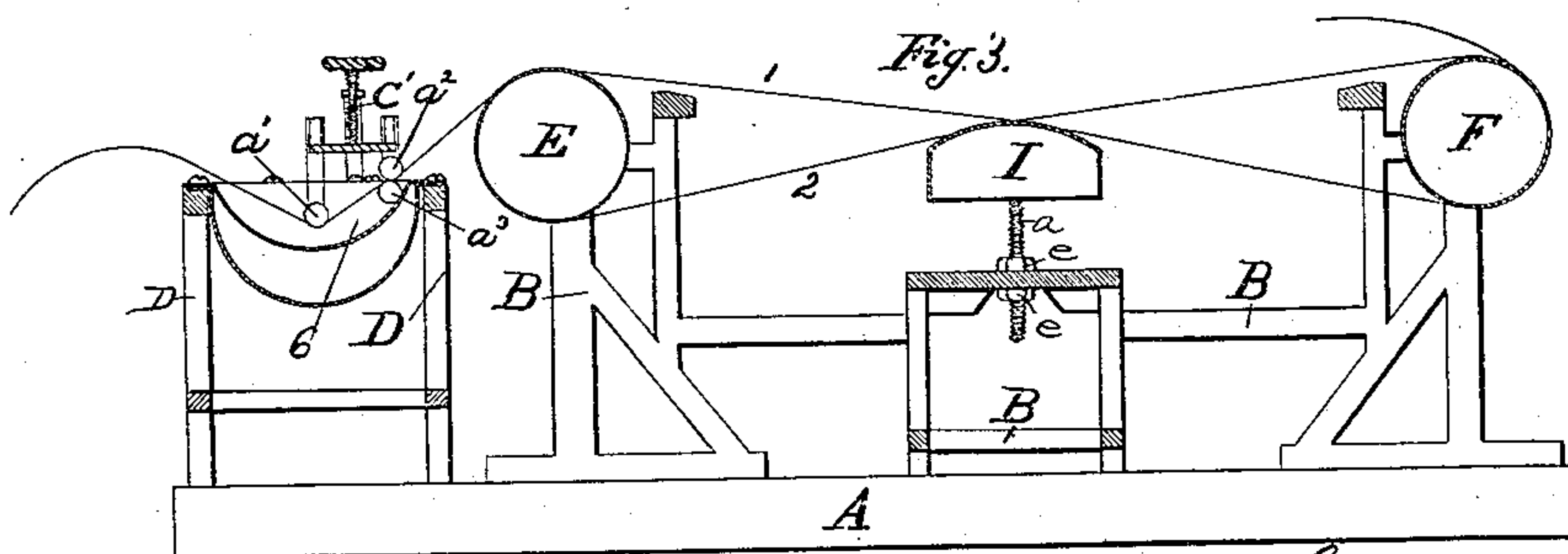
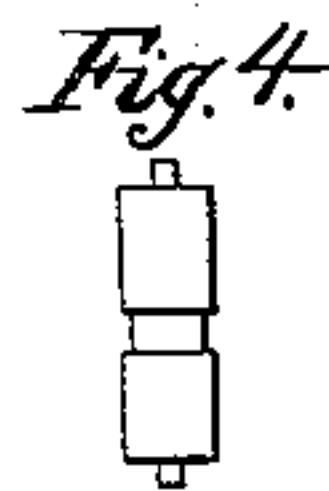
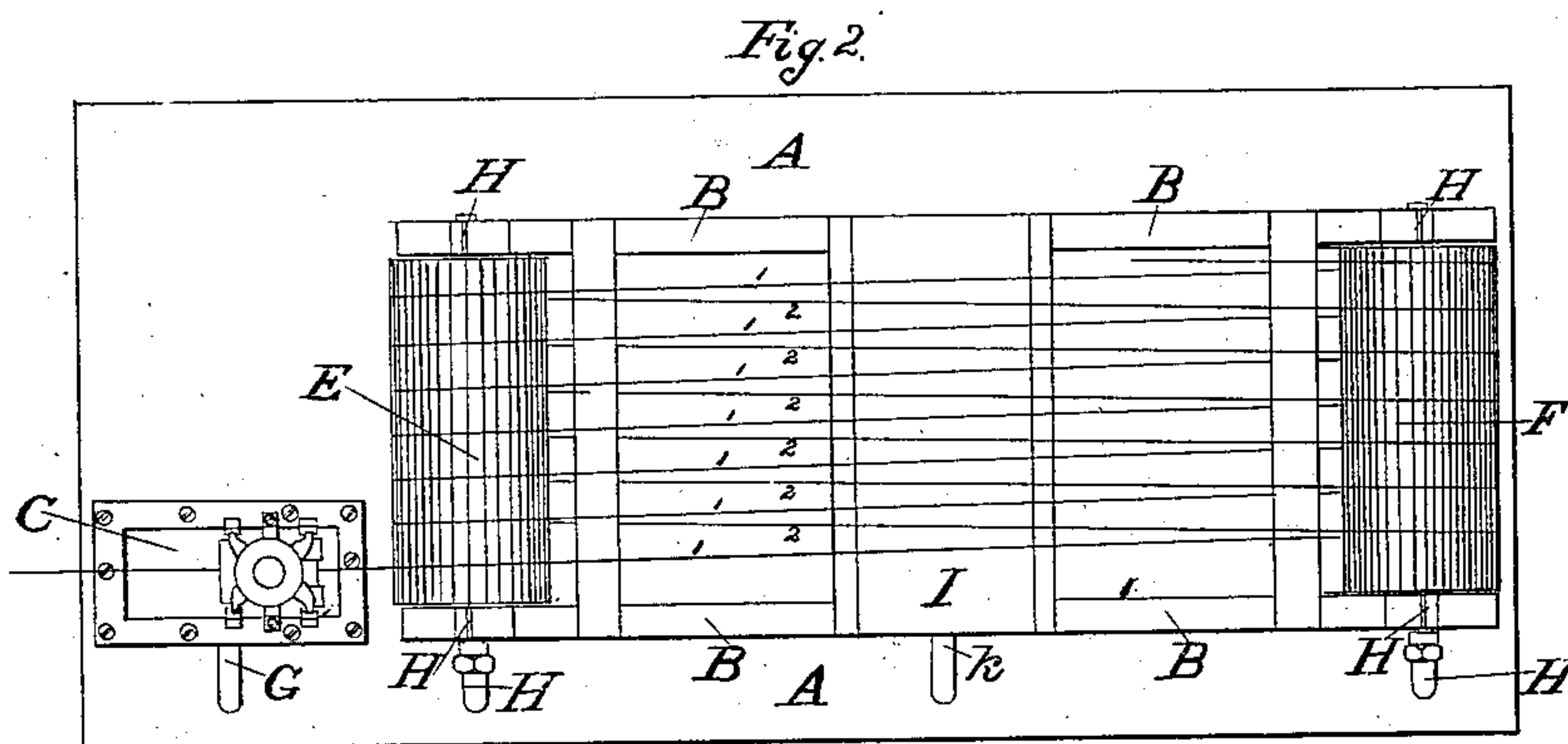
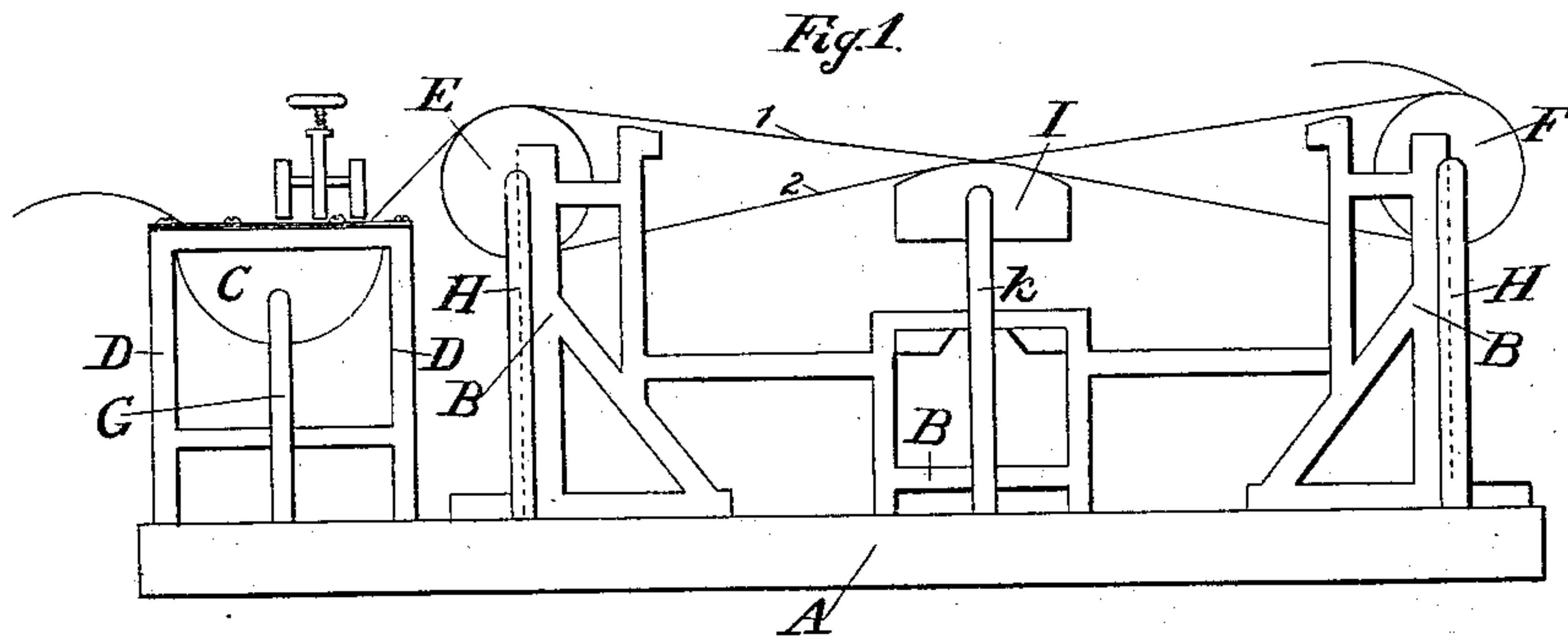


S. M. CHESNEY & J. C. BROWN.  
 APPARATUS FOR SIZING AND FINISHING SKIRT WIRE.  
 No. 40,244. PATENTED OCT. 13, 1863.



Witness  
 C. O. Crosby  
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 By their city  
 John E. East.

# UNITED STATES PATENT OFFICE.

SAMUEL M. CHESNEY, OF NEW YORK, AND JONATHAN C. BROWN, OF BROOKLYN, N. Y.

## IMPROVEMENT IN APPARATUS FOR SIZING AND FINISHING SKIRT-WIRE.

Specification forming part of Letters Patent No. 40,244, dated October 13, 1863.

### *To all whom it may concern:*

Be it known that we, SAMUEL M. CHESNEY, of the city and State of New York, and JONATHAN C. BROWN, of Brooklyn, county of Kings, and State of New York, have invented a new and useful Machine for Finishing Covered Skirt and other Wire; and we do hereby declare the following to be a full, clear, and exact description of the same, when taken in connection with the accompanying drawings, which form a part of the specification, in which—

Figure 1 is a side view. Fig. 2 is a plan view. Fig. 3 is a longitudinal section. Fig. 4 is a detached view of finishing-rolls.

Same letters refer to like parts.

The object of our invention is to size, calender, and dry the covering of skirt and other wire complete by one operation.

It consists in passing the covered wire from the reel through a bath of sizing, thence over a heated cylinder, thence over a heated presser or polisher, thence under a second heated cylinder, returning over the last cylinder, over the polisher, under the first cylinder, then again over the first cylinder, the polisher, and under the second cylinder, as before, and so on, several times over one cylinder and under the other, but always over the polisher. Thus one side of the wire is presented to the polisher as it runs from first cylinder to second, and the opposite side as the wire returns, and thus alternately polishing the two sides as many times as the wire is run over the cylinder in the manner described, the size drying gradually as the wire runs around the cylinders, until the last turn is thoroughly dry, when it passes from the machine to the reel, neatly and smoothly polished, having the appearance of linen.

To enable others skilled to make and use our machine for the purpose described, we will proceed to describe its construction and operation.

A represents the floor on which the supporting-frame B rests.

C is a bath supported by a frame, D.

a, the vessel which contains the size, is placed within a second vessel, b, (see Fig. 3,) and packed so that the space between the two will be steam-tight, the said space supplied with steam through the tube G.

a' is a roll under which the wire passes, and a<sup>2</sup> a<sup>3</sup> are rolls between which the wire passes in its exit from the bath. These said rolls are adjustable, so as to be raised or lowered by means of a screw, c', to immerse the wire more or less in the bath, as may be required. The said rolls a<sup>2</sup> and a<sup>3</sup> are grooved, as in Fig. 4. The wire passes out in the said grooves, which serves to supply the requisite quantity of sizing, and to roll the same into the covering of the wire, which gives to the covering the appearance of linen.

E F are two metallic cylinders supported by and revolving in bearings.

H H are steam-pipes through which steam is conducted into the cylinders E and F, for the purposes of heating the same.

I is a metallic presser or polisher, heated by steam conducted into it through the pipe K for that purpose, is made adjustable so as to be raised or lowered, for the purpose hereinafter described, by means of screws a and nuts e.

1 1 1 and 2 2 2, red lines, represent the wire as it passes from the sizing-bath to the reel, 1 representing one side, and 2 the reverse side of the wire.

Operation: Steam being supplied to the several parts, the covered wire (denoted by the blue lines) is taken from the spool or reel (said spool or reel placed in a convenient position for the purpose) passed under the roll a', (see Fig. 3,) thence between the two rolls a<sup>2</sup> and a<sup>3</sup>, thence out and over the cylinder E, down over the smoothing-surface or polisher, I, thence down under and around the cylinder F, returning. The opposite side is now presented to the polisher I, thence run down under and around the first cylinder E, thence again passing the first side of the wire over the polisher, and thence down under and around the cylinder F, as before, and so on from one cylinder to the other and over the polisher as many times as may be required to thoroughly dry and finish both sides of the wire, and when thus finished to be reeled for market. We place pins between each run of the wire to prevent its interfering with the others. Should it be desirable to give the wire a greater pressure on the surface of the polisher, we raise the polisher by turning the nuts a' on the screw d' so as to produce the



result desired. If less of the pressure is required, reverse the operation.

We do not claim starching or sizing the covering of skirt or other wire, as it is not new; but,

Having thus fully described our invention, what we do claim as new and useful, and desire to secure by Letters Patent, is—

1. The combination of the heated cylinders E and F with the heated polisher I, when same are constructed and arranged to polish and finish both sides of the skirt or other wire, in the manner substantially as herein specified.

2. The combination of the adjustable rolls  $a'$ ,  $a^2$ , and  $a^3$ , with a sizing bath, in the manner for the purpose specified.

3. The adjustable polisher or finisher, when the same is arranged to finish both sides of the covered wire at one operation, substantially as herein specified.

4. The grooved rolls  $a^2$  and  $a^3$ , when combined in the manner described, for the purpose specified.

5. The arrangement described for taking the wire from the reel, sizing, finishing, and rereeling at one and the same operation.

S. M. CHESNEY.  
J. C. BROWN.

Witnesses:

JAMES W. CULVER,  
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