(No Model.)

J. W. WEISER.

WRINGER.

No. 335,981. Patented Feb. 9, 1886.

Fig. 1.

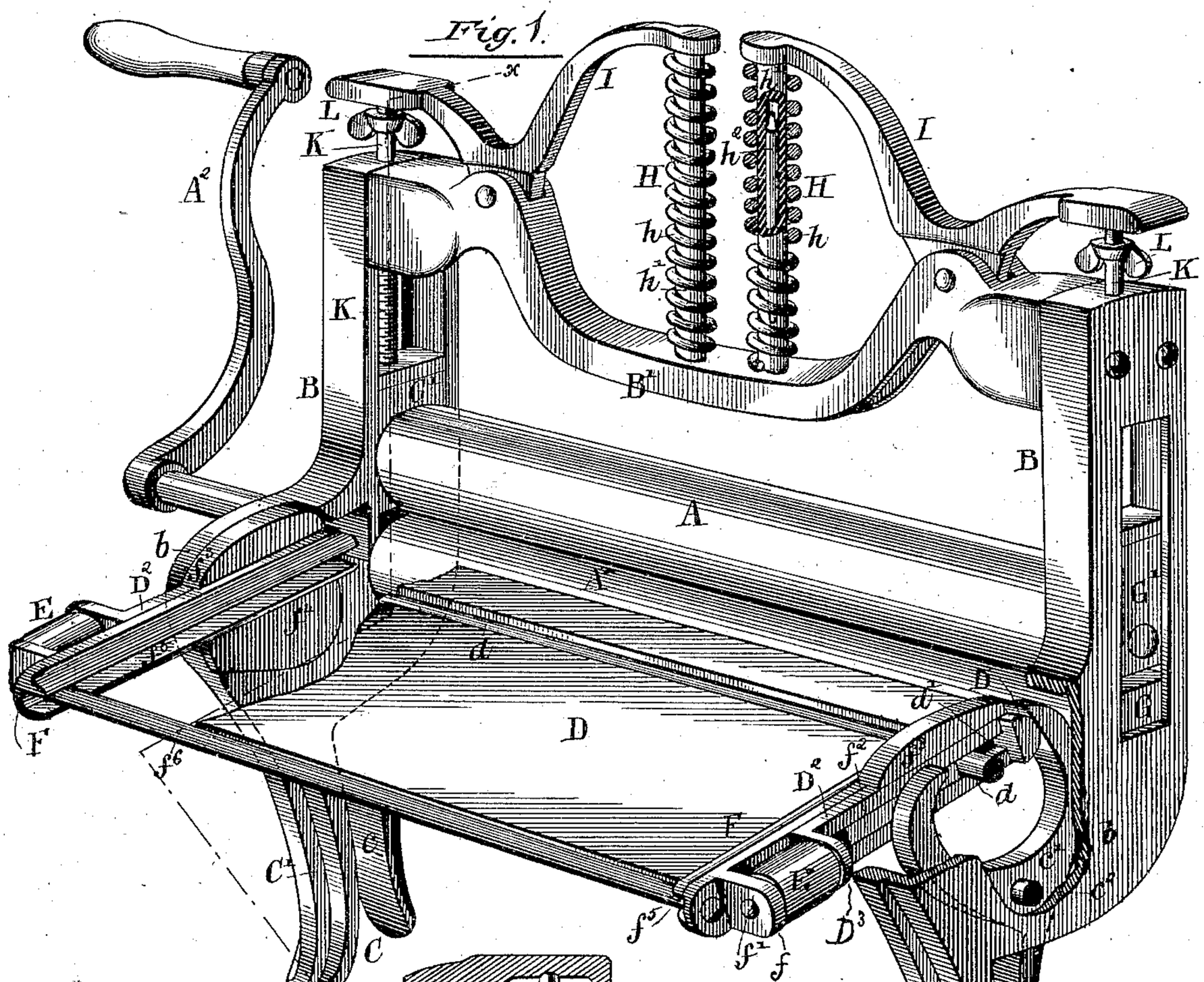


Fig. 3.

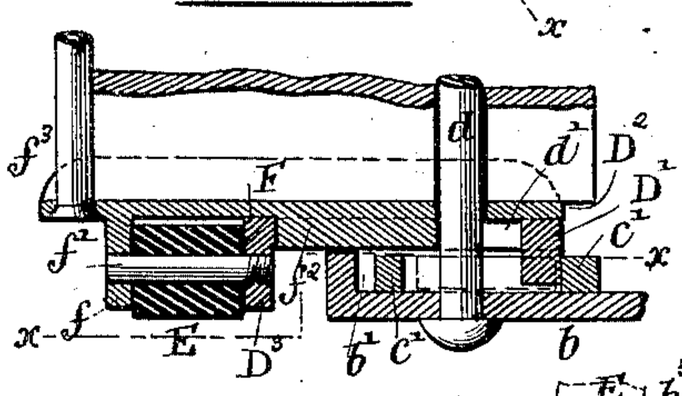
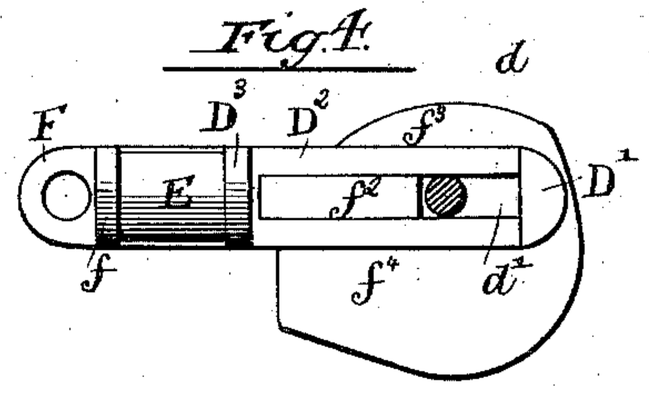


Fig. 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN W. WEISER, OF CHICAGO, ILLINOIS.

WRINGER.

SPECIFICATION forming part of Letters Patent No. 335,981, dated February 9, 1886.

Application filed November 28, 1884. Serial No. 149,130. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. WEISER, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wringers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

One part of my invention relates to improvements in clamping devices of that class of wringers which are provided with a hinged table connected with the clamping-jaws of the wringer in such manner that the jaws may be opened and closed by the movements of the table.

My invention also relates to improvements in the devices for supporting and forcing together the wringer-rollers, and in other details of construction in wringers, as will hereinafter appear.

Figure 1 represents in perspective a clothes-wringer embodying the features of my invention, with certain portions of the wringer and its adjuncts broken away, so as to more clearly illustrate the invention. Fig. 2 is a section on a plane parallel with the frame-sides, as indicated by the indirect line X X of Fig. 1, and represents, partly in section and partly in elevation, one of the vertical side pieces with a pair of pendent jaws, said view illustrating the inner side of the side piece. In this view the upper bearing-block is also shown partly in section. Fig. 3 is a detail section taken longitudinally through one of the slides provided for connecting the table with the cam-yoke portions of the movable jaws, said view being also taken through the support for the slide and the cam-yoke end of a movable jaw, as indicated by the line X X of Fig. 2. Fig. 4 is a sectional view taken upon the indirect line X X of Fig. 3, showing in side view one of the spring-controlled slides and the plate for supporting said slide at one end of the table.

The elastic-faced wringer-rollers A and A′ are arranged between the sides B of the wringer-frame, and the lower roller, A′, of this pair of rollers is operated by means of a crank, A^2, at one end of the machine, as usual.

The devices for supporting the wringer at and upon the edge of the tub are in the nature of two pairs, C, of jaws or clamps, one pair of which is arranged at the lower end portion of each one of the two sides of the wringer-frame. These two pairs of jaws are practically situated in a plane back of the plane occupied by the rollers, so as to bring the rollers over the tub when the wringer is properly secured thereon, and to such end the lower end portions of the sides of the frame are adapted to form a pair of horizontal rear extensions, *b*, from which the said jaws depend. The fixed jaws C′ are rigid with these rear extensions, *b*, of the frame-sides, and can be conveniently cast integral therewith, while the movable jaws *c* are pivoted to the said extensions in position to admit of their being moved to a desirably-close proximity to the fixed jaws.

The incline or table D, upon which the wrung-out clothes are run off to a suitable distance from and beyond the rollers at what may be termed the "rear side" of the machine, is pivotally hung or supported between the rear extensions, *b*, of the sides of the frame, the approved mode of pivoting or hinging the table being to hang it at points adjacent to its inner edge upon a tie-rod, *d*, which, while serving as a pivotal support for the table, also serves as a means for connecting together the sides of the wringer-frame at their lower ends. The extensions *b* are preferably made with marginal inwardly-projecting flanges extending partially around the edges thereof, so as to form upon the inner or adjacent faces of said extensions recesses *b′*, each adapted to afford sufficient area of working space for the upper end portions, *c′*, of one of the pivoted jaws. Each movable jaw *c* is pivoted against the inner side of one of said rear extensions of the frame-sides, as at c^2, and is permitted to vibrate to a limited extent through a space or opening, b^2, formed by the absence of a portion of the flange at the lower edge of each one of the said extensions *b*. Each movable jaw has its upper end, *c′*, made somewhat in the form of a yoke, and is pivoted at a point below and eccentric to the table-pivot by means of a pivot, c^2, which passes through the jaw substantially at the point of junction between the middle of its yoke-

shaped end and its pendent clamping portion. The inner sides of these yokes are adapted to practically constitute cam-surfaces, over which the lugs at the ends of the table ride when the table is swung up or down for the purpose of operating the movable jaws. The table is pivoted eccentrically to the movable jaws, and when swung to its lowered inclined position its end lugs serve to close the movable jaws toward the fixed jaws, so as to clamp the jaws against the edge of a tub or other support between the fixed and movable jaws, as illustrated in full lines, Fig. 2, and, conversely, when the table is swung upwardly its end lugs serve to operate the movable jaws or move the same away from the fixed jaws, so as to open the jaws, as illustrated in dotted lines in said figure. This operation of the jaws is effected by the action of the lugs against one or the other of the arms of the yokes, and as a means for locking the movable jaws in their closed position against the tub or other support, the inner side of each yoke forming a cam-surface, as hereinbefore mentioned, and the lugs D′, backed by springs E, and arranged to slide to a limited extent in such manner that when the jaws come into contact with the edge of the tub or other support in the operation of swinging down the table to close the jaws the lugs may yield backwardly by the compression of the springs under the action of the cam-surfaces of the yokes upon said lugs. By this construction the jaws may obviously act with a yielding pressure, and will adjust themselves to the thickness of the edge of the tub or other support to which the wringer is attached. Said cam-surfaces are preferably arranged to approach nearest the pivoted axis of the table at their parts which are engaged by the lugs when the table is about horizontal, whereby the springs will be compressed to the greatest extent before the table reaches its lowest position, so that after the lugs in their passage over the said cam-surfaces have reached the points mentioned a further downward movement of the table will carry the lugs upwardly to the parts of the cam-surfaces more remote from the pivoted axis of the table, and so as to allow a slight expansion of the springs. When the lugs are in this position, it obviously becomes necessary to slightly compress the springs in turning the table upward, and the table and clamp-jaws are thus locked, and cannot become accidentally loosened. As herein shown, the lugs bear upon parts c^3 of the cam-surfaces of the yokes when the jaws are locked, as above described, said parts of the cam-surfaces being in the particular form of the device illustrated practically straight.

Obviously any conformation of the yoke which will cause the lugs to bear against one side of the yoke with a gradually-increasing pressure when the table is swung down will serve to effectively hold the said jaws in a closed position, the particular cam curvature herein shown being desirable to avoid any accidental slipping of the lugs along the inner sides of the yoke, and to thereby prevent the release of the jaws after the latter have been closed.

As a practical and convenient way of backing the sliding lugs D′ by spring resistance and permitting a limited sliding movement on the part of the lugs, each lug is formed at one end of a slide-bar, D^2, which is at its opposite end provided with a lug, D^3, arranged to abut against one end of an elastic spring block, E, confined between the lug on the slide and a lug, *f*, formed with one of the end plates, F, of the table. The spring is conveniently held between the sliding and fixed lugs by means of a bolt, *f*′, passing through the lugs and the spring and secured to the lug D^3, the bolt being adapted to slide through the fixed lug *f*, so as to permit the spring to be compressed when required.

The slide-bars D^2 are each provided with a longitudinal slot, *d*′, in which is received a short rib, f^2, on such one of the end plates, F, as the slide-bar is movably held against. These ribs serve as guides for slide-bars, and are made shorter than the slots in the latter, so as to permit the required extent of longitudinal play on the part of the slide-bars or slides at such times as the slides are moved back against their spring resistances by the cam-yokes or thrown forward by the expansive action of the springs.

The end plates, F, of the table are also each provided with a lip, f^3, along one edge, and with a wide flat portion, f^4, at its inner end, said lips serving as auxiliary guides for the slides, and the flat portions f^4 serving to close the recesses *b*′, in which the cam-yokes are arranged, as best shown in Fig. 1, in which a portion of the table is broken away at one end so as to expose a portion of one of said end plates.

The end plates are double-flanged or otherwise formed on their inner sides, so as to provide grooves f^5, in which the ends of the board or boards comprising the body of the table are fitted and held. These end plates are drawn together and held against the ends of the board or boards by a tie-rod, f^6, and, as herein shown, the table is conveniently composed of two boards, between the meeting edges of which the pivot *d* passes, it being seen that by grooving the boards along their meeting edges a suitable passage can be formed for said pivot.

The blocks G, on which the lower wringer-roller, A′, is journaled, are fitted in approximately V-shaped seats formed between the lower converging ends of the edge flanges b^3 of the vertical metal sides B of the wringer-frame, while the upper pair of blocks, G′, in which the upper wringer-roller, A, is journaled, are arranged to slide in the spaces formed between the said flanges b^3 above the block G. For these blocks or bearings I prefer employing wooden blocks well saturated with oil prior to their incorporation in the machine. By thus employing oil-saturated wooden or analogous oil-saturated blocks the jour-

nals will run easily therein, and at the same time the application of oil from time to time as a lubricant be avoided, thus entirely obviating such uses of lubricants as have heretofore tended to soil the various articles passing through the wringers.

The upper roller is held down by a yielding spring-pressure derived from a pair of spring devices, H, arranged upon the top cross-bar, B′, of the wringer-frame. These spring devices are held between the top cross-bar and the inner arms of a pair of levers, I, which are pivoted on the top cross-bar with their outer ends maintained by the action of said springs against the top ends of a pair of slide-rods, K, respectively extending from the outer ends of the levers to the bearings for the upper roller. These rods work through apertures in the top ends of the sides B of the frame, and have their upper ends preferably received in suitable sockets in the under sides of the outer arms or ends of the pivoted levers, so as to admit of the rods being turned about their axles for the purpose of varying the length of the rod between the levers and the bearings, in which latter the lower screw-threaded ends of the rods engage in correspondingly-threaded sockets. Each rod is provided with a thumb-nut, L, or other handle rigid with the rod to permit the rod to be turned as occasion may require. By adjusting these rods the inner ends of the pivoted levers can be depressed or raised, so as to vary the spring resistance, and thereby vary the down pressure of the upper roller.

The spring devices each consist of a coiled spring, *h*, inclosing an elastic tube, *h′*, thereby forming a strong compound spring. To cause the springs to be compressed in a direction coincident with their axles, a steel or other suitable metal rod, h^2, is inserted in each tubular core *h′*. These rods are of a less length than the springs, so as to terminate short of the ends of the elastic tubular cores in which they are fitted, and are beveled at their ends, so as to prevent their catching on the elastic tubes when the springs are compressed.

In Fig. 1 a portion of one of the compressed springs is shown broken away so as to expose one of the said rods. It will be seen that these rods will permit the longitudinal contraction and expansion of the springs, and at the same time will prevent the springs from being bent or bowed out laterally, thereby greatly increasing the efficiency of the springs.

I claim as my invention—

1. The combination, with the clamping-jaws of a wringer, of a pivoted table and means for actuating said jaws from the table, comprising a movable part or slide upon the table engaged with the jaws and having yielding or spring connection with the table, substantially as and for the purpose set forth.

2. The combination, with the wringer-frame provided with rigid jaws and movable jaws pivoted to said frame, of a pivoted table and spring-controlled slides carried by the said table, said movable jaws being provided with cam-surfaces engaging the said slides, substantially as and for the purpose set forth.

3. The combination, with the wringer-frame provided with rigid jaws and movable jaws pivoted to said frame, of a pivoted table and spring-controlled slides carried by the said table, said movable jaws being provided with cam-surfaces approaching nearest to the pivoted axis of the table at their parts c^3, which are engaged by the slides when the table is above the lower limit of its movement, substantially as described.

4. The combination, with the wringer-frame provided with fixed jaws and movable jaws pivoted to said frame, each provided above its pivotal point with a yoke having an inner cam-surface, of a pivoted table and spring-controlled slides carried by the table, and constructed to engage the cam-surface of the yokes, substantially as and for the purpose set forth.

5. The combination, with the wringer-frame provided with rear extensions, *b*, having recesses *b′*, and with fixed jaws C′, of the pivoted jaws *c*, having their upper ends located within said recesses, and provided with cam-surfaces, a pivoted table, and spring-controlled slides upon the table engaged with the cam-surfaces of the pivoted jaws, substantially as described.

6. The combination, with the frame and rollers, of levers I I, pivoted upon the frame, springs interposed between the inner ends of the levers and the frame, bearings for the upper rollers, provided with screw-threaded apertures, and vertical rods K K, screw-threaded upon their lower ends for engagement with the said bearings, engaged at their upper ends with the outer ends of the levers, and provided with thumb-nuts L upon their parts between the frame and the levers, substantially as described.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JOHN WM. WEISER.

Witnesses:
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C. CLARENCE POOLE.