H. E. SMITH.

MANGLES.

No. 188,685. Patented March 20, 1877.

Fig. 1.

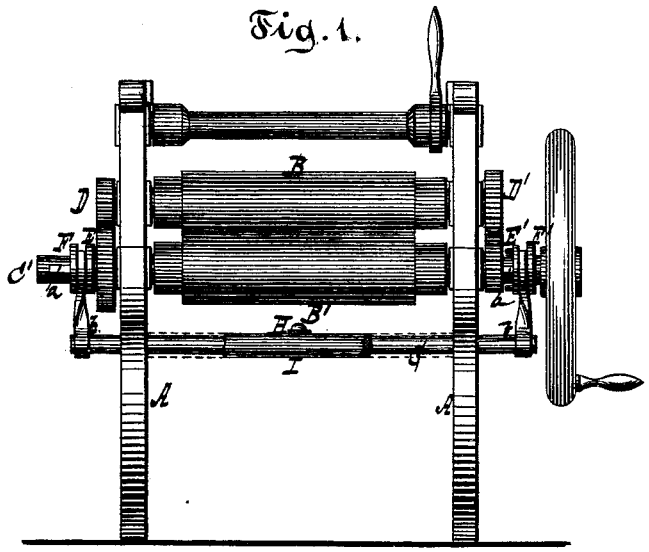


Fig. 2.

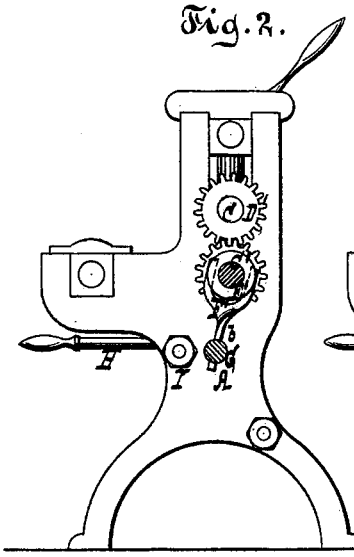


Fig. 3.

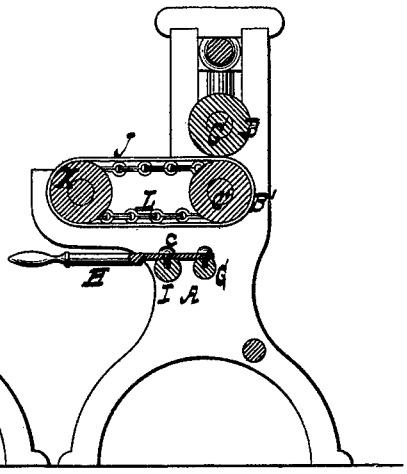
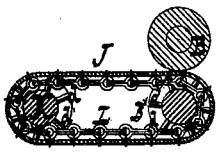


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

HAMILTON E. SMITH, OF NEW YORK, N. Y.

IMPROVEMENT IN MANGLES.

Specification forming part of Letters Patent No. **188,685**, dated March 20, 1877; application filed September 22, 1876.

To all whom it may concern:

Be it known that I, HAMILTON E. SMITH, of the city, county, and State of New York, have invented a new and useful Improvement in Clothes-Mangles, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a front view of a mangle containing my improvement. Fig. 2 is a side view thereof, partly in section. Fig. 3 is a vertical cross-section of the same. Fig. 4 is a vertical cross-section of the rollers and apron.

Similar letters indicate corresponding parts.

My invention relates to a machine for mangling clothes, and which is adapted to polishing them; and it consists in two rollers, which are arranged one above the other, and the shaft of one of which carries two fast cog-wheels, while the shaft of the other roller carries two loose cog-wheels, one of said loose cog-wheels having a larger diameter than the fast wheel which it engages, and on the shaft carrying said loose wheels being, moreover, keyed two clutches, which are placed respectively contiguous to the said loose wheels in such a manner that if a revolving motion is imparted to the shaft containing the loose wheels and clutches, and one of the clutches is made to grasp one of the loose wheels, such revolving motion is transmitted to the two rollers, and if the proper wheels are brought into play, one of said rollers is caused to revolve with greater superficial speed than the other roller. If a greater superficial speed is given to one of the rollers than to the other, as just stated, and an article of clothing is placed between the rollers, such article acquires a polish on one of its surfaces. With the said two rollers is combined a third or apron roller, and an endless apron, to which latter are attached chains engaging with pins, which are arranged on the peripheries of the rollers over which the apron passes, so that a positive motion is given to the apron, and if clothes are spread thereon they are thereby carried between the rollers.

In the drawing, the letter A designates the frame of my machine, and B B′ are two rollers, secured to shafts C C′, which have their bearings in said frame. The said rollers B B′ are placed one above the other, and on each of the shafts C C′ are mounted two cog-wheels, D D′ E E′, which are geared together, as shown, and situated exterior of the frame A, the wheels E E′ on the lower shaft being loose, while the wheels D D′ on the upper shaft are fast to said shaft.

One of the wheels, marked E, on the lower shaft has a larger diameter or a greater number of teeth than the wheel D on the upper shaft with which it is geared, while the wheels D′ E′ have a like diameter to each other. The said lower shaft C′ contains two clutches, F F′, which slide on a feather-key, *a*, formed on said shaft, and these clutches are each connected to a rod, G, by means of arms *b*. The said rod G is made to pass through the frame A, and to it is pivoted one end of a lever, H, which turns on a pin, *c*, affixed to a cross-piece, I, of the machine-frame, so that by oscillating this lever H the rod G and the clutches F F′ can be moved in either direction.

The outer side of each of the loose wheels E E′ is so made relatively to the clutches F F′ that when the said clutches are moved in the proper direction they grasp the said loose wheels.

When the clutch F is made to engage the large loose wheel E, and a revolving motion is given to the shaft C carrying the same, the said wheel E communicates its motion to the fast wheel D, and thereby a revolving motion is given to the two rollers B B′, and in opposite directions; but, owing to the different diameters of the cog-wheels D E, a greater superficial velocity is given to the upper roller B. If an article of clothing is placed between the two rollers B B′, when one roller revolves with greater speed than the other a polished surface is given to such article by the action of the rapid roller.

When the clutch F′ is made to engage the loose wheel E′, and a revolving motion is given to the shaft C, the two rollers B B′ are revolved and with corresponding superficial velocities, so that if an article of clothing is then placed between the rollers, such article is simply pressed or mangled.

For the purpose of carrying the clothes between the rollers B B′, I make use of an apron,

J, which passes over a third roller, K, mounted in the frame A a short distance in advance of the roller B. To the opposite edges of the apron J are secured chains L, and from the peripheries of the rollers B and K project pins *d*, (see Fig. 4,) which engage the links of the said chains L. Hence, when a revolving motion is given to the roller B, a positive motion is imparted to said apron J, which is of great advantage when my machine is used for polishing in the manner above stated.

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

1. The combination, with the rollers B B′ and their shafts C C′, of the two loose cog-wheels E E′, two fast cog-wheels, D D′, and the clutches F F′, the whole being adapted to operate substantially as described.

2. The carrying-apron J, chains L, and the rollers K and B′, around which the apron passes, in combination with the revolving polishing-roller B, arranged above the roller B′, and the two being geared together, as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 18th day of September, 1876.

HAMILTON E. SMITH. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.