

(No Model.)

O. GILMORE.
CHANNEL FLAP LAYER.

No. 310,668.

Patented Jan. 13, 1885.

Fig:2.

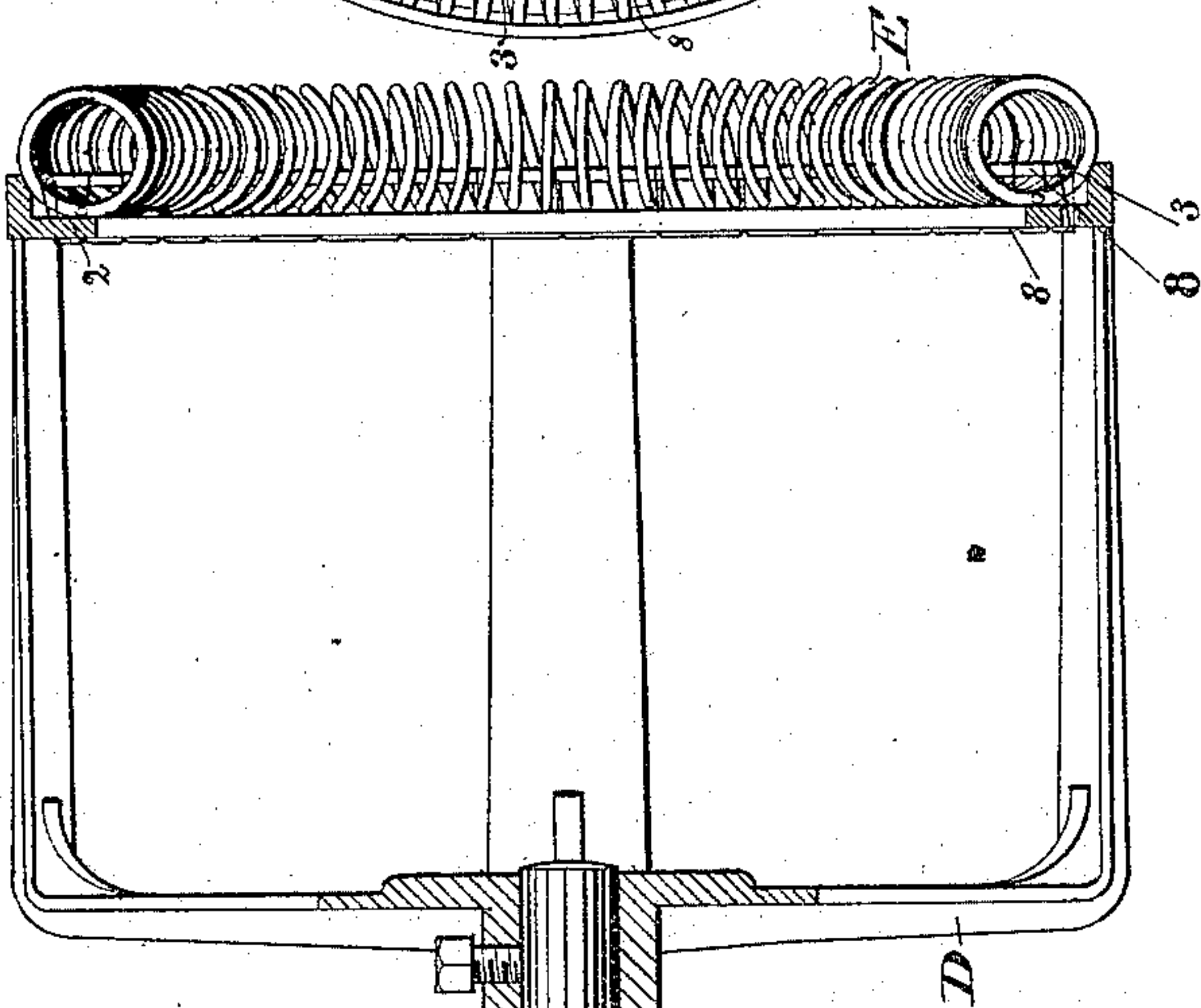
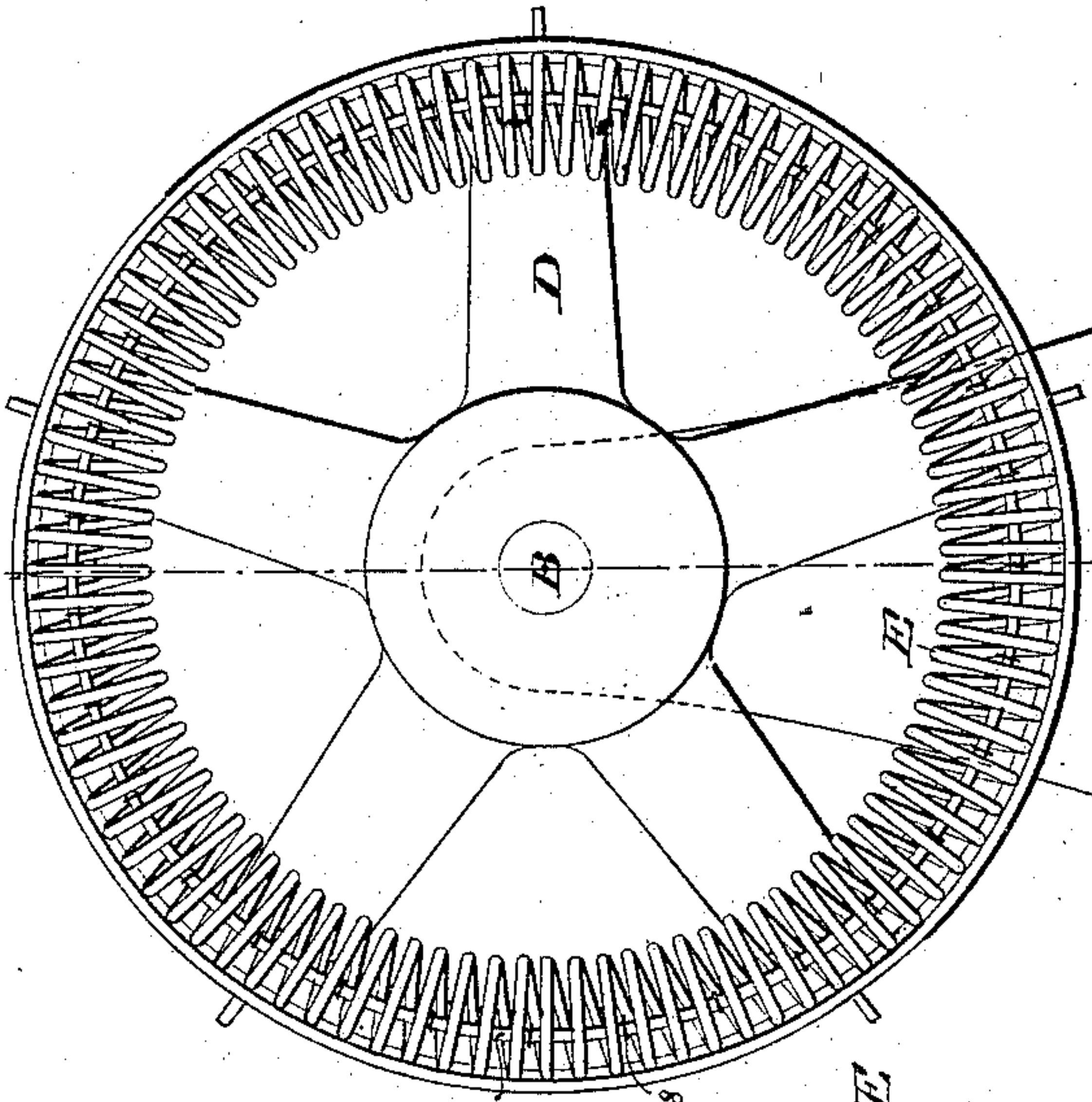


Fig:3.

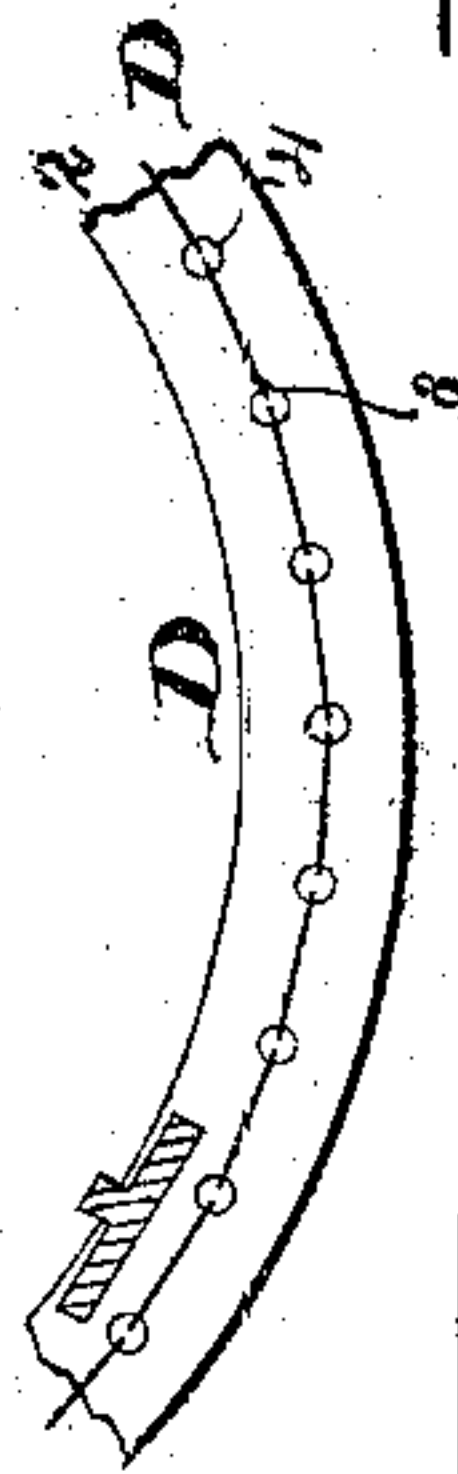
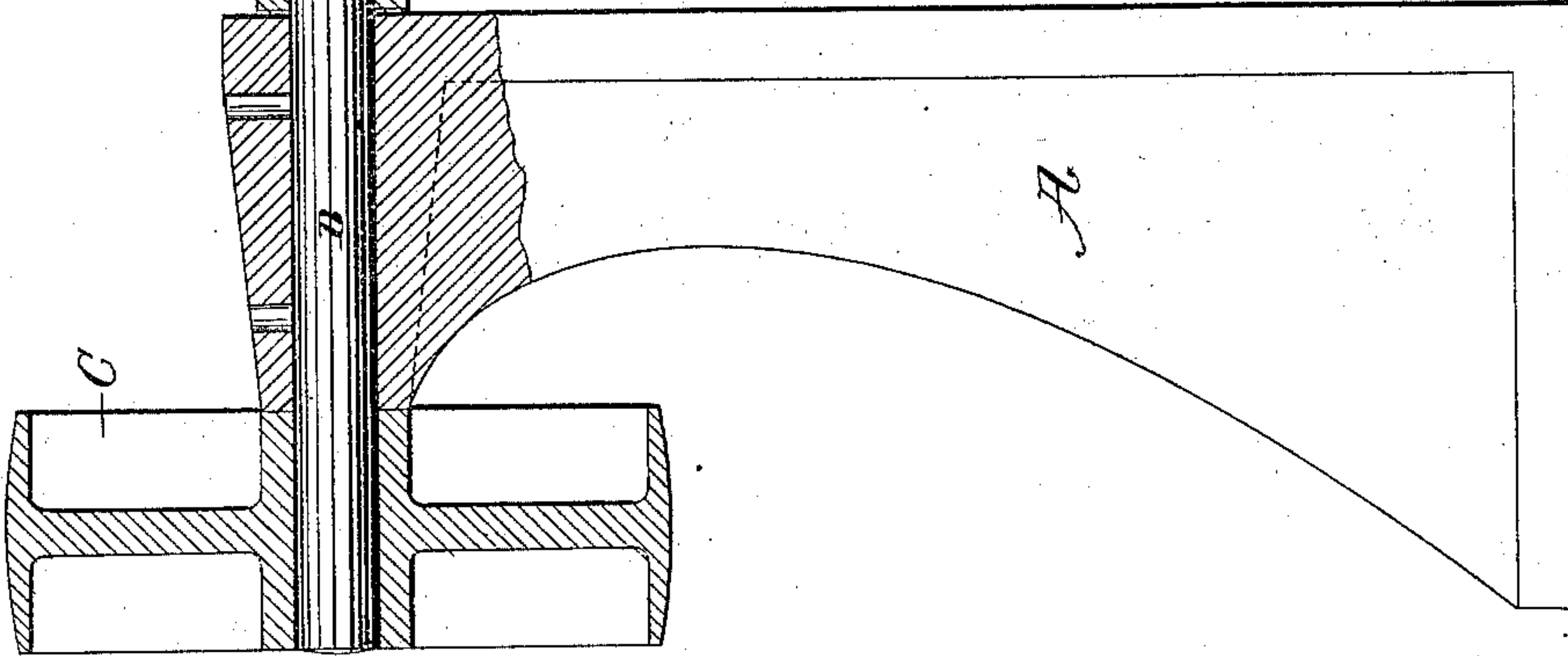


Fig:4.



Witnesses.
Henry Marsh.
John F. C. Prinkert

Inventor,
Othniel Gilmore.
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UNITED STATES PATENT OFFICE.

OTHNIEL GILMORE, OF NORTH RAYNHAM, MASSACHUSETTS.

CHANNEL-FLAP LAYER.

SPECIFICATION forming part of Letters Patent No. 310,668, dated January 13, 1885.

Application filed June 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, OTHNIEL GILMORE, of North Raynham, county of Bristol, State of Massachusetts, have invented an Improvement
5 in Channel-Flap Layers, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the manufacture of boots and shoes
10 wherein the sole-fastenings—which may be either stitches, nails, or pegs—are inserted in a channel made in the outer sole, the channel-flap or the lip of the channel has subsequently to be turned over in its original position to
15 conceal the said fastenings. The object of my present invention is the production of a simple and efficient machine for this purpose.

My improved machine contains as an essential element an endless wiper open at its center, and having a convex face, against which
20 may be placed and held not only the bottom of the sole, but also the shank of the shoe, in order that the channel-flap at all parts of the outer sole may be acted upon by the wiper, the operator holding the boot or shoe in his
25 hand and presenting it to the rotating wiper, so that the latter acts upon and wipes and smooths the flap or lip back into substantially its original position.

30 Figure 1, in partial vertical section, represents a mechanism embodying my invention. Fig. 2 is a front elevation of a machine embodying my invention, and Fig. 3 is a detail to be referred to.

35 The standard A receives the shaft B, which is provided with a belt-pulley, C, adapted to receive a belt by which to rotate the shaft. The shaft B has connected with it a head or support, D, which carries the rotating convex
40 endless wiper E. This wiper E, for sake of cheapness, lightness, strength, and durability, will preferably be composed of wire wound spirally, substantially as shown in the drawings, each coil being slightly separated from
45 the other to form spaces and leave the coils standing each more or less prominently. This coiled wire is bent into annular form, as shown, and the ends of the coil having been brought together to constitute an endless rubbing-surface, are connected, as herein shown,
50 with the flanged circular end 2 of the carrier

or support by a wire, 3, and a finer wire or cord, 8, (see Fig. 3,) the latter wire being extended through holes 4 in the said rim.

The wiper is of sufficient length and the
55 support for it is of such shape as to permit the shoe held by the hands of the operator to be moved in the direction of its length across the wiper and out and in through its open center, or in a direction at right angles to the line
60 of movement of the wiper, the boot or shoe being at such time pressed firmly against the convex surface of the wiper, the said wiper conforming in a measure to the convexity of the sole, a part of the boot or shoe being acted
65 upon being at times within the center opening of the wiper and support D, other parts of the boot or shoe being outside of it. About two-thirds of the circumference of the wiper is made available as a working or rubbing
70 surface.

Instead of making the wiper from wire, I might take a round bar of iron, bend it to form a ring, and cut the surface of the ring
75 annularly, or nearly so, to produce a corrugated ring; but such ring or wiper so produced would be more expensive than one composed of wire and would run harder.

The essential feature of my invention is the rotating convex-surfaced wiper, having a sufficient portion of its circumference exposed to
80 enable all parts of the outer sole and its shank to be placed against the surface of the wiper, the shoe being free to be rocked and moved longitudinally in contact with the wiper for
85 upward of one hundred and eighty degrees of its periphery, measured in a line crossing the wiper parallel with shaft B, and to pass into the open space about which the wiper travels or rotates.

90 The wiper, composed of an "endless belt," as it might be called, of coiled wire, has especial advantages, inasmuch as each coil as it meets the sole strikes with a yielding blow, or with a blow which is not as hard and positive as would be the teeth of rotating gear-
95 wheel.

With a rotating wiper, such as described, open at its center, and into which the shoe may be inserted longitudinally, all parts of
100 the shank, as well as the fore part of the sole, may be uniformly acted upon from the center

of the sole outward when turning the channel-flap down to cover the sole-fasteners, and the action of the wiper is uniform when passing from the shank to the ball of the foot, or vice versa, whatever may be the curvature or narrowness of the shank. The sole at the shank is usually convex from edge to edge, and it is obvious that such a surface can be treated in a superior manner by a wiper the surface of which is concave rather than convex, such as would be the outer side of a cylinder or wheel. In practice the outer face of the wiper is employed to turn down the channel-flap; but as the flap is to be turned down in the shank the shoe is tipped from a nearly-vertical into a horizontal position, and the heel, or it may be the toe, of the shoe is turned into the open center of the wiper, and the sole is brought into nearly a horizontal position, so that the channel-flap in the shank is turned down by a wiping motion from the center of the sole outward, the acting surface of the wiper being concaved to readily conform itself to the convexity of the sole at the shank.

I am aware that a rotating cylinder has been employed to lay down a channel-flap, the shoe being pressed against the outer or peripheral surface thereof; and I am also aware that

small wheels have been employed to act against and turn over the channel-flap, as in United States Patent No. 109,077.

I claim—

1. In a channel-flap-laying machine, an endless rotating open-centered wiper having at its inner side a corrugated or ribbed surface, against which within the wiper the boot or shoe may be pressed, the wiper presenting a concave acting face to act upon the convex part of the sole of the boot or shoe both at the fore part and shank, substantially as described.

2. The wiper composed of a movable coil of wire, combined with means to rotate or move the said coil in the direction of the longitudinal axis of the said coil, substantially as described.

3. The shaft B and its connected carrier, combined with an attached annular wiper having a corrugated or convex surface open at its center, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

OTHNIEL GILMORE.

Witnesses:

G. W. GREGORY,
B. J. NOYES.