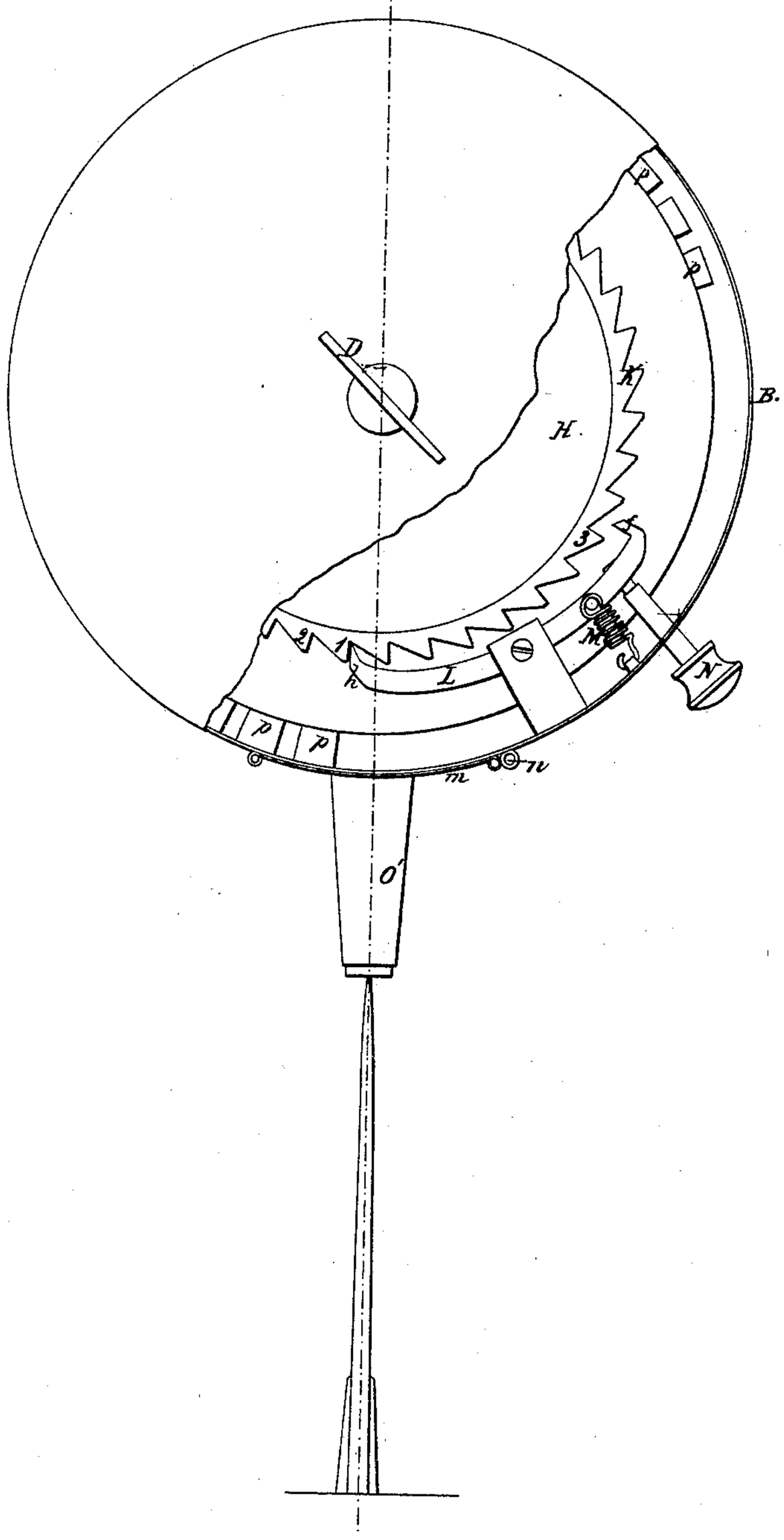
Sheet 1-2 Sheets.

J. Marland.
Cop Tubes.

No. 20,285. Patented May 18, 1858.

Fig. 1.



Sheet 2-2 Sheets.

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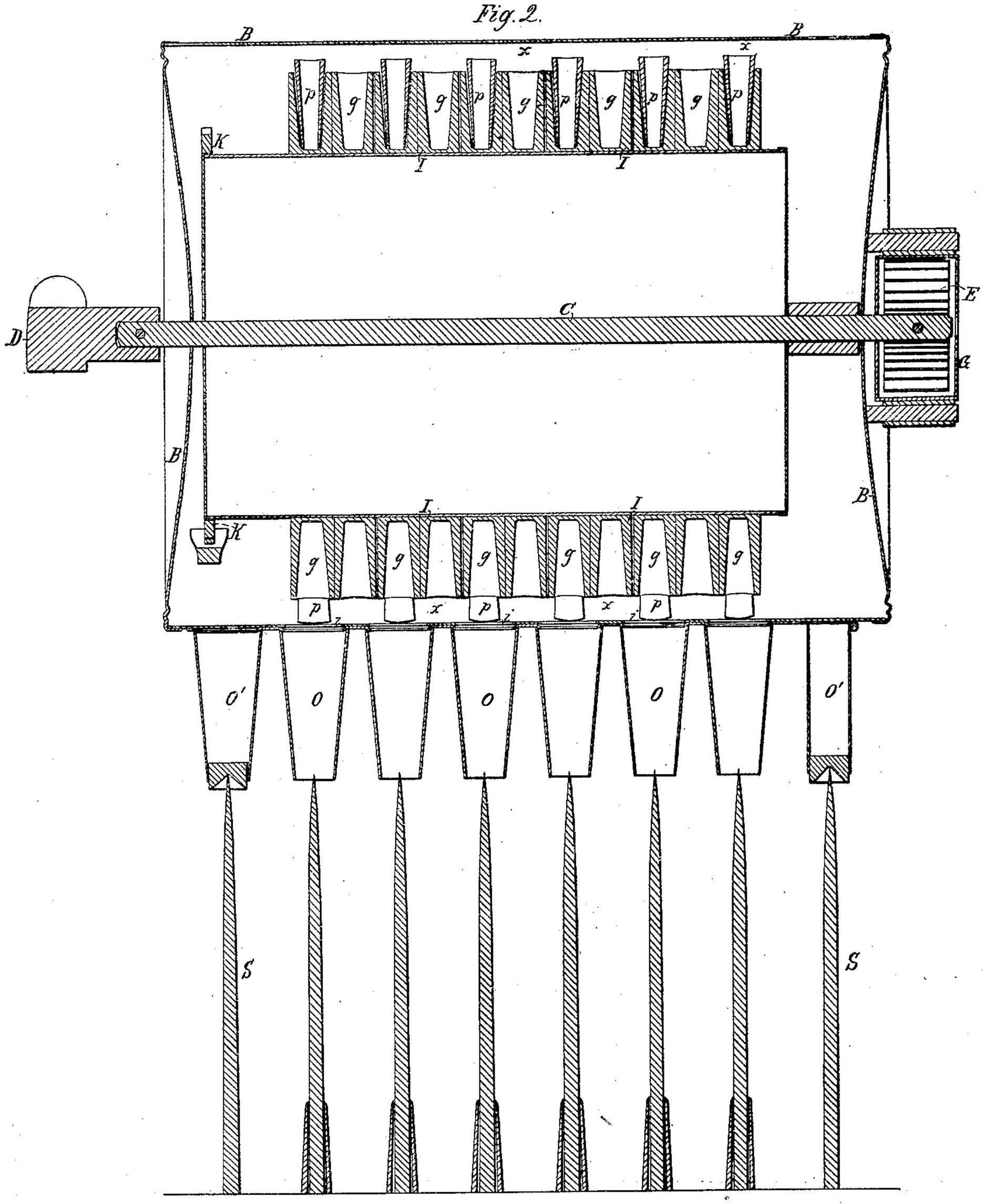
Fig. 2.



UNITED STATES PATENT OFFICE.

JNO. MARLAND, OF LAWRENCE, MASSACHUSETTS.

MACHINE FOR APPLYING COP-TUBES TO SPINDLES.

Specification of Letters Patent No. 20,285, dated May 18, 1858.

To all whom it may concern:

Be it known that I, JOHN MARLAND, of Lawrence, in the county of Essex and State of Massachusetts, have invented a new and useful Machine for the Purpose of Applying Cop-Tubes to Spindles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1, is an end view. Fig. 2, a vertical section upon the line A, A, of Fig. 1.

Objection has been made to the employment of cop tubes for spinning on account of the delay of the mule and the time thereby lost when the tubes are applied to the spindles by hand.

My invention is designed to obviate this objection, and consists in a novel machine for the purpose of applying the tubes to the spindles, which I will now proceed particularly to describe.

The case B, of the machine is a hollow cylinder of sheet metal, through the center of which passes the shaft C, this shaft carries at one end a thumb nut D, and at the other it is secured to one end of a coiled spring E, the other end of which is attached to a box G, upon one of the heads of the cylinder. The shaft C turns freely on the heads of the cylinder and to it is secured a drum or cylinder H, which carries a series of rings II. These rings have a number of cavities *g* of a size adapted to hold the tubes. The cylinder H carries at one end a ratchet wheel K, having a number of teeth equal to the number of cavities in each ring I. In these teeth engage the hooks *h*, *f* of escapement catch L which is held in the position represented in Fig. 1 by the spring M, when the knob N, attached to the catch is pressed in the hook *h*, is withdrawn from the tooth 1 of the ratchet wheel which is held by the hook *f* engaging with a tooth 3, when the knob N, is released the hook *h* catches the next tooth 2, and thus each time the knob is depressed and released the ratchet wheel and cylinder H are revolved a single tooth, being driven by the spring E, which has been previously wound up by turning the thumb nut D.

The cylinder B is perforated with a longitudinal row of holes *i*, so arranged as to be exactly opposite every alternate cavity *g* of the rings I. Immediately over that portion of the cylinder containing the holes or perforations *i*, is hinged a door *m*, the hinge being seen at *n*, Fig. 1—this door is also perforated with holes corresponding to those in the cylinder, and to these holes are adapted the tapering tubes O. The two extreme tubes O′, being stopped up as seen in Fig. 2.

Operation: The door *m*, is raised and the tubes *p* are placed in the cavities *g*, the machine being turned with the openings *i* upmost for the purpose and the drum H, and rings being turned by manipulating the knob N, so that every alternate cavity in each longitudinal row is filled in succession, the drum H is then slipped lengthwise a distance equal to the width of the rings I, and the other alternate cavities are filled in a similar manner. The spring E, is now wound up and the machine is placed as seen in the drawings, the two extreme tubes O′ resting upon the spindles S, the tubes O, being at a distance from center to center equal to the distance of the spindles apart.

It should be stated that the distance or space *x*, between the case B, and the rings I, is not sufficiently great to permit the tubes to drop from the cavity *g* until they arrive opposite to the openings *i*. The knob N, is now depressed by which a row of tubes is brought over the cavity *i* when they immediately drop through the tapering tubes O, by which they are guided onto the spindles, the machine is then moved to the next spindles in the row, the knob N is again depressed and so on until the tubes are placed upon all the spindles. When the drum H, and rings I, have made a complete revolution they are moved longitudinally so as to bring the adjoining tubes in accordance with the openings *i* and the operation is continued as before.

What I claim as my invention and desire to secure by Letters Patent is—

The machine for putting cop tubes upon spindles operating in the manner substantially as herein set forth.

JOHN MARLAND.

Witnesses:

P. E. TESCHEMACHER,

THOS. R. ROACH.