

G. R. DREW.

Machines for Submerging Hat Bodies.

No. 154,853.

Patented Sept. 8, 1874.

Fig 1

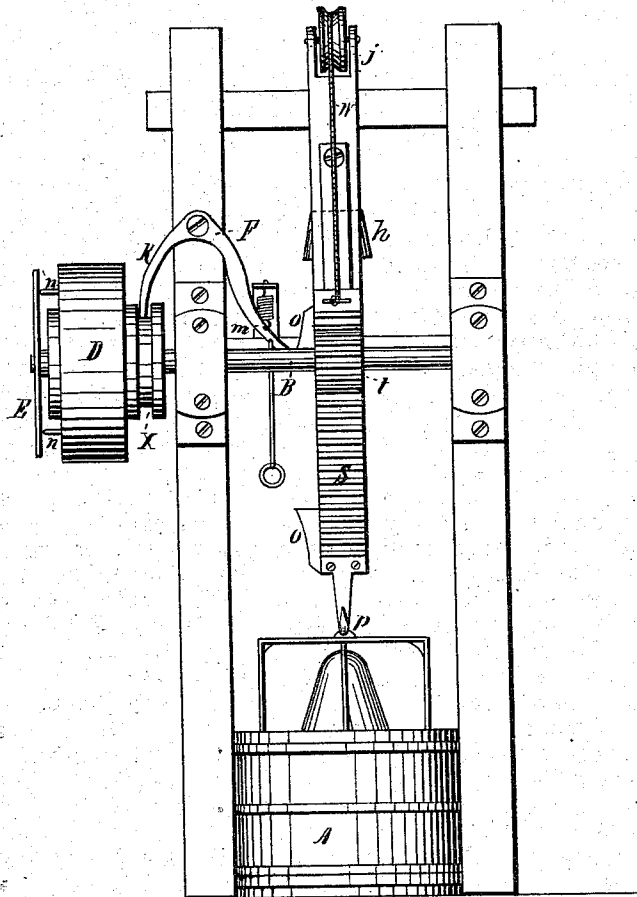
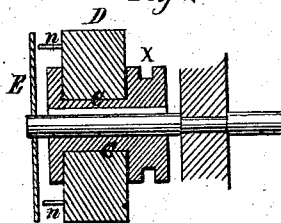


Fig 2



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE R. DREW, OF MILLBURN, NEW JERSEY.

IMPROVEMENT IN MACHINES FOR SUBMERGING HAT-BODIES.

Specification forming part of Letters Patent No. **154,853**, dated September 8, 1874; application filed May 31, 1873.

To all whom it may concern:

Be it known that I, GEORGE R. DREW, of Millburn, in the county of Essex and State of New Jersey, have invented an Improvement in Machines for Submerging Hat-Bodies, of which the following is a specification:

The object of the invention is to expedite the egress of the cone with a newly-made hat-body thereon from the water in which it has been submerged by the ordinary hand process. To accomplish this, devices are provided to connect the counterbalanced suspended frame with the motive power of the factory, so as to make the frame automatic in rising from the water. While a slow descent into the water is needed to prevent the air in the interior of the cone from displacing the fur, increased speed of egress draws the fur closer on the cone, giving a degree of hardening to the hat-body.

In the accompanying drawing, Figure 1 is a front view of the machine, and Fig. 2 a section of a sleeve of the main shaft; also, of a small annular grooved wheel on the sleeve, and of the driving-pulley.

The water tub or vat A is placed between the upright timbers of the frame-work, two cross-bars connecting the timbers. The main shaft B has, on the end that projects outside the frame, a key or feather fast thereto. A sleeve, C, with a corresponding groove in its inside, slides freely on the shaft. On the inner end of the sleeve is a collar, next to which the driving-pulley D is placed loose upon the sleeve, and is kept in continuous motion. On the outer end of the sleeve is a small wheel, with an annular groove, X, therein. On the end of the main shaft B, projecting through the sleeve, a cross-bar, E, is secured. The pins *n n* on the side of the driving-pulley D, when the sleeve slides outward, clutching the

cross-bar, give rotary motion to the main shaft B. A rack, S, reciprocates upon a vertical dovetail guide attached to a vertical bar fast to the middle of the two horizontal cross-bars of the main frame. This rack is operated by the pinion *t* on the main shaft B. On the lower end of the rack S is the hook on which to suspend the bearing for the cone. At the proper distance apart on the side of the rack S two lugs, *o o*, are attached, that would be none the less useful if made adjustable. To the side of the main frame is pivoted a bell-crank, F, with its long arm *m* so placed as to be impelled up or down by the lugs *o o*, the short arm *k*, having its outer end in the annular groove X, sliding the sleeve upon the shaft.

The shaft being at rest, a cone with the newly-formed body thereon is placed on the suspended bearer below the rack. The operator forces it slowly down, the descending motion bringing down the long arm *m* of the bell-crank. The short arm *k* slides the clutch into connection, starting the shaft and reversing the motion. The long arm, moving upward, draws the clutch out of gear.

The rack and suspended bearing are counterbalanced in the ordinary manner by a cord, W, a pulley, J, and a weight, *h*.

What I claim is—

A hat-body-submerging machine composed of the following elementary parts: The pulley D, pins *n*, cross-bar E, attached to the shaft B, sleeve C, with its annular groove X, bell-crank F, rack S, lugs *o*, and pinion *t*, all as and for the purpose specified and shown.

GEORGE R. DREW.

Attest:

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