

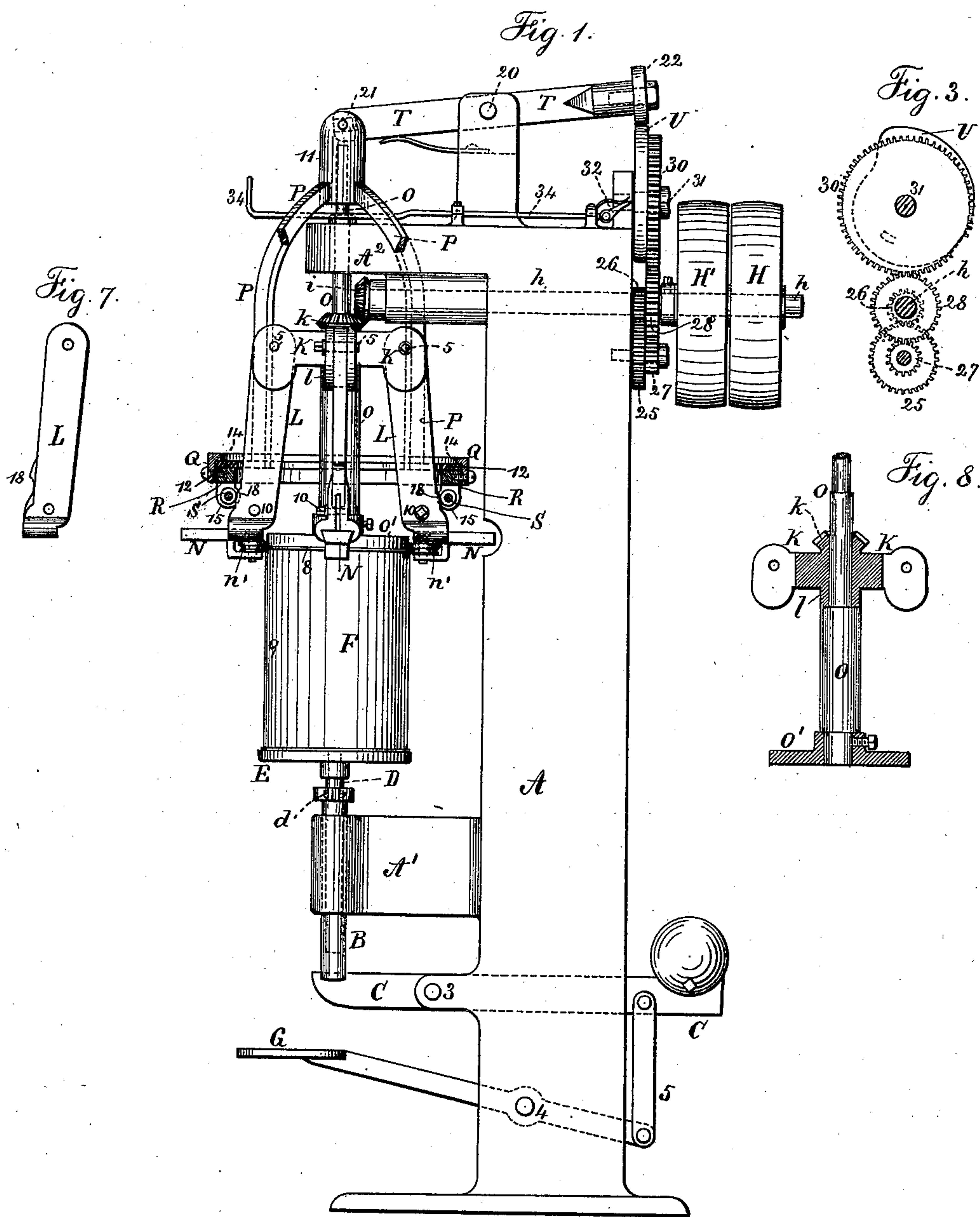
(No Model.)

2 Sheets—Sheet 1.

J. M. MUNGIVEN.  
CAN SEAMING MACHINE.

No. 373,150.

Patented Nov. 15, 1887.



Witnesses:  
J. Stait  
Chas. H. Smith

Inventor:  
James M. Mungiven  
per Lemuel W. Terrell atty

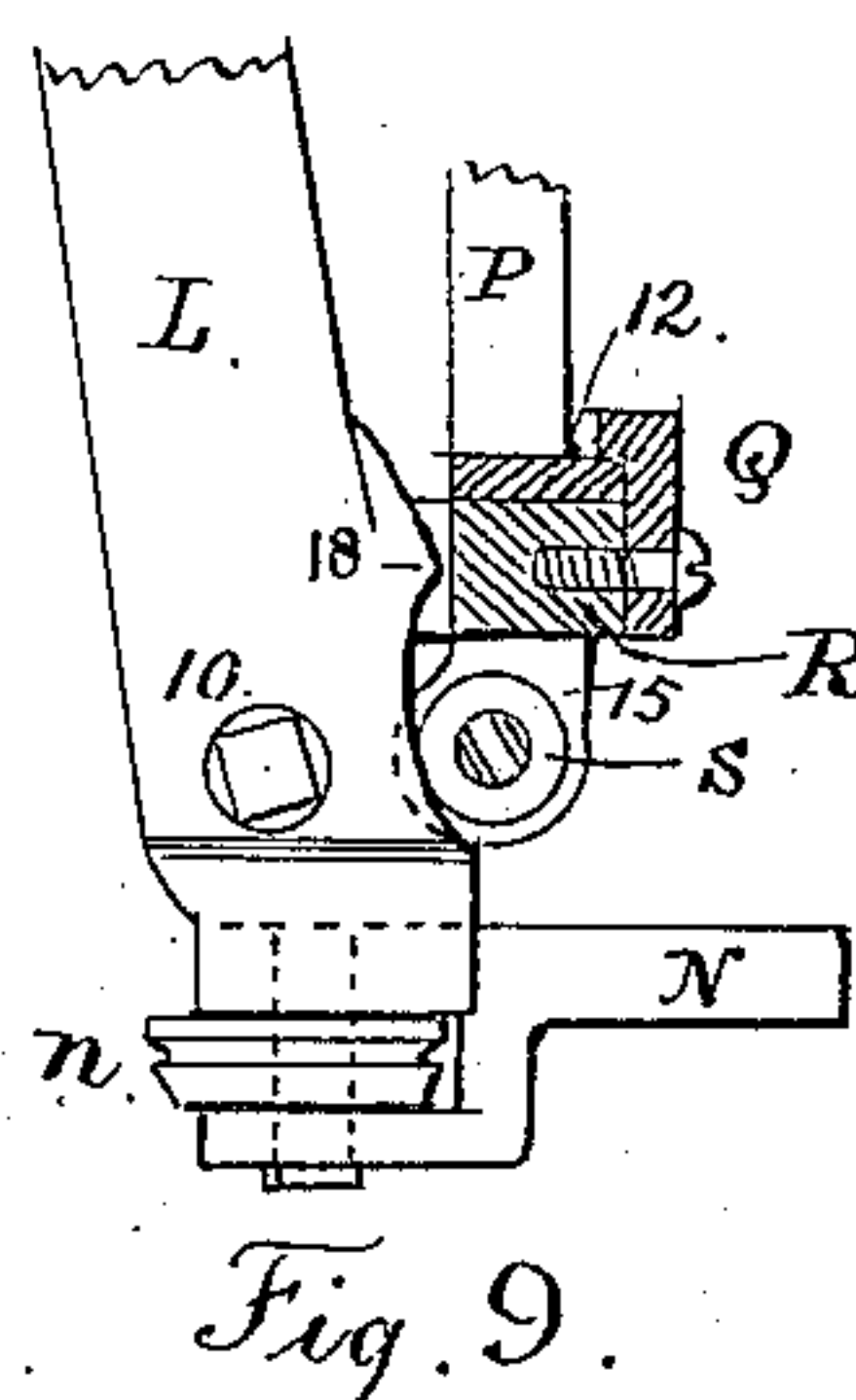
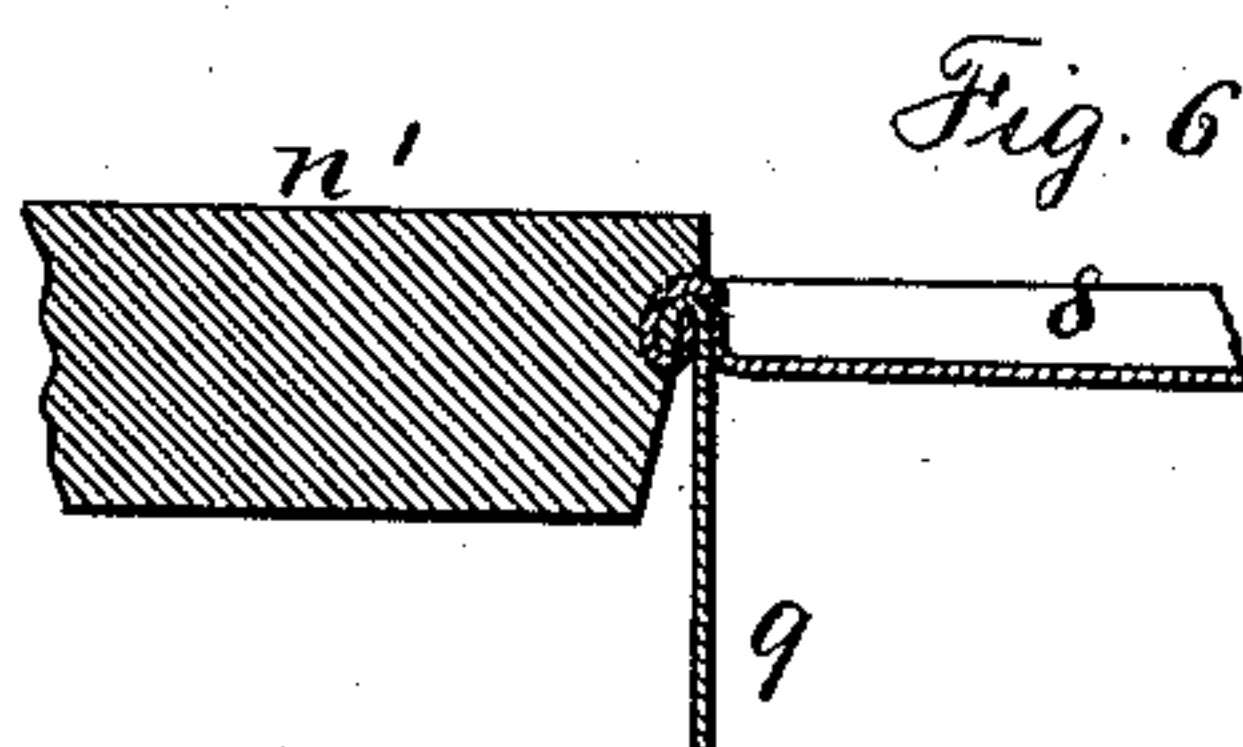
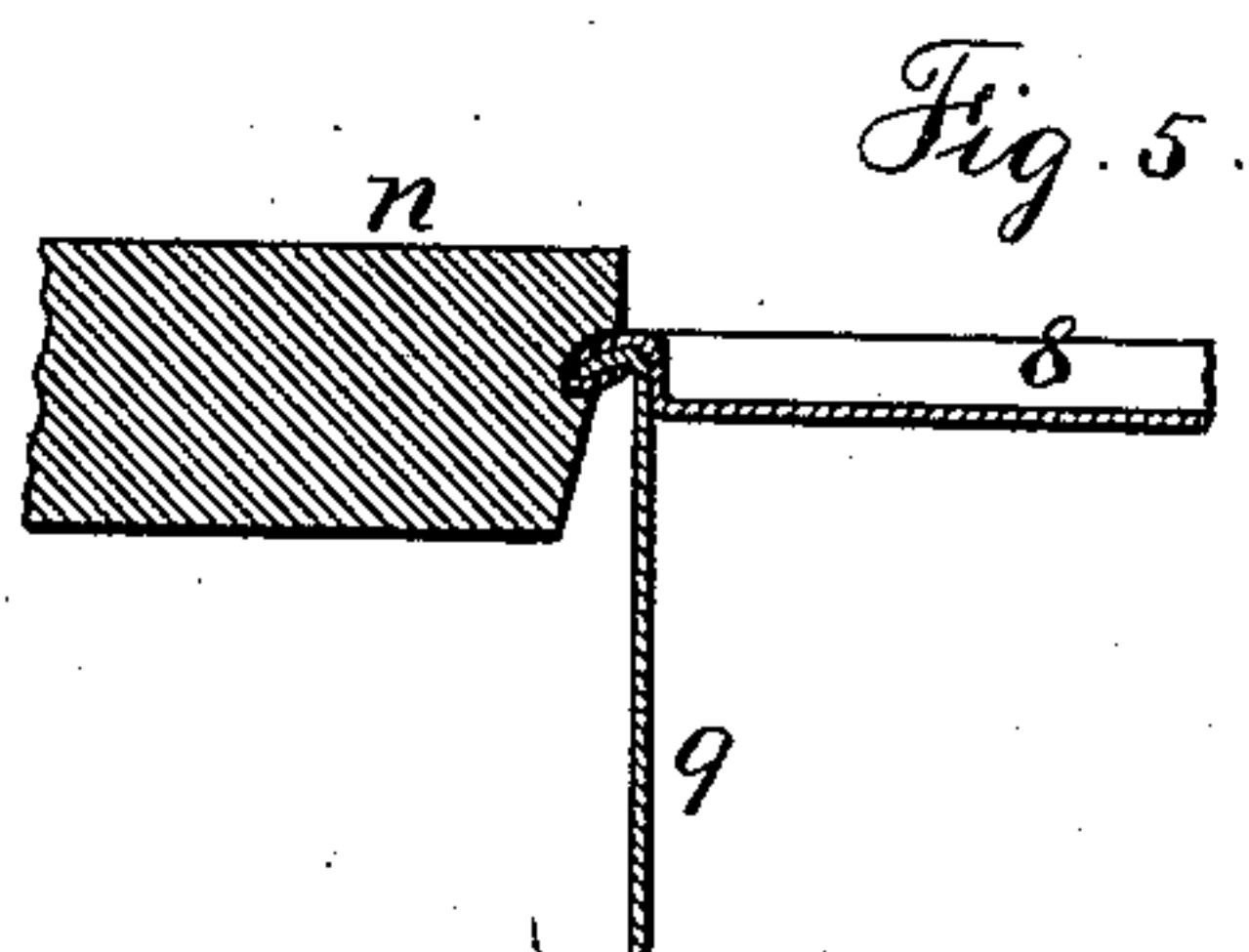
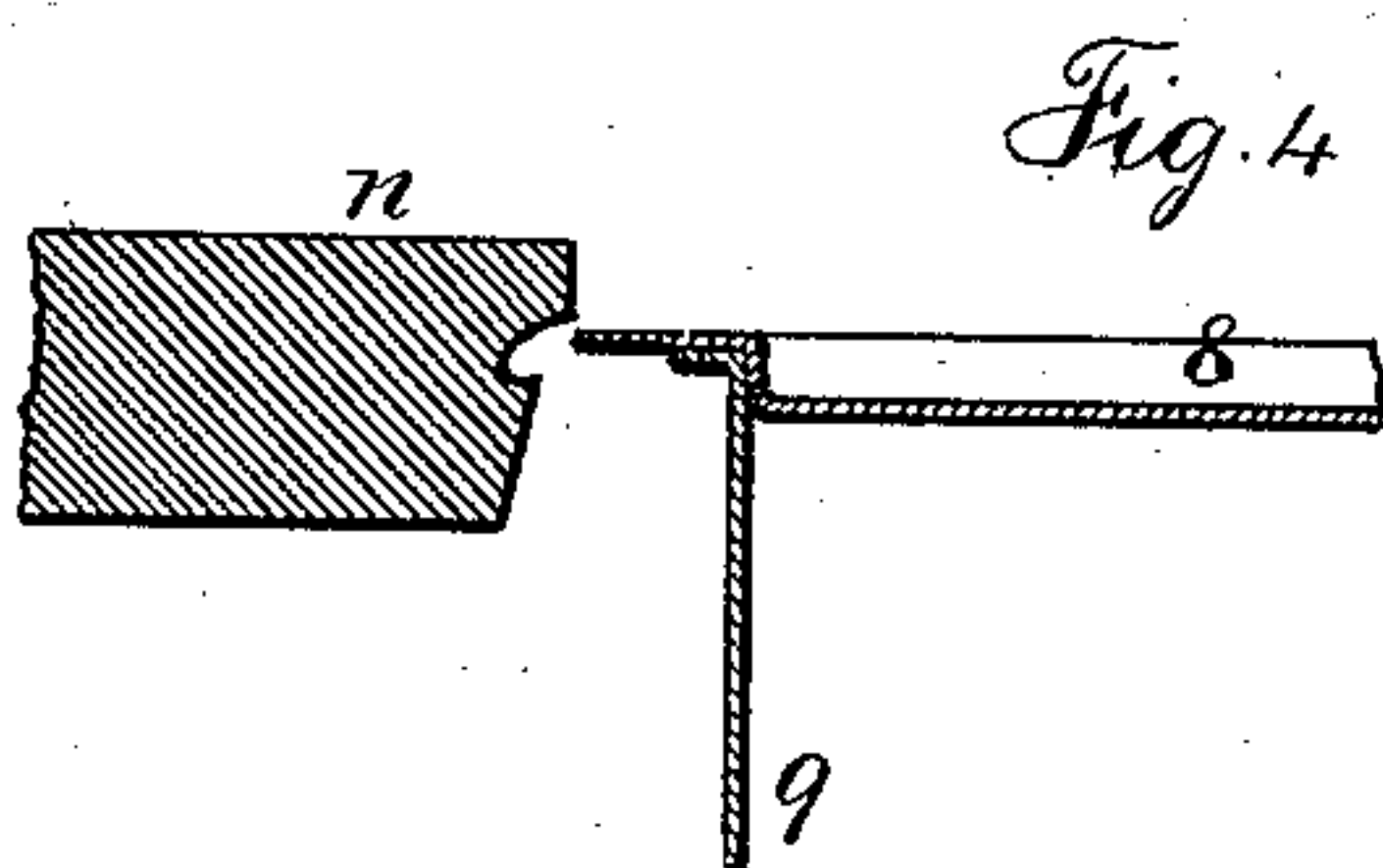
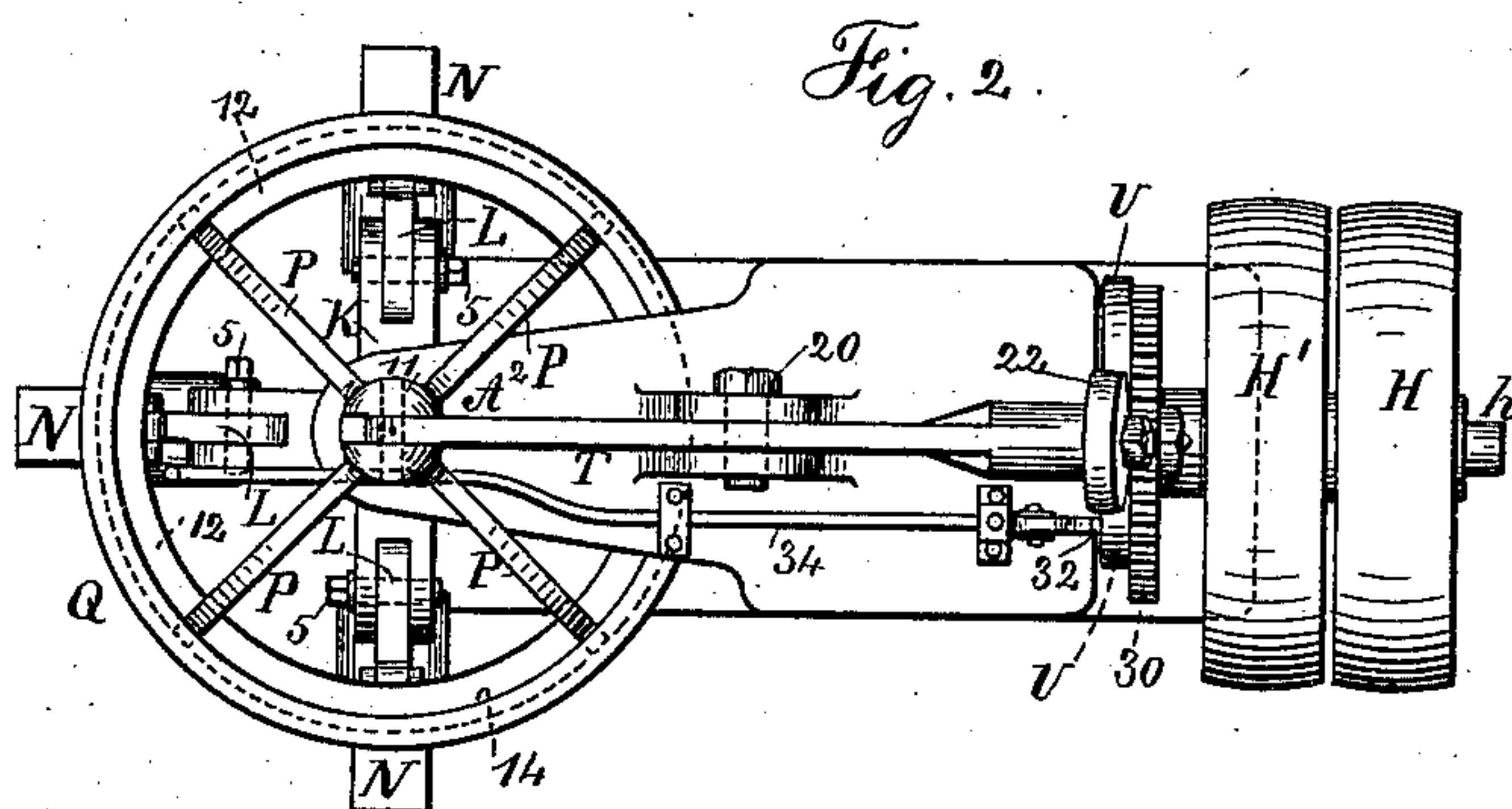
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2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

JAMES M. MUNGIVEN, OF BROOKLYN, ASSIGNOR TO SILAS A. ILSLEY, OF NEW YORK, N. Y.

## CAN-SEAMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 373,150, dated November 15, 1887.

Application filed August 8, 1887. Serial No. 246,403. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. MUNGIVEN, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Seaming-Machines for Paint and other Cans, of which the following is a specification.

Machines have been made for seaming the heads of paint and other cans; but in consequence of the can itself being revolved the paint is liable to be thrown over the edge of the can by centrifugal force, and thereby disfigure the can, and also interfere with the proper seaming of the two sheet-metal parts together.

In my improvement the can is held stationary, the cover pressed to the body, and the seaming-tools are carried bodily around the can, and they are brought into action successively to bend over the edge of the sheet metal and form a tight seam between the head or end of the can and the body. The seam may be a double or single fold, usually double, and both heads may be put into the can-body successively by this machine; but the improvement is the most advantageously employed for seaming the edges of the head and closing the can tightly after the paint, butter, lard, sirup, honey, or other material has been placed into the can.

In the drawings, Figure 1 is a side elevation, partially in section, of my improved machine. Fig. 2 is a plan view of the same, and Fig. 3 is a detached view of the gearing for actuating the parts. Figs. 4, 5, and 6 show the sheet-metal seams in larger size and in the different stages. Fig. 7 shows one of the arms that carries a seaming-roller. Fig. 8 is a section of the sleeve and an elevation of the hanging shaft supporting the same; and Fig. 9 is a detached view, in larger size, of the lower ends of the spider-frame and arms and section of the rings.

The column or standard A is provided with a suitable base or foot, by which the column is held firmly in place. The bracket A' has through it the vertical tubular slide B, that rests at its lower end upon the weighted lever C, pivoted at 3, and within the tubular slide B is a rod, D, connected at its upper end with the bed E, that receives upon it the can F. This rod D and bed E can be raised or lowered

and adapt the machine to cans of different heights, and a set or clamp screw, *d*, secures the parts after being adjusted. The treadle G, pivoted at 4, is connected by the link 5 to the lever C, so that the rear end of the lever can be raised and the bed E lowered for inserting or removing the can. The steam or other power acts upon the pulley H to drive the shaft *h* and bevel gear-wheel *i* continuously, except when the machine is stopped by running the belt upon the loose pulley H'. The shaft *h* is in suitable bearings upon the standard A, and the bevel-gear *i* meshes into a similar gear, *k*, on a tubular shaft, *l*, carrying the head K, from which hang down the tool-holding arms L, hinged at 5 to the head K.

Each tool-holding arm is split and formed as a jaw at its lower end, receiving the horizontal stock N, with a roller, *n* or *n'*, at the inner end. This allows the rollers to be moved nearer to or farther from the axis of rotation, to adapt the machine to cans and heads of different sizes. The clamping-screws 10 serve to hold the stocks firmly when adjusted. The rollers *n n'* are upon vertical axes, and are shaped properly for turning over the edges of the metal in single or double seaming the bottom or cover. In Fig. 4 the parts of the head 8 and body 9 are shown sectionally in a magnified size. In Fig. 5 the same parts are shown as having received the first fold by two opposite rollers, *n*, and in Fig. 6 the double seam is shown as completed by the other pair of opposite rollers, *n'*, and I remark that one pair of rollers is first brought into action and relieved, and then the other pair is brought up by the means hereinafter described.

The arm A<sup>2</sup> at the upper end of the column A has through it the vertical fixed axis O, for supporting the tubular shaft *l*, and around which such shaft *l* revolves. At the lower end of this axis O is attached the follower O', that is of proper size to fit the recessed upper side of the can-head 8, so as to hold such head and support the sheet metal against the action of the rolls in the double-seaming operation.

There is a spider-frame, P, preferably with four arms hanging down from the head-piece 11, and having a ring, 12, fastened upon their lower ends, with its edge projecting beyond the outer edges of the arms P, and this ring 12 is



within and below inwardly-flanged upper edge, 14, of the ring Q, so that this ring Q can be revolved freely around the ring 12 upon the spider-frame; but such frame can be used for  
5 raising or lowering the ring Q.

Within and attached to the ring Q is a ring, R, with inwardly-projecting lugs or jaws 15, which come at the sides of the arms L, and also project downward, carrying rollers S.  
10 These rollers S come at the back or outer edges of the arms L, and these arms L have cams 18, against which these rollers S act. The cams 18 on two of the arms L are higher up than they are upon the other two arms, (see Figs.  
15 1 and 7,) so that as the rings Q R are forced down by moving the spider-frame P, as hereinafter described, two of the rollers S will first act to press in the two turning-rollers *n*, that  
20 give the first fold to the sheet metal, and then the other two rollers, *n'*, are brought into action to finish the seaming as the rings Q R are moved to their extreme downward position.

There is a lever, T, pivoted at 20 on A<sup>2</sup> and connected at 21 to the head 11 of the spider-frame P. This lever may be acted on by hand  
25 or otherwise to move the frame P and bring into action the rollers *n n'*, that fold and seam the can as the arms L revolve and carry with them said rollers *n n'*; but I prefer to move  
30 this lever T by the volute cam U, which acts on the roller 22 at the end of the lever T.

The gear-wheel 25 is driven by the pinion 26 on the shaft *h*, and the pinion 27 is connected with the wheel 25, and drives the gear-wheel 28, that is loose upon the shaft *h*, and it  
35 in turn drives the gear-wheel 30, which is fastened upon the cam U; and 31 is a stud or gudgeon upon which the cam and gear revolve. By moving a few teeth at the proper place in  
40 the wheel 30 the same will be revolved once and then stop until such wheel 30 is partially turned to again engage its teeth with the teeth of the wheel 28. By this means the arms L are allowed to revolve continuously; but the  
45 rollers *n n'* are out of the way, and are not brought up to action until the cam U is partially turned to engage the gear-teeth 30, when said cam will be revolved and gradually raise the roller 22 and force down the spider-frame  
50 and rings to close in the turning-rollers and seam the head of the can firmly upon the body as the can remains quiescent.

The slide-rod 34 and diagonal hinged pawl 32 may be made use of to partially turn the

cam and gear-wheel and engage the teeth, the 55 pawl acting against a tooth or within a notch and giving motion to the cam when the slide-rod is pushed in.

I claim as my invention—

1. The combination, in a can-seaming ma- 60 chine, of a bed and follower for holding the can body and head, two sets of seaming-rollers, and mechanism, substantially as specified, for supporting the seaming-rollers and revolving them around the head and for bringing 65 into action first one set of rollers and then the other set of rollers for double-seaming the edges of the head to the can-body, substantially as specified.

2. The combination, in a can-seaming ma- 70 chine, of a bed and follower for holding the can body and head, a frame having an arm, a fixed axis, O, hanging from the arm and holding the follower, a head supported by and revolved around the fixed axis, pendent arms 75 hinged to the head, seaming-rollers upon the lower ends of the arms, a spider-frame and means for moving the same vertically, and mechanism between the spider-frame and arms for pressing the arms and the seaming-rollers to 80 their work, substantially as specified.

3. The combination, in a can-seaming machine, of a bed and follower to hold the can, rollers for seaming the edges of the sheet metal, a head and pendent arms carrying the 85 rollers, a ring surrounding the arms and revolved with them, a spider-frame, and a lever for moving the spider-frame and ring up and down, substantially as set forth.

4. The combination, with the revolving 90 sleeve, arms, and seaming-rollers, of the ring surrounding the arms, the rollers thereon acting against the cams on the arms, the spider-frame for supporting and moving the ring, and the lever for acting on the spider-frame, 95 substantially as set forth.

5. The combination, with the revolving sleeve, arms, and seaming-rollers, of the ring around the arms, the spider-frame for supporting the ring, the lever, and the cam for giving 100 motion to the spider-frame and ring, substantially as set forth.

Signed by me this 5th day of August, A. D. 1887.

JAS. M. MUNGIVEN.

Witnesses:

WILLIAM G. MOTT,  
HAROLD SERRELL.