

L. STERNBERGER.
STARCHING-MACHINE.

No. 174,587.

Patented March 7, 1876.

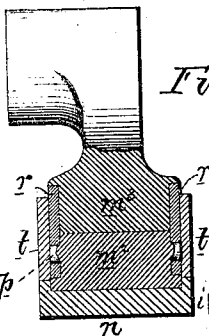
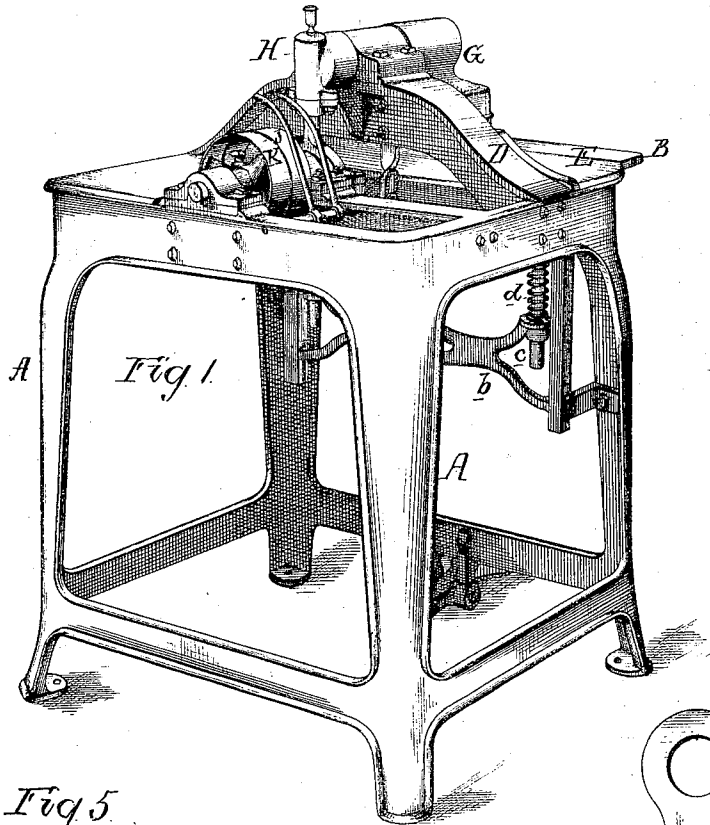


Fig. 5.

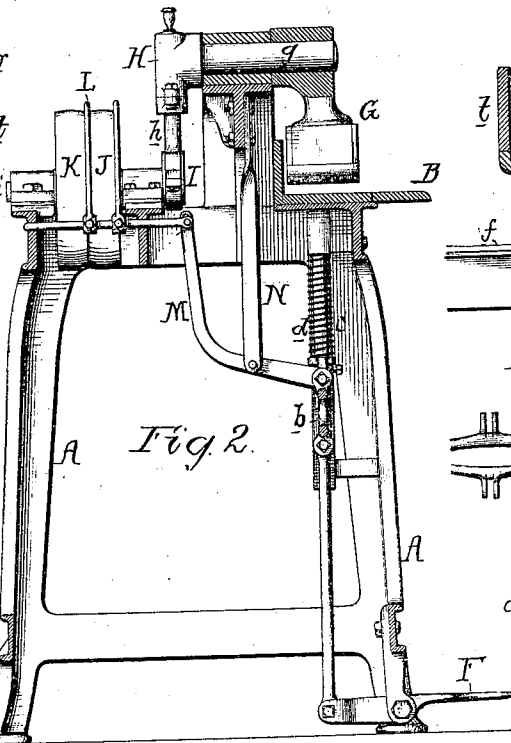


Fig. 2.

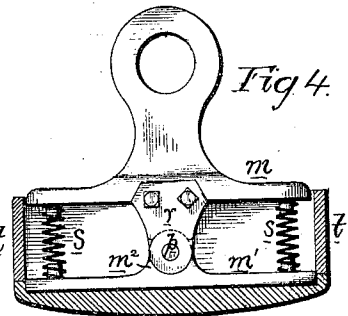


Fig. 4.

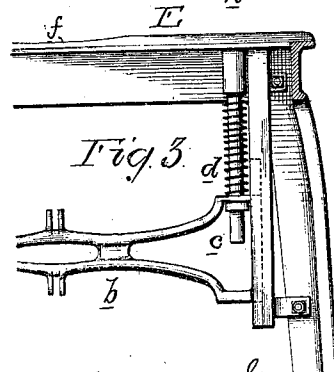


Fig. 3.

Witnesses,
J. H. Skidmore
Harry Smith

Leopold Sternberger
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE.

LEOPOLD STERNBERGER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STARCHING-MACHINES.

Specification forming part of Letters Patent No. **174,587**, dated March 7, 1876; application filed October 29, 1875.

To all whom it may concern:

Be it known that I, LEOPOLD STERNBERGER, of Philadelphia, Pennsylvania, have invented certain Improvements in Starching-Machines, of which the following is a specification:

My invention relates to certain improvements in the starching-machine for which Letters Patent of the United States were granted to me on the 21st day of January, A. D. 1873, No. 135,171, the objects of my present improvements being to simplify the construction of the said patented machine, and to render it more effective.

These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a rear view, in perspective, of my improved starching-machine; Fig. 2, a vertical sectional view of the same; and Figs. 3, 4, and 5, detached views of parts of the machine.

The frame or stand A of the machine has, at the top, the table B, the latter being divided at or near the center by a transverse partition or bridge, D, attached to or forming part of the frame A. The portion E of the table can be raised vertically by means of a treadle, F, acting through the medium of the connecting-rod *a* and guided frame *b*, the latter being connected to said portion or bed E of the table by rods *c c*, arranged near each end. The depression of the bed E on the releasing the treadle is insured by springs *d*, coiled round the bars *c*, and acting at the lower ends against the frame *b*, and at the upper ends against fixed studs on the frame. In the bed E is formed a concavity or depression, *f*, immediately above which is arranged a rubber, G, secured to the outer end of a horizontal shaft, *g*, arranged to turn in bearings on the upper edge of the bridge D, and provided at its inner end with a chambered head, H, to which is adapted the upper end of a rod, *h*, arranged at its lower end to embrace an eccentric, I, on a horizontal shaft, *i*, which turns in suitable bearings on the frame, and which is provided with a fast pulley, J, and loose pulley K. (See Fig. 1.) Adjacent to the pulleys J and K is arranged a belt-shifter, L, which is operated from the frame *b* through the me-

dium of a bell-crank lever, M, hung to a downwardly-projecting arm, N, of the frame, the parts being so arranged that upon the upward movement of the frame *b* the belt will be shifted from the loose to the fast pulley, and vice versa, when the frame is depressed. The rubber G is of the peculiar construction shown in Figs. 4 and 5, being made in two sections, *m* and *m'*, hinged together, as described hereafter, the upper section *m* being attached to the shaft *g*, and the lower section *m'* carrying the rubbing-shoe *n*. The lower section *m'* has a central projection, *m''*, provided at each end with a lug or pin, *p*, adapted to an opening near the lower end of a plate, *r*, secured to the corresponding end of a central projection, *m'''*, of the upper section *m* of the rubber.

By this arrangement the lower section of the rubber is retained in position laterally, but can vibrate vertically at the ends, the pins *p* serving as pivots. The extent of the vibration is regulated by springs *s*, arranged in the present instance at each corner of the rubber. A sleeve, *t*, embraces the body of the rubber and prevents the access of dust or dirt to the interior.

The operation of the above-described machine is as follows: The shirt or other article to be operated upon is first properly folded, and, after being dipped in the starching composition, is laid on the depressed bed E. The treadle F is then depressed, so as to raise the frame *b* and bed E, thus bringing the fabric into contact with the rubber G. The same operation which caused the elevation of the bed E also causes the shifting of the driving-belt from the loose pulley K to the fast pulley J of the shaft *i*, so that at the instant the fabric touches the rubber G a rapid vibrating movement is imparted to the same through the medium of the eccentric I, rod *h*, and shaft *g*. The fabric is moved about on the bed E until every portion to be operated upon has been passed between the rubber G and the concavity *f* of the bed E, when the pressure upon the treadle F is removed, the bed E is depressed, and the belt shifted from the fast pulley J to the loose pulley K, so as to stop the vibration of the rubber G.

The construction of the rubber G forms an important feature of my present invention, as

it permits the lower section m^1 , during the above operation, to turn on its hinge, so that it can yield at the ends to allow the passage of buttons or other inequalities on the fabric. The yielding, however, does not interfere with the thorough rubbing in of the starch.

I claim as my invention—

1. The combination of the horizontal shaft g , carrying at one end the rubber G , and provided at the other end with a chambered head, H , with the horizontal shaft i , its fast and loose pulleys J and K , and eccentric I , and the connecting-rod h .

2. The rubber G , made in two sections, m and m^1 , hinged together, and provided with

springs s , substantially as and for the purpose set forth.

3. The combination of the guided frame B , operated by the treadle F , with the bed E , its pins c , and springs d , and with the bell-crank lever M and its belt-shifter L , all arranged and operating as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEOPOLD STERNBERGER.

Witnesses:

HARRY HOWSON,
HARRY SMITH.