

(No Model.)

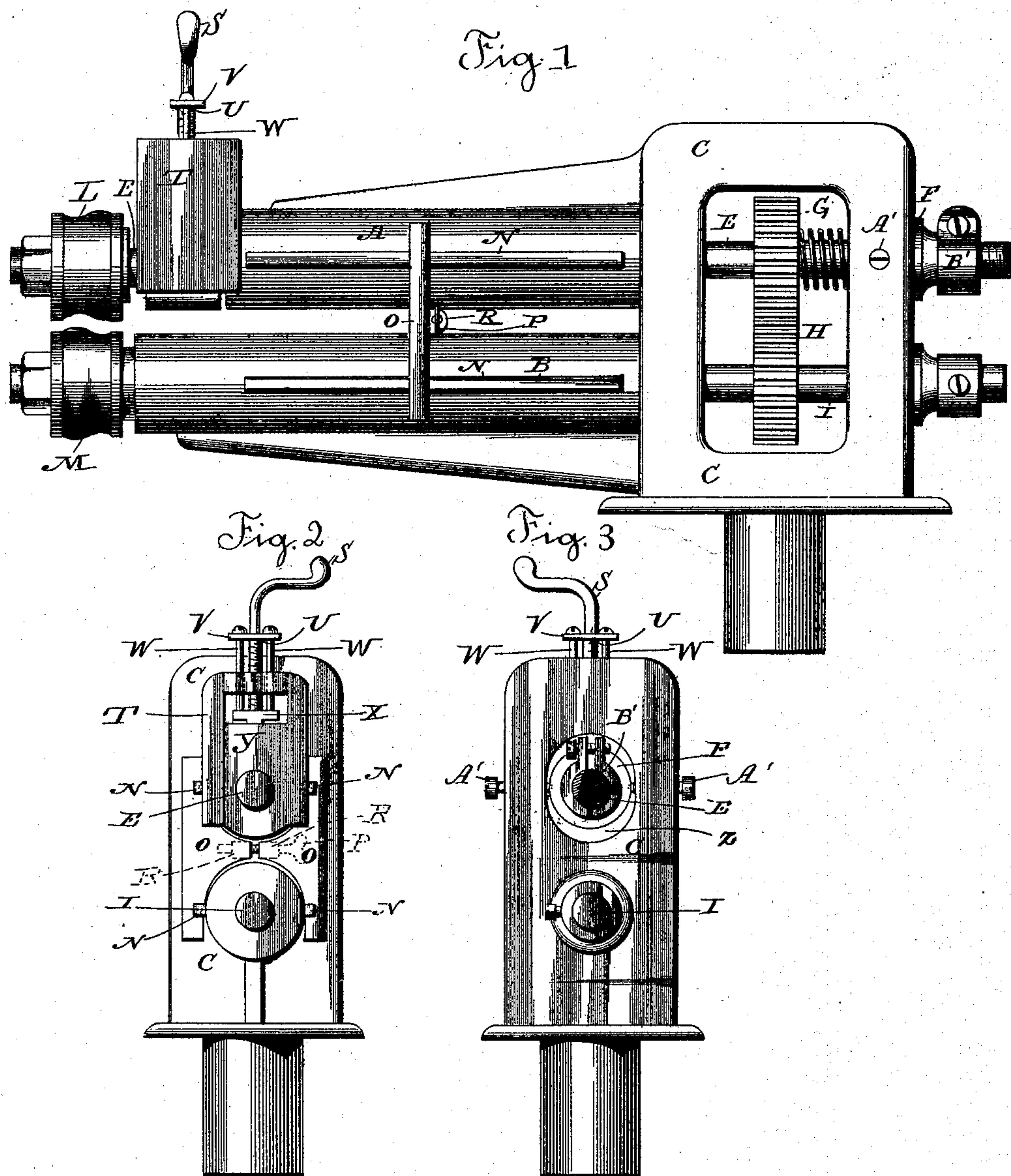
2 Sheets—Sheet 1.

W. J. BAYRER.

MACHINE FOR BEADING SHEET METAL.

No. 388,471.

Patented Aug. 28, 1888.



Witnesses:  
Chas. B. Shumway  
M. S. Seeley.

Inventor.  
William J. Bayrer  
By Geo. W. Seymour  
att'y.

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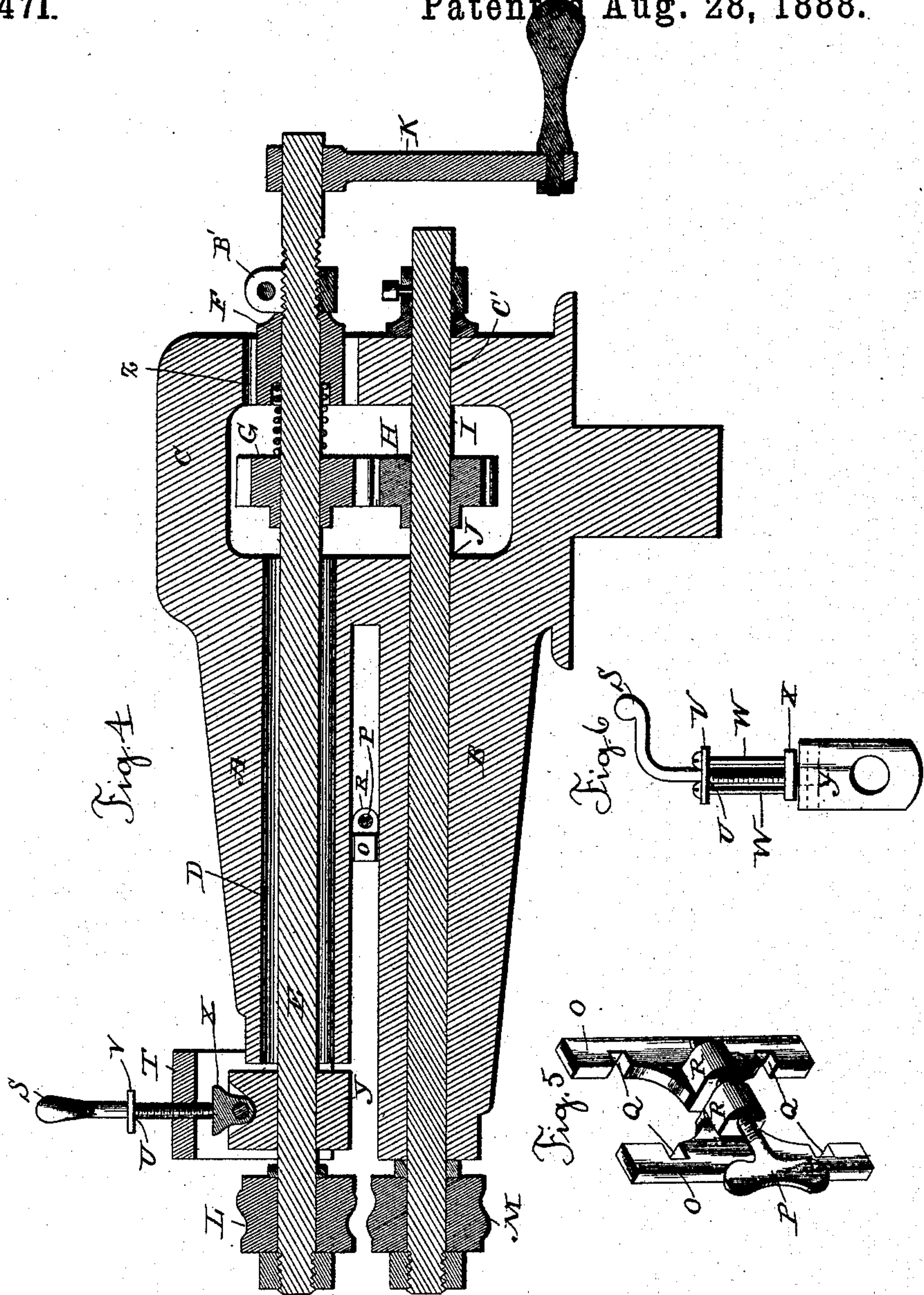
2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM J. BAYRER, OF SOUTHTON, CONNECTICUT.

## MACHINE FOR BEADING SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 388,471, dated August 28, 1888.

Application filed December 3, 1887. Serial No. 256,896. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. BAYRER, residing at Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Beading Sheet Metal; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improvement in machines for beading sheet metal, the object being to simplify and strengthen such machines and to increase their durability and general efficiency in use.

With these ends in view my invention consists in a peculiar construction of the box, in a coupler secured to the opposite faces of the rigid horns inclosing the bead-roller shafts, in a rocking block between the operating head and screw, and in certain other details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of a machine embodying my invention. Fig. 2 is a view thereof in front elevation with the beading-rolls removed. Fig. 3 is a similar rear view of the machine with the operating-crank broken away. Fig. 4 is a view of the machine in vertical longitudinal section. Fig. 5 is a detached view of the coupler; and Fig. 6 is a similar view of the operating-head and the operating-screw, together with the cross-piece and parallel upright rods.

The box C of my improved machine is cast in one piece, with its rear end closed by a solid or continuous wall, whereby great strength is secured. The upper horn or casing, A, and the lower horn or casing, B, of the machine are cast integral with the said box and project in parallel lines from the forward face thereof. The said upper horn is traversed by an opening, D, receiving the driving-shaft E, and shaped to permit the shaft to be raised and lowered, for which purpose it is mounted at its rear end in a bearing, F, located in an opening, Z, formed in the rear wall of the box C, and hung on centers A' A', extending into such opening from opposite sides of the box. The said rear end of the shaft is threaded, and

clasped by an adjustable collar or clamp, B', bearing against the outer face of the said bearing and holding the shaft in place against undue endwise play. A pinion, G, carried by such shaft, meshes into a similar pinion, H, carried by the driven shaft I, which extends through a suitable opening, J, in the lower horn, B, and has bearing in an opening, C', formed in the rear wall of the box.

The rear end of the shaft E is provided with a handle, K, for turning it, and the forward end with a beading-roll, L, co-operating with a similar beading-roll, M, mounted upon the adjacent end of the driven shaft. Each horn is provided with two parallel horizontal ribs, N, respectively located upon its opposite sides and extending throughout its length. The said horns are coupled together against spreading under the great outward pressure put upon them by the operation of the machine by a coupler consisting of two blocks, O O, and a screw, P, each block being provided with two slots, Q Q, opening inward, and a perforated and threaded lug, R, located between such slots and receiving the screw P, binding the blocks together. These blocks are respectively placed on opposite sides of the horns, so that the ribs thereof will enter their slots, as shown by Fig. 2 of the drawings. When the blocks are so placed, the screw is passed through their lugs for holding them together. The coupler so formed is laterally adjustable upon the parallel ribs toward and away from the outer ends of the horns, and may have the additional function of a gage, the place of which it supplies in the form of machine herein represented.

The operating-screw S of the machine passes through an upright yoke, T, cast integral with the forward end of the upper horn, and is provided with a shoulder, U, supporting a cross-piece, V, receiving the upper ends of two upright parallel rods, W W, playing freely through the yoke and attached at their lower ends to a rocking block, X, pivoted in the upper end of the operating-head Y and impinged by the lower end of the screw. The flexible connection thus established between the screw and head relieves the screw from the strain and wear put upon it when the head is inclined with reference to its lower end by the raising and lowering of the suspended driving shaft as provided for.



By casting the frame as described and in one piece the expense of making the machine is reduced, and great rigidity and strength are secured in the finished tool.

5 The coupler uniting the horns takes a part of the strain thrown upon them by the operation of the machine, whereby they are prevented from spreading and destroying the accuracy of the work being done, and also from  
10 breaking off under the great pressure from within outward, before referred to.

The rocking or flexible connection between the operating screw and head, relieves the screw from strain and wear, and therefore  
15 makes the screw easier to operate and prolongs the life of the machine.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

20 1. In a machine for beading sheet metal, the combination, with a box cast in one piece and having at its rear end a continuous or solid wall provided with two openings and furnished at its forward end with two horns, of two shafts  
25 respectively located in such horns and each extending into such box and carrying a bead-roller, a coupler secured to the opposite faces of the horns and adjustable upon them, an operating-head for working the upper shaft,  
30 and an operating-screw flexibly connected with such head, substantially as set forth.

2. In a machine for beading sheet metal, the combination, with two parallel horns, each enclosing a shaft carrying a bead-roller, of a  
35 coupler binding such horns together and composed of two parts respectively secured to the opposite faces of the horns, substantially as set forth.

3. In a machine for beading sheet metal, the  
40 combination, with two parallel horns, each enclosing a shaft carrying a bead-roller, of a coupler binding such horns together, the horns being provided with ribs and the coupler with

recesses to receive the same, the coupler being arranged to slide horizontally upon the  
45 horns, substantially as set forth.

4. In a machine for beading sheet metal, the combination, with two shafts, each carrying a bead-roller, of two rigid horns respectively enclosing such shafts, whereby each shaft is supported virtually throughout its length, and a  
50 coupler consisting of two parts applied to the opposite faces of such horns and united between the horns, substantially as set forth.

5. A machine for beading sheet metal, having two parallel horns, each provided with two ribs respectively located upon its opposite sides, and a coupler engaging with such ribs and binding the horns together against pressure tending to spread them apart, substantially as set forth.  
55 60

6. A machine for beading sheet metal, having two parallel horns, each provided with two ribs respectively located upon its opposite sides, and a coupler consisting of two slot-  
65 ted blocks, and a screw uniting them and applied to the horns to couple them together against pressure tending to spread them apart, substantially as set forth.

7. A machine for beading sheet metal, having two horns, a rocking driving shaft extending through the upper horn, a yoke located upon such horn, an operating-head secured to the adjacent end of the shaft, an operating-screw mounted in the yoke, a rocking block  
70 75 pivoted to such head, and connection between such block and the screw, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.  
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WILLIAM J. BAYRER.

Witnesses:

CHAS. B. SHUMWAY,  
M. S. SEELEY.