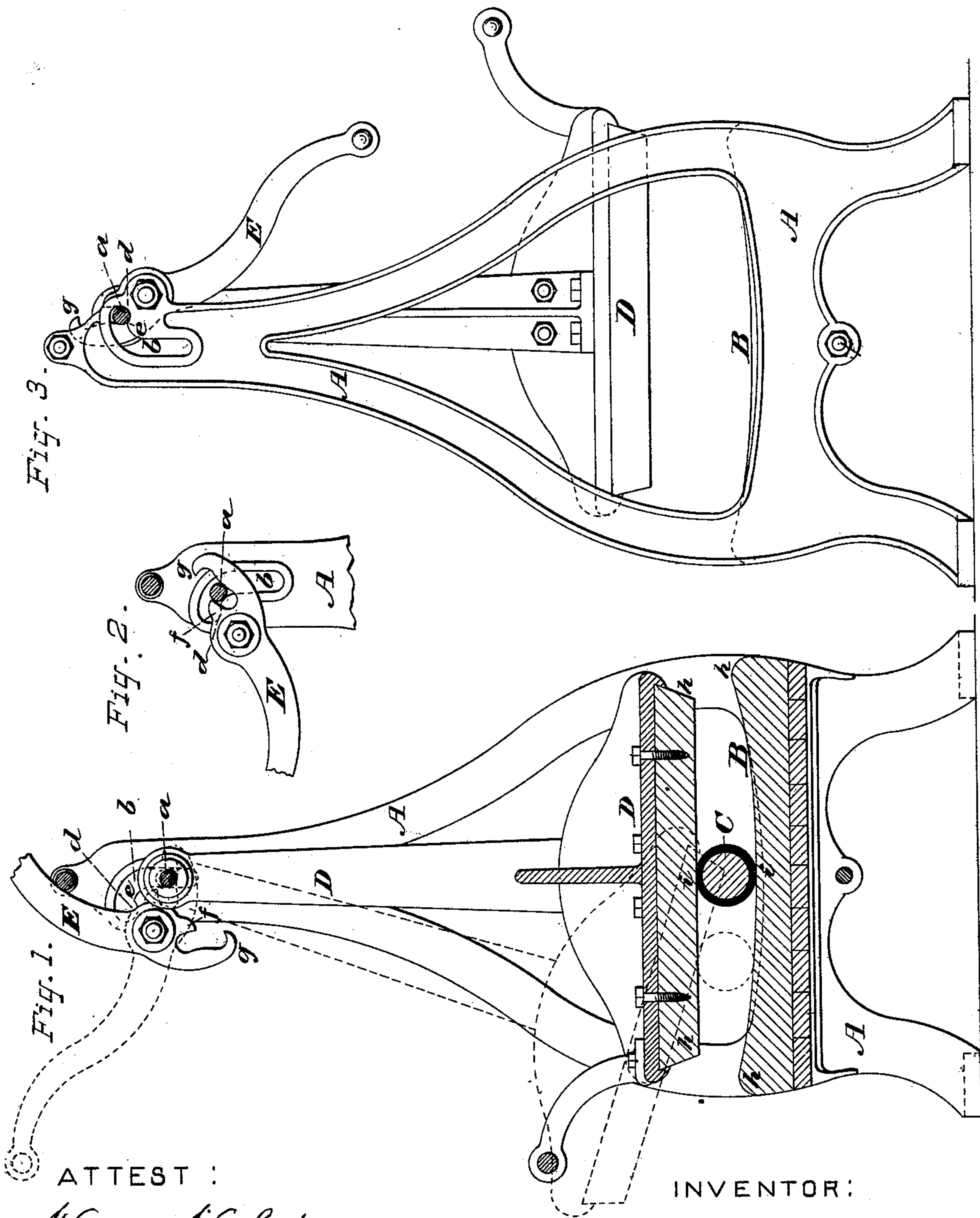


C. REESE.  
Mangle.

No. 220,866.

Patented Oct. 21, 1879.



ATTEST :

Walter W. Scott.  
George W. Fraser,

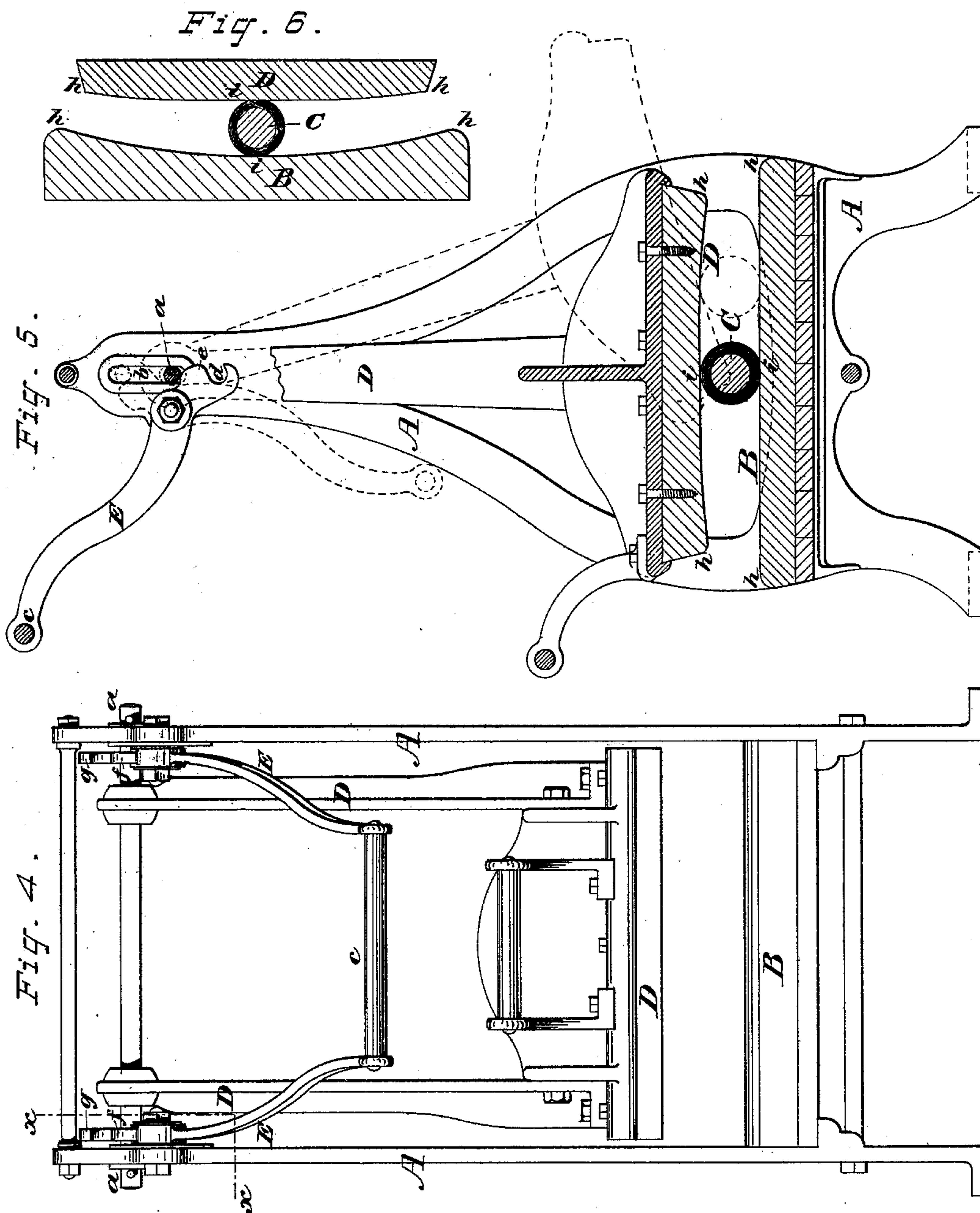
INVENTOR:

Charles Reese.  
By his Attorneys,  
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# UNITED STATES PATENT OFFICE.

CHARLES REESE, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN MANGLES.

Specification forming part of Letters Patent No. 220,866, dated October 21, 1879; application filed July 10, 1879.

*To all whom it may concern:*

Be it known that I, CHARLES REESE, of Baltimore, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Mangles, of which the following is a specification.

My invention relates to that class of mangles wherein the cloth or clothing to be smoothed or ironed is wound upon a roller laid upon a stationary bed or table and rolled back and forth under a pendulously-moving platen, which is so hung that its entire weight in operation comes upon the roller. A mangle of this description is the subject of my patent of April 15, 1879, No. 214,448.

My present invention consists in certain improvements in the mechanism for lifting the platen, and for sustaining it when lifted, and in the contours of the surfaces of the platen and bed, whereby the machine can be operated with greater ease, all as will be hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a vertical cross-section of my machine. Fig. 2 is a view showing the construction of the lifting-lever, being a section on the line *x x* in Fig. 4. Fig. 3 is a side elevation of the machine, the platen being lifted. Fig. 4 is a front elevation of Fig. 3. Fig. 5 is a view similar to Fig. 1, showing a modified form of the machine; and Fig. 6 is a vertical section, showing a modified form of the bed and platen surfaces.

Let *A A* represent vertical side frames of suitable shape, connected together by stay-rods or otherwise; and *B* the bed of the mangle, securely fastened to and between the side frames.

*C* is a removable roller, around which the cloth or clothing to be operated upon is wound, and which in operation is placed upon the bed; and *D* is a platen, so hung or connected to or between the side frames that it is constrained to a pendulous movement over the bed, its entire weight in operation coming upon the roller *C*.

The platen is capable of being lifted up so as not to bear upon the roller, has a weight sufficient to give the necessary pressure to the

cloth or clothes, and is or may be provided with a suitable handle by which to swing it.

From the upper portion of the platen project, on its opposite sides, two studs or shaft ends, *a a*, which enter vertical, or nearly vertical, slots or grooves *b b* in or through the side frames, one slot being in each frame. The platen is thus constrained to a swinging or pendulous movement, while, unlike a pendulum, its weight is not normally upheld at the center, from which it swings, but is borne by the roller *C*, which is placed under it. It is also capable of some vertical play to accommodate rolls of different diameters, and to permit of its being lifted off the roller.

So far as described there is no present novelty in my machine, these parts and their combinations being shown in my aforesaid patent of April 15, 1879.

In the drawings I have shown the machine as of self-contained and portable form; but, if preferred in any particular case, it may be built permanently into the laundry or other room or building where it is to be used, the walls of the same taking the place of the frames *A A*, the bed *B* being fixed to the floor, and the slots *b b* formed in brackets dependent from the ceiling or attached to the walls.

If desired, the bed, platen, or roller, or any two or all of them, may be heated either by making them hollow and introducing steam, or by the use of gas, or in any other known and practicable way.

In my present construction the lifting device consists of a lever, or, preferably, a pair of levers or double lever, *E*, fulcrumed to or between the side frames, *A A*, and arranged in a plane parallel with the latter, its short arms taking under the studs *a a*, so that by pulling down the long arms of the lever its short arms lift the platen, its studs *a a* passing up in the slots or grooves *b b*.

In case a single lever, *E*, is used it should be arranged centrally, or about midway between the side frames, and might be fulcrumed on a cross-shaft or other provision; but I prefer to use two levers, one at each side of the machine, between the platen and the side frames, and to connect them by a horizontal bar or handle,



*c*, as shown. This construction gives greater steadiness and strength than when a single lever is used. If preferred, the levers may be arranged just outside of the side frames.

It is important that some means should be provided for sustaining the platen when it has been raised, and it is desirable that this should be accomplished automatically, or as part of or continuation of the operation of lifting. I prefer to attain this result by the construction shown in the first four figures of the drawings. The slots or grooves *b b* are deflected to one side, either abruptly or, as I prefer, in a gentle curve, until a substantially-horizontal position is given to their extremities. In the lower side of this horizontal portion of each slot is formed a rest or bearer, *d*, which receives and upholds the stud *a* of the platen when the latter has been raised, as clearly shown in Fig. 3. Just in front of the rest *d*, or between it and the vertical portion of the slot *b*, is a slight rise or elevation, *e*, to prevent the unintentional escape of the stud from the rest.

The fulcrums of the lifting lever or levers are arranged on the same side of the slots *b b* that the latter are deflected toward, and preferably in a lower plane than the upholding-rests *d d*. By this arrangement the depression of the long arms of the levers first lifts the studs *a a* through the vertical portions of the slots *b b*, and then moves them laterally over the elevations *e e* onto the upholding-rests *d d*. Here they will remain of themselves, as the entire weight of the platen must be lifted a short distance, while the studs pass back over the elevations *e e* before the platen can descend.

To effect the lowering or descent of the platen, I provide the short arm of the lever *E* with a projecting toe, *f*, arranged above the lifting-surface, and of such length as to contact with the stud, and, as the handle of the lever is lifted, to push it along until it passes over the elevation *e* and reaches a portion of the slot sufficiently inclined to cause it to complete the descent of itself. I prefer to leave sufficient space between the end of the toe *f* and the extremity *g* of the lever to enable the latter to clear the studs after they are lowered into place, when the long arm of the lever is raised, so that the latter may be thrown up vertically out of the way of the operator, as shown in Fig. 1; but if this capability on the part of the lever is not deemed desirable, the space between *f* and *g* may be filled up, leaving only a slot for the reception of the stud *a*.

In Fig. 5 I have shown a modification of the above-described lifting device. Instead of forming the rest *d* and elevation *e* in a deflected portion of the slot *b*, I form them upon the lifting-lever *E*, its lifting-surface being nearest the fulcrum, a nose or elevation, *e*, next, and a concave rest, *d*, toward its extremity. With these parts upon the lever, a simple straight slot may be used, as shown. The

operation of this is essentially the same as that of the other form—namely, that the depression of the long arm of the lever first lifts the platen, and then so suspends it that it cannot descend until the lever is moved back.

As heretofore constructed mangles of this character have had the faces of the bed and platen of such form that the center of oscillation of the platen (answering to my studs *a a*) remained, for a uniform diameter of roller, at the same point during the entire swing or oscillation of the platen. While this construction answers admirably for many purposes, the platen has not under some circumstances sufficient tendency to return to its vertical or central position after being swung out therefrom to adapt it to all requirements.

I deem it desirable that the platen should have at all times a decided tendency to assume the said vertical position, as it renders the operation of the machine much easier than when it has to be brought back by the operator.

I accomplish the desired effect by so shaping the faces of the bed and platen relatively to each other that their edges, lettered *h h* in the drawings, approach normally nearer each other than do their centers, which are lettered *i i*.

The effect of this construction is that in the operation of the machine the stud or pivot *a* will be at its lowest point when the platen descends vertically, and will gradually rise as the platen is swung outward to either side.

I consider it desirable that one or both of these surfaces be flat or plane, this being the simplest and cheapest form.

In Fig. 1 I have shown the platen provided with a plane face, and the bed with a concave curved face, which is the preferred form; and in Fig. 5 I have shown a modification, being a reversal of the surfaces, the platen being concave and the bed flat; or, if a flat face for either bed or platen be deemed undesirable in any particular case, both faces may be curved, as shown in Fig. 6; but they must be so curved relatively that the studs *a a* will rise as the platen is swung in either direction from its central position of rest.

I claim as my invention—

1. The combination of the side frames, *A A*, and their slots *b b*, the platen *D* and its studs *a a*, and the lifting-lever *E* with an upholding rest or bearer, *d*, for the stud when lifted, substantially as set forth.

2. The side frames, *A A*, provided with slots *b b* and rests or bearers *d d*, in combination with the platen *D* and its studs *a a*, and with a lifting-lever, *E*, substantially as set forth.

3. A mangle consisting of the side frames, *A A*, each provided with a slot, *b*, and rest *d*, the bed *B*, roller *C*, platen *D*, provided with studs *a a*, and the lifting lever or levers *E*, combined and arranged to operate substantially as set forth.

4. A mangle having a fixed bed, B, and pendulous platen D, between whose faces a roller, C, is received, said faces approaching nearer each other at their edges  $h$   $h$  than at their centers  $i$   $i$ , whereby the center of oscillation of the platen is caused to rise as the platen is swung to either side of its normal position of rest, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHARLES REESE.

Witnesses:

G. E. SANGSTON,  
WM. L. ELDRIDGE.