

(No Model.)

J. CREA.

MACHINE FOR BUTT WELDING TUBES.

No. 354,102.

Patented Dec. 14, 1886.

Fig. 1

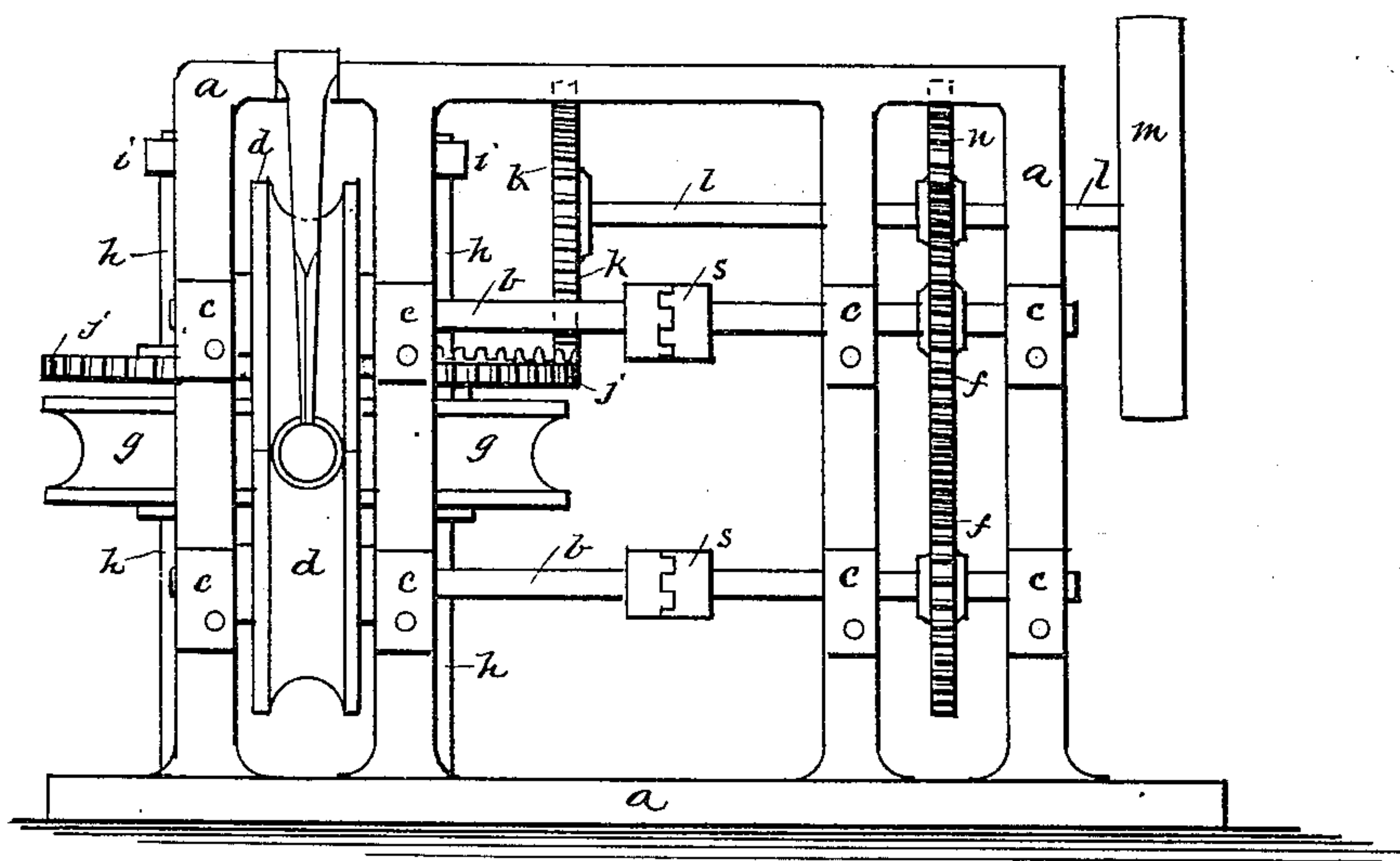


Fig. 2.

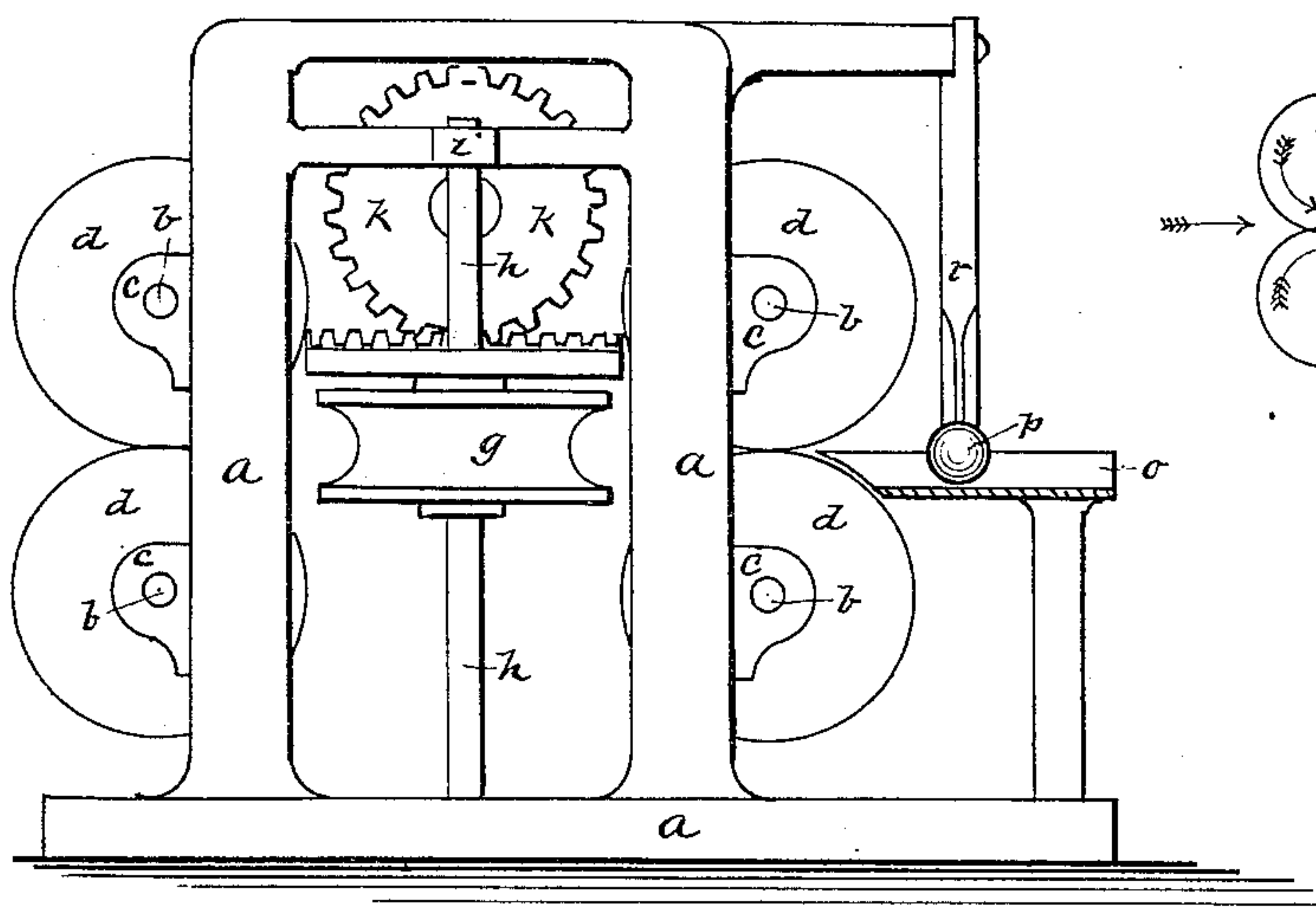


Fig. 3.

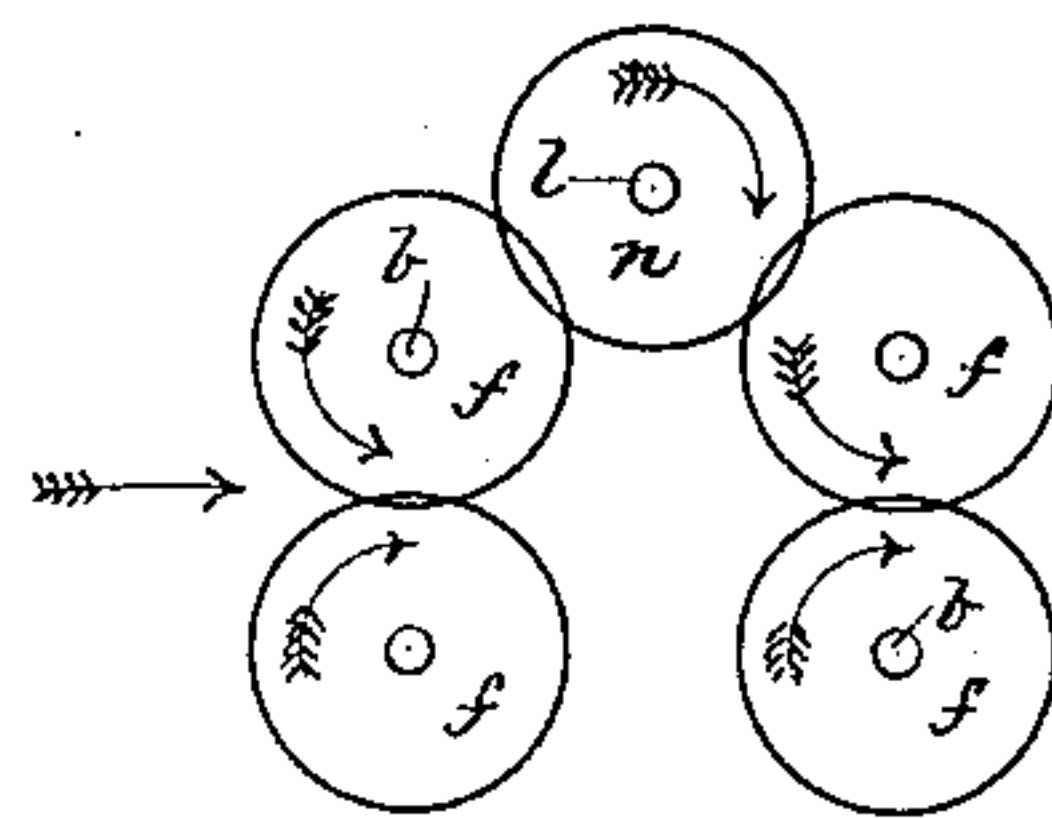
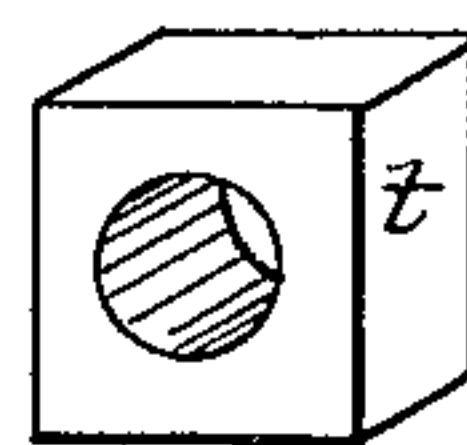


Fig. 4.



Witnesses:
M. E. Harrison.
J. A. Heron.

Inventor:
John Crea
Per. O. D. Lewis
Attorney.

UNITED STATES PATENT OFFICE.

JOHN CREA, OF ALLEGHENY, PENNSYLVANIA.

MACHINE FOR BUTT-WELDING TUBES.

SPECIFICATION forming part of Letters Patent No. 354,102, dated December 14, 1886.

Application filed July 27, 1886. Serial No. 209,267. (No model.)

To all whom it may concern:

Be it known that I, JOHN CREA, a citizen of the United States, residing at Allegheny city, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in an Apparatus for Butt-Welding Tubing; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an apparatus for welding tubing; and it consists in certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a front elevation of my improved device for butt-welding tubing, constructed in accordance with my invention. Fig. 2 is an end elevation of the same. Fig. 3 is a diagram of the several gear-wheels used in rotating the grooved rolls. Fig. 4 is a perspective view of a die which may be used in place of the pair of central rolls.

To put my invention into practice, I provide a frame, *a*, of suitable size and form of construction, at one end of which I mount on parallel shafts *b*, secured in suitable bearings, *c*, two pairs of grooved rolls, *d*, geared together by toothed wheels *f*, placed at the opposite end of the frame *a*. Between these two pairs of rolls *d* and at right angles thereto, I place another pair, *g*, of the same size and form of construction, mounted on vertical shafts *h*, having bearings *i* at the top and base of the frame *a*. Above each of these rolls *g*, and secured to these vertical shafts *h*, are toothed wheels *j*, the one meshing the other and operated by a gear-wheel, *k*, mounted on a horizontal shaft, *l*, to one end of which is secured

an ordinary belt-pulley, *m*. To this same shaft, *l*, I also secure a gear-wheel, *n*, for operating the toothed wheels *f*, attached to the shafts *b*, carrying the vertical rolls *d*, as will be seen by reference to the diagram shown at Fig. 3 on the drawings. At the front of the groove, in the vertical rolls *d*, I place a guide-box, *o*, and a suspended scraper or cleaner consisting of a metallic ball, *p*, secured to a vertical arm, *r*, attached to the frame *a*, which removes the scale from the edges of the tubes while passing through the rolls. Each of the horizontal shafts *b*, carrying the front vertical rolls *d*, I provide with a clutch, *s*, by means of which the rolls *d* may be thrown in or out of gear.

In operation the blanks for welding are brought to the required degree of heat, and one end placed in the guide-box *o* and pressed forward until caught and carried through the first pair of rolls *d* into the second *d*, and thence through the third and last pair *d*, at which time the tube is welded.

In operating my improved machine I may substitute the fixed die *t* (shown in Fig. 4) for the rolling dies *g g*; but I prefer these dies, as they produce less friction and drag on the machine.

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

In an apparatus such as described, the combination consisting of the two pairs of vertical grooved rolls *d*, having a horizontal pair, *g*, placed between and at right angles thereto, the guide-box *o*, the scraping or cleaning device *p*, and the gear-wheels *f j n*, for operating the rolls, substantially as set forth.

JOHN CREA.

Witnesses:

JAS. E. CREA,
C. C. LEE.