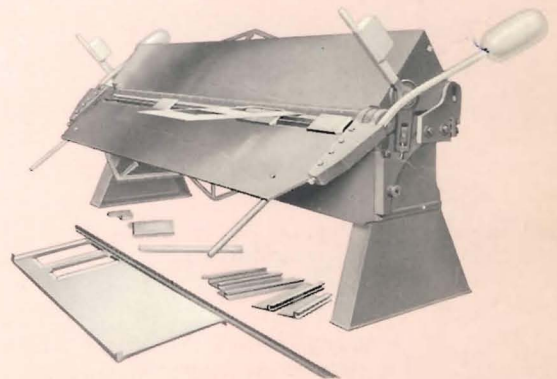
Same casket brake with auxiliary top wiping leaf swung up out of the way for forming regular straight bends.



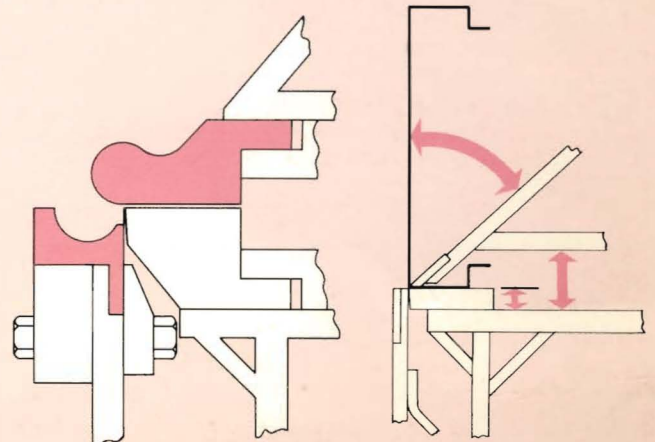
Special 8-foot low-top hand brake with horn-end sections for forming inturred flanges on metal casket tops.



Special 3-foot low-top hand brake for forming inturred flanges on ends of metal casket tops. A casket top is shown in the brake, after forming of the flange.



Standard hand brake equipped with special sectional apron and sectional bending inserts for forming internal flanges, as on soda fountains and windows in metal doors. Sectional bending apron and inserts can also be made for box and pan brakes.



Universal brake equipped with half-round radius nose bar and bending bar used primarily for forming half-round edges on sink troughs, counter tops, and other applications.

Cross section of special sign maker's brake with extra top and bottom clearance for the return flanges, which cannot be formed from the front of the brake.

Sterling
MACHINERY EXCHANGE

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