

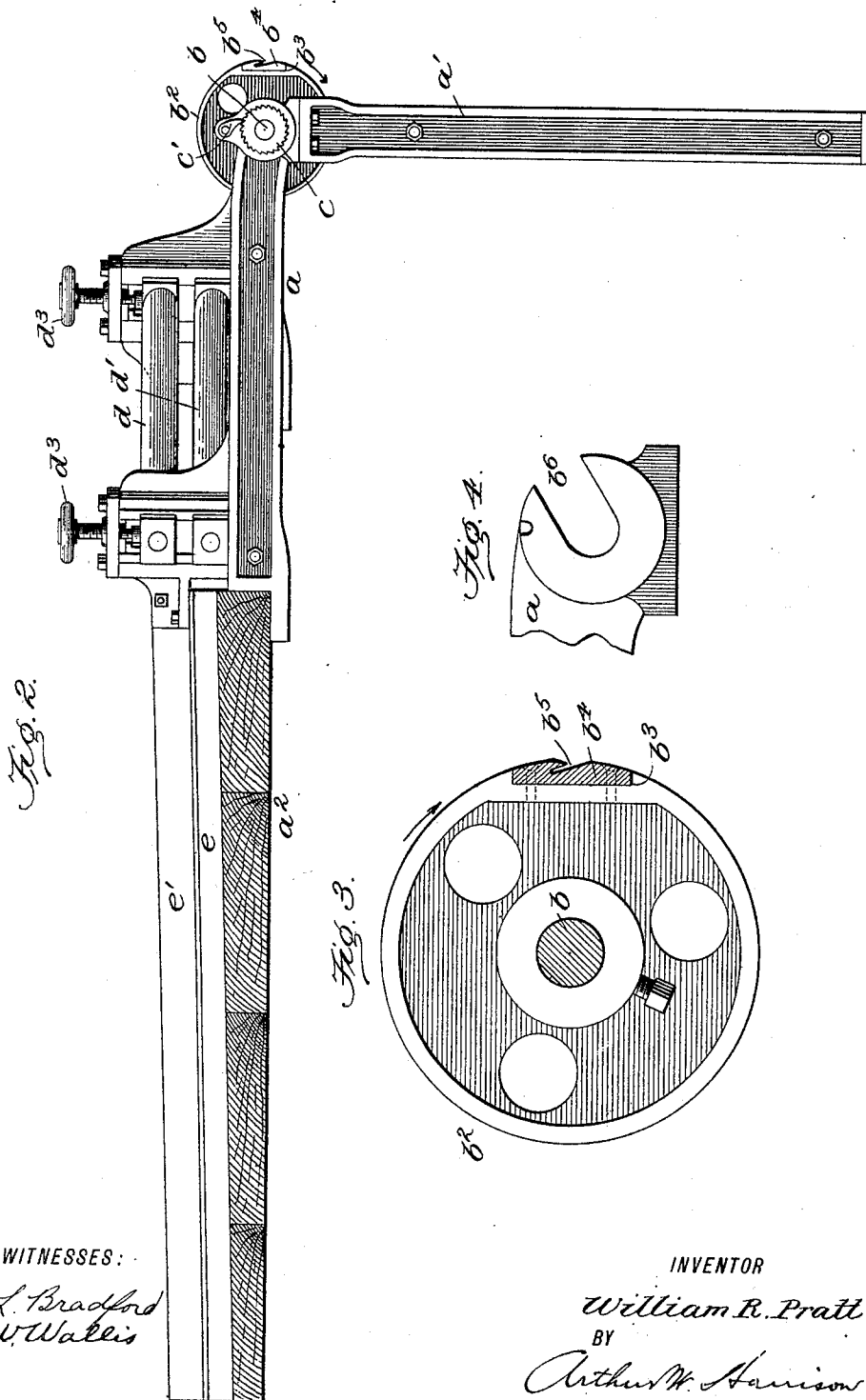
(No Model.)

2 Sheets—Sheet 2.

W. R. PRATT.
TIN SEAMING MACHINE.

No. 581,614.

Patented Apr. 27, 1897.



WITNESSES:

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TIN-SEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 581,614, dated April 27, 1897.

Application filed September 5, 1896. Serial No. 604,969. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. PRATT, of Shenandoah, in the county of Schuylkill and State of Pennsylvania, have invented new and useful Improvements in Tin-Seaming Machines; and I do hereby declare the following to be a full, clear, and exact description of said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to machines for rolling or pressing sheet metal, and has particular reference to that class of such machines which are employed to roll or press the bent and interlocked edges of sheets of tin.

Roofing-tin is commonly made up in rolls composed of a series of sheets which have their edges permanently united together and pressed, such rolls having a length corresponding with the width of a single sheet of tin. In machines which have been heretofore constructed for the purpose of rolling or pressing the joined edges of the sheets it has been customary to arrange the pressing-rolls at a right angle to the direction of feed or movement of the sheets and parallel with the line of the joint or seam. With such machines difficulty is experienced in passing the seam between the pressing-rolls owing to the obstruction caused by the abrupt increase in the thickness of the work operated upon extending the full width of the strip or sheet.

The object of this invention is to provide a machine for this purpose in which the rolling or pressing action of the rolls will begin at one end of the seam and extend gradually across to the other end of the seam, so as to produce a shearing rolling action, thereby not only producing a less strain on the working parts of the machine, but also producing a smooth and perfect joint between the sheets of tin.

The invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 is a plan view of the machine complete. Fig. 2 represents a side elevation of the same. Fig. 3 represents a section on line 3 3 of Fig. 1. Fig.

4 represents a detail elevation of one of the bearings of the winding-shaft.

Similar reference-characters indicate the same parts throughout the several views. 55

In the drawings, *a* represents the frame of the machine, one end of which may be supported by means of a suitable standard *a'* and the other end connected to and supported by a suitable bench; but I wish it to be particularly understood that the invention is not limited to the supporting means herein shown. I may employ a specially-designed frame or specially-designed standards for the machine, which shall be independent of any ordinary bench or other support. 65

b represents the winding-shaft, which is mounted in suitable bearings at one end of the frame of the machine and at one end has a wheel provided with a handle *b'*. 70

A plurality of disks *b²* (three being shown in the drawings) are secured to the shaft *b*, and each of said disks is provided with a notch *b³*, the notches of all of the disks being in line with each other to receive a bar *b⁴*, said bar being provided with a groove *b⁵*, extending in a straight line from end to end of the bar. The groove *b⁵* is formed in the bar *b⁴* at such an angle that when the edge of the first piece of tin is placed in said groove and the shaft is rotated in the direction shown by the arrow in Figs. 2 and 3 the edge of the said first piece of tin will be bent, so that it will remain hooked in the bar, whereby said sheet and the others connected thereto may be wound upon the shaft. If preferred, the edge of the first piece of tin may be bent before being engaged with the groove in the bar, so as to hook therein. 85

At one end of the shaft *b* is a ratchet *c*, and a pawl *c'* is secured to the frame of the machine and engages with said ratchet to prevent the unwinding of the roll during the operation of pressing the seam. 90

d represents the upper roll, and *d'* the lower one, of the pair of pressing-rolls. The bearings for the lower roll are or may be fixed or non-adjustable in the frame, while the bearings of the upper roll are vertically adjustable in suitable guides or ways formed for the purpose, adjusting-screws being indicated at *d³*. At one side of the frame of the machine 95 100

the bearings for the rolls are much nearer the winding-shaft than the bearings at the other side of the frame, as indicated in Figs. 1 and 2, the rolls, therefore, being arranged at an angle to the line of feed and to the winding-shaft.

A table *e* for the support of the separate sheets of tin is provided with guiding-ways *e'*, one of the latter having flat leaf-springs *e²*, the said springs being secured at one end and free to slide at the other end, and therefore adapted to hold the piece of tin against the opposite side or way.

In the operation of the machine a pile of sheets of tin is placed upon the table, two of the edges of each sheet being bent in the ordinary manner. The first sheet is passed between the pressing-rolls *d d'* and secured to the winding-shaft in the manner heretofore described. The front bent end of the second sheet is then hooked into the rear bent end of the first sheet and the operator, by turning the handle *b'* in the direction indicated by the arrow in Figs. 2 and 3, draws the joined edges of the two sheets between the pressing-rolls, the action of the latter beginning at one edge of the sheet or one end of the seam and gradually extending to the other. This presses the hooked or bent edges of the sheet together and joins them with a smooth finish without producing any sudden strain on the machine and without requiring any great exertion on the part of the operator. The next sheet is then joined to the second sheet in the same manner, and as many of the sheets may be joined and formed into one roll on the winding-shaft as may be desired.

To remove the roll of joined sheets from the winding-shaft, the latter is temporarily re-

moved from its bearings and the roll is drawn from one end over the disks. To permit of the removal of the shaft *b*, the bearings therefor are provided with upwardly-inclined slots *b⁶*, as shown in Fig. 4. The said shaft may be lifted out of its bearings through these slots.

Having now described my invention, what I claim is—

1. A tin-seaming machine comprising in its construction a winding shaft or roll and pressing-rolls arranged at an angle to the axis of said winding-shaft, substantially as described.

2. A tin-seaming machine, comprising in its construction a winding shaft or roll, a table, guides or ways arranged at a right angle to the axis of the winding-shaft, and pressing-rolls extending diagonally across the table, substantially as described.

3. In a tin-seaming machine, the combination with the winding-shaft having the bar *b⁴* provided with an angular groove *b⁵*, of the pressing-rolls *d, d'* arranged at an angle to the axis of the winding-shaft, substantially as described.

4. In a tin-seaming machine, the combination with the winding-shaft having the bar *b⁴* provided with an angular groove *b⁵*, of the pressing-rolls *d, d'* arranged at an angle to the axis of the winding-shaft, and the table *e* having guiding-ways *e'* one of which is provided with springs *e²*, substantially as described.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

WM. R. PRATT.

Witnesses:

M. J. LAWLOR,
J. F. MOCK.