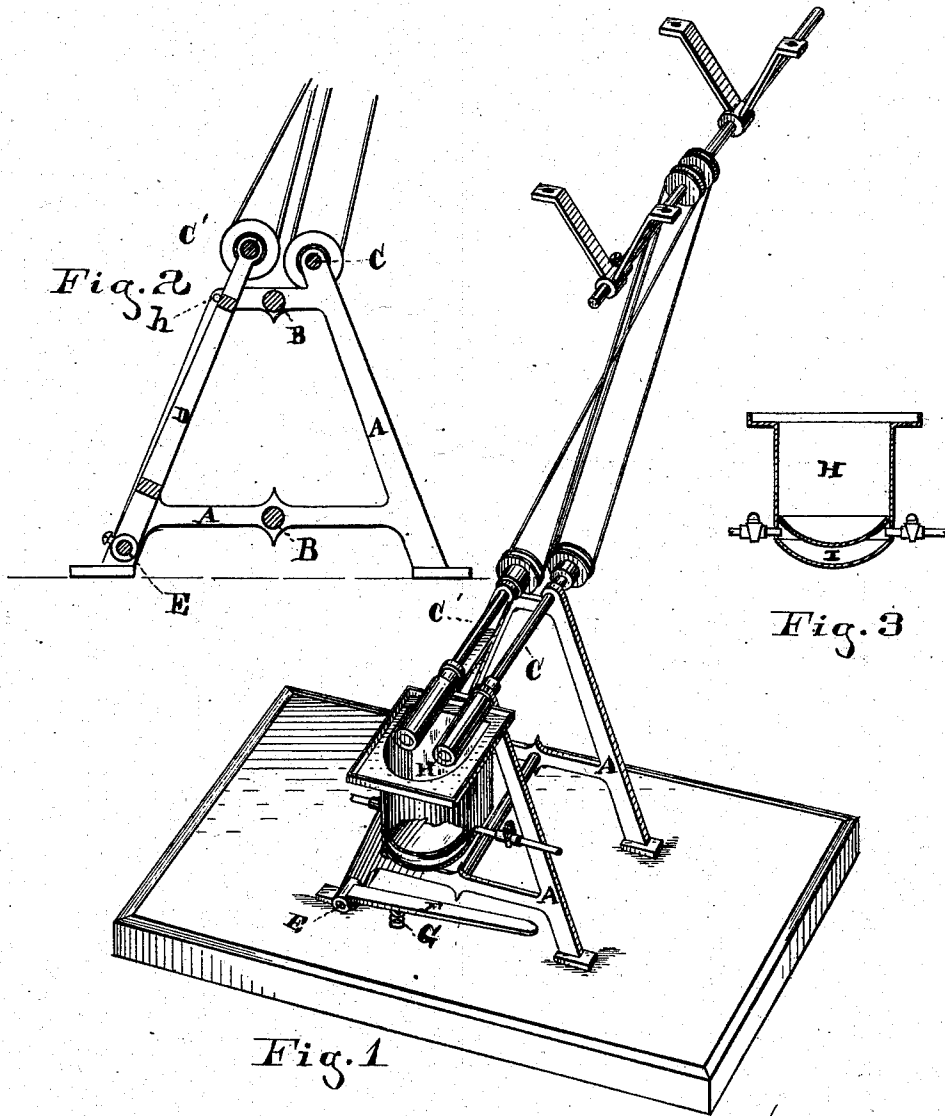


R. BRENNER.
Starching Machine.

No. 237,366.

Patented Feb. 8, 1881.



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UNITED STATES PATENT OFFICE.

RUDOLPH BRENNER, OF CINCINNATI, OHIO.

STARCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 237,366, dated February 8, 1881.

Application filed February 28, 1880.

To all whom it may concern:

Be it known that I, RUDOLPH BRENNER, of Cincinnati, county of Hamilton, State of Ohio, have invented a new and useful Improvement in Starching-Machines, of which the following is a specification.

My invention relates to starching-machines in which two rolls are made to revolve above a starch-reservoir.

The objects of my invention are, first, to provide a cheap and convenient means to operate the pressure-rolls, and, second, to provide an improved starch-reservoir.

The invention will be first fully described in connection with the accompanying drawings, and then particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my improved machine. A portion of the starch-vessel is broken away to show the form of the steam-chamber. Fig. 2 is a transverse vertical section of same, taken centrally through the frame of the machine; and Fig. 3 is a central transverse section of the starch-vessel.

The frame of the machine consists of two side pieces, A, braced and secured together at the proper distance apart by cross-braces B. Mounted in suitable bearings in the frame A is a stationary roll, C. A similar roll, C', is mounted in the upper end of a swinging frame, D. These rolls have each driving-pulleys secured upon their inner ends to receive belts from the counter-shaft, and their outer ends, which project outside of the frame A, are covered with rubber. The frame D is secured at its lower end upon a rock-shaft, E, which has its bearings in the sides A near the feet of the frame. The frame D, with its roll C', has a limited vibratory motion between and parallel with the sides A, and is operated by a treadle-bar, F. To bring the rubber rollers in contact the treadle is returned, when released from the pressure of the operator's foot, by a spring, G, compressed between the under side of the treadle-bar and the floor or foundation of the machine.

Stop-pins h, secured in the inside of side pieces, A, limit the backward motion of the frame.

Secured to the front of frame A, and di-

rectly beneath the rubber rolls, is a starch-vessel, H. Around the top of this vessel is an outwardly-projecting flange with upturned edge. The inner edge of the flange projects up back of the rubber covering and against the rolls C C', to prevent the starch getting back onto the machine or into the bearings. The vessel has a round bottom, and within and a little above this bottom a correspondingly-shaped partition, leaving a steam-chamber, I, between the two bottoms. Two pipes provided with suitable cocks or valves enter this chamber—one to conduct steam to the chamber from a boiler or generator, and the other to convey off the condensed steam or water of condensation.

My improvement in the vessel consists in the contracted steam-chamber I, formed by the two concave bottoms, and in the upturned flange passing around the top of the vessel and back of the rubber rolls.

In starching-vessels now commonly used the inner bottom is made straight, or nearly so. These bottoms are, when a pressure of steam is turned on, liable to be thrown up suddenly or reversed, and thus throw the hot starch out upon the attendant. This difficulty is entirely obviated by my inner concave bottom.

The improvement in the frame and operating parts of the machine consists in dispensing with all gear and link work, and thus providing a cheap, compact, and durable machine having but few parts, and hence not liable to get out of order.

The operation of my machine is as follows: The vessel being supplied with starch and the machine started, the article to be starched is dipped into the vessel, passed up into the bite of the rolls, and the treadle F depressed by the foot of the operator, bringing the roll C' against roll C. The article will thus be carried up through the rolls and the surplus starch squeezed out and returned to the vessel H. The treadle, being released, is thrown up by spring G and the rolls separated, preparatory to receiving another piece to be starched.

I claim—

1. The combination, substantially as before set forth, of the starch-vessel, the fixed roll

overhanging said vessel, the similar overhanging but movable roll, the swing-frame, the treadle, and the spring.

2. The starch-vessel H, constructed with
5 two concave bottoms, forming steam-chamber I, and having around its top an outwardly-projecting flange with upturned edge, in combi-

nation with a starching-machine, substantially as above-described.

RUDOLPH BRENNER.

Witnesses:

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