

J. S. NEEDHAM.
Mechanism for Scouring and Cleaning Worsted Goods.
No. 214,945. Patented April 29, 1879.

Fig:1.

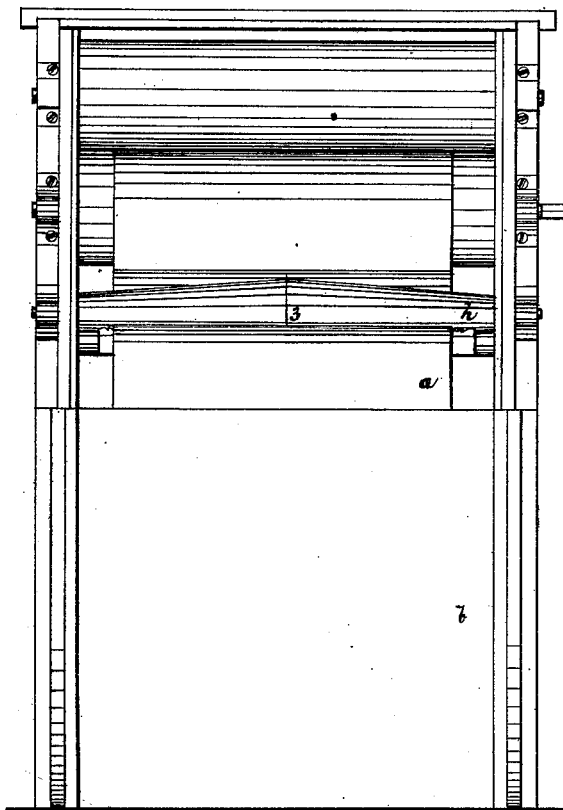


Fig:2.

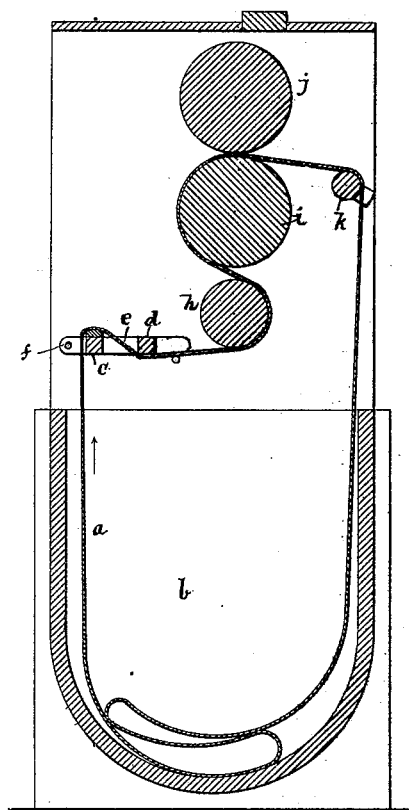


Fig:3.

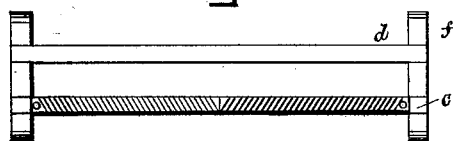
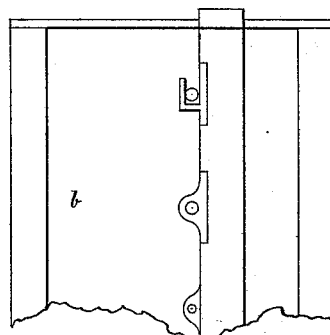


Fig:4.



Witnesses.

A. E. Whitney
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UNITED STATES PATENT OFFICE

JOHN S. NEEDHAM, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN MECHANISMS FOR SCOURING AND CLEANING WORSTED GOODS.

Specification forming part of Letters Patent No. **214,945**, dated April 29, 1879; application filed June 10, 1878.

To all whom it may concern:

Be it known that I, JOHN S. NEEDHAM, of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Mechanisms for Scouring and Cleaning Worsted Goods, of which the following is a specification.

This invention relates to improvements in mechanism for scouring and cleaning worsted goods such as commonly used for clothing purposes.

The object of my invention is to so wash and cleanse worsted goods that during such process it will be impossible to form wrinkles in the goods, which always mar or injure their appearance, making the goods shiny in certain portions.

To carry out this my method I have so constructed the washing-machine that the worsted goods are always kept distended and smoothed out before and while passing between the washer-rollers.

Figure 1 represents, in front elevation, one form of a washing-machine by which my invention may be practiced; Fig. 2, a vertical section thereof; Fig. 3, a top view of the stretcher-bars removed; and Fig. 4, a partial side view, showing the bearings for the shafts of the various rollers.

The piece of worsted goods, *a*, to be washed or cleansed, placed within the washer *b*, is led between the stretcher-bars *c d*, shown as carried by arms *e*, pivoted at *f*, the bar *c* being scored, as shown at *g*, Fig. 3, to spread the cloth from selvage to selvage. The cloth from bar *d* is passed under the stretcher-roller *h*, made conical, its largest diameter being at or near its center, as at *s*, and thence under the lower washer-roller, *i*, over it, and between it and the upper washer-roller, *j*; thence over the guide-roller *k*, when the two ends of the

cloth are sewed together, and the soap-liquid or soap and water is then poured within the washer-box *b*. The roller *j* bears with considerable force upon the cloth on roller *i*, which is driven positively in any usual way and at the desired speed, and the cloth is, by the washer-rollers, kept in constant motion through the liquid for from one-half to one hour.

In its motion through the liquid the stretcher-bars, provided preferably with the diagonal ribs, stretch or distend the cloth from selvage to selvage, and present it in stretched condition to the stretching-roller, which, having an enlarged center and being made conical, so acts upon the central portion of the moving piece of cloth as to stretch and fit it smoothly against the periphery of the lower washer-roller, and thereby prevent the cloth from wrinkling while passing between said rollers, and consequently wrinkles can never be formed in the worsted goods.

While this apparatus is specially beneficial for washing worsted goods, it is obvious that it may be used to good advantage with woolen goods which are fulled in fulling-mills after being washed.

By the term "worsted goods" is meant a cloth composed, in whole or in part, of worsted.

I claim—

The washer-box combined with the washer-rollers, the conical stretcher-roller, and a stretching-bar, substantially as and for the purpose described.

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

JOHN S. NEEDHAM.

Witnesses:

G. W. GREGORY,
N. E. WHITNEY.