

T. R. Markillie,

Washing Machine,

N^o 36,523.

Patented Sep. 23, 1862.

Fig: 1.

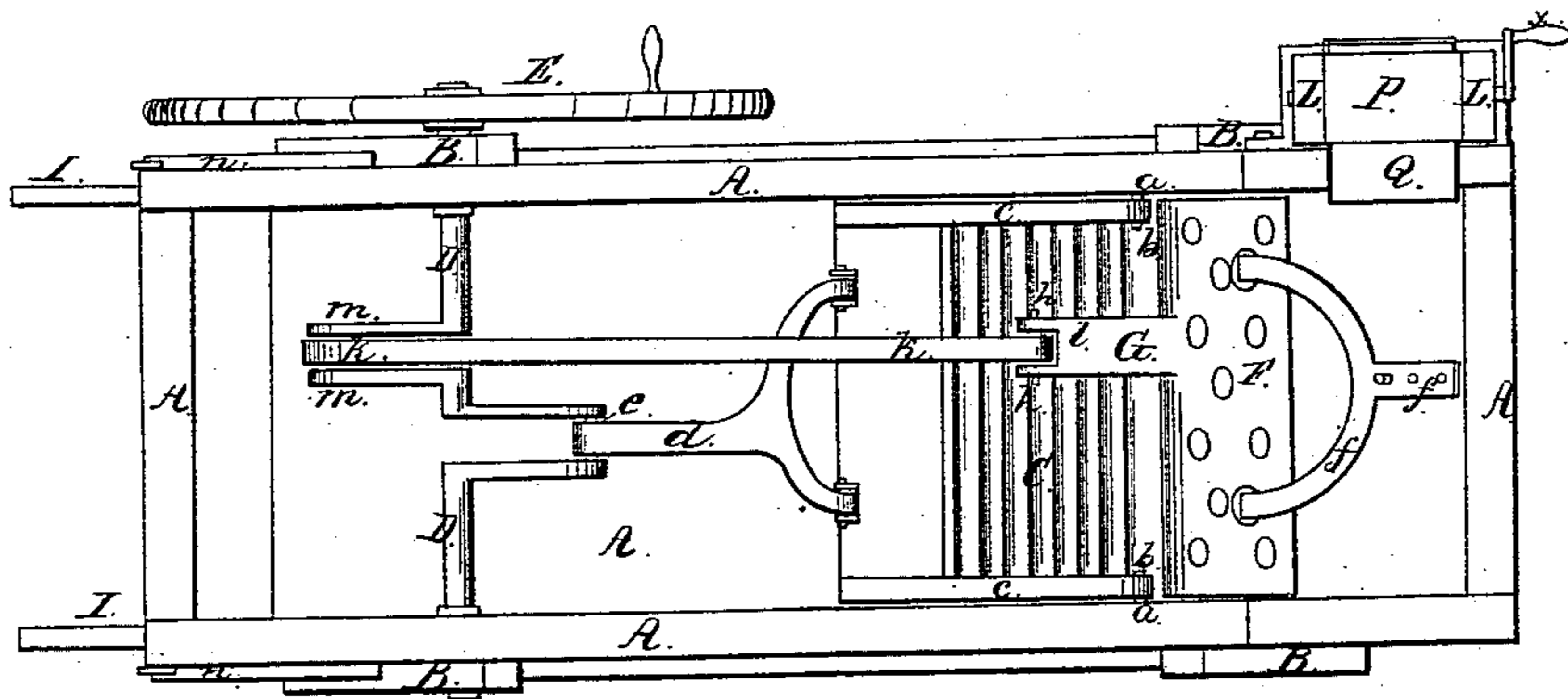
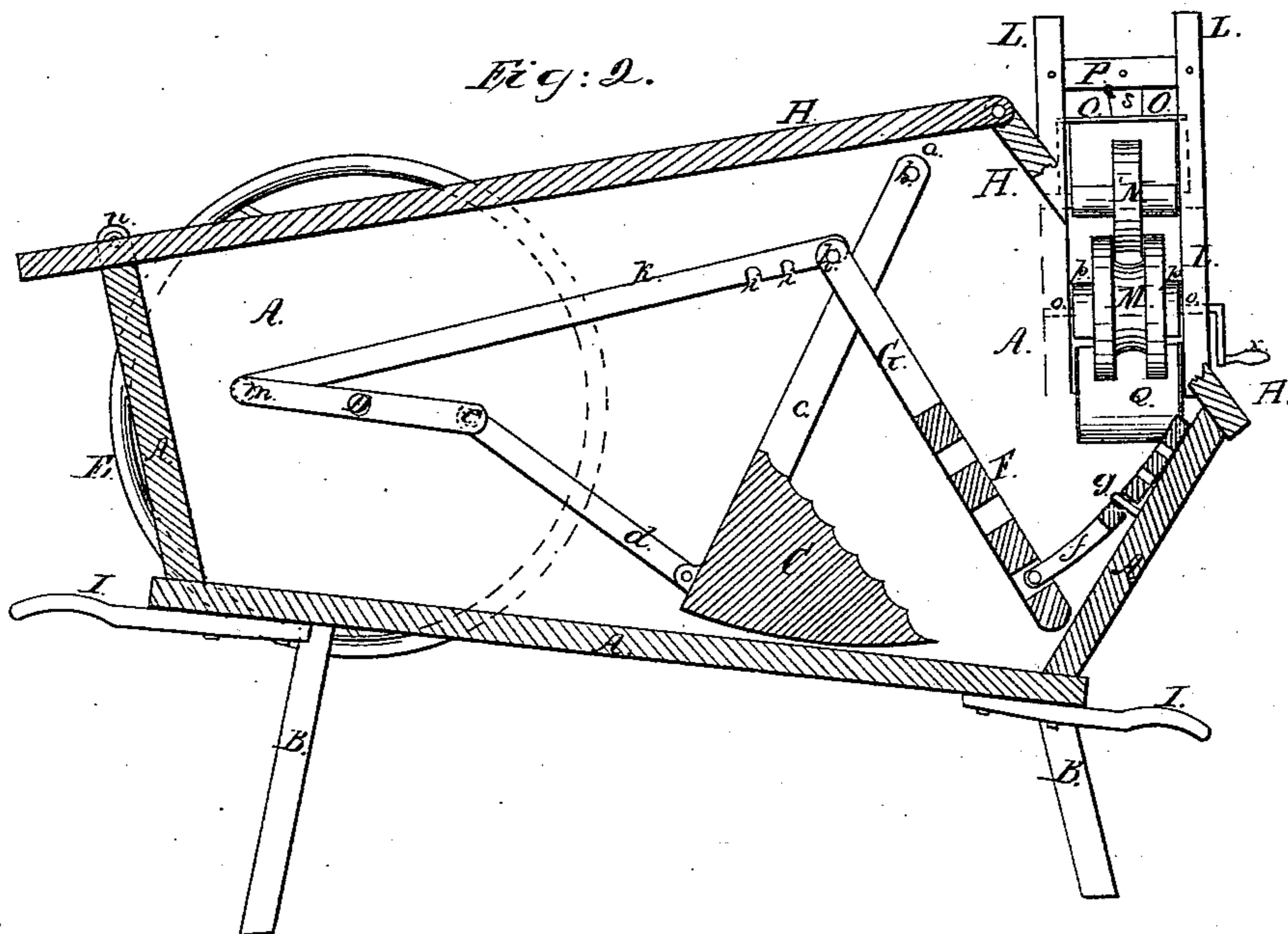


Fig: 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS R. MARKILLIE, OF WINCHESTER, ILLINOIS.

IMPROVED WASHING-MACHINE.

Specification forming part of Letters Patent No. 36,523, dated September 23, 1862.

To all whom it may concern:

Be it known that I, THOMAS R. MARKILLIE, of Winchester, in the county of Scott and State of Illinois, have invented a certain new and useful Improvement in Washing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a plan of my improved machine with the cover removed to show its working parts; and Fig. 2, a vertical longitudinal section of the same, taken through the line *xx* of Fig. 1.

The object of this invention is to provide a cheap, durable, and effective washing-machine that will not be liable to get out of repair, and that will not rub and chafe the clothes to pieces when subjected to its operation, and which at the same time can be so adjusted as to wash as large or small a quantity at a time as may be desired.

My invention has also for its object the combination of a wringer with the washing mechanism, so that the clothes after they have been washed may be deprived of the wash-water without resorting to torsion or twisting, a plan highly prejudicial and objectionable.

To enable others skilled in the art to make, construct, and use my improvement, I will now proceed to describe it in detail.

The wash tub or vat A in which the clothes are placed to be washed is mounted on and secured to four legs or standards, B, and which, like the tub, may be of any suitable shape, size, and material so long as they are suited to the support and operation of the means used for the washing of the clothes. That end of the tub in which the plungers or squeezers work is made lower than the other, that the wash-water may be retained immediately around the clothes being operated upon. Near the forward end of the tub (the end just described)—that is to say, the end next the wringer—in the sides of the tub, are arranged bearings *a*, in which work the pivots *b* of the swinging plunging squeezer C. This squeezer is fluted or corrugated on its front side, as will be seen by reference to Fig. 2, and is secured to arms *c*, by which, through the pivots *b*, it is suspended in the tub, free to be pushed back and forth for the purpose of wash-

ing the clothes by means of a connecting-rod, *d*, one end of which is bifurcated and hinged to the lower side of the plunger C, while the other is mounted on a crank-wrist, *e*, formed on a shaft, D, which has its bearings in the sides of the tub, by the rotation of which through the crank-wheel E a reciprocating motion is communicated to the plunger C.

The face of the plunger or squeezer is inclined at an acute angle to the bottom of the tub, so as to force itself under the clothes, and thus give to them a rolling motion as they are forced against the other squeezer, F, which is situated in its advance. The squeezer F, unlike the other, has a smooth surface, and is provided with a number of holes for the escape of the water from the clothes as they are squeezed between the two. It is also hinged at its bottom or lower end to a V-shaped stay or brace, *f*, the upper end of which is provided with a series of holes arranged in a vertical direction, which are intended to be passed over a stud or pin, *g*, secured to the end of the tub on the inside. By means of these holes and the pin the distance between the lower end of the squeezers can be regulated as desired, so as to accommodate a large or small quantity of clothes. On the upper end of the squeezer F is erected or formed a standard, G, through the upper end of which is passed a pin, *h*, a notch, *i*, in a vertical direction having previously been cut of a width sufficient to receive the end of a connecting-rod, *k*, on the under side of which are cut a series of notches, *j*, for the purpose of engaging with the pin *h* in the upper end of the arm or standard G of the squeezer F. The other end of the rod *k* is mounted on a second crank-wrist, *m*, formed on the shaft D, this crank-wrist being arranged diametrically opposite to the other—that is to say, on the other side of the shaft from that of the crank-wrist *e*.

On the end of the shaft D on the outside of the tub is secured a fly-wheel, E, to which a crank-handle is secured, by the operation of which motion is communicated to the washing apparatus of the machine. At that end of the machine standards *n* are erected, in the upper ends of which is formed a hole, through which hinge-pins are passed into the sides of the end of the lid H, that forms the cover of the tub when the machine is in operation to prevent

splashing of the water. The lid H is formed in two parts and hinged together, so as to enable it to conform to the shape of the upper side of the tub. Handles I are also secured to the bottom of the machine at either end, by which it may be moved about as required.

At the front of the machine and on one side are secured two standards, L, in any suitable manner, in which are formed bearings o, in which rest and work the ends of a shaft, p, carrying a corrugated roller, M, between the corrugations of which works the face of a cylindrical squeezer or roll, N, the shaft of which has its ends working in a groove formed for that purpose in the inner sides of the standards L, bearings for the ends of the shaft being fitted therein, the upper ends of which press or bear against the ends of a spring, O, whose purchase or bearing is against the under side of the cross-beam P of the standards L through the medium of the piece s, which for this purpose is secured to the upper side of the spring. Beneath the fluted or corrugated roll M, and made fast to the standards L, is arranged a chute or gutter, Q, in such manner that the water as wrung from the clothes will as it falls be conducted back into the tub again.

The operation is as follows: Sufficient water having been placed in the tub for the quantity of clothes to be washed, the lower end of the squeezer F is first adjusted as to distance from the plunging squeezer C by placing the pin g into the required hole of the stay f—that is to say, the lower hole, where you have clothes sufficient for the full capacity of the machine, and the middle or upper one as you have less. Where you place it in the lower one for a large amount of clothes, you then engage the notch on the outer end of the connecting-rod k with the pin h on the upper end of the arm G of the squeezer. The clothes are then placed between the two squeezers and the lid H shut down, and the machine is then ready to commence operations, which is effected by turning the crank fly-wheel E, which is continued until the operation is completed. The lid is then raised and the clothes removed piece by piece from the tub and passed through between the roll N and grooved roll M by turning the crank-handle v of the latter, which strips them of their water through the pressure exerted by the weight of the roll and

power of the spring O. After the whole have been thus treated the machine is again ready for a new charge. Should there not be sufficient left for a full charge, the squeezer F is pressed forward by depressing the stay f until the middle or upper hole, as the circumstances of the case may require, is forced over the pin g and the corresponding notch on the connecting-rod k made to engage with the pin h of the arm G of the squeezer F, when the machine is again ready to receive the clothes. Of course as many notches and holes may be made respectively in the connecting-rod k and stay f as may be deemed necessary to suit all quantities of clothes from a full charge to a single piece. In the operation of the plunging squeezer C it is so made and suspended that as it is pressed forward it will pass under the clothes and give to them a rolling motion as they are being gradually squeezed between it and the other, its suspension causing it on being withdrawn from the clothes to roll them over toward the other, whose motion is so regulated as to insure this motion of the clothes, so that they will always be in place and present a new surface to the action of the plunging squeezer, the one in this respect moving away quicker from the clothes than the other, and thus materially hastening the washing operation.

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

1. The combination of the swinging squeezer C with the adjustable squeezer F, both being arranged, constructed, and operated in the manner and for the purposes set forth.
2. The method herein described of adjusting the squeezer F and of operating the same so as to adapt the machine to wash a large or small quantity of clothes, as set forth.
3. The arrangement and combination of the grooved roll M, plain roll N, and spring O, the whole operating in the manner and for the purposes substantially as herein set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

THOS. R. MARKILLIE.

Witnesses:

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