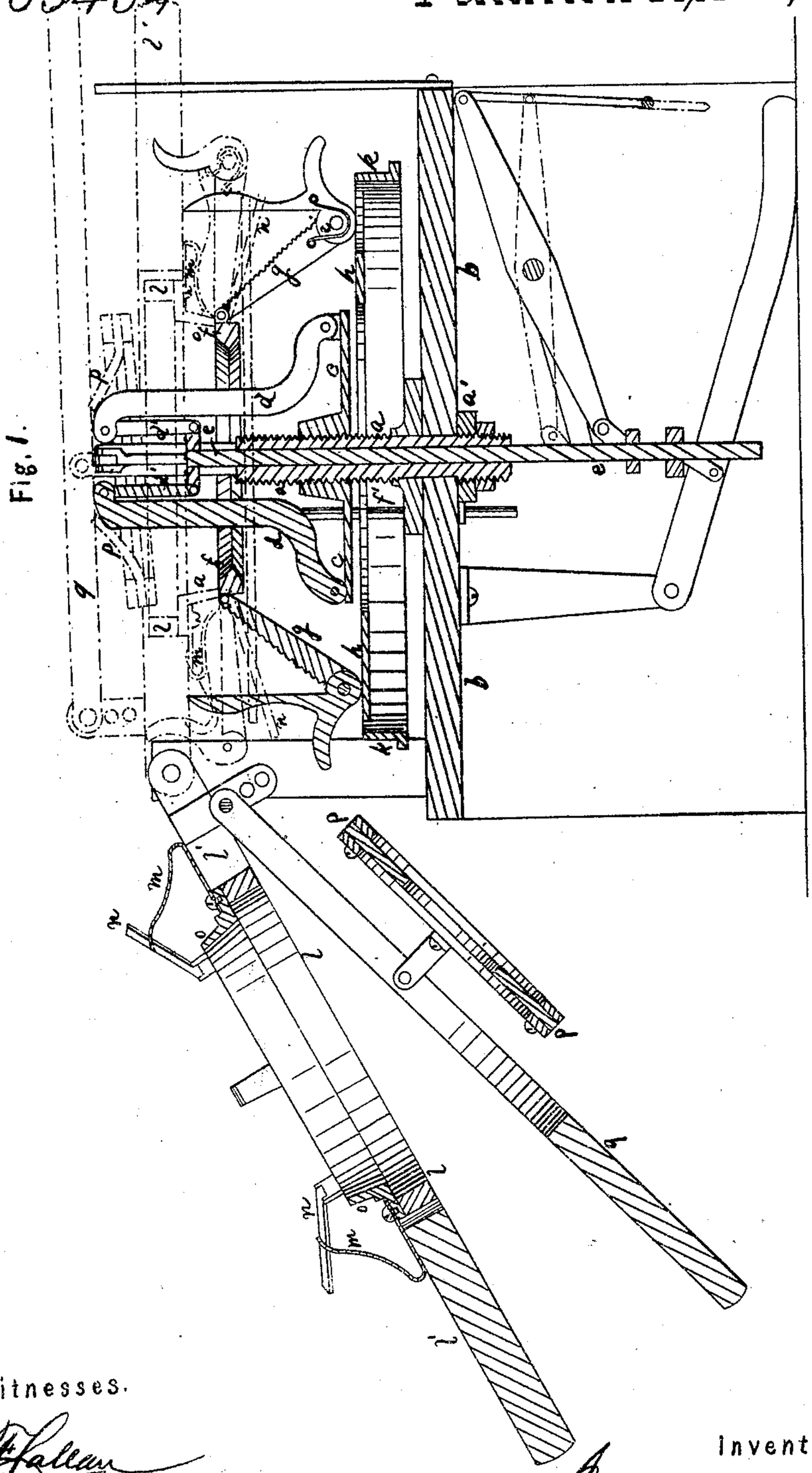
Sheet 1-2 Sheets.

J. Sheldon.

Blocking & Stretching Hats.

No. 63434 Patented Apr. 2, 1867.

Fig. 1.



Witnesses.

L. Stallen

Albert H. Hoork

Inventor.

Julius Sheldon

Sheet 2 - 2 Sheets.

J. Sheldon.

Blocking & Stretching Hats.

No. 63434 Patented Apr. 2, 1867.

Fig. 2.

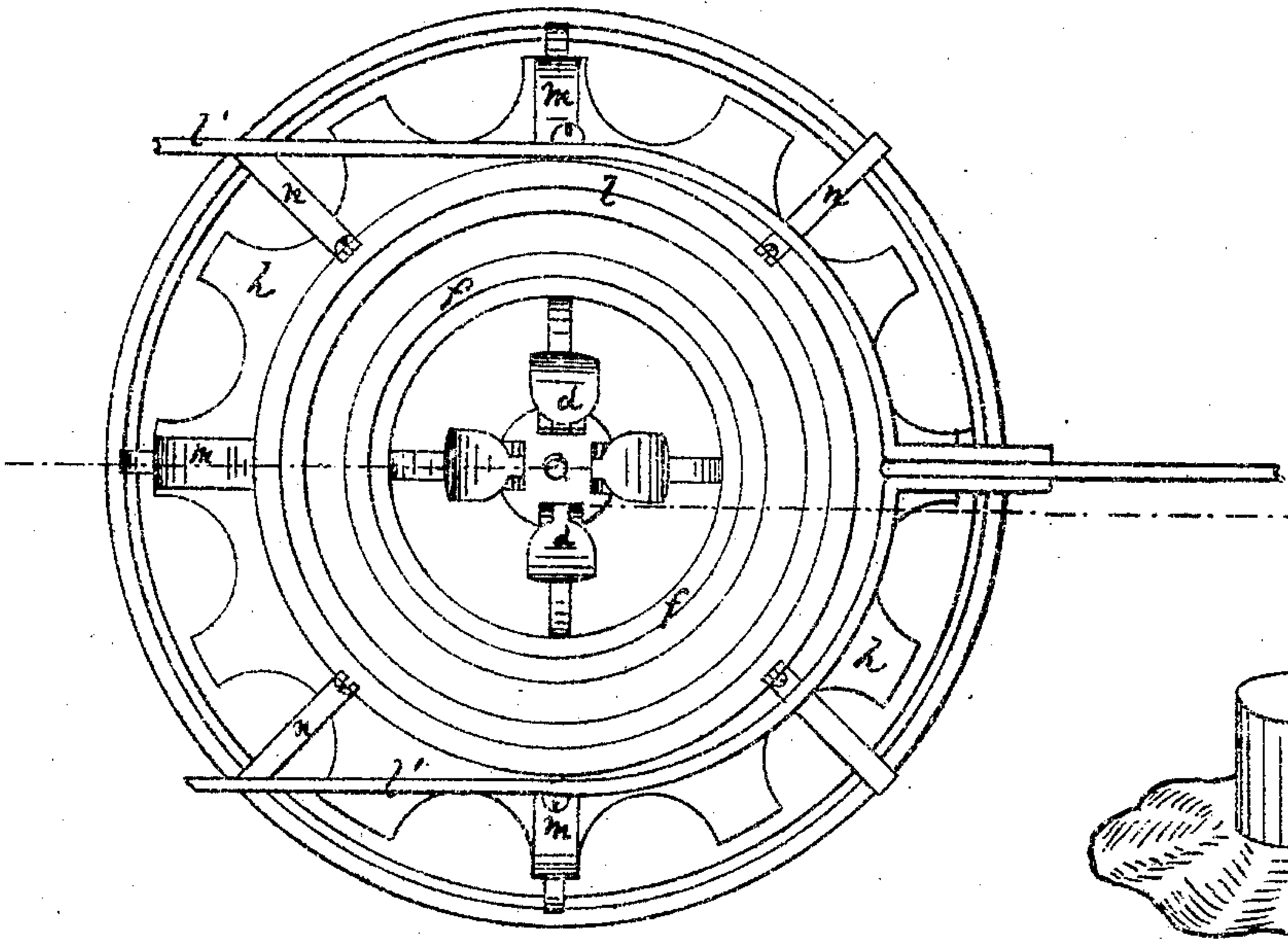
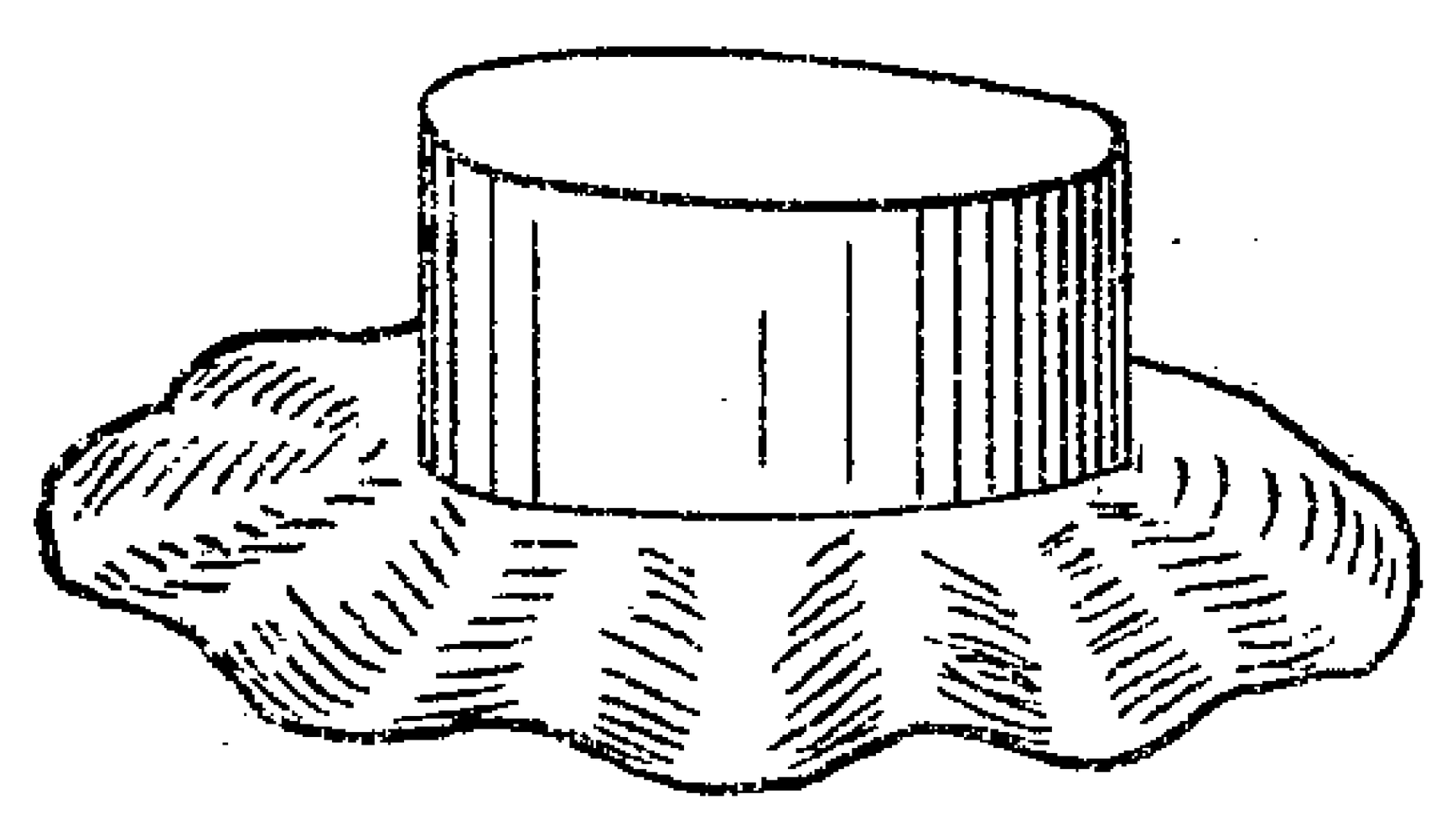


Fig. 3



Witnesses.

[illegible]

[illegible]

Inventor.

Julius Sheldon

United States Patent Office.

JULIUS SHELDON, OF NEW YORK, N. Y., ASSIGNOR TO GRISWOLD AND SHELDON, OF THE SAME PLACE.

Letters Patent No. 63,434, *dated April* 2, 1867.

IMPROVEMENT IN HAT-BLOCKING MACHINES.

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

Be it known that I, JULIUS SHELDON, of the city, county, and State of New York, have invented certain new and useful Improvements in Machines for Blocking Hats, and that the following is a full and clear description thereof, reference being had to the annexed drawings, of which—

Figure 1 is a vertical section of the machine, showing in black lines the position ready to receive a hat body, and in red lines the position when the blocking of the hat is finished, and the machine ready to be opened to take the hat out.

Figure 2 is a plan view of the flanges containing the rubber ring, the lever to operate the same, the ring to break the band, and its lever and the extra stretchers.

Figure 3 shows a hat as it comes from the machine.

My invention refers to certain improvements in a machine, a patent for which has been applied for by Joseph De La Mar, and assigned to Griswold and Sheldon, for blocking hats by stretching out the crown by means of expansible framework, and by stretching out the brim part of the hat by clamps that take a firm hold of the brim, and are then raised from an inclined position up to a horizontal position, as described in the specification of said De La Mar; and my improvements consist—

First, in the manner of raising and lowering the expansible framework in order to adjust the machine to the various required depths of hats.

Second, in constructing a ring that will serve a threefold purpose, first, of giving pressure to the clamps by means of springs; second, of forming the point of attachment for a number of inclined projections for the purpose of giving the edge or periphery of the brim of the hat an extra stretch in order to overcome the shrinkage of the felt; and third, it is provided with a rim at its bottom, which breaks the band, and is capable of being changed to suit the various sizes of hats.

Another improvement consists in the application of a rubber ring to bear upon the tip of the hat body, while the expansible bars are being expanded to some extent in order to flatten out the apex of the hat body.

Referring to the drawings, there is a stem, *a*, placed in the centre of a square table, *b*, capable of turning, and provided with a screw-thread at its upper part, and operated or rotated by a handle below the table, not shown in the drawings. A nut, *a'*, below the table, together with a flange above the table, serves to keep said stem *a* in place. This stem bears a horizontal plate, *c*, capable of being raised and lowered by turning said stem *a*. At the circumference of the plate *c* are jointed to it a number of curved bars, *d*, the upper ends of which can be expanded and contracted by means of links, *d'*, which are jointed to the upper end of a centre rod, *e*, which passes vertically through the centre of stem *a*, and is operated by any convenient lever arranged underneath the table. It is evident that by rotating stem *a* the whole of these bars can be raised or lowered to suit the depth of hat to be made on the machine. A ring, *f*, supported by rods, *f'*, which are secured to the table, is placed concentrical with the centre rod *e*. Hinged to the outer periphery of this ring are a number of clamps, *g*, the lower ends of which rest upon a horizontal plate, *h*, which plate, being moved up or down by a proper arrangement of levers below the table, can raise or lower said clamps. When said clamps are lowered to a position as shown in black lines, they are thrown open by springs *i*, and held so, ready to receive the hat body. When the hat body is placed over the machine, the clamps are closed by raising the ring *k*, which, acting upon a short projection of the upper part of the clamps, causes them to turn on their pivots, and to close and seize the brim of the hat. While these are being held in this position, the ring *l* is brought down by turning lever *l'* from the position shown in black lines down to the position shown in red lines. This ring being furnished with a number of springs, *m*, one for each clamp, will give the required pressure to these clamps, and enable them to take a firm hold of the brim of the hat, so that when these clamps are brought up to a horizontal position by the said plate *h*, that part of the hat body which is held by the clamps is brought out to a flat brim. But as the felt when released of the strain will invariably shrink back on account of its elasticity, and to some extent resume its former shape, I give the edge of the brim an extra stretching by the inclined projections *n*, attached to ring *l* in radiating directions, and intervening between the clamps below, which will depress the brim between the clamps, when said clamps come up to their horizontal position, thereby corrugating the periphery of the brim, so that when it shrinks it will assume the flat shape. In order to break a sharp corner between the brim and the cylindrical part of the hat, or, as it is commonly called, to break the band, and break

it for different-sized hats, I affix a sharp-edged ring, *o*, to the bottom of ring *l*, which I can change for different sizes of hats. The most difficult part of blocking hats is stretching out the tip flat, on account of the tendency of the felt to shrink back to its original shape and form, unless the stretching has been carried beyond a certain point. To accomplish this in the crown or tip, and form it almost perfectly flat, I use a ring, *p*, of India rubber, almost fitting the circumference of the bars *d*, when contracted, and force the same over the hat body when on the machine. This ring, taking hold of the hat body near the ends of the bars and expanding with said bars, will concentrate all the strain exercised by the ends of the bars upon the very tip of the hat body, and the stretching will be limited to this part, which will be stretched beyond shrinking. This rubber ring may be forced over the felt by hand, or it may be to a metal flange and may be raised off or lowered down upon the felt by a lever, *q*, hinged to any convenient part of the machine.

I make no claim to the invention described by De La Mar, but what I claim as my invention in the above-described machine, and desire to secure by Letters Patent, is—

1. The combination of stem *a*, plate *c*, and bars *d*, arranged substantially as described.

2. The combination of the ring *l* with the springs *m*, one separate spring for each clamp, arranged substantially as described and for the purpose specified.

3. The rubber ring *p*, applied to the tip of the hat body, substantially as described.

4. The combination of the ring *o* with the ring *l*, the said ring *o* being made detachable, substantially as described and for the purpose described.

JULIUS SHELDON.

Witnesses:

J. F. CALLAN,

ALBERT H. HOOK.