

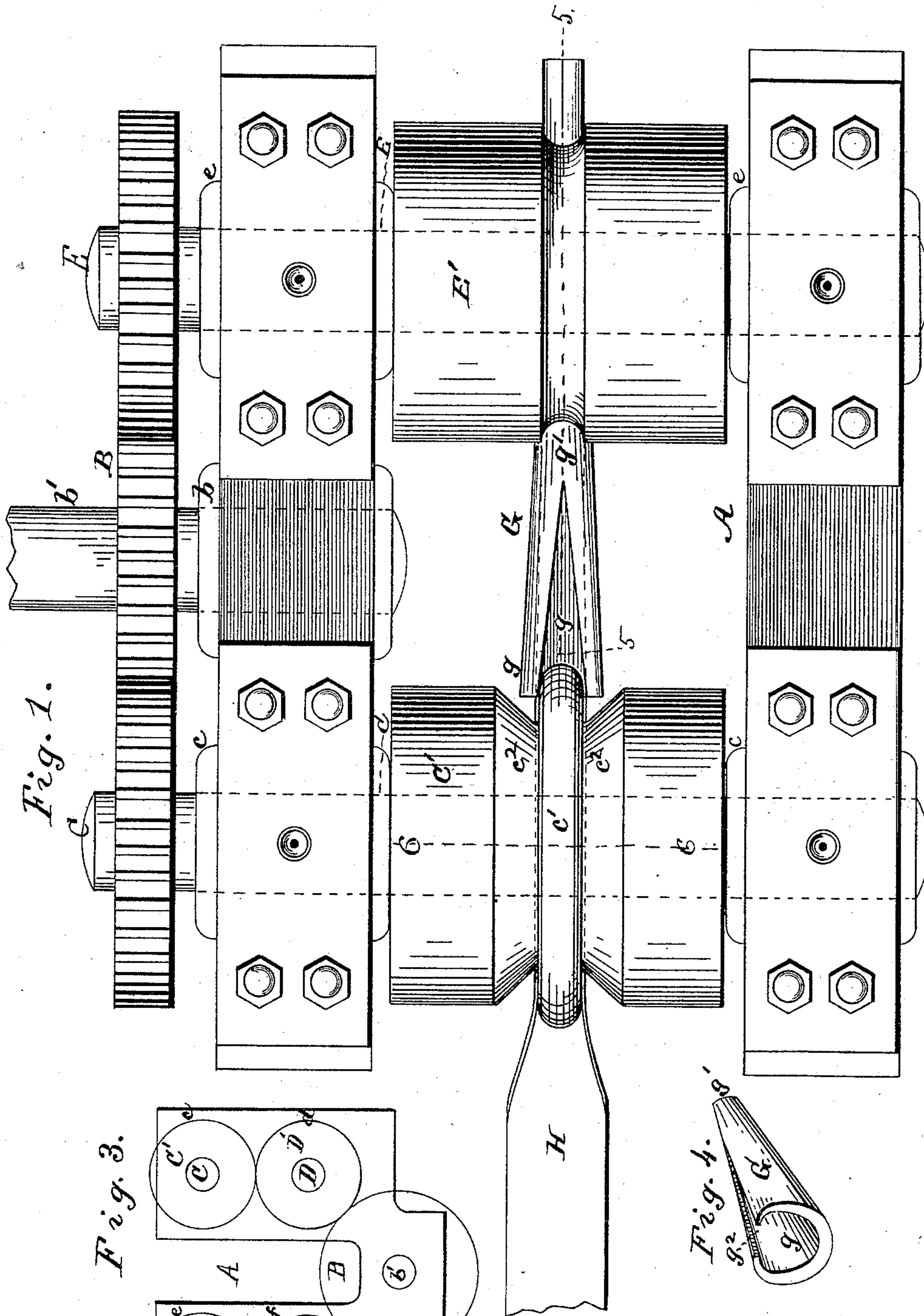
(No Model.)

3 Sheets—Sheet 1.

W. PROBERT.
MACHINE FOR MAKING TUBING.

No. 433,580.

Patented Aug. 5, 1890.



Witnesses
Thos. Houghton
M. E. Cowell.

Inventor
William Probert,
By his Attorney
W. H. Singleton

(No Model.)

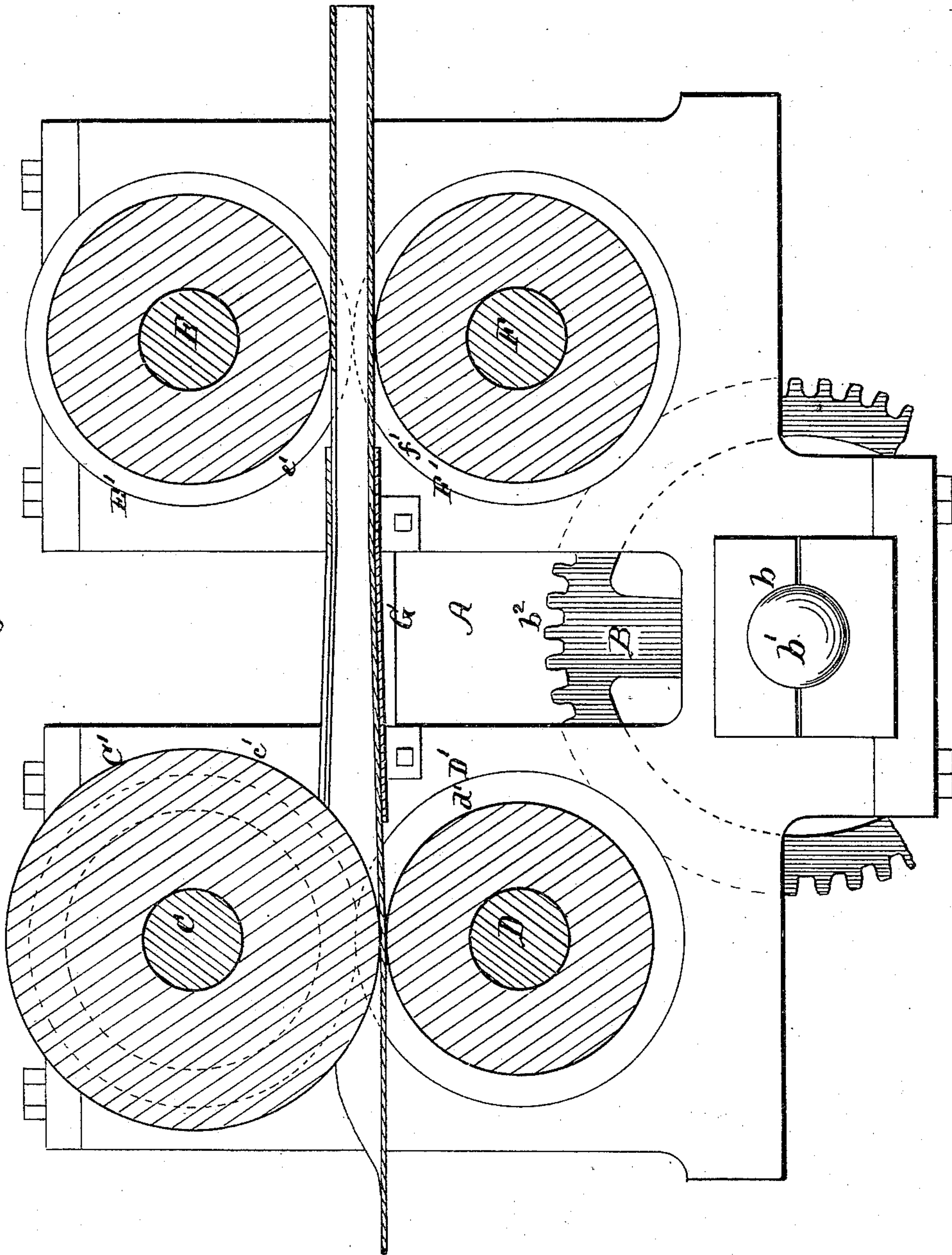
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Fig. 2.



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Thos. Houghton
M. E. Lowell

Inventor
William Probert,
By his Attorney
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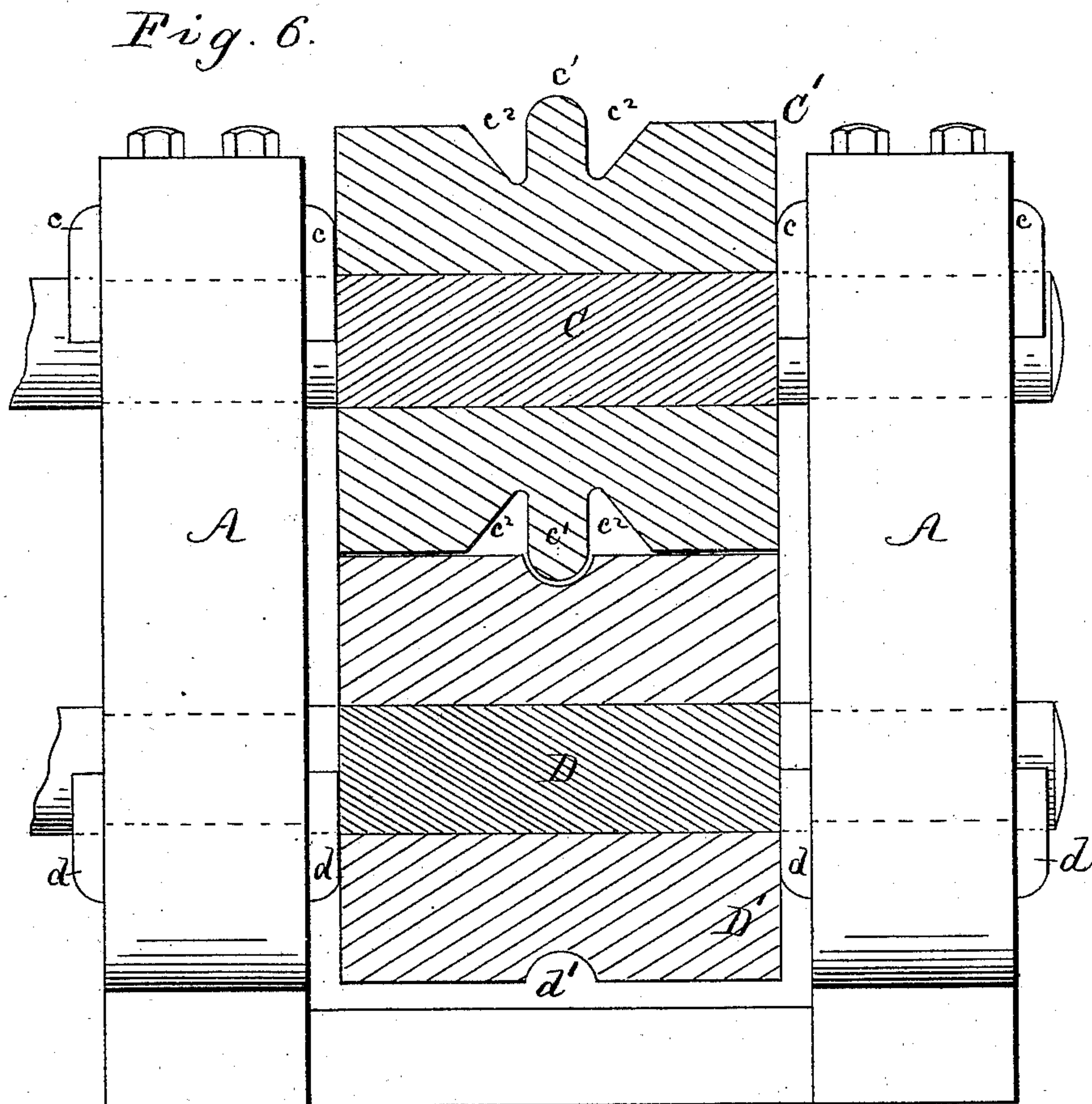
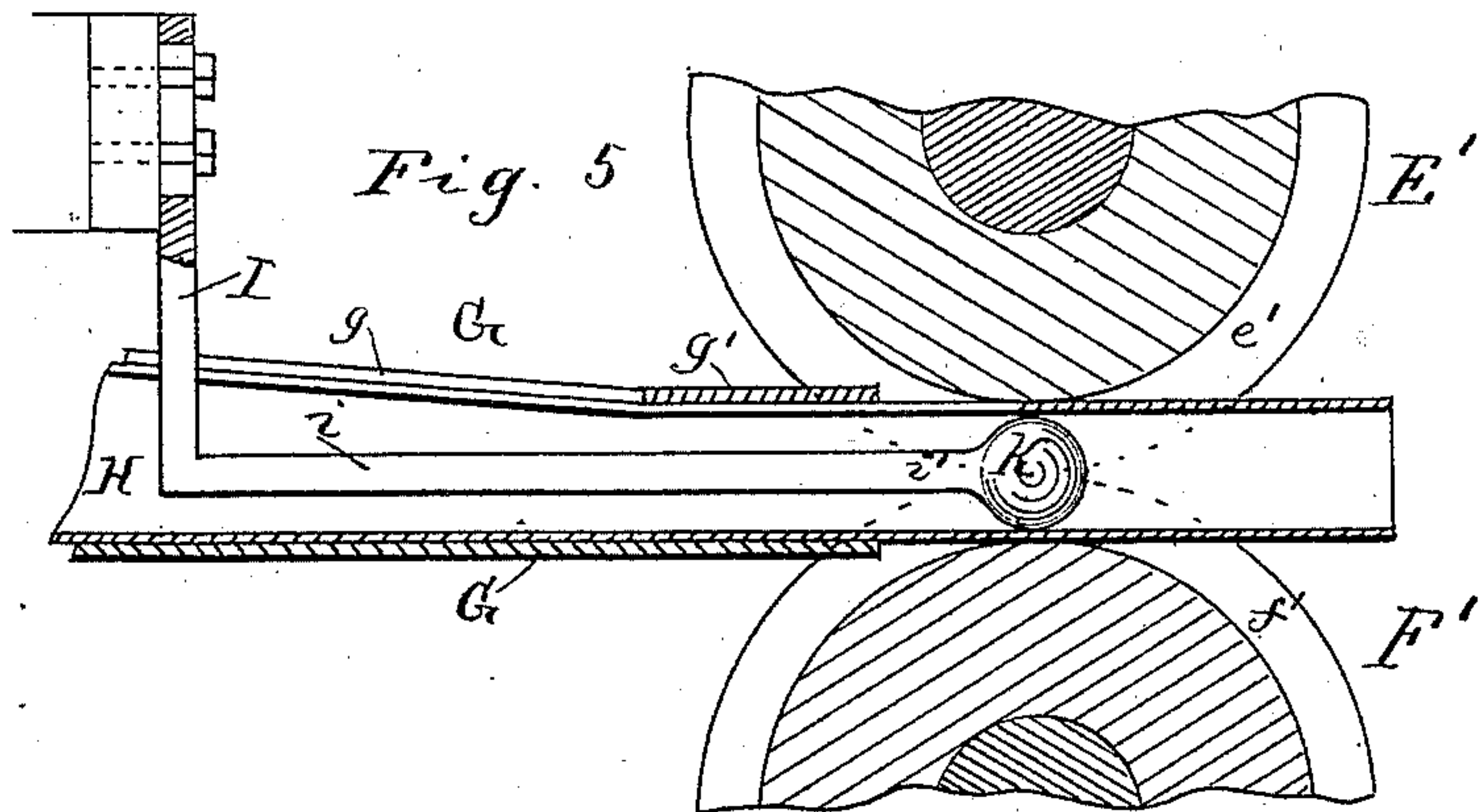
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Thos. Houghton.
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per W. H. Singleton.
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM PROBERT, OF DUNCANSVILLE, PENNSYLVANIA.

MACHINE FOR MAKING TUBING.

SPECIFICATION forming part of Letters Patent No. 433,580, dated August 5, 1890.

Application filed March 26, 1890. Serial No. 345,402. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PROBERT, a citizen of the United States, residing at Duncansville, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Making Metal 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 appertains to make and use the same.

Figure 1 is a plan view of the device; Fig. 2, Sheet 2, a longitudinal section; Fig. 3, a reduced side view showing the gearing diagrammatically; Fig. 4, a perspective view of the tubing-guide. Fig. 5 is a vertical section on line 5 5 of Fig. 1. Fig. 6 is a vertical section on line 6 6 of Fig. 1.

This invention relates to a machine or apparatus for making sheet-metal tubing.

It has for its object the taking of a metal strip or skelp and at one operation preparing it for a butt or lap weld.

The invention consists in the construction hereinafter pointed out.

In the annexed drawings, the letters A A represent suitable housings. On one side at the bottom and in the middle is a boxing *b* for a shaft *b'*, whereon is the master-gear wheel B, provided with peripheral teeth *b*². In front and rear of the line of the shaft *b'* are the boxes *c*, *d*, *e*, and *f*, arranged in pairs vertically, as shown. In the boxes *c*, *d*, *e*, and *f* are the shafts C, D, E, and F, carrying the pairs of rolls C' and D' and E' and F', arranged so that the pair E' and F' follow the pair C' and D', the bites of the two pairs being in the same path. The roll C' has at its middle the peripheral tongue *c'*, with the depressions *c*² *c*² on each side of it. The roll D' has the middle groove *d'* in line with the tongue *c'*, there being a space between the two adapted to the thickness of the metal strip which is to pass between them. By making the roll C' with the depressions *c*² *c*² the edge of the skelp is turned up around the tongue *c'*, instead of the skelp being forced down into a groove, as is usual. On a line with this tongue *c'* and groove *d'* the rolls E and F' have the peripheral grooves *e'* and *f'*, of a size adapted to the tubing to be made. Be-

tween these pairs of rolls is placed in line with the middles thereof the tubing-guide G. This is a piece of metal somewhat conically shaped, having the large open end *g* and the small open end *g'* and the top slot *g*². This guide is located with the large end toward the rolls C' D' and the small end toward the rolls E' F'. The small end *g'* is completely closed, as shown, and is cylindrical, as shown.

In use the strip H while hot and in a condition to be bent is fed to the rolls C' and D', the tongue *c'* forcing it into the groove *d'* and giving it the shape shown. It is then guided through the guide G and fed to the rolls E' F' and given the butt or lap weld, according to the shape of the edges of the metal strip.

Secured suitably to the housing is an arm or bracket I. The lower part *i* extends along the inside of the guide G and centrally thereof. At its end *i'* there is secured a ball K. This ball comes just between the rolls E' and F' at the points that the tube is welded. The tube passes around this ball, the latter acting as a mandrel. Balls of different sizes are to be used, according to the size of the tubes.

Having thus described my invention, what I claim is—

1. The combination of the two sets of rolls and between them the tubing-guide G, somewhat conically shaped, except at its small end *g'*, which is cylindrical, this end being closed, and the guide having the top slot *g*², as set forth.

2. The combination of the roll D', having the groove *d'*, and the roll C', having the tongue *c'* and the depressions *c*² *c*², as set forth.

3. The combination of the roll D', having the groove *d'*, the roll C', having the tongue *c'* and depressions *c*² *c*², the tubing-guide G, conically shaped and having the cylindrical end *g'*, which is closed, the guide having the top slot *g*², and the rolls E' and F', as set forth.

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

WILLIAM PROBERT.

Witnesses:

J. M. FOWLER, Jr.,
THOS. HOUGHTON.