

(No Model.)

W. HALKYARD.
MACHINE FOR COVERING WIRE.

No. 281,186.

Patented July 10, 1883.

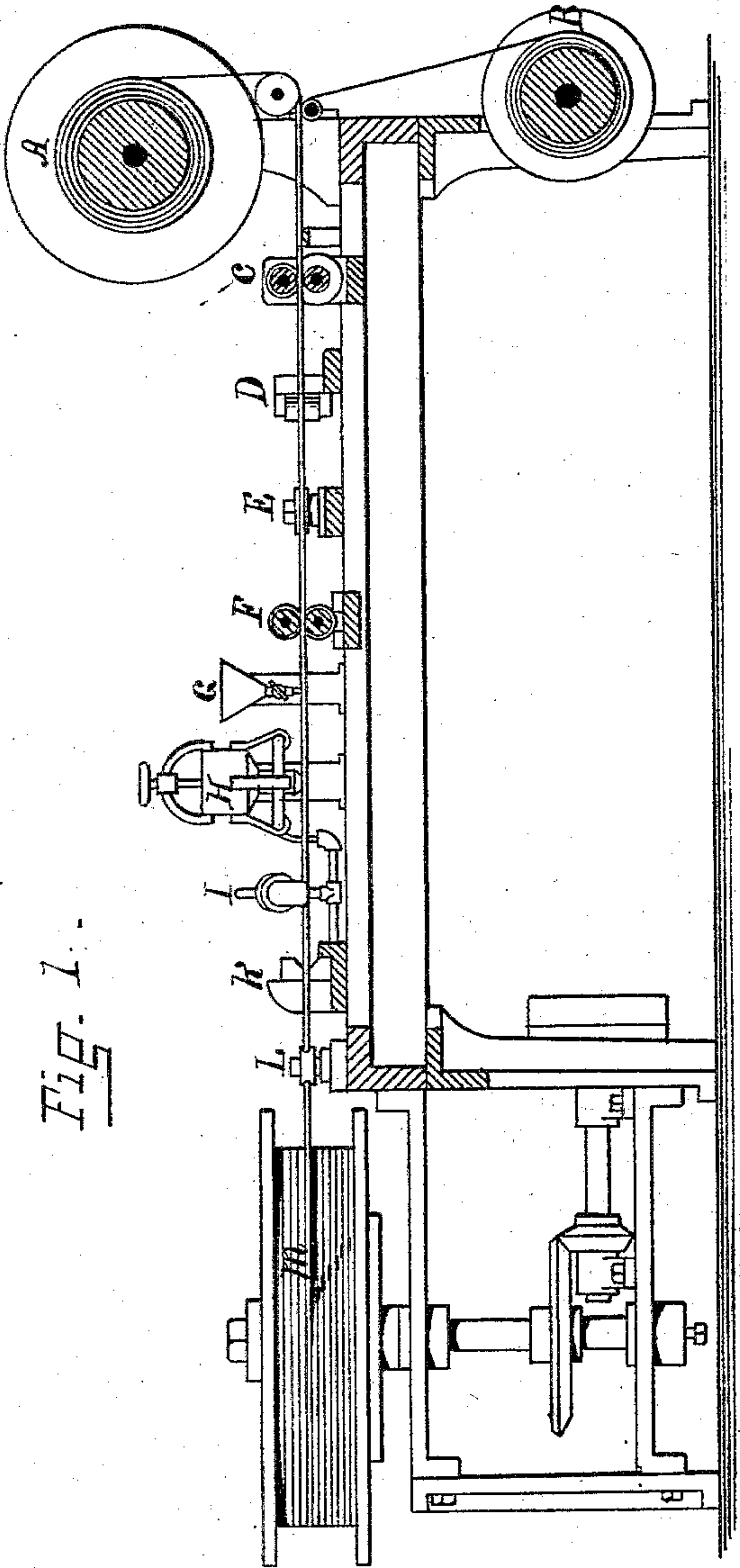


Fig. 1.

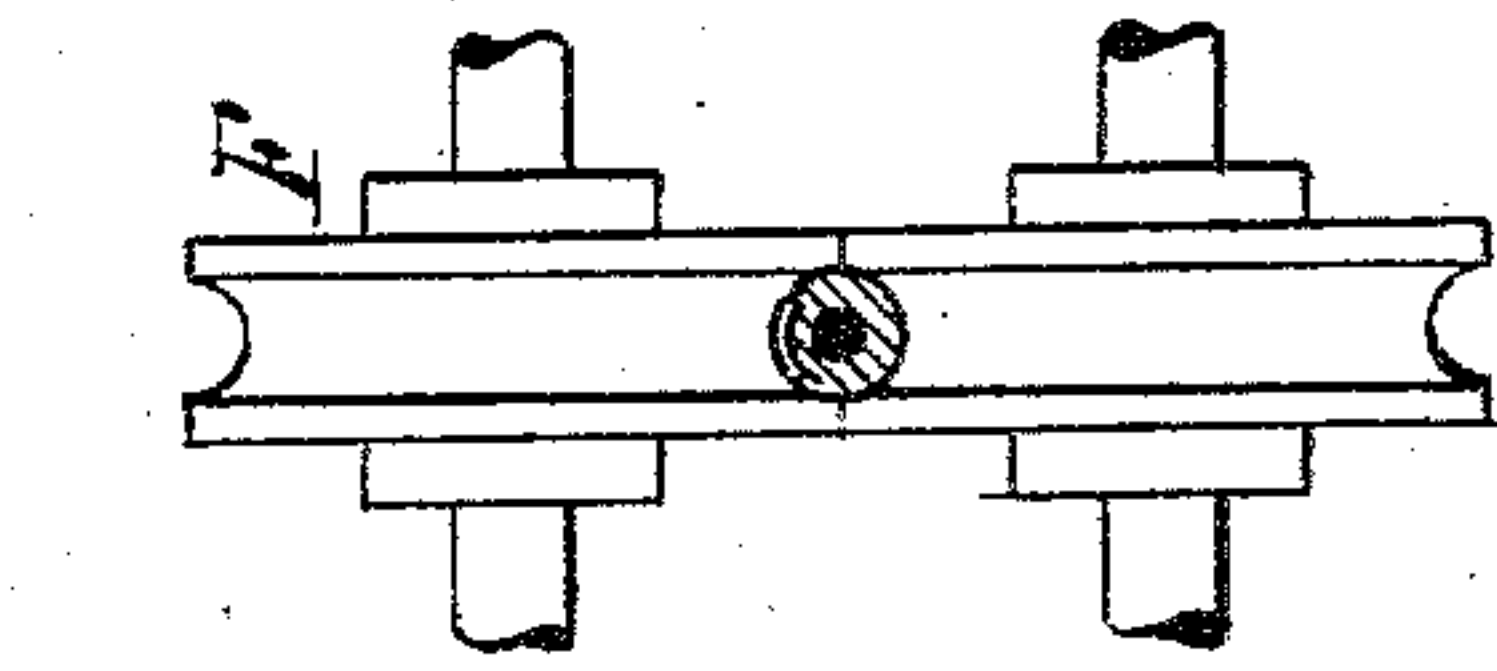


Fig. 2.

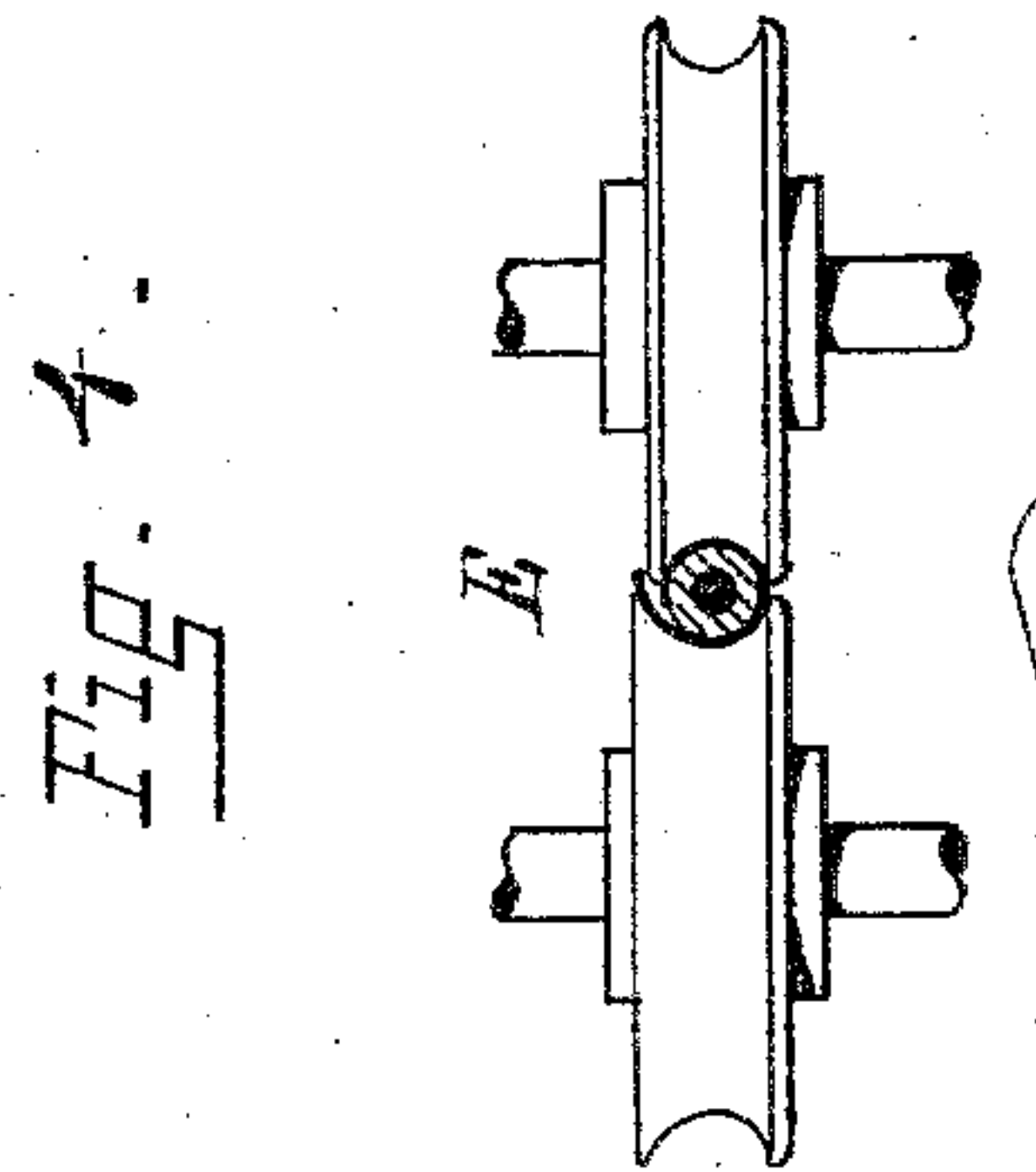


Fig. 3.

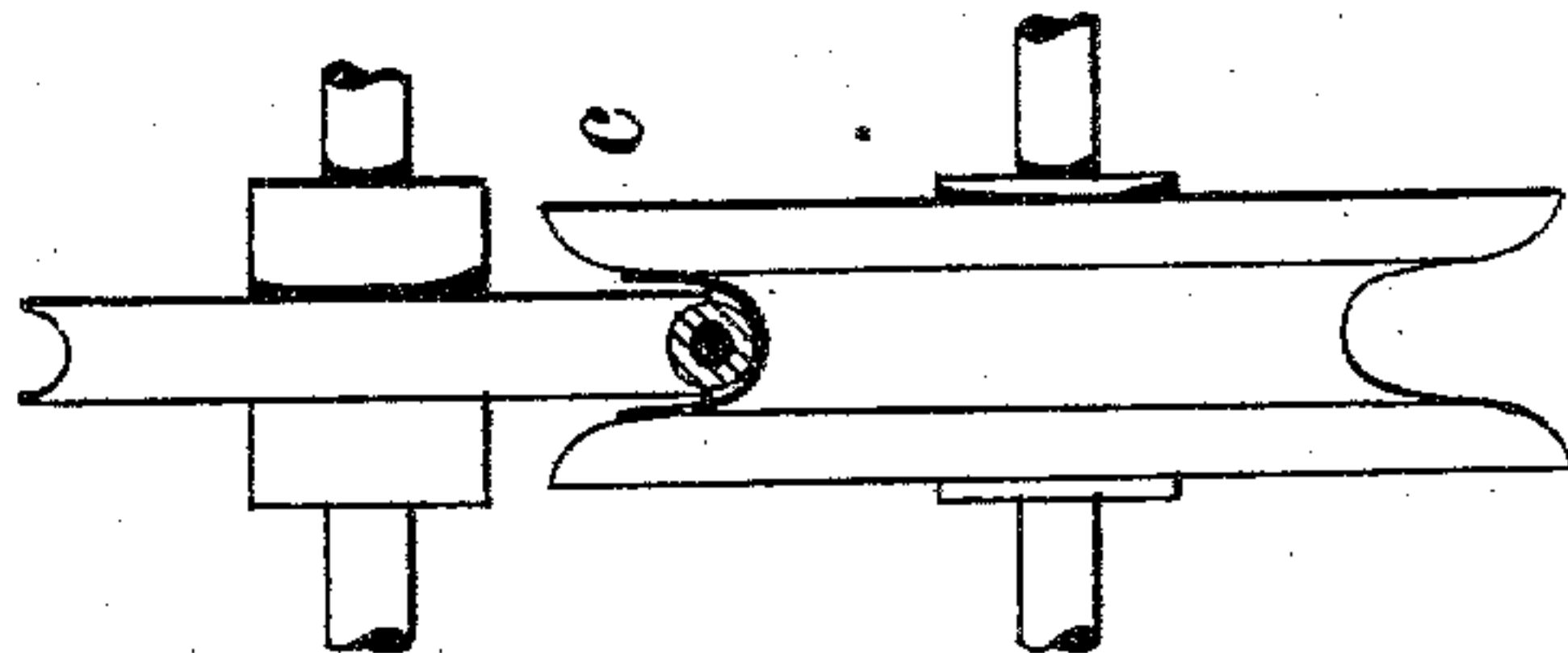


Fig. 4.

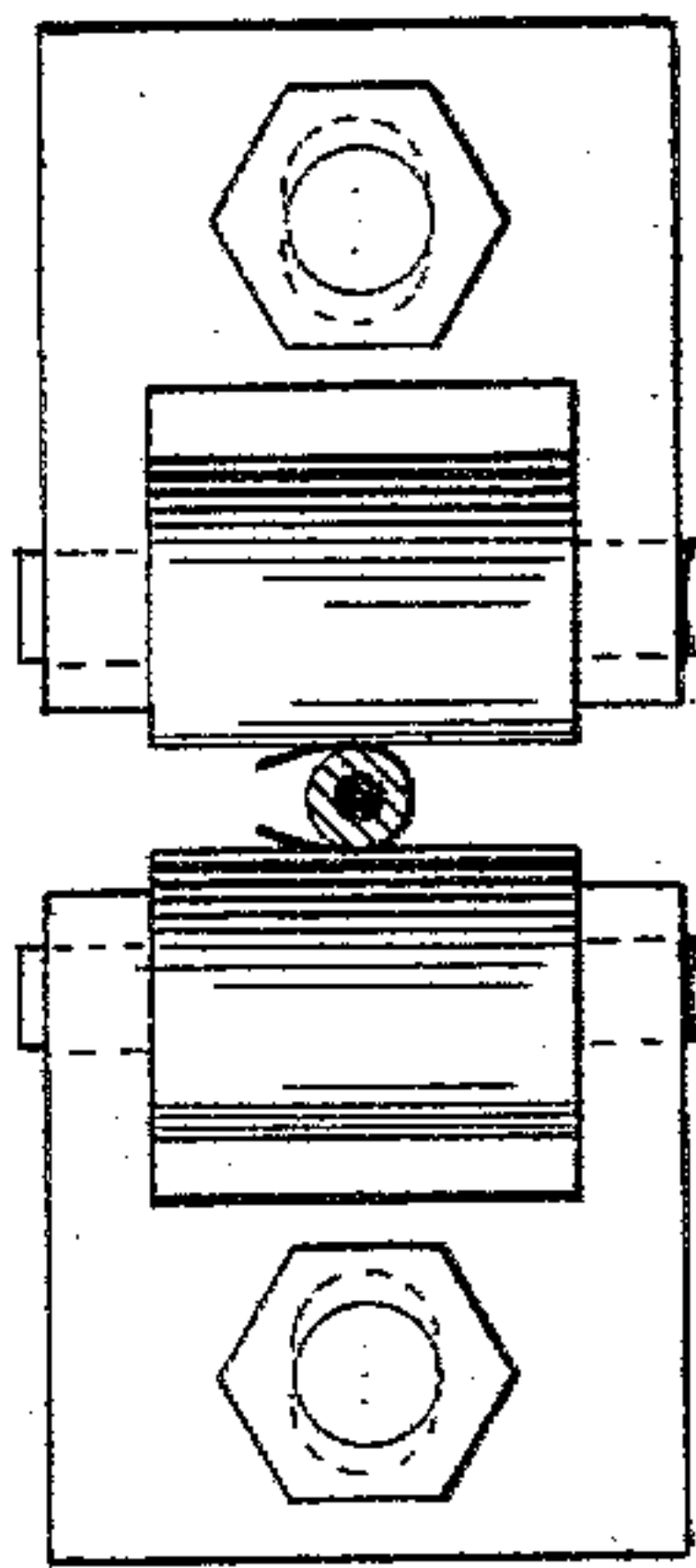


Fig. 5.

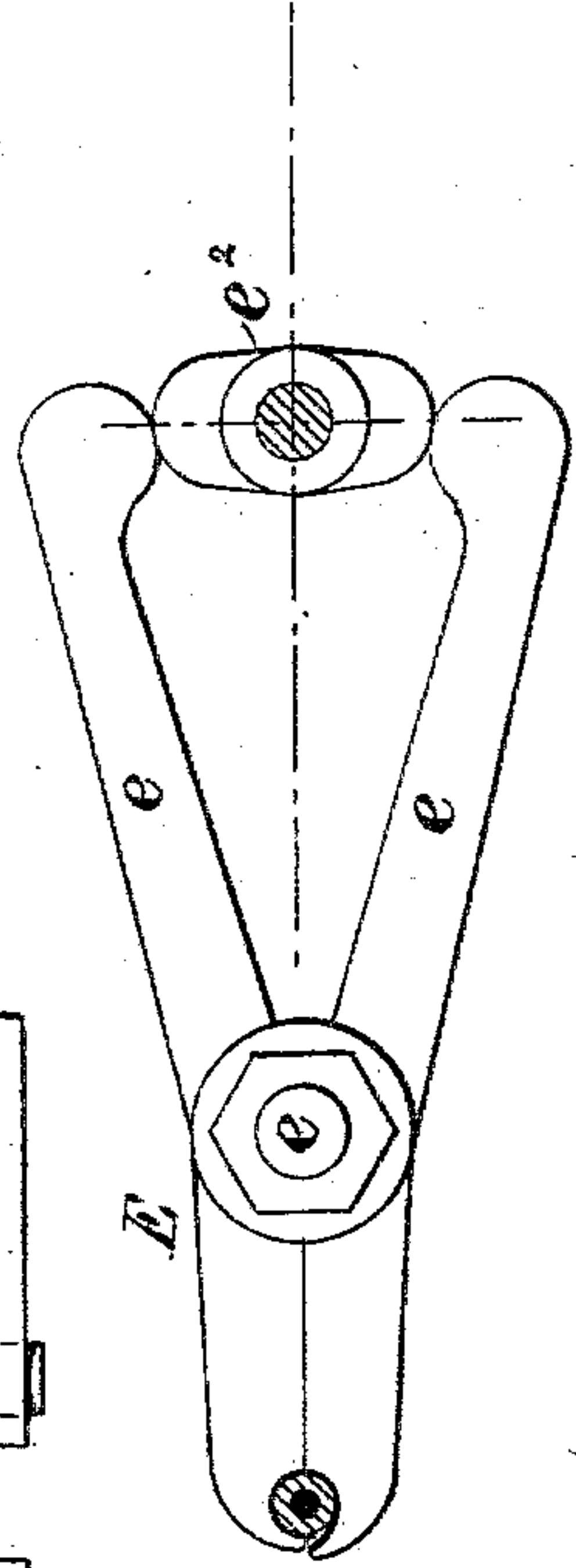


Fig. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM HALKYARD, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO HENRY A. CHURCH, OF SAME PLACE.

MACHINE FOR COVERING WIRE.

SPECIFICATION forming part of Letters Patent No. 281,186, dated July 10, 1883.

Application filed April 7, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HALKYARD, of the city and county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Machines for Covering Wire; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in machines for covering electric wires with a sheet-metal casing; and it consists in the peculiar and novel construction of the devices by which the sheet is bent around the wire, as will be more fully set forth hereinafter.

In the machine shown and described in Patent No. 253,529, granted February 14, 1882, the strip of metal is passed through a die-plate to form the same around the insulated wire. In my present machine the strip is passed through a succession of rollers to form the strip of sheet metal around the wire, so that little or no tensile strain is exerted on the covering-strip.

Figure 1 is a view of a machine for covering wire with sheet metal. Fig. 2 is an enlarged view of two rolls by which the strip of metal is partially bent around the wire. Fig. 3 is an enlarged view of two rollers by which the strip of metal is further bent around the wire. Fig. 4 is an enlarged view of two rollers in which one edge of the sheet-metal strip is closed around the wire. Fig. 5 is an enlarged view of two rollers by which the lap is closed and the sheet-metal strip incloses the wire. Fig. 6 is a view of a device for bending the strip of sheet metal around the wire, which may be used in place of the rollers shown in Fig. 4.

In the drawings, A is the reel from which the wire is supplied to the machine.

B is the reel from which the strip of metal is supplied.

C is a pair of rolls (shown enlarged in Fig. 2) by which the strip is bent partially around the wire.

D are two rolls by which the sheet is bent against the sides of the wire, as shown in Fig. 3.

E are two rolls by which the sheet is bent,

with one edge closed on the wire and the other edge raised, so that it will lap over the first edge, as is shown in Fig. 4. In place of these two rolls E, the device shown in Fig. 6 may be used. The same consists of the two levers *ee*, hinged together at *e'* and operated by the revolving cam *e''*, which, by alternately opening and closing the levers, pinches the sheet around the wire.

F is a pair of closing-rolls by which the lap of the strip of sheet metal is closed.

G is the reservoir from which soldering-liquid is delivered. It is placed beyond the rolls F when only the edge of the lap is to be soldered, but may be placed before the rolls F when the faces of the lap are to be secured.

H is the reservoir from which the solder is supplied.

I is a heated soldering-iron by which the solder is melted.

K is a die through which the covered wire is drawn.

L is a pair of guide-rolls between which the wire passes to be reeled on the reel M, from which it is taken ready for use.

By the use of the rolls C, D, E, and F, as well as when the pinching device shown in Fig. 6 is used, the wire can be covered with a metal having but slight cohesion—such as lead—as no strain is exerted on the strip until it is firmly secured to the wire. The wire shown in the drawings is the usual insulated wire used in telegraphy; but any kind of wire may be covered in this machine.

The operation of the machine is as follows: The wire from the reel A is guided to the center of the rolls C, and also the strip of sheet metal of width wider than the circumference of the wire to be covered. The rolls C partly bend the strip around the wire. The rolls D now press the sheet close to the sides of the wire. The rolls E or the pinchers *E'* close one edge onto the wire and bend the other edge of the strip so as to overlap the first edge. The rolls F now close the lap. The soldering-fluid is supplied along the edge, followed by the solder, which, when heated by the soldering-iron I, (usually heated by gas,) will enter between the lapped faces and secure the edges of the strip of sheet metal. The incased wire

is now drawn through the draw-plate K, to finish the same and remove any surplus of solder, when the wire is reeled up ready for use.

5 The operation of the machine is continuous and rapid, so that a large quantity of wire may be covered by the same in a short time.

10 The rolls C, D, E, and F are driven at the speed with which the wire passes through the machine, so as to exert no strain on the sheet-metal strip; but the gears or other means for driving the rolls are not shown in the drawings, as they can be readily arranged by any one versed in the art, and form no part of this invention.

15 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

20 1. The combination, with the soldering devices G, H, and I, of the rolls C, D, E, and F, constructed to bend the strip of sheet metal around the wire, as described.

2. The combination with the reel A, supplying the wire, and reel B, supplying a strip of

metal, of the rolls C, D, E, and F, constructed to bend the strip of sheet metal around the wire, and the soldering apparatus, substantially as described, arranged to cover wire with sheet metal, as described. 25

3. In a machine for covering wire with sheet metal, the combination of the following instrumentalities: a reel for supplying the wire and a reel for supplying the sheet-metal strip, rolls for bending the sheet around the wire so that the edges overlap, devices for supplying the solder and heating the same, so as to make a soldered joint, a finishing-die, and a reel on which the finished wire is reeled, as described. 35

In witness whereof I have hereunto set my hand.

WILLIAM HALKYARD.

Witnesses:

M. F. BLIGH,

J. A. MILLER, Jr.