2 Sheets—Sheet 1.

W. A. WHEELER.
Seaming-Machine.

No. 208,872. Patented Oct. 8, 1878.

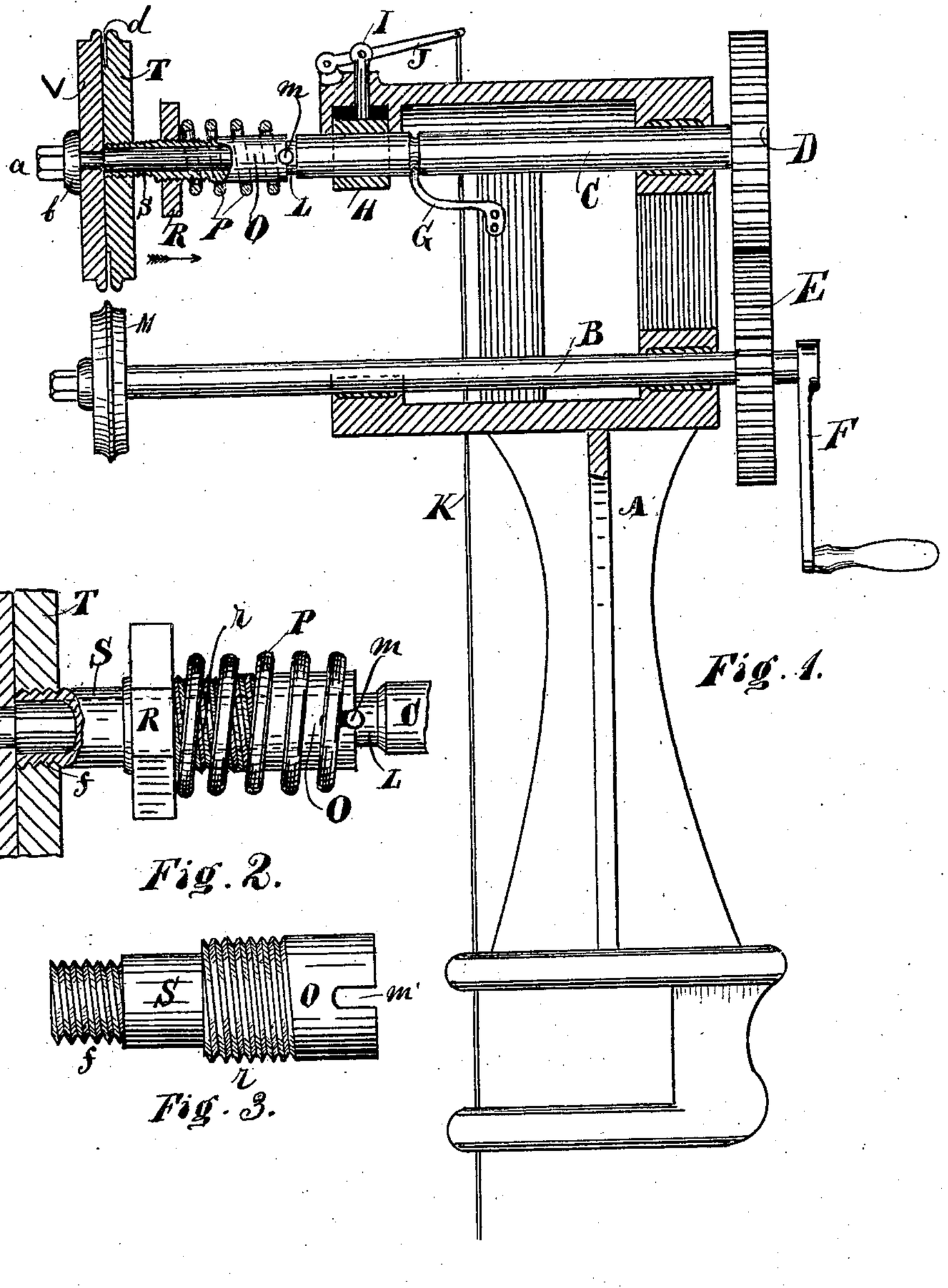

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES;

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his Attorney

2 Sheets—Sheet 2.

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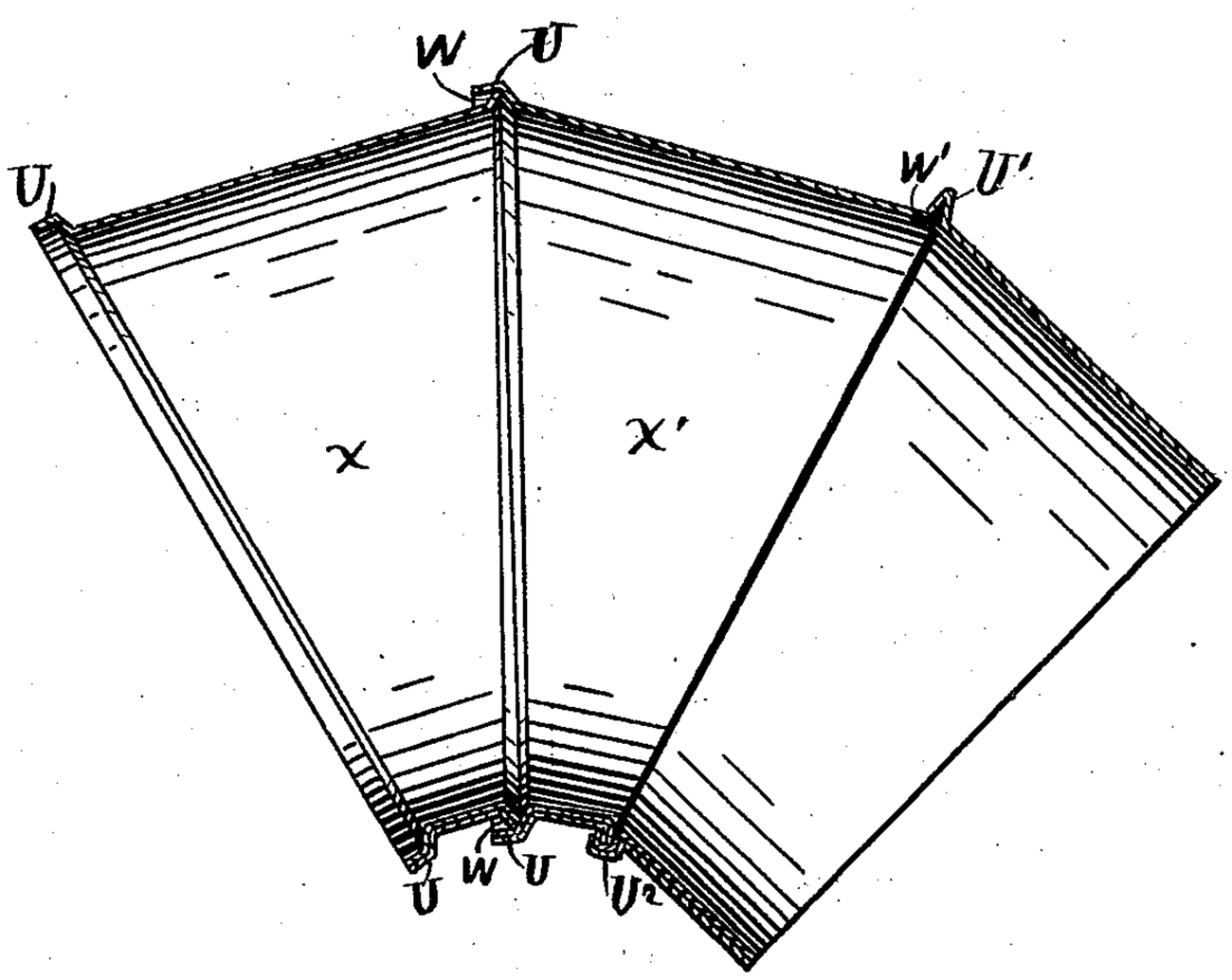
Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM A. WHEELER, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN SEAMING-MACHINES.

Specification forming part of Letters Patent No. **208,872,** dated October 8, 1878; application filed June 25, 1878.

To all whom it may concern:

Be it known that I, WILLIAM A. WHEELER, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Sheet-Metal-Seaming Machines, of which the following is a description, reference being had to the accompanying drawing.

My invention relates to certain improvements in the construction of the grooved roller used by sheet-metal workers on seaming-machines.

Previous to my invention there has been great difficulty of pressing the seams of sheet-metal elbows and other articles made of sheet metal so that the seam shall be tightly bound together at all parts of the seam. The two ends of each section are overlapped, and when two of such sections are to be bound together by a seam, the thickness of metal is doubled at these parts. The ordinary grooved roller used for binding these seams is provided with a groove of sufficient width to allow these thick parts to pass through, and consequently cannot bind the balance of the seam tightly together.

The object of my invention is to press the pieces of metal together and make a tight seam at all parts, irrespective of the various thicknesses at different parts of the seam.

My invention consists mainly in the new construction and arrangement of parts; also in the new combination of old elements, whereby an expansion disk-roller is made to press the edges of metal at a seam and form a tight joint at all parts thereof, all of which will be hereinafter set forth and described.

In the accompanying drawing, in which like letters of reference in the different figure indicate like parts, Figure 1 represents a side elevation of an ordinary seaming or beading machine on which is mounted my improved expansion disk-roller. Fig. 2 is an enlarged view of the expansion disk-roller and its operating devices detached from the machine. Fig. 3 is a view of the tension-sleeve; and Fig. 4 represents the sheets, bent and joined together as when presented to the machine, and the same sheets having the seam as formed by the machine.

A represents the standard or frame, having the mandrels B C, the spur-wheels D E, the crank F, the adjusting-sleeve H, with stem I, lever J, operating-rod K, and spring G, all of which are old and of the ordinary form usually found in beading-machines.

The upper or adjustable mandrel, C, is reduced in size at the end to receive the stationary disk V of the disk-roller, which is secured to the mandrel by the washer *b* and nut *a*. The mandrel C is reduced in size farther back, as shown at L, to receive the tension-sleeve O. The sleeve O is larger at one end than at the other. The small end, S, is provided with a screw-thread, *f*, on which the movable disk T is screwed. The larger part, O, of the sleeve is also provided with a screw-thread, *r*, on which operates the nut R. The end of the sleeve O is also provided with a notch, *m'*, that operates on the pin *m*. The spring P is placed over the sleeve O between the pin *m* and the nut R. The groove *d*, between the two disks V T of the roller, is formed by turning off a portion of the inner face of one of the disks, as shown.

The machine is adjusted for operation by screwing the nut R against the spring until the required tension is obtained on the movable disk T against the stationary disk V. The pin *m* acts as an abutment for the spring P, and also acts as a feather in the slot *m'*, to prevent the disk T and sleeve O from turning on the mandrel C. The sleeve O also steadies the disk T, and prevents it from wabbling while a seam is being formed between the two disks.

When it is required to bind a seam, the bent edge W of the sheet X is inserted in the bent edge U of the sheet X', as shown in Fig. 4 at W U. The united bent edges are then inserted between the roller M and the roller-disks T V. The upper or expansion rollers T V are then forced downward, by means of the lever J, rod K, and sleeve H, until the bent edges U W of the seam are squeezed together, as shown at W' U'. The crank F is then turned, and the united bent edges U W of the seam are rolled together as the seam is carried through between the disk-rollers, as shown at U' W'.

The metal forming the seam that enters the groove *d* forces the movable disk T back on its mandrel C, and is still farther forced back when the extra thickness of metal at the union of the

two ends of each sheet is passing through, as shown at U^2, Fig. 4; but the tension of the spring P causes the disk T to move forward on its mandrel when the thick parts have passed through with a pressure sufficient to press the joint tightly together at all other parts of the seam, as shown at W′ U^1. Thus seams of various thicknesses can be formed with no inconvenience to the operator and no stoppage of the machine to adjust the width of the groove in the seaming-roller.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a sheet-metal-seaming machine, the movable disk T, combined with the sleeve O, the mandrel C, the pin *m*, the nut R, the spring P, and the stationary disk V, substantially as shown and described.

2. In a sheet-metal-seaming machine, the sleeve O, having a notch, *m′*, and nut R at one end and the disk T at the other end, in combination with the spring P, the pin *m*, and mandrel C, substantially as shown and described.

3. In a sheet-metal-seaming machine, the disk-roller, composed of the stationary disk V and the movable disk T, combined with the mandrel C and sleeve O, with spring P and adjusting-nut R, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. WHEELER.

Witnesses:
D. F. SPEES,
J. C. FRINK.