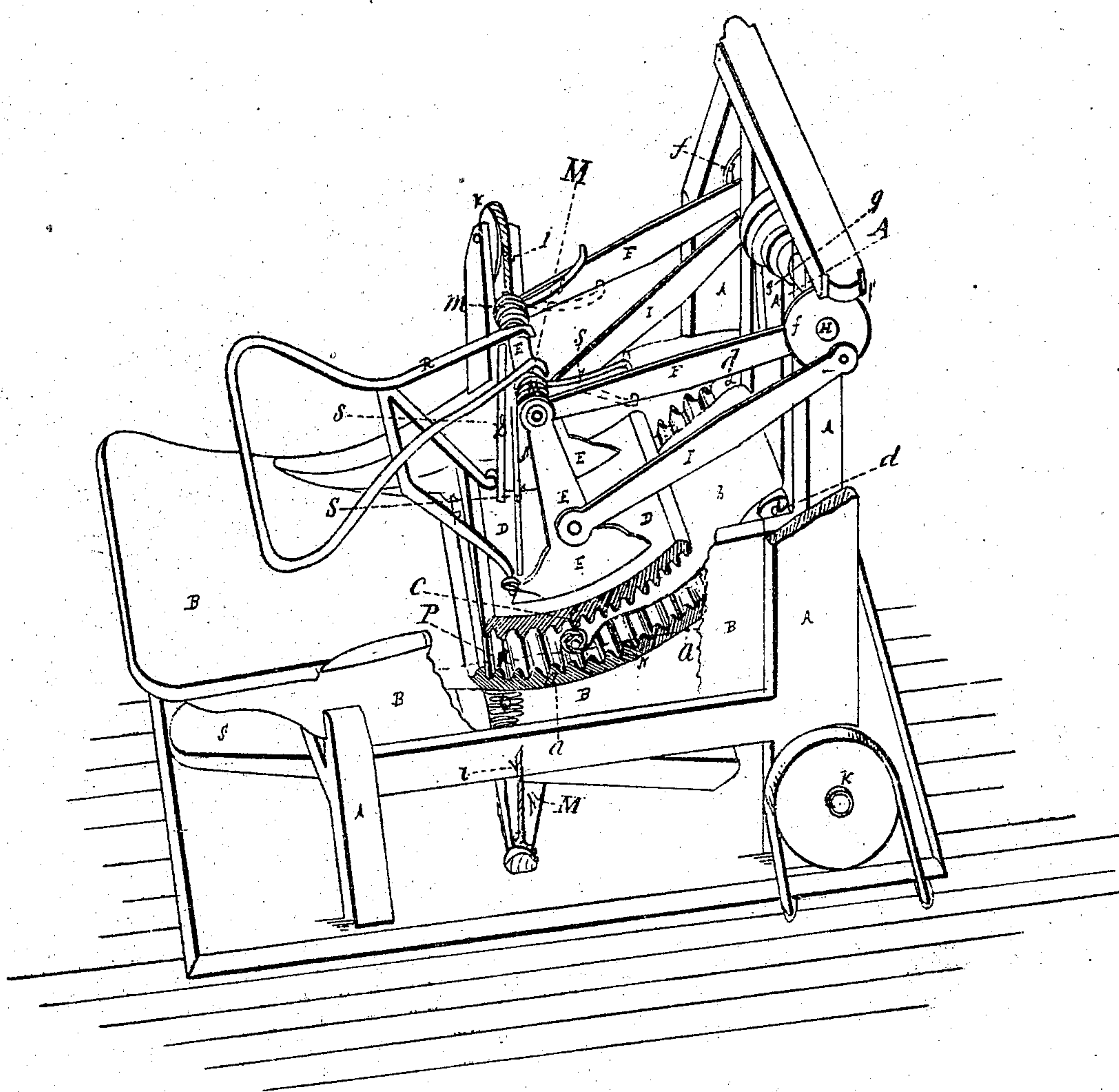


W. H. Hoyt.
 Sizing Hat-Bodies.
 N^o 79833. Patented Jul. 14, 1868.



Witnesses:
 Nathan Healey
 Morgan Phittenden

Inventor:
 Wm H Hoyt

United States Patent Office.

WILLIAM H. HOYT, OF BETHEL, CONNECTICUT, ASSIGNOR TO HIMSELF AND
NATHAN SEELEY, OF SAME PLACE.

Letters Patent No. 79,833, dated July 14, 1868.

IMPROVEMENT I. MACHINES FOR SIZING HAT-BODIES.

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

Be it known that I, WILLIAM H. HOYT, of Bethel, in the county of Fairfield, and State of Connecticut, have invented a new and useful Machine for Sizing or Felting Hat-Bodies; and I do declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the drawings, making a part of this specification, which is a perspective view, with a part of the kettle or tub and of the main post left off, to show the operation of the several parts.

A A is the frame; B B is the tub or kettle, with a part of the side left off, to show the form of the corrugated bed *a a* and its operation, the front part of the tub B forming the plank; C is the roll of hats, rolled up in the cloth *b*, one end of which is attached to the roller *d*, so that the cloth may be let out or taken up, as the work may demand, the roller *d* remaining stationary while the work is going on; D is a segmental rubber, with the under side corrugated the same as the bed *a a*, to correspond and work with it. The arms *e e* are fastened at the top to the shaft E, which forms a pivot on which the segment D swings, and being kept in its proper position for a pivot by the connecting-bars F F, one end of which clasps the pivot-shaft E and the counter-shaft H with the other end. I I are two pitmen, connecting the arms *e e* with the wheel-cranks *f f* on the counter-shaft H. The counter-shaft H is driven by the belt *g* from the driving-shaft K, the speed of the shaft H being regulated by common pulleys.

It will be seen that when the counter-shaft H is driven through the belt *g* from the driving-shaft K, an oscillating or swinging motion will be given to the rubber D, through the pitmen I I, and the roll of hats, C, will be made to roll back and forth between the rubber D and the bed-pieces *a a*. The natural inclination of the roll C to unroll is prevented by the position and form of the bed *a a*, which inclines mostly from the roller *d*, to which the cloth *b* is fastened, the inclination of the bed *a* preventing the roll C from slackening when moving towards the roller *d*, and tightening the roll as it comes back. As the hats want changing and inspecting often while being felted, the rubber D is easily raised by the treadle L through the cords *i i*, which are fastened to the cross-bar M on the treadle L, and, passing over the pulleys *k*, are fastened on the other end to the pivot-shaft E at *m m*. The roll C being thus released, is drawn forward to the operator on the plank B, and rearranged or crozed, when it is again rolled up in the cloth *b* to its position under the rubber D, the treadle M released, and the work again goes on.

The lower part of the bed *a* is hinged or pivoted at N; so the spring *o* raises the lower part of the bed *a* above the water-line *p* when the weight of the rubber D is taken off, and the roll C is adjusted without exposing the hands to the hot water.

To facilitate the use of the machine in small shops where they have no engine or water-power, the pitmen I I are detached from the arms *e e*, and the handle R, which is easily attached to the shaft E and the rubber D, as seen, or by any similar device, when, by raising the handle R up and down alternately, a swinging motion is given to the rubber D, as before. As it is desirable that the rubber D should be thrown forward, and be let down on the roll in that position always, to insure a proper working of the roll C in the machine, the wire springs S S, coiled around the pivot-shaft E, with the lower ends made fast in the rubber D, with the upper ends so made that they can be hooked under the connecting-bars F F, as shown in the dotted lines, thus helping to give the vibratory motion to the segment or rubber D. By extending the shafts of the handle R beyond the shaft E, a weight may be used for the same purpose as the springs S S.

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

1. The combination of the vibrating or swinging segment D, and the correspondingly-formed bed, *a a*, hinged or pivoted at N, it being elastically supported by the spring O, substantially as herein described, and for the purpose set forth.

2. The handle R, shaft E, springs S S, and swinging segment D, when arranged as described and for the purpose specified.

WM. H. HOYT.

Witnesses:

MORGAN CHITTENDEN,
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