

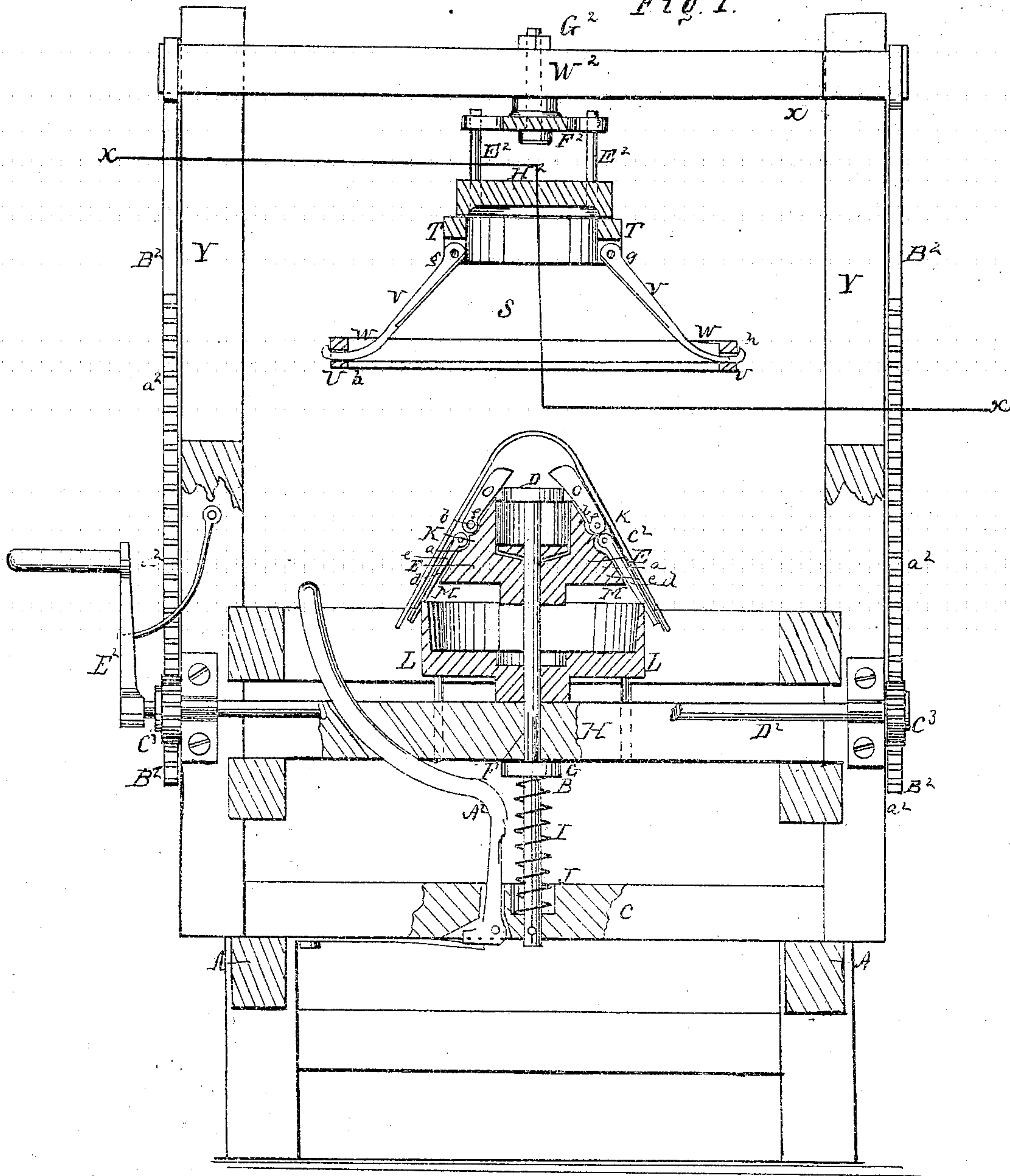
S. Boyden.

Hat Blocking Mach.

N^o 59707.

Patented Nov. 13. 1866.

Fig. 1.



Witnesses

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Sheet 2 - 2 Sheets.

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Fig. 3.

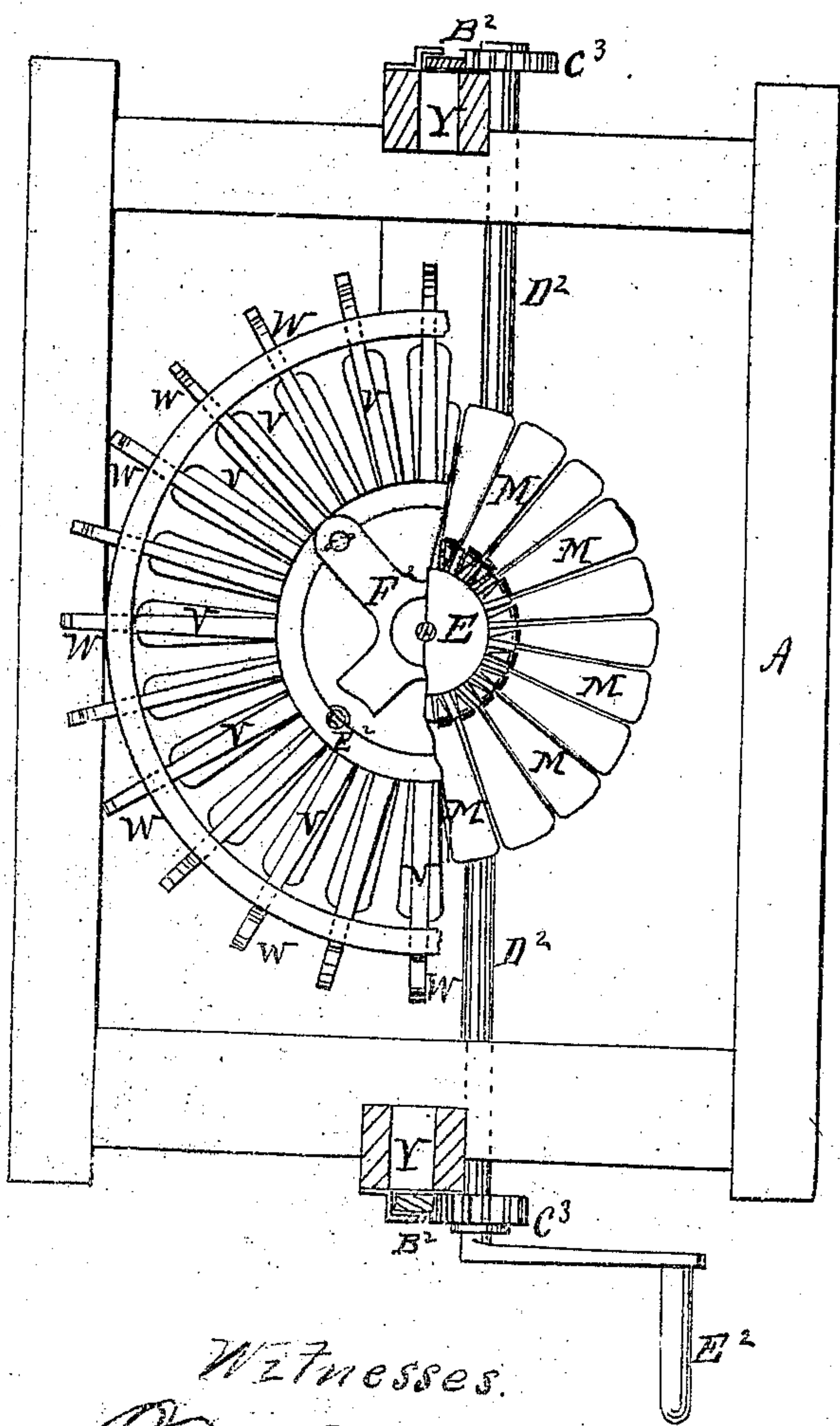
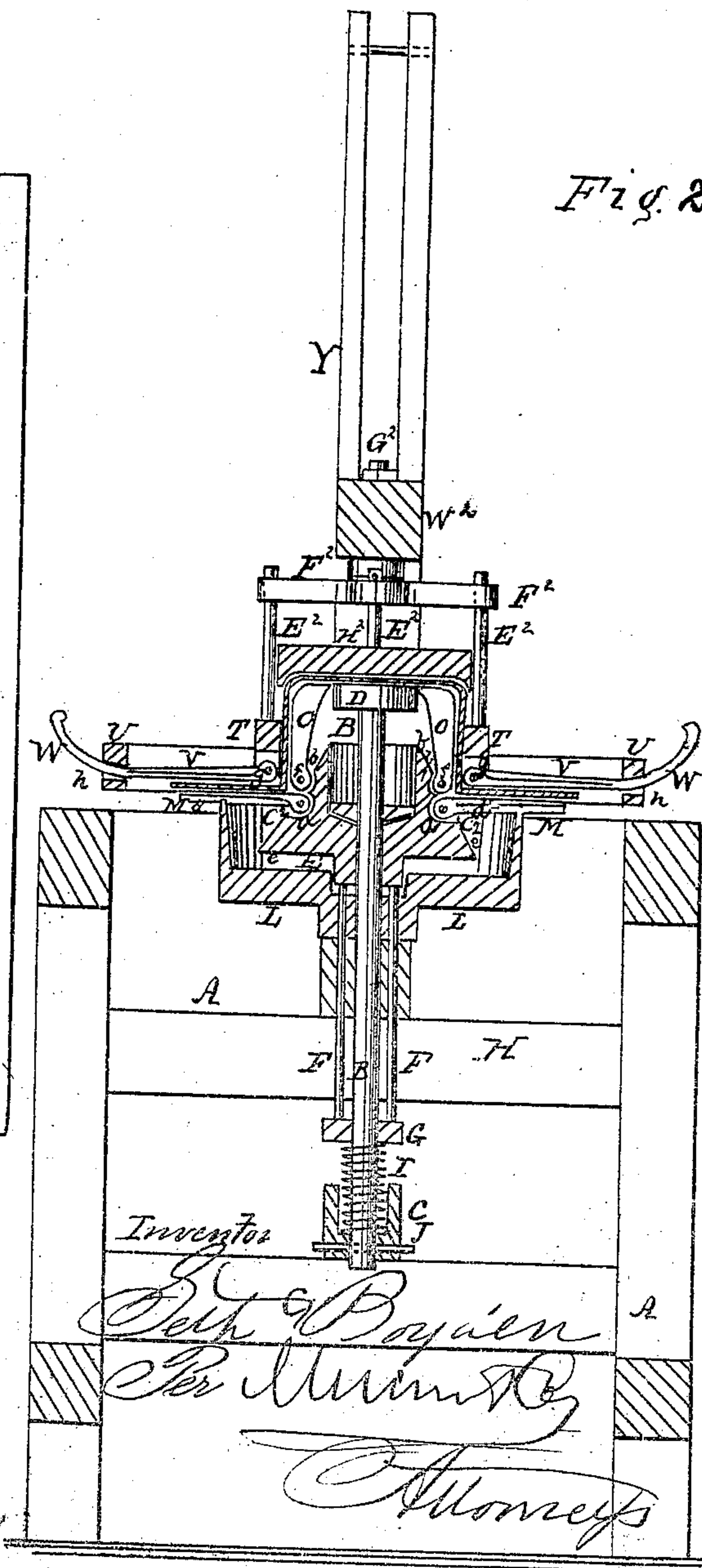


Fig. 2.



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UNITED STATES PATENT OFFICE.

SETH BOYDEN, OF NEWARK, NEW JERSEY, ASSIGNOR TO HENRY H. JAQUES, OF SAME PLACE.

IMPROVEMENT IN HAT-BLOCKING MACHINES.

Specification forming part of Letters Patent No. 59,707, dated November 13, 1866.

To all whom it may concern:

Be it known that I, SETH BOYDEN, of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Hat-Blocking Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a machine for the blocking of hats in which the "hat-cone" so called, is placed upon and over a block that is then of a shape or form corresponding thereto, but is so constructed that it can be changed or made to assume the ordinary form of a hat-block, when bringing to bear against such portion of the said block as is covered by the portion of the hat-cone which is to constitute the brim of the hat a presser of such a form and construction that by then depressing it in any proper manner it will so act upon the conical block on which the hat-cone was placed as to bring it into the shape of an ordinary hat-block, (or, in other words, to bring its portion holding the brim of the hat-cone into a horizontal position, and its portion inclosed within such brim portion and about the apex of the cone, between it and the inner edge of the brim portion, into a vertical position, or nearly so,) and thereby drawing the hat-cone and blocking it into a shape corresponding to such hat-block, when, holding or retaining the presser down a sufficient length of time to set the hat-cone in such shape, and also swinging it around, the hat-cone is thereby rubbed and relieved of all wrinkles which may have been produced in it while acted upon the hat-block, and brought into a perfectly smooth state, after which, raising the presser from the hat-block, the hat is then removed and the block thrown or brought back to its original and cone form, in readiness for receiving another hat-cone to be blocked into shape as before, and so on.

In addition to the above-described construction and arrangement of the hat-block and presser, I use in connection with the presser a weight or block, which, resting on the top of the cone-block while acted upon by the

presser and transformed into the shape of the ordinary hat-block, retains and firmly holds the top of the hat-cone in position, and when blocked into shape causes the top of the hat crown or body to be perfectly formed and smoothed.

Having thus in general terms described the nature and principles of the present invention, I will now proceed to explain the peculiar construction of my hat-blocking machine, together with its operation in detail, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a central vertical section through my improved hat-blocking machine, showing the hat-block when of the form of a cone, and before being acted upon by the presser; Fig. 2, a central transverse vertical section, with the presser down upon the cone-block and the latter in the form of the ordinary hat-block; and Fig. 3, a horizontal section taken in the plane of the line *xx*, Fig. 1.

Similar letters of reference indicate like parts.

A A in the drawings represent the framework of the machine, which may be of any suitable construction to receive the working parts of the same; B, a vertical spindle or rod fixed at its lower end in the cross-bar C of the frame-work A. On the upper end of this shaft B is a flat cap or head, D; and below such cap D, on the said shaft, is a block, E, made of the shape of a truncated cone with its smaller end uppermost, and bored out in its center through a portion of its thickness of a diameter greater than that of the spindle-head D, which is slightly above the upper end of the block E. This block E, by means of parallel vertical rods F, attached to its lower end, is secured to the cross-head G of the spindle B, below the cross-bar H of the frame-work, which cross-head rests upon the upper end of a spiral or coiled spring, I, about the shaft B, resting by its lower end in the socket J of the cross-bar C, to which the said rod is attached.

The periphery of the block E, at a point, K, between its two bases, is provided with two grooves, *a b*, one directly above the other, both of which grooves pass entirely around the

block E, and in planes parallel to each other and to the bases of the block. C², a wire passing around the block E and in its lower groove, *a*, to which wire is hung one end of a series of similar taper-shaped ribs or plates, M, that, extending in radial lines from the center of the said block, with their flanges *d* along the center line of their under sides interlocked with the correspondingly-shaped grooves *e* of the block, rest by their outer ends upon the upper edge of a fixed flange or ring, L, fixed in the frame-work, and in a horizontal plane concentric with the spindle B, hereinbefore referred to, the edge of this flange L being notched at suitable points of its length to receive the flanges *d* of the ribs M; *f*, a wire passing around the block E on its upper groove, *b*, to which wire is hung a series of similar taper-shaped ribs or bars, O, at one end, and extending upward toward the apex of the block E, in suitably-shaped slots or ways of which they fit, meet each other at their upper ends, the number of the ribs O and ribs M being equal and corresponding in position to each other, those of the upper series forming a continuation of the lower, and the whole together forming a rib-shaped cone about the center or inside block, E.

The two series of ribs M and O are independent of each other, and when their block, to which they are in common hung, is depressed, moving upon the fixed center spindle, B, the upper ends of the upper series are gradually thrown out and into a vertical position as they move over the head of the said shaft. At the same time the lower series are brought to a horizontal position or plane, resting upon the fixed raised flange or ring L of the frame-work, until the two series occupy the position, with regard to each other and to the head or cap of the center spindle, as plainly shown in the drawings, Fig. 2, in which position the two series form a block of a corresponding shape to that of an ordinary hat-block, the lower series the brim, and the upper, together with the fixed head D, the crown of the same.

S is the presser, which consists of two concentric rings, T and U, the inner or smaller one, T, of which is of an internal diameter a little greater than the external diameter of the upper series of ribs when in the form of a hat-block, and the exterior ring of an internal diameter equal to or greater than that of the extreme diameter of the brim of the hat-block. These two rings are connected together through a series of similar taper-shaped ribs or plates, V, that, at their inner ends, are hung upon a common wire, *g*, around the inner ring, and, extending in radial lines therefrom, pass by their curved and hook-shaped outer ends, W, through the apertures *h*, made in the outer ring at the proper points thereof. The number and width of the ribs V, and also their relative positions, correspond to the ribs of the conical block E, over which the frame holding such ribs is suspended from the upper horizontal bar, W², of a vertical frame, *x*, arranged

to move up and down in the slotted uprights or guides Y of each end of the main frame-work of the machine.

The presser-frame is so suspended that when it is lowered its several ribs will strike and rest upon the ribs of the conical block E and exactly correspond therewith, in direction and inclination, when continuing to lower such frame. The ribs of the presser then begin to assume a horizontal position, at the same time forcing down the conical block E, and thus bringing its lower series of ribs to a horizontal position and its upper series to an upright or vertical position about and around the stationary spindle-head D, hereinbefore referred to, as is plainly represented in Fig. 2 of the accompanying plate of drawings, where, by then interlocking the lever spring-catch A² with the cross-head G of the said conical block E, the several ribs of such block will be held, until, releasing such catch, (first having raised the presser from the block E,) the block E will be thrown or raised upward to its original position by the action of the spiral spring connected therewith, as hereinbefore explained, and thereby its several ribs, of both series, brought to their original conical or inclined direction about and around the block.

To raise and lower the presser-frame, as hereinabove described, the side-bars, B², of such frame are provided with a series of teeth, *a*², along one of their edges, with each of which bars engage pinion-wheels C³ of a common horizontal shaft, D², hung in suitable bearings of the frame-work, this shaft being provided with a crank-handle, E², at the end, for convenience in turning it.

In suspending the presser-frame, as hereinabove explained, its smaller or inner ring is connected, through a series of posts, E², secured at one end in the said ring, to a horizontal plate or head, F², in which, at their upper ends, they are also fastened, by which head the presser-frame is suspended from the cross-bar hereinbefore referred to, through the connecting bolt or rod G², in such manner that the presser-frame can be swung around and upon the same.

H² is a heavy block inserted between the upper side of the inner ring of the presser-frame and the head-plate to which such ring is connected, this block being loose thereon and susceptible of playing or moving up and down upon the posts by which the ring and head-plate are secured together. This block, when the presser-frame is lowered and brought to bear by its ribs upon the conical rib-block, rests upon the fixed cap-plate of the spindle upon which such conical block plays or moves, as shown in Fig. 2 of the drawings.

From the above description of my improved hat-blocking machine it is plainly apparent that if a hat-cone be placed upon the hat-block E when its ribs are in the form of a cone, as is represented in Fig. 1, and then the presser be lowered upon the same, the ribs of such presser, by coming to a bearing upon such por-

tion of the hat-cone as rests upon the lower series of ribs of the hat-block, will tightly hold and bind the same between the two, when, continuing to lower the presser and thus causing the two series of ribs about the cone-block E to be brought into a position corresponding in shape to the ordinary hat-block, the hat-cone is necessarily blocked or formed into a corresponding shape thereto, (the portion of the hat-cone covering the spindle-head D being held down by means of the weight or block H,) when swinging or revolving the presser around upon the hat-cone, blocked as above explained, and when in contact with it for a few times, the hat, if wrinkled or creased by the operation of blocking, can be thereby made perfectly smooth; which having been accomplished, the presser is then raised from the cone-block E, that, in its turn, is prevented from rising by the spring lever-catch until at a sufficient height to allow the hat to be removed from the block on which it was pressed or blocked, as described, and then the cone-block reset for another blocking operation, as before.

To facilitate the removal of the hat from the cone-block E after being blocked thereon, and also to enable it to be done without damaging or injuring the hat, the cone-block is first allowed only to move upward sufficiently to cause the various ribs about the cone-block to release their hold upon the hat, and thus leave it loose thereon, where, by means of the extra notch *l* of the lever-catch A², it is held, when, having removed the hat, the lever-catch is then entirely released from the cone-block spindle B, and thus it, by the action of the spindle-spring, is then thrown upward to its original position, its various ribs at the same time resuming their conical or inclined direction upon and about the block.

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

1. A block for the blocking of hats, so constructed that from a form corresponding, or nearly so, to that of the hat previous to being blocked, it can be changed or made to assume or brought to the form of an ordinary hat-block, by means substantially as herein described, and for the purpose specified.

2. In combination with the above, a presser so constructed that when brought to bear upon the said block on which the hat has been placed to be blocked, it will change the form of such block, substantially as and for the purpose described.

3. The movable block E, having a double series of ribs, M and O, hung upon and around the same, one series above the other, in combination with the surrounding stationary or fixed flange or rest L for the outer ends of the lower ribs, M, and the center fixed cap or head, D, substantially as described, and for the purpose specified.

4. The presser S, formed of two concentric rings, TU, connected together through a series of ribs, V, hung to the inner ring and passing through the outer ring, substantially as and for the purpose described.

5. The weight or block H², in combination with the presser S, when arranged and combined together substantially as and for the purpose specified.

6. The combination of the double-ribbed hat-block E, surrounded by a fixed raised flange, L, and pivoted with a fixed center cap or head, D, with the ribbed presser S, having block or weight H², when combined and arranged together so as to operate substantially in the manner and for the purpose described.

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