

S. W. & J. F. PALMER.

Improvement in Clothes Wringers.

No. 121,657.

Patented Dec. 5, 1871.

Fig. 1.

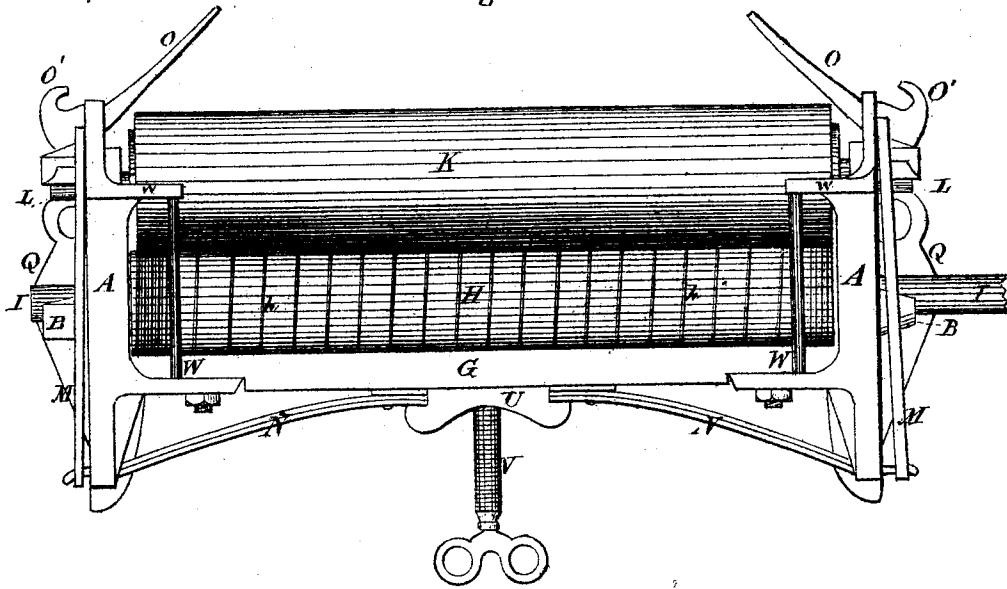
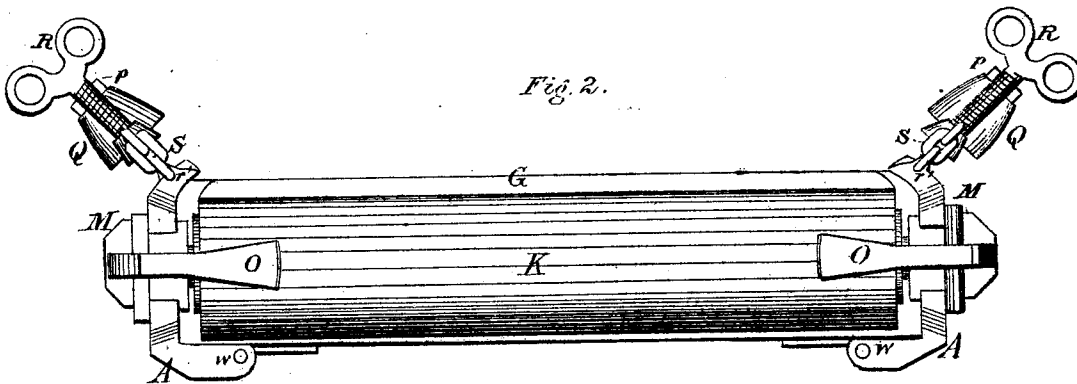


Fig. 2.



Witnesses:

Chas H Poole.

John R. Young

Inventors:

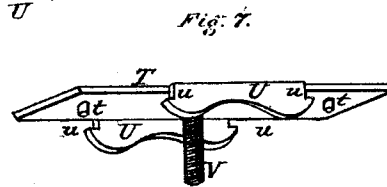
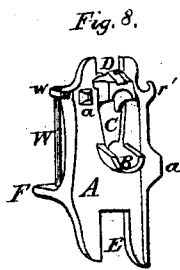
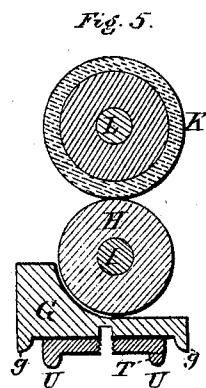
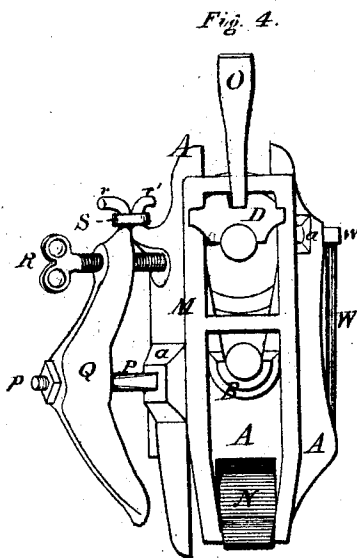
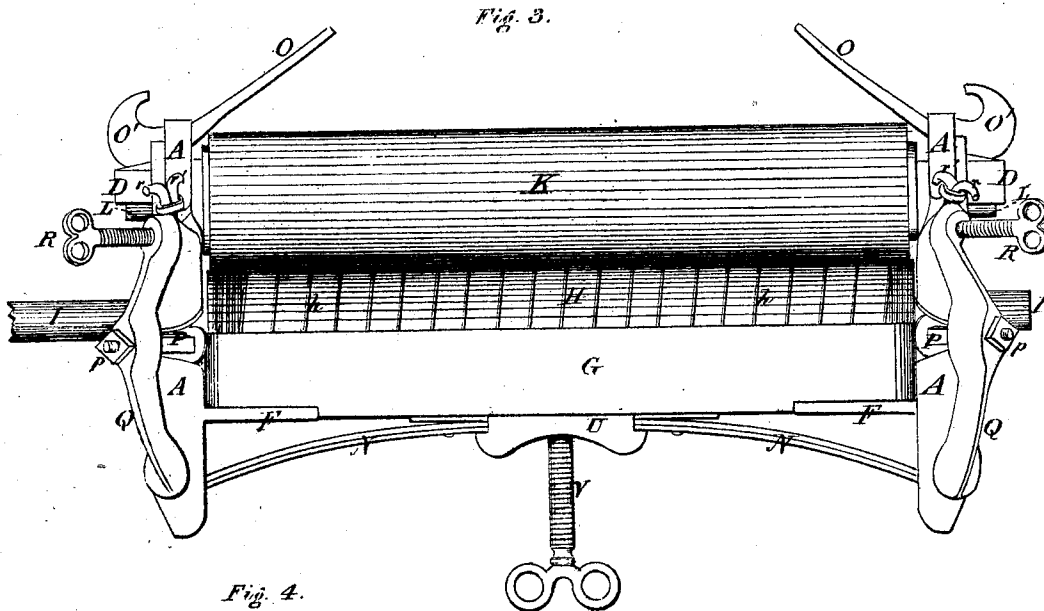
S. W. & J. F. Palmer, by
Prindle and Dyer, their
attys

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Witnesses.

Chas. H. Coole
John B. Young

Inventors
S. W. and J. F. Palmer, by
Orindle and Tyler, their
attys

UNITED STATES PATENT OFFICE.

SIDNEY W. PALMER AND J. FOREMAN PALMER, OF AUBURN, NEW YORK.

IMPROVEMENT IN CLOTHES-WRINGERS.

Specification forming part of Letters Patent No. 121,657, dated December 5, 1871.

To all whom it may concern:

Be it known that we, SIDNEY W. PALMER and J. FOREMAN PALMER, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Wringers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a front elevation of our device. Fig. 2 is a plan view of the upper side of the same. Fig. 3 is an elevation of the inner side of said device. Fig. 4 is an end elevation of the same. Fig. 5 is a vertical cross-section of the rollers and frame. Fig. 6 is a perspective view of one of the cam-levers used for applying to said rollers the pressure of the springs. Fig. 7 is a like view of the spring-holder, and Fig. 8 is a perspective view of the frame end detached.

Letters of like name and kind refer to like parts in each of the figures.

Our invention is an improvement upon a class of devices termed wringers used for expressing water from washed clothing; and it consists principally in the peculiar construction of the wooden roller, and in the means employed for securing the same to or upon its shaft, substantially as is hereinafter shown. It consists, further, in the peculiar construction of the cam-levers employed for adjusting the inward pressure of the rollers, substantially as and for the purpose hereinafter set forth. It consists, further, in the construction and combination of the cam-levers, links, and springs, substantially as and for the purpose hereinafter shown and described. It consists, further, in the construction and combination of the links, springs, and boxes, substantially as and for the purpose hereinafter specified. It consists, further, in the peculiar construction and combination of the springs and holder, substantially as and for the purpose hereinafter shown. It consists, further, in combination, with the springs and their holder, of an adjustable tension-screw, substantially as and for the purpose hereinafter set forth. It consists, further, in the peculiar construction of the shed by means of which water is prevented from dripping upon the springs, substantially as is hereinafter shown and described. It consists, further, in the construction and combination of the clamp, the adjustable pivotal bolt, and the set-screw, substantially as and for the

purpose hereinafter specified. It consists, further, in combining with said clamp and pivotal bolt a rubber band, substantially as and for the purpose hereinafter specified. It consists, finally, in the guards for preventing the clothes from passing outward from between the ends of the rollers, substantially as is hereinafter set forth.

In the annexed drawing, A represents one of the metal ends of the frame, provided at or near its center, vertically, with a semicircular bearing, B, from which extends upward an opening, C, having toward its upper end parallel sides, within and between which is fitted a movable box or bearing, D. The lower portion of said frame is provided with a second opening, E, the object of which will be hereinafter explained; while from its inner face, and near its lower end, extends horizontally inward a lug, F, by means of which said frame is attached to or upon a wooden bar, G. Within the frame thus constructed is placed a driving-roller, H, the projecting ends of its shaft I being fitted to and resting within the boxes B; while a second roller, K, is placed above and in contact with said roller H, and has the ends of its shaft L contained within the boxes D, the latter being placed above said shaft. Fitted over the box E, and between suitable lugs *a* upon the outer face of the frame A, is an open metal strap, M, (having the form shown in Fig. 4,) the lower end of which embraces the projecting end of a spring, N, that is placed against the lower side of the bar G at its center; and from thence extends outward and sufficiently downward so as to exert a downward pressure upon said strap, and through the same and said box D upon the upper roller K, and holds the latter firmly against and upon the lower roller H. In order that the pressure of the spring upon the upper roller may be suddenly increased when desired, a cam-lever, O, is fitted to or upon the upper end of the straps in such position that, when the free end of said lever is turned outward, its cam-shaped end O' shall bear upon the upper side of the box D and raise said strap. A flattened place, *o*, upon the cam end O' of the lever enables the latter to be sustained in position midway between its least and greatest enlargement. Fitted loosely within a slot provided within the lug *a* is the squared head of a bolt, P, which from thence extends horizontally and diagonally outward, and is provided upon its outer end with a nut, *p*. A clamp or jaw,

Q, having the form shown in Fig. 4, is placed over the outer end of the bolt P, where it is held in position by means of the nut *p*. Near the upper end of said jaw is a set-screw, R, which passes through a suitable threaded opening within the same, and has its inner end bearing against the contiguous portion of the frame A.

As thus constructed it will be seen that, if the set-screw R be turned inward, the upper end of the jaw or clamp will be forced outward and its lower end inward so as to confine anything placed between the same and the corresponding portion of the frame.

Upon the upper end of the clamp Q is formed a hook, *r*, around which, and around a corresponding hook, *r'*, formed upon the contiguous portion of the frame, is placed a rubber strap, S, the office of which is to hold in place and draw inward the upper end of said clamp, and, using the set-screw R for a fulcrum, press the lower end of said clamp outward so as to enable it to be more readily passed over the edge of a tub.

One end of the shaft I being provided with a crank, the machine is secured upon the edge of a tub, and operated in the usual manner by rotating the rollers and passing the wet clothing between the same. When unusually thick clothing is to be wrung the cam-levers may be turned inward so as to give the least possible inward pressure upon the rollers. When clothing of a less thickness is to be wrung said levers may be turned outward until the flattened place *o* of each rests upon the box of the upper roller, and the pressure is somewhat increased; but in case of very thin fabrics said levers should be turned outward until the largest portion of each cam bears upon the boxes and the full force of the spring is thrown upon the rollers.

As the cost of a spring and its liability to breakage increases with its length it becomes important to decrease the original cost of the spring X, and lessen the expense of its removal, if necessary, to which end the following-described means are employed: A metal plate, T, having the form shown in Fig. 7, is provided upon either side and at its edges with two flanges, U, which extend longitudinally outward in either direction from the center of said plate, and are each provided at or within their ends with notches *u*, which correspond in vertical dimensions to the thickness of the spring. Upon the lower side of said plate, near each end, is provided a stud, *t*, which extends vertically downward to a distance slightly greater than the thickness of said spring. The spring is now made in two sections, the inner ends of which are placed within the notches *u*; while suitable corresponding openings provided in and through each section receive the studs *t* and insure the lateral position of the parts. As thus arranged the springs are easily detached from their holder; but when attached thereto are capable of sustaining as great an upward pressure as though formed from one piece of metal. A screw, V, passing upward through a correspondingly-threaded opening within the spring-holder, with its upper end bearing against the lower side of the bar G enables the tension of the spring

to be increased at will. The spring and its attachments are protected from the dripping water by means of a bead or flange, *g*, which is secured to and extends downward from either side of the bar G, the effect of said flanges being to cause the water to drop from their lower edges instead of passing inward beneath said bar.

In order to prevent the clothes from passing outward beyond the ends of the rollers a lug, *w*, is extended horizontally inward from corresponding sides of each frame end A near their upper ends, and contains and supports one end of a metal rod, W, which from thence passing vertically downward has its lower end secured within the lug F, the whole forming a guide for the inwardly-passing fabrics and an effectual guard against the further outward passage of the same in a lateral direction.

In constructing the lower or driving-roller an opening slightly smaller than the shaft is bored in and through the block of wood from which said roller is to be made; said opening and the shaft are then coated with coal-tar, and the latter warmed and driven into the former; after which said wood is turned to size and shape.

One end of a brass wire, *h*, is now secured around a tinned or galvanized-iron nail, and the latter driven into the roller near one end; after which said wire is wound tightly around said roller until the same is sufficiently strengthened, when the opposite end of said wire is secured as before.

In applying the wire to the roller the ends of the latter should be wound; but, if desired, the body of said roller may remain unwound except at its center. It is believed, however, that the plan shown is most advantageous.

By this construction of a wringer we secure the hereinafter-named advantages in addition to those before named. First, we avoid the expense of rubber for the lower roller; while, by a slight increase in the size and thickness of the upper roller, is secured an equal if not greater degree of elasticity than is usually deemed essential. Second, the lower wooden roller is secured upon its shaft more firmly than would be possible were rubber employed; and thereby we are enabled to use said roller as a driver, and dispense with the expense and friction of gearing. In addition to which this method of operating the rollers renders their relative sizes of no importance; while in the geared rollers the slightest difference in size will prevent their contiguous surfaces from moving with a uniform velocity, and cause slipping and wear. Third, the method of constructing and combining the springs materially lessens their original cost, and involves less expense for repairs in case of breakage. Fourth, the construction of the clamps, and the employment thereon of the rubber bands insures at all times the proper position of the former with their lower ends open and ready for engagement with the tub.

Having thus fully set forth the nature and merits of our invention, what we claim as new, is—

1. The wooden roller H, constructed as described

and secured upon its shaft I, in the manner substantially as shown.

2. The cam-lever O, provided with the cam O' and flattened portion o, in combination with the box D, with the connecting-link, and with the spring N, substantially as and for the purpose set forth.

3. The cam-levers O, the links M, and the spring N, combined substantially as and for the purpose shown and described.

4. The boxes B and D, the cam-levers O, the links M, and the spring N, when the several parts are constructed and combined, substantially as and for the purpose specified.

5. The spring-holder T, provided with the flanges U, notches u, and studs t, in combination with the spring N, substantially as and for the purpose shown.

6. In combination with the spring N and holder T the adjustable tension-screw V, substantially as and for the purpose set forth.

7. The wooden bar G, provided with the beads or flanges g, and combined with the spring N and

its attachments, substantially as and for the purpose shown and described.

8. The bolt P, the clamp or jaw Q, and the set-screw R, when constructed and combined with each other and with the frame A, substantially as and for the purpose specified.

9. In combination with the bolt P, jaw Q provided with the hooked end r, set-screw R, and frame A provided with the hook r', the rubber band S, substantially as and for the purpose shown.

10. In combination with the frame end A, provided with the lugs F and w, and with the rollers H and K, the guards W, when constructed substantially as and for the purpose shown.

In testimony that we claim the foregoing we have hereunto set our hands this 21st day of September, 1871.

SIDNEY W. PALMER.

J. FOREMAN PALMER.

Witnesses:

HORACE F. COOK,

JOHN G. HOSMER.

(91)