

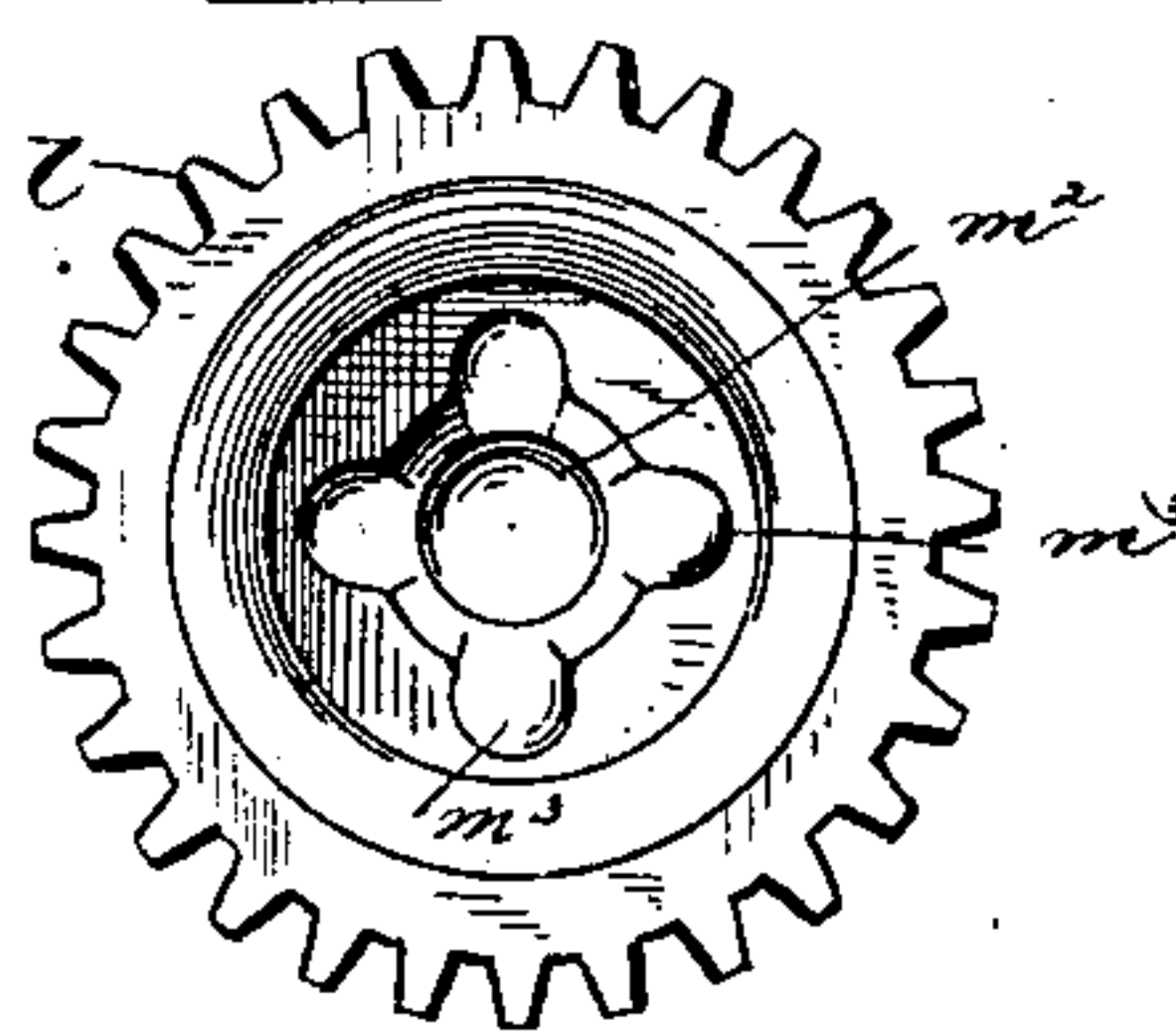
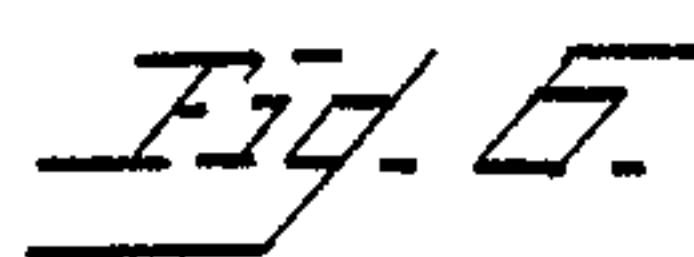
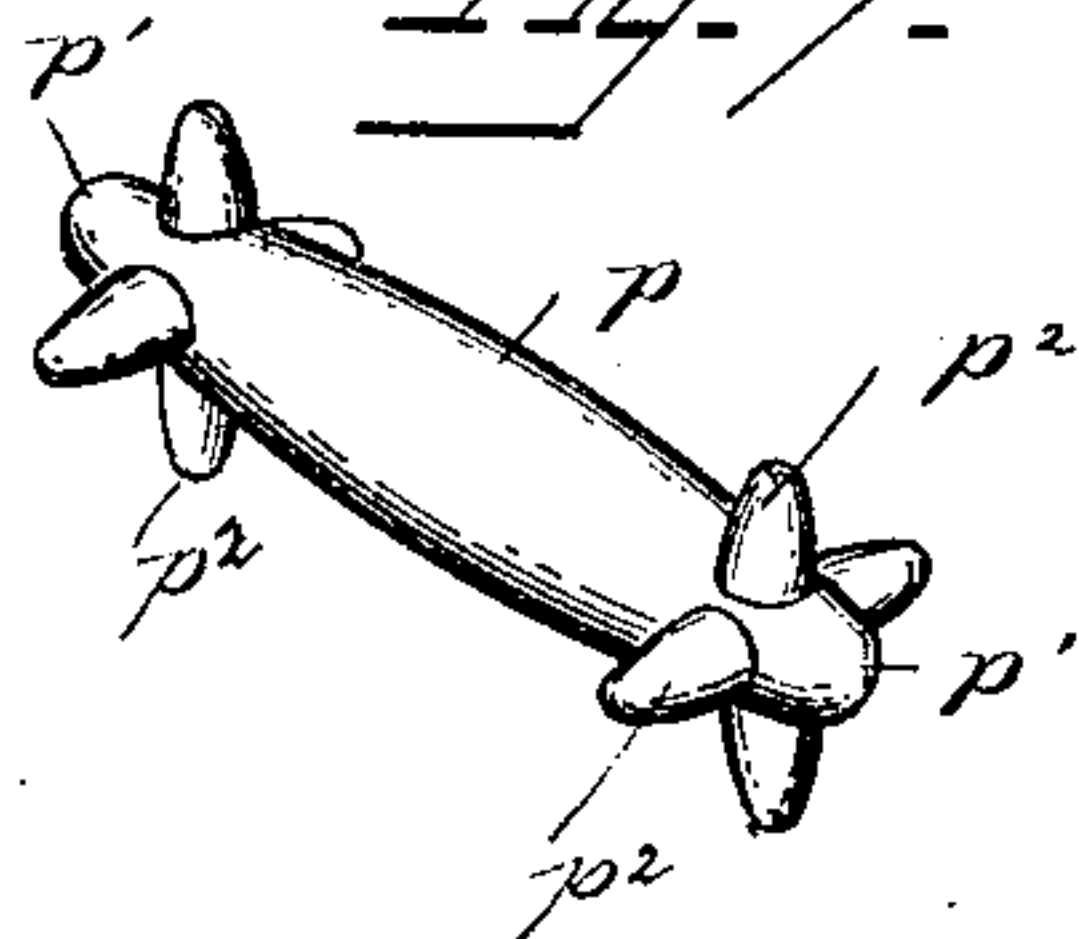
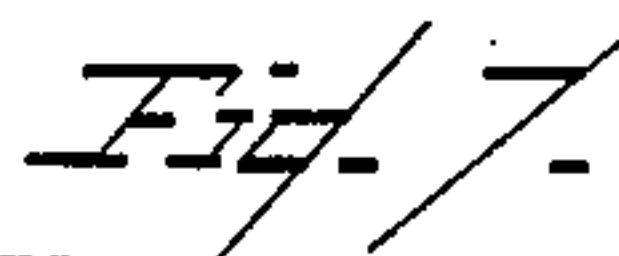
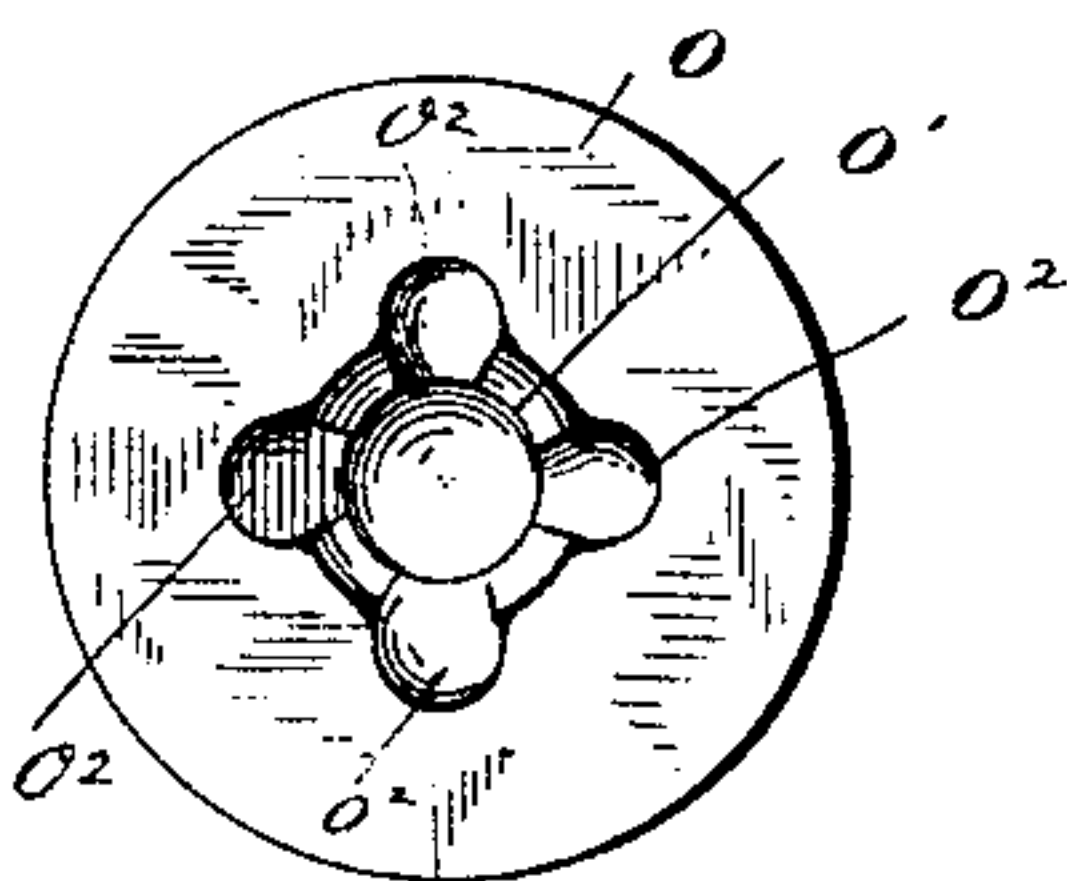
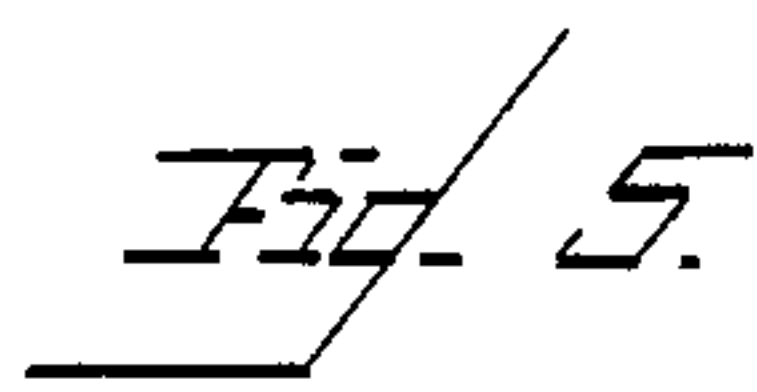
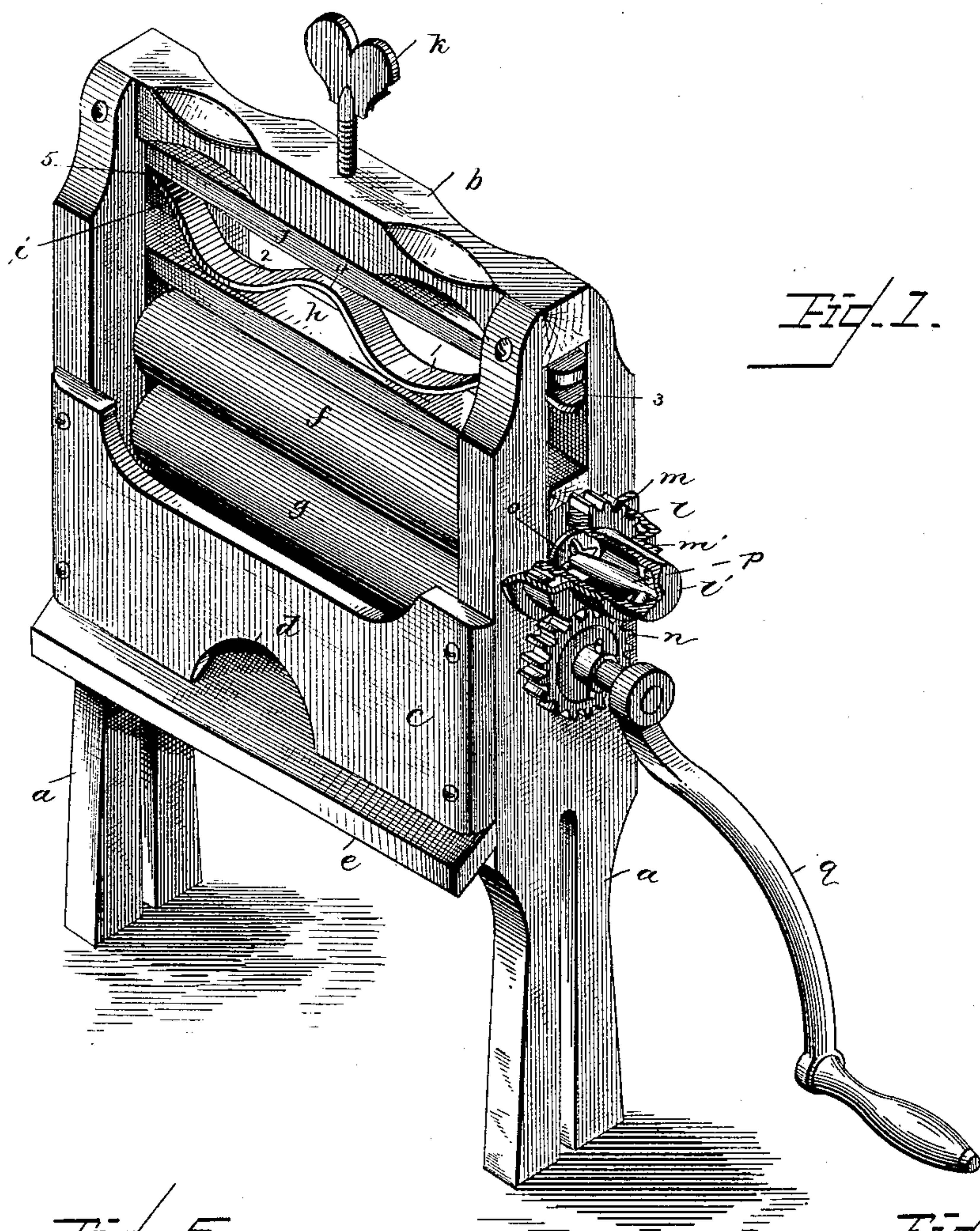
(Model.)

2 Sheets—Sheet 1.

I. R. LAUX.  
CLOTHES WRINGER.

No. 326,995.

Patented Sept. 29, 1885.



WITNESSES

Franck L. Ouraud.  
E. A. Finckel.

*INVENTOR:*

Isaac A. Law,  
by Wm. H. Finckel  
Attorney.

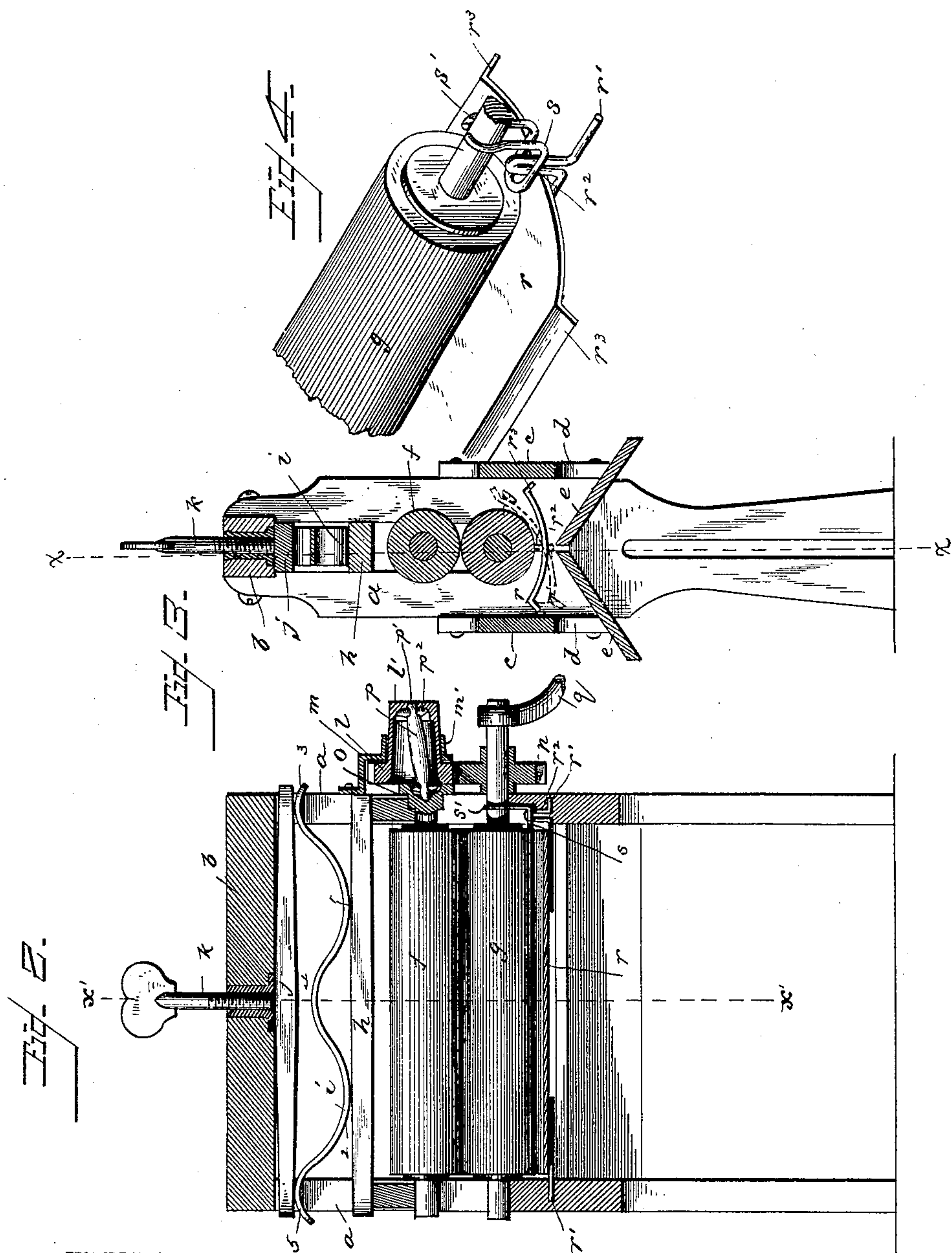
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Attorney.



# UNITED STATES PATENT OFFICE.

ISAAC R. LAUX, OF WADSWORTH, OHIO.

## CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 326,995, dated September 29, 1885.

Application filed March 25, 1884. (Model.)

*To all whom it may concern:*

Be it known that I, ISAAC R. LAUX, a citizen of the United States, residing at Wadsworth, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Clothes-Wringers, of which the following is a full, clear, and exact description.

This invention consists of certain novel details of construction of clothes-wringers, the object of the invention being to provide for a more equal distribution of pressure upon the rollers; also, to insure the positive movement of both rollers irrespective of extent of their separation incident to the thickness of the article being wrung out; and, also, to provide a more certain and efficient reversible pan for returning the drip to the tub, all and severally as hereinafter particularly set forth and claimed.

In the accompanying drawings, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view of a clothes-wringer embodying my invention, the gearing being partly broken away. Fig. 2 is a vertical longitudinal section of the same, taken in the plane of line  $x x$ , Fig. 3, but with the rollers in elevation. Fig. 3 is a vertical section from front to rear in the plane of the line  $x' x'$ , Fig. 2. Fig. 4 is a perspective view, on a larger scale, of one end of the lower roller and the drip-pin, showing the mode of connecting the two. Fig. 5 is a face view of the end of the upper roller. Fig. 6 is a face view of the pinion for the upper roller; and Fig. 7 is a perspective view of the link for connecting parts shown in Figs. 5 and 6.

As herein shown, the framing is composed of two standards,  $a a$ , the lower end of which may be slotted, as usual, to engage the edge of a tub to which the wringer is fixed in operation; or said standards may be otherwise constructed—for example, to engage a bench, such as shown in my Patent No. 237,556. The standards are connected at the top by a cross-bar,  $b$ , and are provided with side pieces,  $c c$ , extending from the line just below the bite of the rollers and below the plane of the drip-pan, and having openings  $d$  for the discharge of the drip-water. An inverted  $\Lambda$ -shaped chute is placed between the standards cross-

wise, just below the drip-pan, to return the water to the tub, and this chute may be composed of two members slipped into grooves in the inner faces of the standards, so as to be readily removable to give access to the drip-pan. The standards constitute housings for the rollers  $f$  and  $g$ , and a pressure-bar,  $h$ , is arranged in these housings to bear upon the upper roller, and on the top of said pressure-bar is arranged a spring,  $i$ , which is constructed somewhat in the form of a curvilinear  $W$ , so that it has two bearing-points, 1 2, on the pressure bar, and three bearing-points, 3 4 5, on the follower-bar  $j$ , arranged above it. The follower-bar  $j$  is adjustable upon the said spring  $i$  by means of a set-screw,  $k$ , borne in the cross-bar  $b$  and bearing upon said follower. Usually the follower  $j$  will bear upon points 3 and 5 of the spring  $i$  and give sufficient pressure on the upper roller; but where more pressure is desired the follower may be turned down until it bears also upon point 4 of the spring  $i$ , so that said spring will be under tension at five individual points, and its power thereby greatly increased.

I am aware that it is not new to employ in clothes-wringers a pressure-spring curvilinear in outline; but I am not aware of any such spring prior to my invention in which there are five bearing-points, as hereinbefore set forth.

Before my invention clothes-wringers have had their two rollers connected by gearing of which the pinions never moved away from one another, provision for a movement of the upper roller from the lower being made by connecting said upper roller with its gear by a link or sort of universal coupling, for an example of which see Letters Patent No. 50,531, granted to J. O. Couch October 17, 1865. In order to remove certain disadvantages I have found in such gearing, I have made the pinion  $l$  of the upper roller with an enlarged tubular hub,  $l'$ , and securely fastened said gearing close up against the standard by means of a box or cap,  $m$ , made fast to said standard. This box has an annular portion,  $m'$ , in which the hub of the gear  $l$  is nicely fitted to rotate therein accurately. The box  $m$  incloses the teeth of the gear  $l$  entirely, except at a point just above the pinion  $n$  of the lower roller, where said box



is cut away to permit the projection of the teeth of the pinion for engagement with the teeth of the pinion  $n$ . The outer end of the hub  $l'$  is closed, and on the inside of this closed end a rounded cavity,  $m^2$ , is made, from which extend radially four smaller cavities,  $m^3$ , of oblong rounded form. On the end of the shaft of the upper roller is secured a bearing-block,  $o$ , (see Figs. 1, 2, and 5,) having in its face a cavity,  $o'$ , with radial cavities  $o^2$  similar in shape to the cavities in the hub of the pinion  $l$  just described. The link  $p$ , having at each end the rounded boss  $p'$  and the rounded radial projections  $p^2$ , is inserted in the hub of the gear  $l$  with its rounded bosses and radial projections engaging the cavities in the hub and bearing-block of the upper roller, respectively. The relative positions of the pinions of the upper and lower rollers are always the same, the pinion of the lower roller being fast to its shaft and the pinion of the upper roller being fixed with relation to it by means of the bearing portion  $m'$  of the cap  $m$ . The bearing portion  $m'$  for the pinion of the upper roller is about midway of the bearing portions of the link  $p$ , and the teeth of the pinion  $l$  are about midway between the bearing portion of said pinion and the bearing-block  $o$ , so that all danger of binding of said upper pinion is obviated.

Now, in operation power is applied to the lower roller by means of a crank-handle,  $q$ , applied to its shaft as usual or otherwise, and the pinions  $l$  and  $n$  meshing, both rollers are positively driven. When by reason of the thickness of the article being wrung the upper roller is separated from the lower, said upper roller rises against the pressure of the spring  $i$ , and its link  $p$  serves to connect it with its source of rotary motion wholly to the limit of such rise. In the rising and falling of this upper roller the two aligned lugs  $p^2$ , at each end of the link  $p$ , will always be in the aligned cavities in the bearing block  $o$  and hub of the pinion  $l$ , so that there will be no lost motion. These two sets of lugs and the rounded ends  $p'$  of the link constitute pivots, and by reason of their shape and that of the cavities in which they fit friction will be reduced to a minimum.

The drip-pan  $r$  is a concave sheet of metal arranged beneath the lower roller on pivots  $r'$  at each end, which enter holes in the standards  $a$  to support said pan. One of these pivots is provided with a vertical projection,  $r^2$ , which is engaged by a yoke,  $s$ , having

spring-fingers  $s'$ , which bind upon the shaft of the lower roller sufficiently firm to move with said roller to thereby tilt or reverse the drip-pan in accordance with the direction of rotation to throw the drip-water back into the tub. The edges of the drip-pan are bent down at an angle to form lips or flanges  $r^3$  to prevent the swash from overflowing the chute. The upper end of the pan when tilted comes in close contact with the lower roller, and its flanged edge then serves at that point to return any drippings into the body of the pan, as indicated by dotted lines, Fig. 3. This drip-pan is an improvement upon that shown in my Patent No. 237,556.

What I claim is—

1. In a clothes-wringer, the combination, with the rollers, the pressure-bar  $h$ , follower-block  $j$ , and tension-screw, of the spring  $i$ , shaped substantially as shown and described, and having the two bearing-points 1 2 on the pressure-bar, and the three bearing-points 3 4 5 on the follower-block, substantially as and for the purpose specified.

2. The upper roller of a clothes-wringer having the bearing-block  $o$ , provided with a cavity,  $o'$ , and the rounded cavities  $o^2$ , radiating therefrom, the pinion  $l$ , having the elongated tubular hub  $l'$ , provided with the cavity  $m^2$  and radiating rounded cavities  $m^3$ , and the link  $p$ , having rounded ends  $p'$ , and radial projections  $p^2$  at each end to engage such cavities, and the bearing box or cap  $m$ , inclosing and supporting said pinion, and the lower roller and its pinion, all combined and arranged to operate substantially as and for the purpose described.

3. The concave imperforate drip-pan  $r$ , provided with pivots at each end, combined with the standards, and a spring-fingered yoke, substantially as set forth, to connect said pan with the lower roller-shaft, substantially as and for the purpose described.

4. The concave imperforate drip-pan  $r$ , provided with the lips or flanges  $r^3$ , the pivots at each end, and a spring-fingered yoke at one end, combined with the standards and lower roller, substantially as described.

In testimony whereof I have hereunto set my hand this 21st day of March, A. D. 1884.

ISAAC R. LAUX.

Witnesses:

H. B. CLARK,  
JOHN A. CLARK.