Perkins & Gilbert.

Hoop Skirt Machine.

No. 63936 Patented Apr. 16, 1867.

Fig. 1.

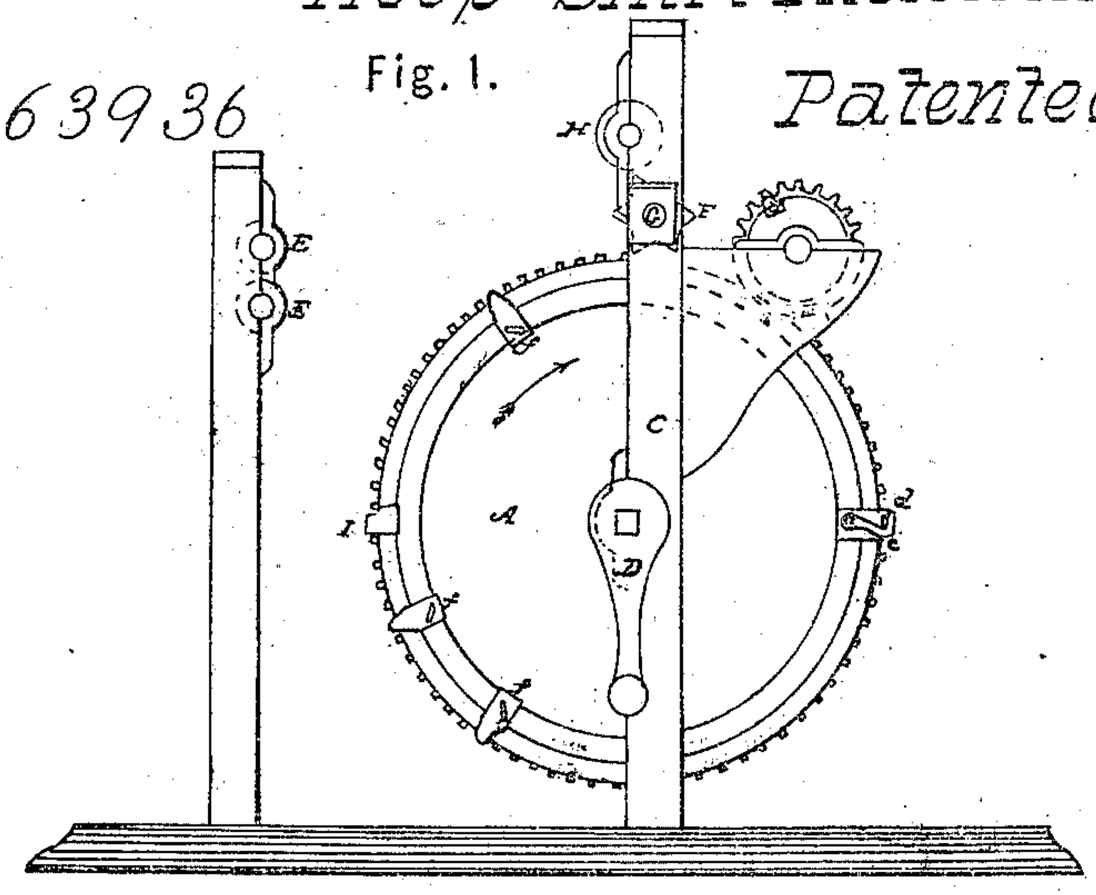


Fig. 2.

Fig. 4.

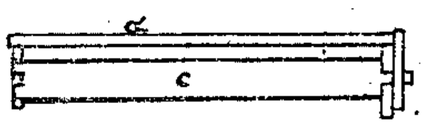
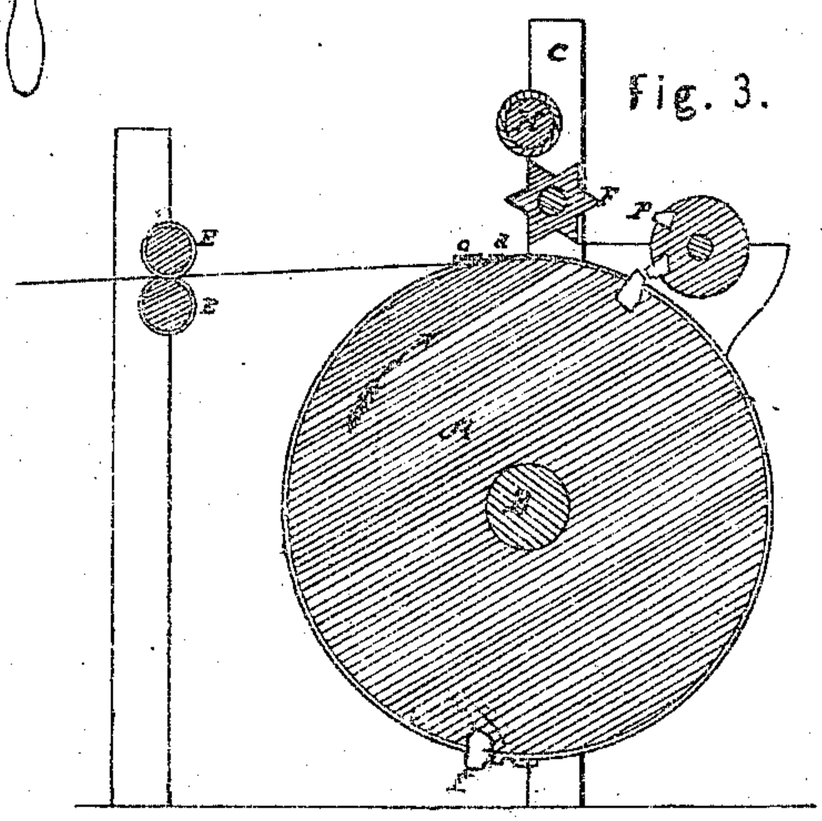


Fig. 3.



Witnesses

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S. H. PERKINS AND THOMAS S. GILBERT, OF NEW HAVEN, CONNECTICUT.

Letters Patent No. 63,936, *dated April* 16, 1867.

IMPROVEMENT IN MACHINES FOR MAKING HOOP-SKIRTS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, S. H. PERKINS and THOMAS S. GILBERT, of New Haven, in the county of New Haven, and State of Connecticut, have invented a new Improvement in the Manufacture of Hoop-Skirts; and we do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view.

Figure 2, a top view.

Figure 3, a longitudinal central section; and in

Figure 4, a detached view of a portion of the cylinder to illustrate the clamp.

This invention relates to an improvement in the preparation of the common covered wire preparatory to forming it into hoops, the object being to cut the wire the required length, and mark or print upon the surface of the wire the points where the tape is to be secured; and consists in automatically measuring, printing, or marking the place for securing the tape, and, when so measured and marked, cutting the wire at the measured length.

To enable others skilled in the art to construct an apparatus which shall automatically mark and cut the wire, we will proceed to describe the best arrangement known to us for so doing, and which is illustrated in the accompanying drawings.

A is a cylinder, of a circumference equal at least to the largest hoop required to be measured. It is supported upon a shaft, B, in bearings on the uprights C, and revolved by means of a crank, D, attached to the shaft, or otherwise. In the periphery of the said cylinder are formed grooves, *a*, more or less in number, in width and depth so as to receive each a strand of the covered wire, and so that the surface of the wire will lie flush with or a little above the surface of the cylinder. Across the face of the cylinder is fixed a gauge, *d*, with a clamp, *c*, as seen in fig. 4, which is adjustable so as to be set at any point upon the surface of the cylinder. The ends of several wires are taken from their respective reels, passed between guide-rolls, E, to the cylinder, and their ends set against the gauge *d*, and there made fast to the cylinder by the clamp *c* or other equivalent device. Above the cylinder, or at some point upon its surface, is fixed a printing-roll, F, which consists of a cylinder presenting points or angles longitudinally upon its surface, each of which points, when revolved, will press upon the surface of the cylinder with the force of the springs upon their bearings G. Above the said printing-roll is fixed the inking-roll H, provided with ink or any coloring material which will impart to each of the points upon the printing-roll, as the two come in contact, so much ink or other coloring matter as will print or indicate the point of contact of the said points upon the cylinder or the wire lying upon its surface. Upon the edge of the cylinder A are arranged studs, *f*, projecting above the surface of the cylinder, and adjustable, so as to be set at any desired point around the cylinder. When the cylinder is revolved the said studs each operate the printing-roll so as to bring one of the printing points in contact with the surface of the roll. Therefore, when the wires have been secured (as before described) to the surface of the cylinder, and the cylinder revolved as denoted, the wire is carried around underneath but clear of the printing-roll, until the first stud *f* strikes or operates the printing-roll to turn the roll one point. In thus turning, the point which has been previously inked presses upon the several wires, and prints or leaves upon the surface of the wire an impression. Passing on until the second stud operates the roll, a second point is marked, and so on, as many points as there are tapes to be attached, and at such points as the tapes are to be secured. At some point upon the periphery of the cylinder a cutter, I, is fixed, extending across the surface; and upon a shaft, L, is fixed a corresponding cutter, P, which said cutter is caused, by connection with the cylinder, to revolve with such a velocity that the two cutters shall, at the proper time, come in contact, (as denoted in red, fig. 3.) and cut off the several wires; thus the wire, being secured under the clamp, as denoted in black, fig. 3, will be drawn in and marked until the cutter (also denoted in black) arrives at the point of contact with the other cutter, as denoted in red, at which point the several wires will be cut off. If longer or shorter wires are required, adjust the gauge and clamp to the requisite distance from the cutter I, so that the revolution of the cylinder to the cutter measures the length of the hoop. Set the several ends to the required points for marking the several wires. One set of wires being cut, they are released from the clamp, another set inserted, and so on.

By this arrangement one person is enabled to do the work of many, and that with the utmost accuracy, as the hoops for the same position in different skirts will all be of the same size, and each hoop certain to be of the required relative proportion to the hoop above and below, and the point for securing the tape being thus indicated with mathematical precision, the skirt, when completed, will present an equally finished appearance, more perfect than can be attained by the ordinary process.

This mechanism is, as we before stated, the best known to us, and by us practically used, yet other constructions may be devised for performing the same operation.

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

Automatically measuring, marking, and cutting wire for skirt hoops, substantially as herein set forth.

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Witnesses:
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