

# Connecticut

## UNIVERSAL BENCH BRAKE MODELS U218 & U422



---

### SPECIFICATIONS

### MODEL U218

### MODEL U422

---

Length of Bend	24 1/4"	48 1/4"
Capacity on Mild Steel, 3/8" Flange, Full Length	18 Ga.	22 Ga.
Maximum Lift of Beam	7/8"	7/8"
Shipping Weight	155 lbs.	280 lbs.
Minimum Reverse Bend	5/16"	5/16"
Finger Widths	2", 3", 4"	2", 3", 4"
Maximum Depth of Box	3"	3"



**ROPER WHITNEY**

2833 HUFFMAN BLVD., ROCKFORD, ILLINOIS 61103-3990 \* 815/962-3011 \* FAX 815/962-2227

Website: [www.roperswhitney.com](http://www.roperswhitney.com) \* Email: [info@roperswhitney.com](mailto:info@roperswhitney.com)

Rev. 12/01

## MODELS U218 & U422 INSTRUCTIONS

Set the brake on a level bench and shim under the feet until it rests evenly and will not rock. Fasten to bench with lag screws.

CONNECTICUT UNIVERSAL BENCH BRAKES are rated according to the catalog capacity for a full length bend in mild steel at least 3/8" from the edge of the sheet. An adjustment of 1/8" is provided in the position of the beam for material thickness and radius of bend. This is controlled by eccentric pins No. 66 and locking set screws at the rear of the machine, each end. There should be clearance of at least one and one-half times the thickness of material between the apron and the edge of beam, when the apron is at the 90 degree position. For bending stainless steel, reduce the capacity by 4 gauges.

The work is clamped between the Bed and the tips of the Fingers by means of Eccentric levers No. 26. With all fingers in place, the Universal Brake operates the same way as the plain Bench Brake. To make a bend, raise the apron handles to the desired angle, forcing the clamped work to bend around the tips of the Fingers. In making a box or pan, the sides are bent up first. To bend the ends, group the Fingers to a total width equal to the end of the Box, leaving a space on each side of this group by omitting a Finger. Clamp the end of the box under the grouped Fingers. When the apron is raised to bend up the end, the sides already formed will pass to each side of the Fingers, avoiding interference. The maximum depth of the box is 3".

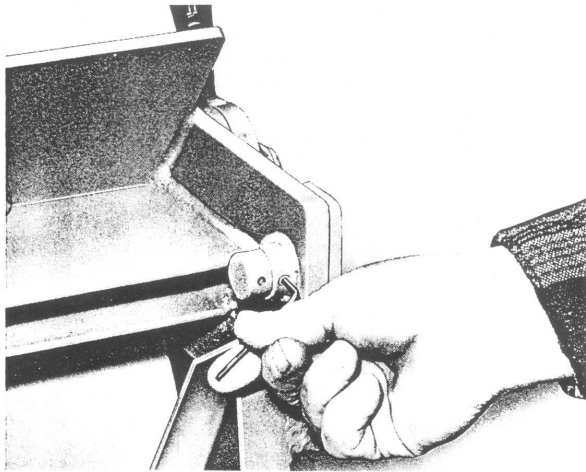
Clamping pressure is controlled by nuts No. 45. This pressure should be adjusted with a small piece of material to be bent clamped in each end of the machine. Move the nuts so that the levers No. 26 pull against the stops with equal effort. Excessive clamping pressure is not required. Use only enough to hold the material firmly in the Brake.

The Brakes ARE NOT INTENDED for bending rods, wires, multiple thicknesses or across lock seams. Operations of this type will result in denting the edge of the Apron and springing the machine out of line.

Lubricate the moving parts of the machine with light grease or heavy oil. Lasting accuracy depends on proper lubrication.

## MODEL U218 & U422

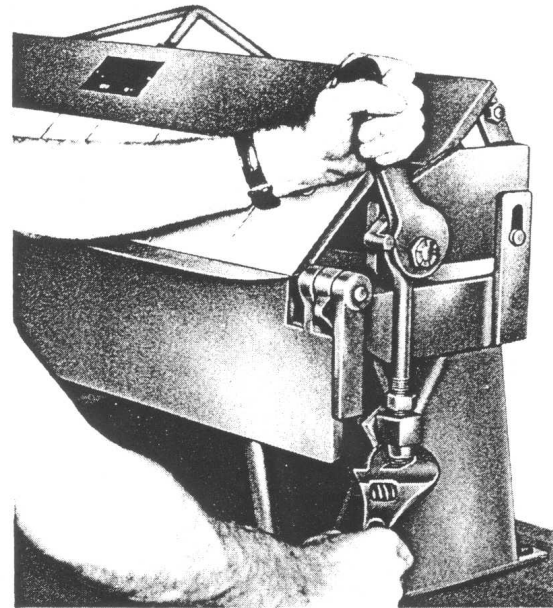
### ADJUSTMENT FOR MATERIAL THICKNESS AND BEND RADIUS



An eccentric pin at the rear of the beam allows the bending edge to be set from 0 to 1/8" back from the edge of the bed. This provides clearance for the material, and a reasonable radius, when the apron is lifted to make a bend. Normal clearance is a space of 1 1/2 to 2 times thickness of material between apron and bending edge, when the apron is at 90 degrees.

The pin is locked in place by a socket head set screw. The set screw key fits into holes in the head of the eccentric pin to facilitate adjustment.

A bronze bushing is pressed onto the outer end of the eccentric pin. This provides a good bearing surface, and may be replaced when worn, thus restoring the original accuracy.



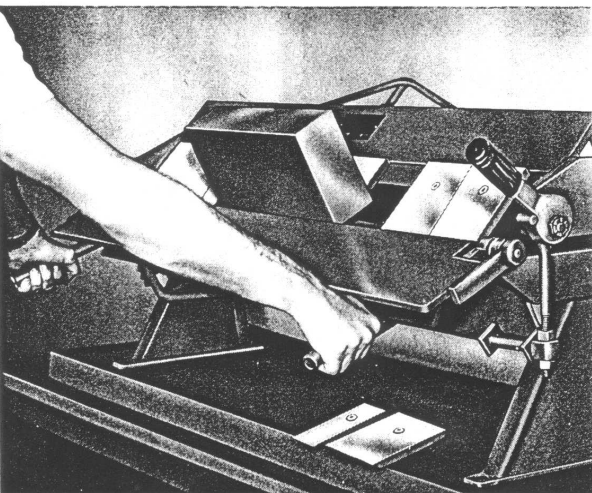
### CLAMPING PRESSURE ADJUSTMENT

For greatest accuracy, and least strain on the machine, clamping pressure should be just sufficient to hold the material firmly between bed and beam when the clamping lever is against the stop. This is adjusted quickly and easily by means of the two nuts on the lower end of the toggle bolt.

Clamping pressure may be left at one setting if the range of material thickness is not great. However, the lever should not be forced against the stop when multiple thicknesses or heavy materials are being clamped, unless the pressure is adjusted. Both adjusting nuts should be tightened firmly against the square head of the lower toggle pin.

The lock nut on the upper toggle pin serves as a brake on the clamping eccentric so that the beam may be left in a raised position while inserting material.

### BOX AND PAN BENDING

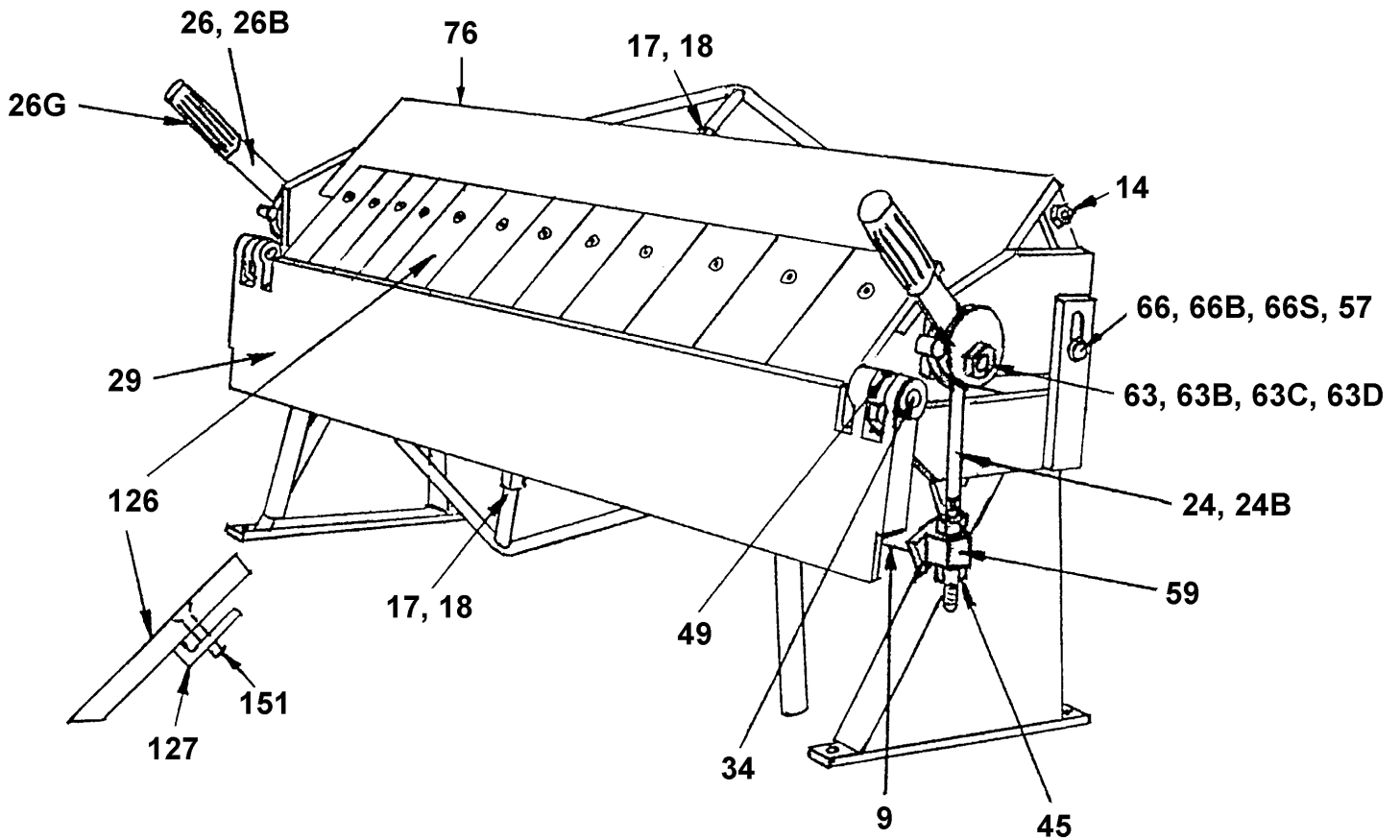


Detachable fingers on Connecticut Universal Bench Brakes allow the bending of third and fourth sides of boxes by passing the first sides thru spaces between the fingers as the bends are made. Fingers are in 2", 3", and 4" widths. They may be grouped for even inch combinations, or spaced out for fractional dimensions. With all fingers in place, the Universal Brake operates as a Plain Brake.

The fingers are machined accurately and clamp to machined surfaces on the edge of the beam. The tips are case hardened for wear resistance.

While special fingers are not available, it is possible to alter standard fingers for special jobs. Replacement fingers always are in stock, and are interchangeable with the originals.

## U218 & U422 PARTS IDENTIFICATION



NO.	PART	NO.	PART
9	Bed Assembly	57	Snap Ring
14	Tie Rod Nut	59	Lower Toggle Pin
17	Strap Bolt	63	Clamping Collar
18	Strap Nut	63B	Lock Washer
24	Toggle Assembly	63C	Flat Washer
24B	Toggle Bushing	63D	Bearing
26	Eccentric Assembly	66	Slide Pin, Eccentric
26B	Eccentric Bushing	66B	Slide Pin Bushing
26G	Handle Grip	66S	Slide Pin Set Screw
29	Apron Assembly	76	Beam Assembly
34	Hinge Pin	126	Fingers, 2", 3", or 4" wide
45	Toggle Nut	127	Finger Clamp
49	Set Screw	151	Finger Screw

## U218 & U422 PARTS LIST

ITEM NO.	PART NO.	PART NAME
9	Consult Factory	Bed Assembly
14	643023007	Tie Rod Nut
17	457160098	Strap Bolt
18	643023007	Strap Nut
24	757860022	L. H. Toggle Assembly
24	757860022	R. H. Toggle Assembly
24B	757080020	Toggle Bushing - 2"
26	757030024	Eccentric Assembly with R. H. Bushing
26	757030025	Eccentric Assembly with L. H. Bushing
26B	757080023	Eccentric Bushing - 1"
26G	633356335	Handle Grip
29	Consult Factory	Apron Assembly
34	757160083	Hinge Pin
45	643023007	Toggle Nut
49	621012083	Set Screw
57	656164301	Snap Ring
59	757160030	Lower Toggle Pin
63	657000388	Clamping Collar
63B	679033109	Lock Washer
63C	678033109	Flat Washer
63D	657245116	Bearing
66	757160031	Eccentric Slide Pin
66B	757080039	Slide Pin Bushing
66S	621012083	Slide Pin Set Screw
76	Consult Factory	Beam Assembly
126	255940011	Complete 2" Finger Assembly
126	255940012	Complete 3" Finger Assembly
126	255940013	Complete 4" Finger Assembly
127	757010137	1 1/2" Finger Clamp
127	757010138	2 1/2" Finger Clamp
127	757010139	3 1/2" Finger Clamp
151	613012135	Finger Screw