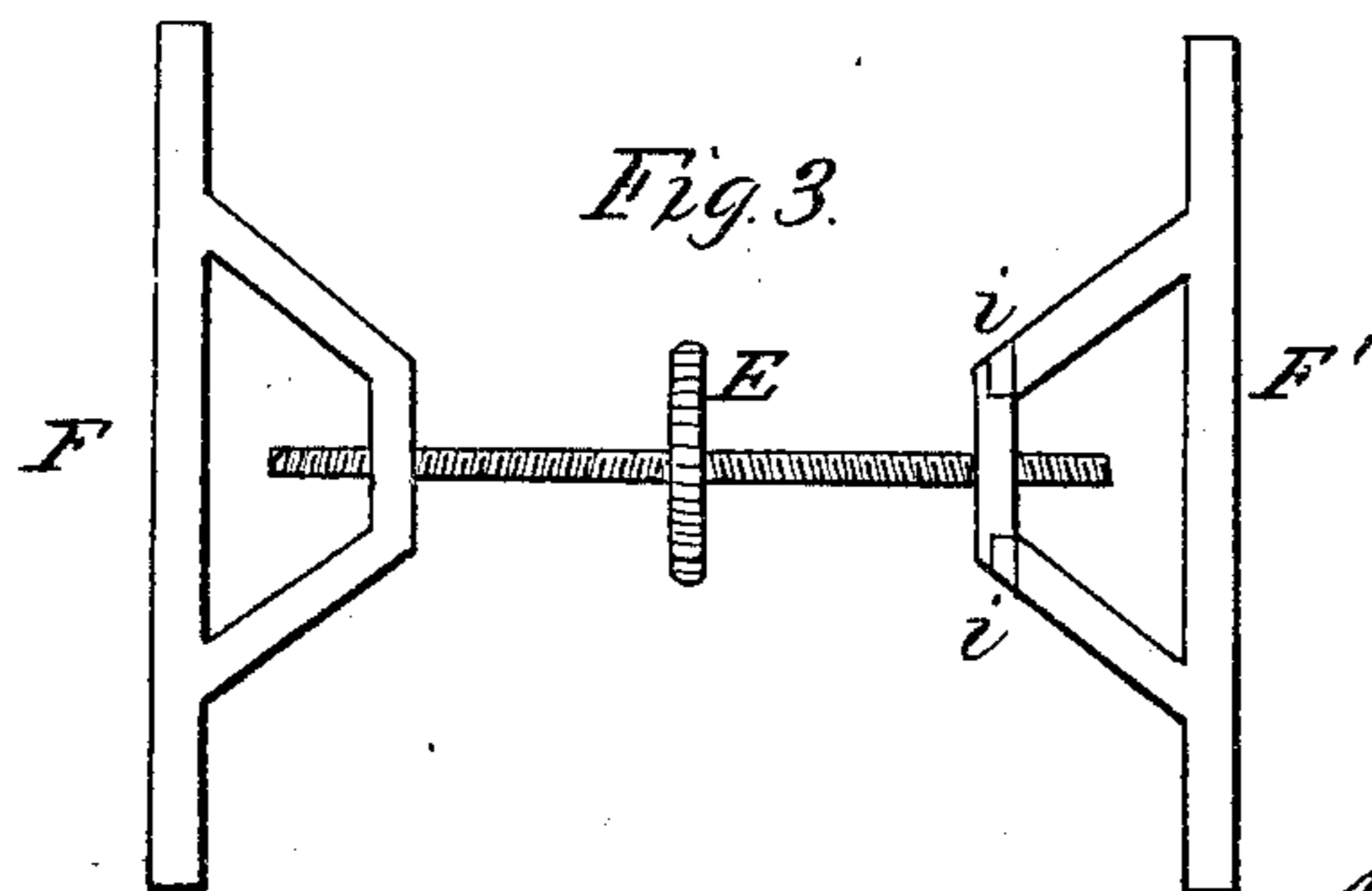
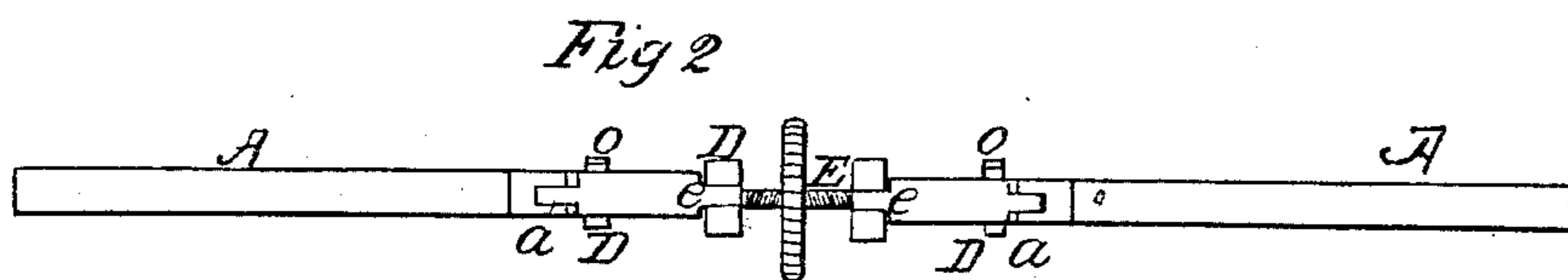
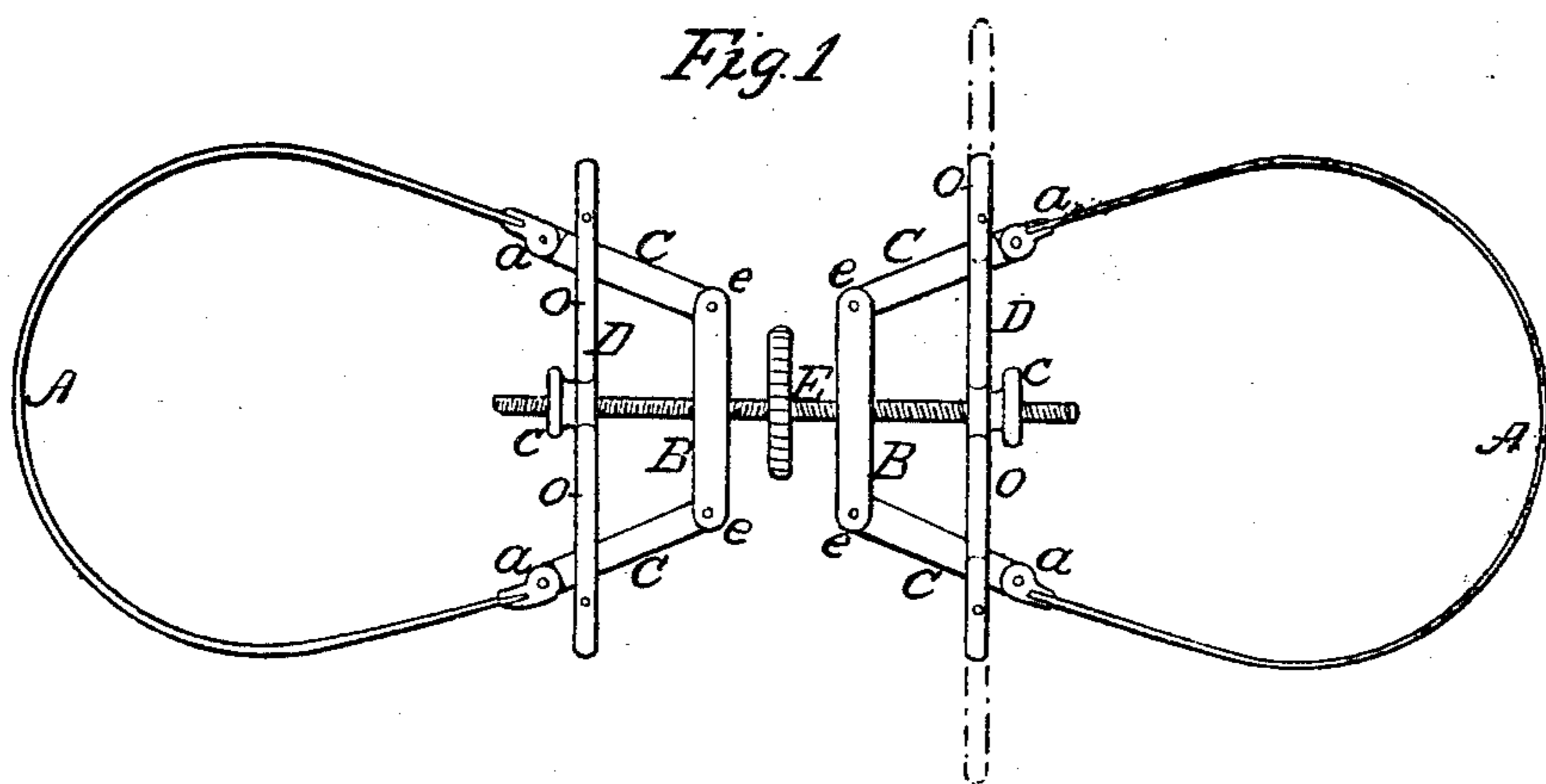


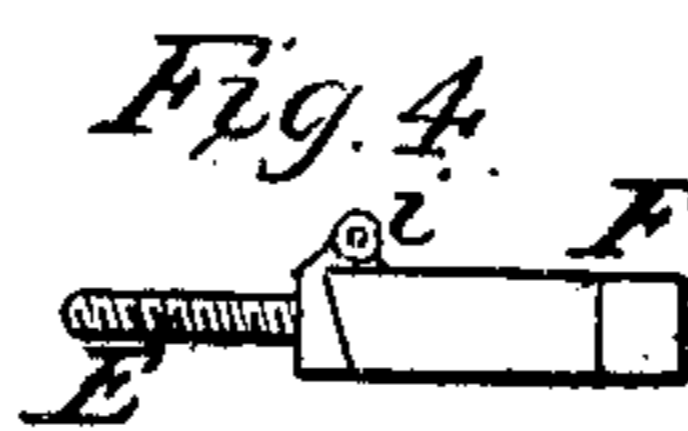
W. W. HORNBERGER.
APPARATUS FOR FORMING BOILERS.

No. 61,068.

Patented Jan. 8, 1867.



Witnesses:
P. T. Dodge
R. C. Otis.



Inventor:
W. W. Hornberger
By W. C. Dodge
Attorney.

United States Patent Office.

WILLIAM W. HORNBERGER, OF CHICAGO, ILLINOIS.

Letters Patent No. 61,068, dated January 8, 1867.

IMPROVED APPARATUS FOR FORMING BOILERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM W. HORNBERGER, of Chicago, in the county of Cook, and State of Illinois, have invented certain new and useful Improvements in a Device for Seaming Boilers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon—like letters indicating like parts wherever they occur.

To enable others skilled in the art to construct and use the invention, I will proceed to describe it.

Figure 1 is a plan view.

Figure 2, a side view; and

Figures 3 and 4, views of a device to be used in connection with fig. 1.

My invention relates to the manufacture of tin or sheet metal-boilers for stoves, and consists in a frame of novel construction to be inserted inside of the boiler, to hold it to its place and form an anvil or support while forming the seam for uniting the bottom and sides.

B represents a cross-bar, having an arm, C, hinged at each of its ends, as shown at *e*. To the opposite end of the arms C, a spring, A, is united by a joint, *a*, as shown in fig. 1. Two of these devices are made, each being a duplicate of the other, and they are united by a bolt, E, which extends through the cross-bars B, the bolt E having a right-hand screw-thread cut on one end, and a left-hand thread on the opposite end, these threads reaching to the centre of the bolt E, where a milled-edged disk is attached for turning the bolt E. It will thus be seen that by turning the bolt one way the frames will be forced apart, while by turning the bolt in the opposite direction they will be drawn together. Another cross-bar, D, somewhat longer than B, having a hole in its centre, is placed on the end of bolt E, as shown in fig. 1, the ends of this bar D being cut out so as to embrace the arms C loosely, as shown in fig. 2. A thumb-nut, *c*, is screwed on to the end of bolt E, as shown in fig. 1, so that by screwing up this nut *c* the bar D will be driven up towards B, thereby forcing the arms C apart at their outer ends, and thus expanding the spring A. A small flat bar, *o*, is pivoted to the upper side of the bar D at each end in such a manner that they can be swung around and made to protrude, as shown in red in fig. 1, for a purpose hereinafter described. In fig. 3, F represents a metallic frame made as represented, and united by a similar screw-bolt, E, to a similar shaped frame, F', at the opposite end. This frame F' is provided with a hinge joint at *i*, as shown more clearly in fig. 4; these two parts, F and F', being forced apart or drawn together by turning the bolt E the same as in the first case.

The operation is as follows: The sheets of tin or other metal of which the body of the boiler is to be formed, being properly united, are placed upon the bottom to which it is to be united, when the device shown in fig. 1 is inserted and allowed to rest at the bottom of the body upon the raised portion of the bottom, and the bolt E turned until the springs A shall press against the inner side of the ends of the boiler body. The nuts *c* are then turned as may be necessary to adjust the springs so that they shall press outward against the sides along their entire surface. This forms a support on the inside of the boiler, which keeps the flange that has previously been turned on it in the usual manner, pressed outward with the groove formed by turning the edge of the bottom over in the usual manner while the latter is hammered down tightly upon the flange. The seam is then completed by turning it up by the use of a mallet in the usual style, and thus the seam is finished as far as the springs extend around. This device is then taken out, and that shown in fig. 3 is placed in the boiler crosswise, so as to bring the bars F and F' to bear along that portion of the sides between the ends of the springs A, when the seam can be finished along those portions, thus completing it all around. The device shown in fig. 1 is then taken, and the arms C turned outward, as shown in red in fig. 1, and, with these arms resting on the top of the boiler, the bolt E and screws *c* so adjusted as to press the springs A out tight against the inside of the boiler at the top, when the wired top of the boiler is hammered into shape, thus rendering it true and of proper form. By these means the work is greatly expedited and much more perfectly performed.

Having thus described my invention, what I claim, is—

1. The springs A, arranged to operate in connection with the arms C, pivoted to the bar B, in combination with the bars D, operated by the bolt E, and nuts *c*, substantially as described.
2. I claim the frames F and F', united by the screw-bolt E, when arranged to operate as and for the purpose set forth.

WM. W. HORNBERGER.

Witnesses:

H. B. RUGER,
C. P. KINNEY.