2 Sheets—Sheet 1.

H. ALBERS.

Clothes Mangle.

No. 199,677. **Patented Jan. 29, 1878.**

Fig. 1.

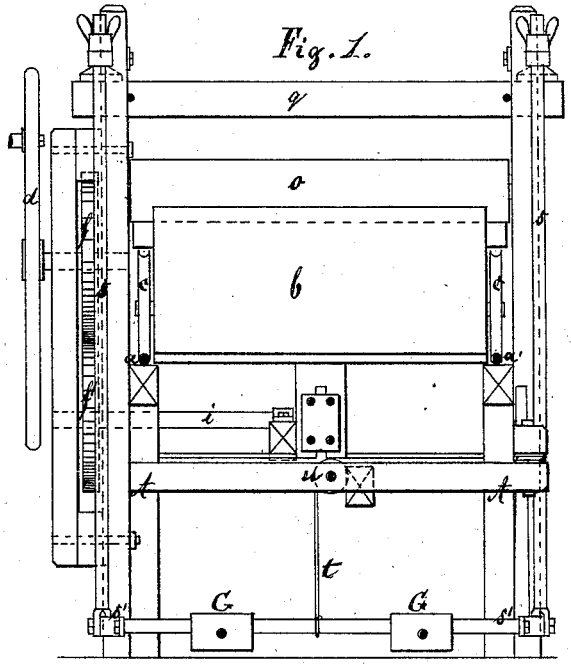
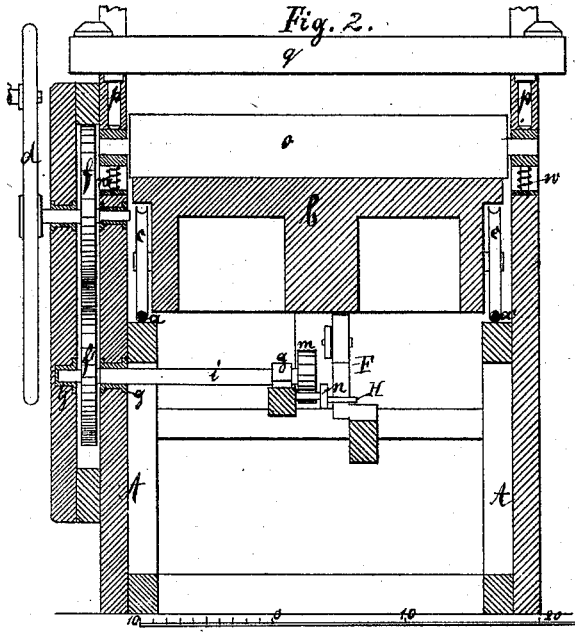


Fig. 2.



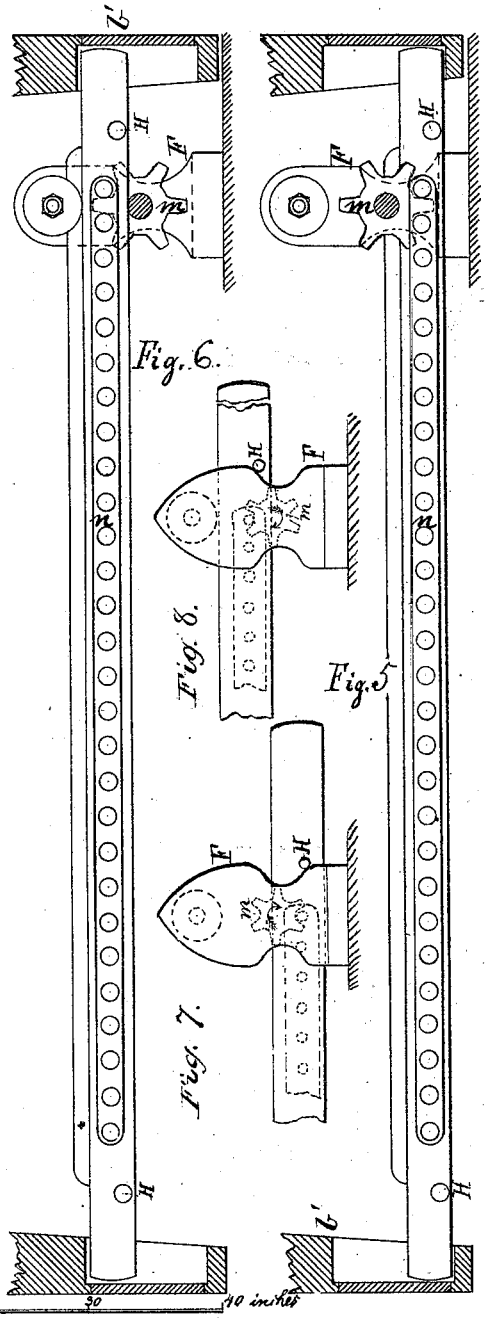


Fig. 6.

Fig. 8.

Fig. 5

Fig. 7.

Witnesses
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Inventor
Heinrich Albers
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2 Sheets—Sheet 2.

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Fig. 3

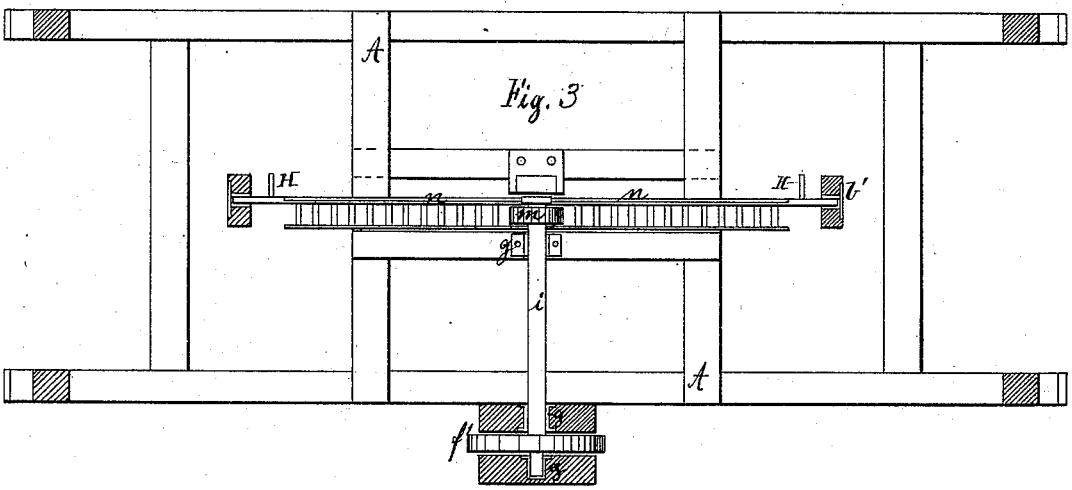
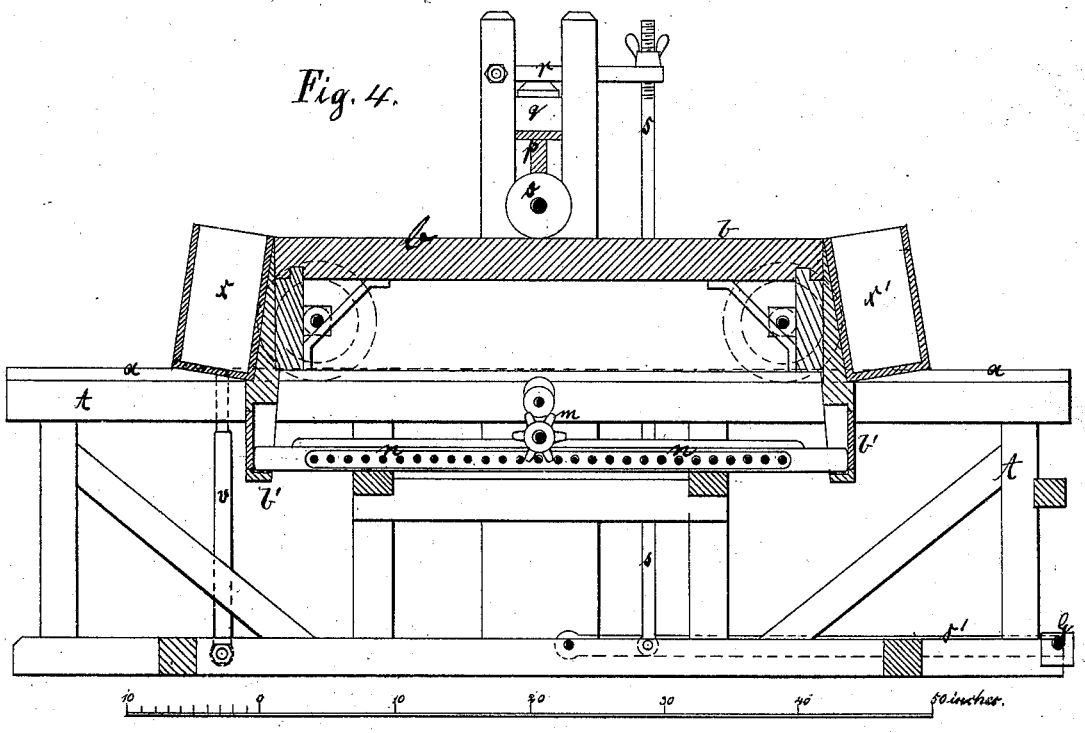


Fig. 4.



Witnesses
A. Scott
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UNITED STATES PATENT OFFICE.

HEINRICH ALBERS, OF HANNOVER, PRUSSIA.

IMPROVEMENT IN CLOTHES-MANGLES.

Specification forming part of Letters Patent No. **199,677**, dated January 29, 1878; application filed November 8, 1877.

To all whom it may concern:

Be it known that I, HEINRICH ALBERS, of Hannover, in the Kingdom of Prussia, have invented certain Improvements in Clothes-Mangles, of which the following is a specification:

The present invention relates to an apparatus for mangling or smoothing clothes or fabrics; and it consists in the construction and combination of parts, which will be hereinafter more fully described, and then set forth in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is an end elevation of a clothes-mangle constructed according to my invention. Fig. 2 is a transverse central section. Fig. 3 is a longitudinal horizontal section. Fig. 4 is a vertical longitudinal section. Figs. 5, 6, 7, and 8 are detail views of the vertically-movable rack-bar and means for operating the same.

The letter A denotes a frame, which is provided with two parallel top rails, *a a'*, on which runs a reciprocating feed-table, *b*. The latter is generally made of hard wood, and has four metallic wheels, *c*, which run easily on said rails. Motion is given to the table by means of a balance or fly wheel, *d*, having a suitable hand-crank or other means for communicating motion, and a spur-wheel, *f*, on its shaft. Said spur-wheel meshes into a pinion, *f'*, fitted on a shaft, *i*, which runs in boxes *g* on the frame A, and has at its inner end a spur-wheel, *m*. The table has pendent arms or hangers *b'*, which are made hollow, and provided with a vertical slot for receiving the ends of a rack-bar, *n*, into which meshes the spur-wheel *m* of the shaft *i*.

The object of this construction is to give to the rack-bar a vertical movement, for the purpose hereinafter set forth.

Above the feed-table is located a transverse mangling or pressing roller, *o*, which is journaled in movable boxes arranged in vertical standards of the frame. A transverse bar, *q*, having pins *p* entering the journal-boxes, serves to press the roller upon the table. The necessary pressure is produced by the levers *r r* and connecting-rods and arms *s s'*, which arms carry weights G. All the parts mentioned form a weighted or pressure-exerting frame. The pressure is taken off the roller by raising the weighted frame. This is done by means of a lever, *v*, and a cord, *t*, passing over pulleys *u u* and attached to the weight-carrying bar. Spiral springs *w*, arranged under the journal-boxes of the roller, serve to raise the latter when the weighted frame does not bear upon the same, and thus the clothes or fabrics can be conveniently placed under the roller.

The mangling operation is performed by moving the table back and forth, which is effected by the operating mechanism already described. The pressing-roller is rotated by frictional contact with the table or fabric placed thereon. The rack-bar is made vertically movable, so that the spur-wheel engaging therewith will first move on the top of the same to effect the movement of the table in one direction. In the return movement of the table the spur-wheel slips under the rack, and thus the table can be moved in opposite directions without reversing the movement of the operating-gearing. The rack is automatically raised and lowered at the end of its movement in either direction by means of a stop-piece, F, having curved front and rear surfaces, upon which glide pins H, projecting from the rack-bar.

When long pieces of fabrics are to be pressed or mangled, I attach to the ends of the feed-table boxes or receptacles *x x'*, for receiving the unfinished and finished ends of the fabrics.

A mangle embodying my improvements is perfect in its operation and simple in construction, and will enable the fabric to be inspected during its passage through the apparatus, so that creases or folds will be noticed by the operator, and the fabrics or goods pressed or mangled in a perfect or thorough manner.

It will be apparent that the rack-bar, upon having reached the limit of its movement in one direction, will be raised by the pin H gliding upon the curved face of the stop-piece F, so as to enable the driving-pinion *m*, which is fitted in stationary bearings, to slip under the rack-bar, and thus cause the latter and the carriage connected therewith to move in an

opposite direction. The operation of the parts is more fully illustrated in Figs 7 and 8 of the drawing.

I am aware of the existence of a mechanical movement termed a "mangle-rack," in which a reciprocating movement is imparted to a rack-bar by means of a driving-pinion fitted in movable bearings, so as to operate on the top and bottom of the rack and move the same in opposite directions. I also disclaim the idea of operating the feed-carriage of a clothes-mangling machine by means of a double rack and pinion, and confine myself to the special construction of devices hereinafter claimed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a clothes-mangle, the combination of a reciprocating feed-table, having slotted or grooved guides or hangers, the vertically-adjustable rack fitted therein, and the supporting-frame, having suitable devices for raising and lowering the rack, with the pressing-roller and driving-shaft, carrying a spur-wheel, and fitted in stationary bearings on the supporting-frame, as and the purpose set forth.

2. The combination of the fixed stop-piece F, having curved or inclined front and rear surfaces, and the reciprocating rack-bar, having pins H, with the supporting-frame, feed-carriage, and pressing-roller, as and for the purpose set forth.

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

HEINRICH ALBERS.

Witnesses:
W. SCHWARTZ,
J. M. SINN.