

(No Model.)

W. A. WHEELER.
PIPE CRIMPING MACHINE.

No. 321,165.

Patented June 30, 1885.

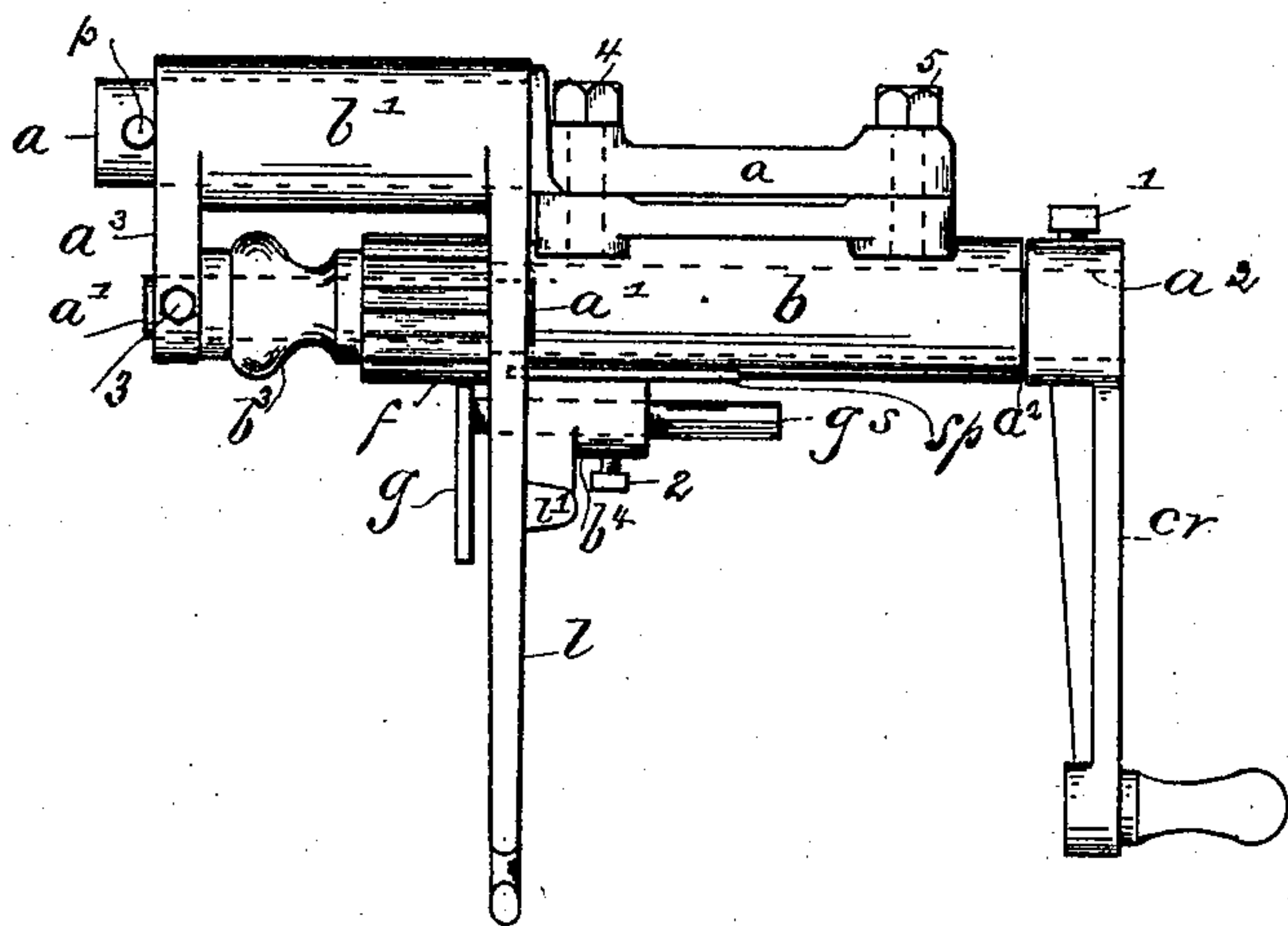


Fig. 1.

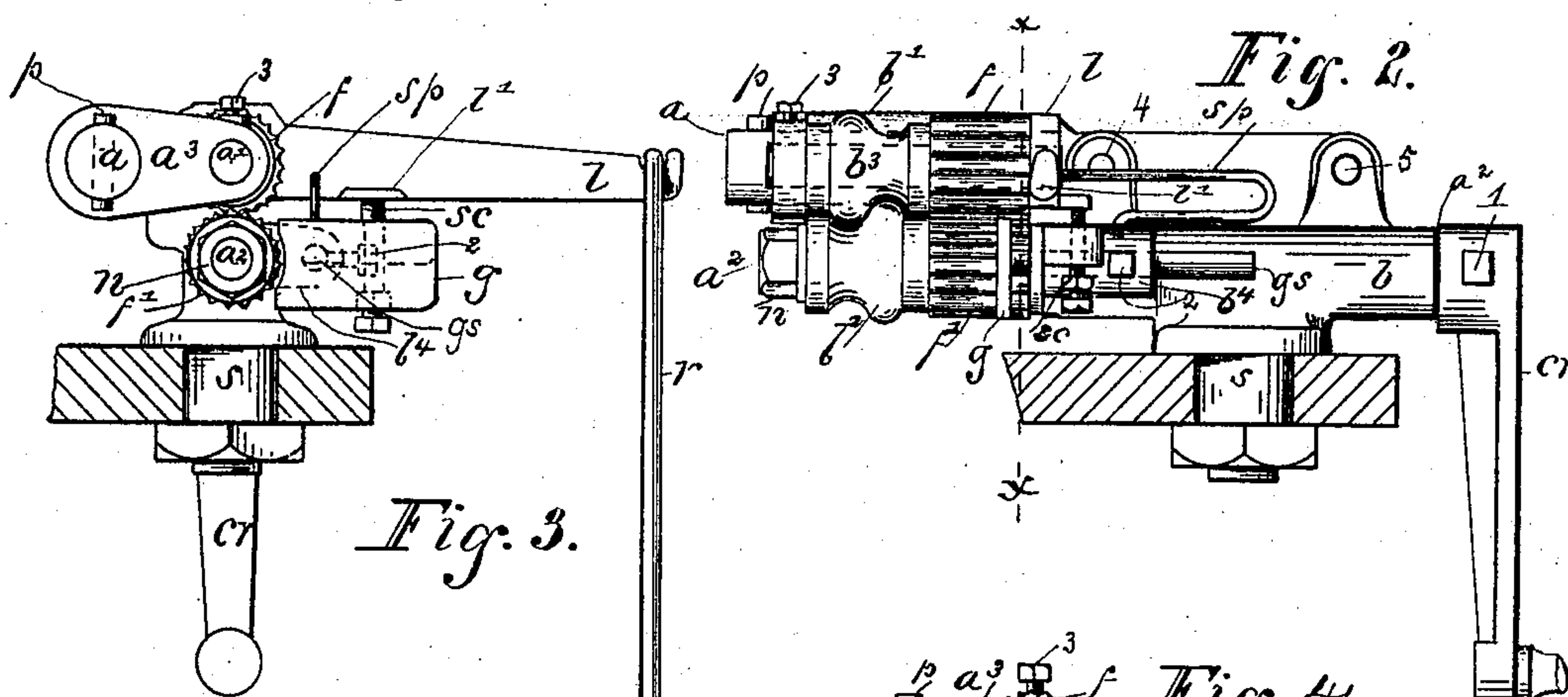


Fig. 2.

Fig. 3.

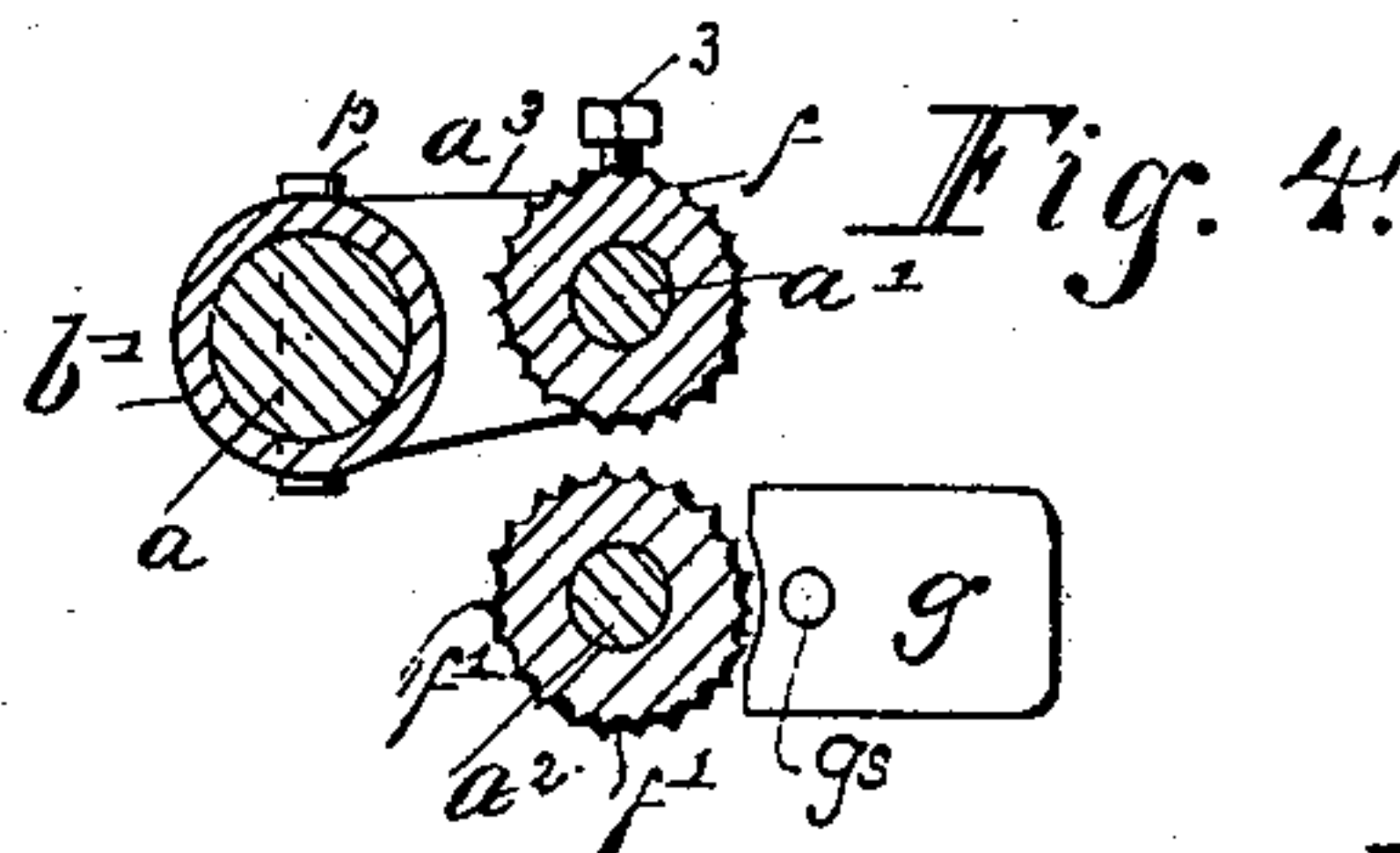


Fig. 4.

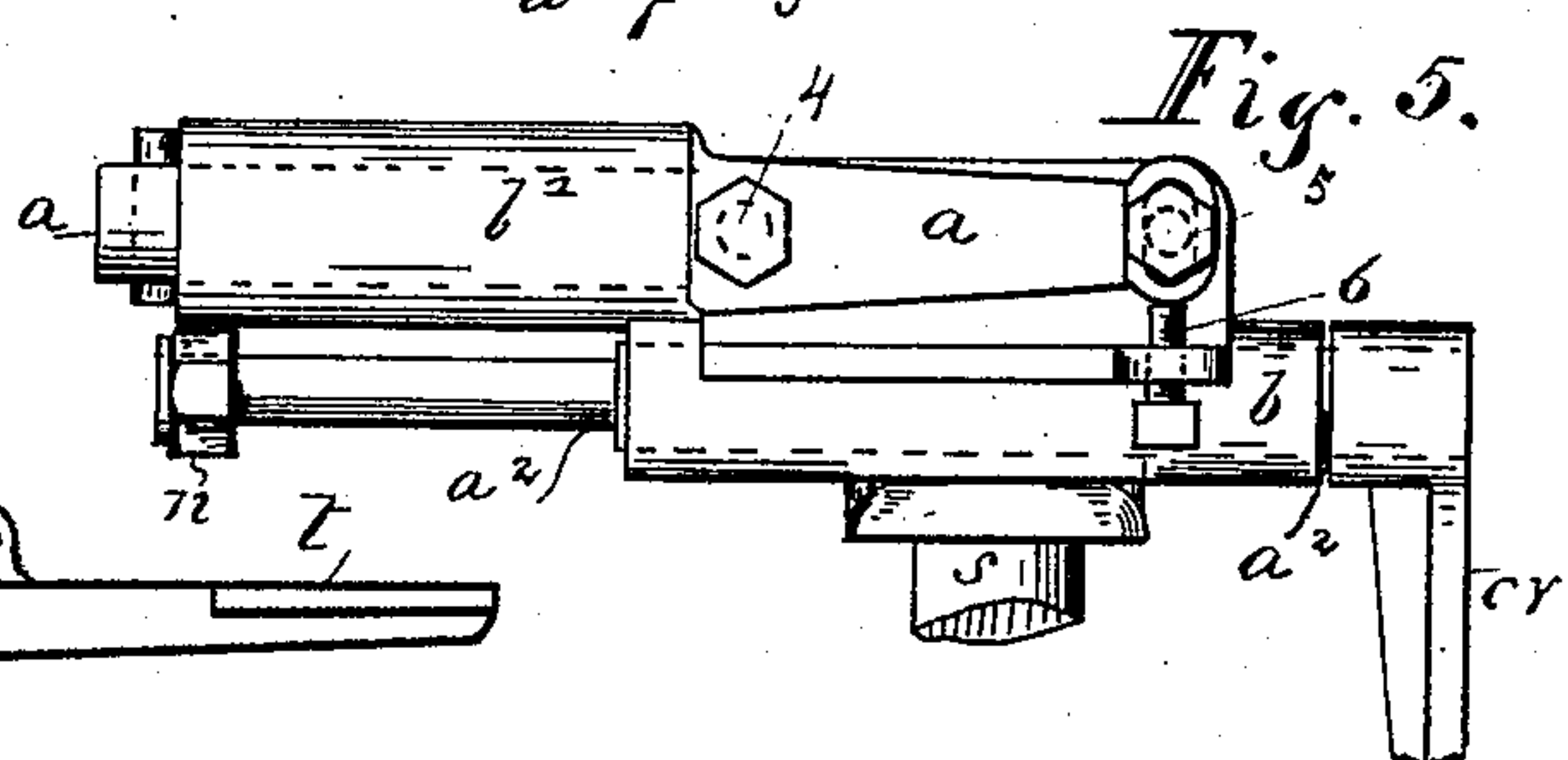


Fig. 5.

WITNESSES.

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WILLIAM A. WHEELER, OF INDIANAPOLIS, INDIANA.

PIPE-CRIMPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 321,165, dated June 30, 1885.

Application filed March 27, 1885. (No model.)

To all whom it may concern:

Be it known that I, WM. A. WHEELER, a resident of Indianapolis, Indiana, have made certain new and useful Improvements in Pipe-

5 Crimping Machines, a description of which is set forth in the following specification, reference being made to the accompanying drawings, in these several figures of which like letters indicate like parts.

10 My invention relates to devices for beading and crimping the ends of stove-pipe joints; and it consists in the several parts hereinafter set forth and described, and will be understood from the following description.

15 In the drawings, Figure 1 represents a top view of my device; Fig. 2, a side view when the fluting-rolls are brought down, the one upon the other, in readiness to receive the pipe to be crimped. Fig. 3 is an end view, and 20 Fig. 4 is a section upon the line xx , Fig. 2. Fig. 5 is a rear view of the arm a and adjusting-screw.

In detail, a is an axle, which has bearings in a boxing, b' , this boxing being rotatable on the axle a , to which is connected a lever, l , 25 having a hooked end for the rod r of the treadle t to take hold upon. The rear end of this axle a toward the crank is extended to form an arm, which is bolted by bolts 4 and 5 to an upward extension of the boxing b . This boxing 30 b is mounted on the axle a^2 , on the right-hand end of which is mounted the crank cr , having a set-screw, 1, and the other end of this axle a^2 carries the lower fluted roll, f' , and the 35 bead-roll b^2 , these rolls being confined by the nut n on the other end of the axle a^2 , as shown in Fig. 2. By means of the lever l the boxing b' may be rotated on the axle a , carrying with it the short axle a' , on which is mounted the 40 fluted roll f and the bead-roll b^3 , one end of this short axle having bearings in the arm a^3 , the other end being journaled in the lever l , as shown in Fig. 1. A set-screw, 3, prevents this axle from slipping out. It is obvious that 45 by means of this lever l the two sets of fluted and beaded rolls may be brought in contact with each other, as shown in Fig. 2. g is a gage-plate mounted on the guide-shaft gs , which has bearings in a downwardly-projecting boxing, b^4 , connected with the boxing b , and 50 which is adjusted by means of a set-screw, 2,

so that the depth of the fluting upon the pipe may be regulated by means of this gage-plate. A short shank, s , depending from the under side of the boxing b , may enter a socket in a 55 standard to be placed upon the bench, or through an opening in the top of the bench, as shown in Fig. 2, and may be secured by a nut on the under side. sc is a screw which works in a threaded opening in a projection 60 from the boxing b^4 , and having a jam-nut mounted on it to bear against the under side of the projection, and is shown in Fig. 2 just above the head of the screw-bolt sc , and is intended to regulate the distance between the 65 two fluting-wheels, as the upper end of this screw meets a short projection or lug, l' , (see Fig. 1,) formed on the under side of the lever l , and will limit the movement downward of this lever as the lug presses against the top of 70 the screw sc , and the farther this screw is forced upward the farther will the fluted rolls $f f'$ be kept apart. sp is a spring, formed of a curved wire, one end of which fits into a 75 hole on the inside of the lever l , and the other end has a downward projection entering the top of the boxing b^4 , and it is intended, when in place, to prevent the engagement of the fluted wheels $f f'$. These fluted wheels are not made tapering, like those commonly used, 80 but are mounted on axles parallel with each other and have parallel faces.

The machine operates as follows: The shank s being placed in an appropriate socket or opening in the bench, the fluted roll f and the 85 bead-roll b^3 are brought over by means of the lever l , so that one set will be just above the other and in a horizontal plane parallel thereto. The end of the pipe-joint is then inserted between the bead-rolls b^2 and b^3 , and as far be- 90 tween the fluted rolls $f f'$ as it is desired, the distance being regulated by means of the gage g . The rod r is connected to the hook of the lever l . The treadle t is then pressed down with the foot, holding the pipe tightly between the 95 beading and fluting rolls. The crank cr is then turned over from the operator, which revolves the fluting and beading rolls on the shaft of this crank, and the same is turned until the beading and the crimping is com- 100 pleted around the pipe-joint, when the pressure upon the treadle t is released, the revolution

of the crank stopped, and the pipe-joint taken out. The rolls are then forced apart by the operation of the spring *sp*, and the machine is ready for another operation.

5 The arm *a* is secured to the projection on the boxing *b* by bolts 4 and 5 in the following manner: The bolt 5 enters the threaded opening on the projection of the box *b* through an elliptical slot in the arm *a*, and operates simply to clamp
10 the arm *a* to the projection upon the box *b*, so that when the bolt 5 is loosened a movement in a vertical plane is possible for the arm *a* upon the bolt 4 as a pivot, this movement being limited only by the length of the slot through
15 which the bolt 5 passes, and this allows a slight adjustment in a vertical plane of the axis *a*, so that the elevation of the arm *a* will depress the outer end of the axle *a*, connected therewith, and a reverse movement of the arm *a* will ele-
20 vate the outer end of the axle *a*, and this necessarily varies the angle of inclination of the faces of the fluted wheels with respect to each other, since the axle *a'* is parallel to the axle *a* in the boxing-frame. (See Fig. 5.) This arm *a* is sup-
25 ported from below upon the end of a set-screw, 6, which enters a threaded opening in a lug projecting from the back of the boxing *b*, and the slotted end of the arm may accordingly be raised or lowered within the limit of the length
30 of the slot by elevating or lowering this set-screw. This pivotal movement of the arm *a*, as has been said, controls the movement of the boxing-frame, which is mounted on the axle connected with this arm, and thus the angle of
35 the faces of the fluted rolls may be varied with respect to each other. The object of this is to make a slight angle between them, so as to crimp the end of the pipe-joint more or less tapering, if desired.

36 What I claim as my invention, and desire to secure by Letters Patent, is the following:

1. In a pipe-crimping machine, a frame-work composed of a hollow boxing, *b'*, the arm *a'*, and the lever *l*, carrying the short axle *a'*,
5 having bearings in the arm *a'* and the lever *l*, the fluted roll *f*, having parallel sides, and the bead-roll *b'* mounted on such axle *a'*, this frame-work rotatable on an axle, *a*, which is pivoted
10 at 4 to the boxing *b*, so as to allow a movement in a vertical plane on such pivot 4, the opposite end of the axle *a* continued to form an arm having an elliptical slot in its extremity through which the bolt 5 passes, the axle
15 *a'*, having the parallel-faced fluted roll *f'*, and the bead-roll *b'* mounted thereon and rotatable in a boxing, *b*, into which the bolts 4 and 5 enter, a suitable crank mounted on the opposite end of the axle *a'*, all combined sub-
20 stantially as described.

2. In a pipe crimping and beading machine, 60 a set of beading and crimping wheels, the latter having parallel faces, mounted on the driving-shaft, a corresponding set loosely mounted on an axle journaled in the arms of a frame adapted to be rotated on a separate 65 axle connected with the main frame so as to be thrown forward and downward and to bring the two sets of beading and fluting wheels at a proper position to bead and crimp the pipe-joint, in combination with the curved spring 70 *sp*, one end thereof adapted to enter an opening in the boxing of the driving-shaft, the other into an opening in the side of the frame that carries the shaft on which the upper set of rolls are loosely mounted, the spring adapted 75 and arranged to force the set of rolls apart when the pressure is removed, the lever *l*, the connecting-rod *r*, and the treadle *t* for bringing the sets of rolls together, and the crank for actuating the driving-shaft, all combined sub- 80 stantially as described.

3. The arm *a*, with its connected axle, the rotatable frame composed of the boxing *b'*, arm *a'*, and lever *l*, carrying the shaft *a'*, with a beading and fluting roll loosely mounted there- 85 on, the arm *a* being pivoted near its center to the boxing *b*, its opposite end clamped by the bolt 5 through an elliptical slot therein to the boxing *b*, the axle *a'*, carrying the lower set of beading and fluting rolls, the adjusting- 90 screw 6 for limiting the movement of the slotted end of the arm *a*, the gage-plate *g*, connected to the guide-shaft *gs*, and the adjusting-screw *sc* for stopping the movement of the lever *l*, all combined substantially as described. 95

4. In a pipe-crimping machine, two sets of beading and crimping wheels, the latter having parallel faces, the lower set rigidly mounted on a driving-shaft, the upper set loosely mounted on a shaft sustained in the sides of a 100 frame which is adapted to be rotated forward and downward so as to bring the faces of the two sets of beading and crimping wheels in contact with each other, the axle of such rotatable frame being connected to the main 105 frame by a pivot, which allows a rotary movement of such axle in a vertical plane, and being provided with mechanism for limiting the vertical movement of such axle, all combined 110 substantially as described.

In witness whereof I have hereunto set my hand this 17th day of March, 1885.

WM. A. WHEELER.

Witnesses:

C. P. JACOBS,
W. E. BARTON.