

(No Model.)

2 Sheets—Sheet 1.

C. WHEELER, Jr.
CLOTHES WRINGER.

No. 500,984.

Patented July 4, 1893.

Fig. 1.

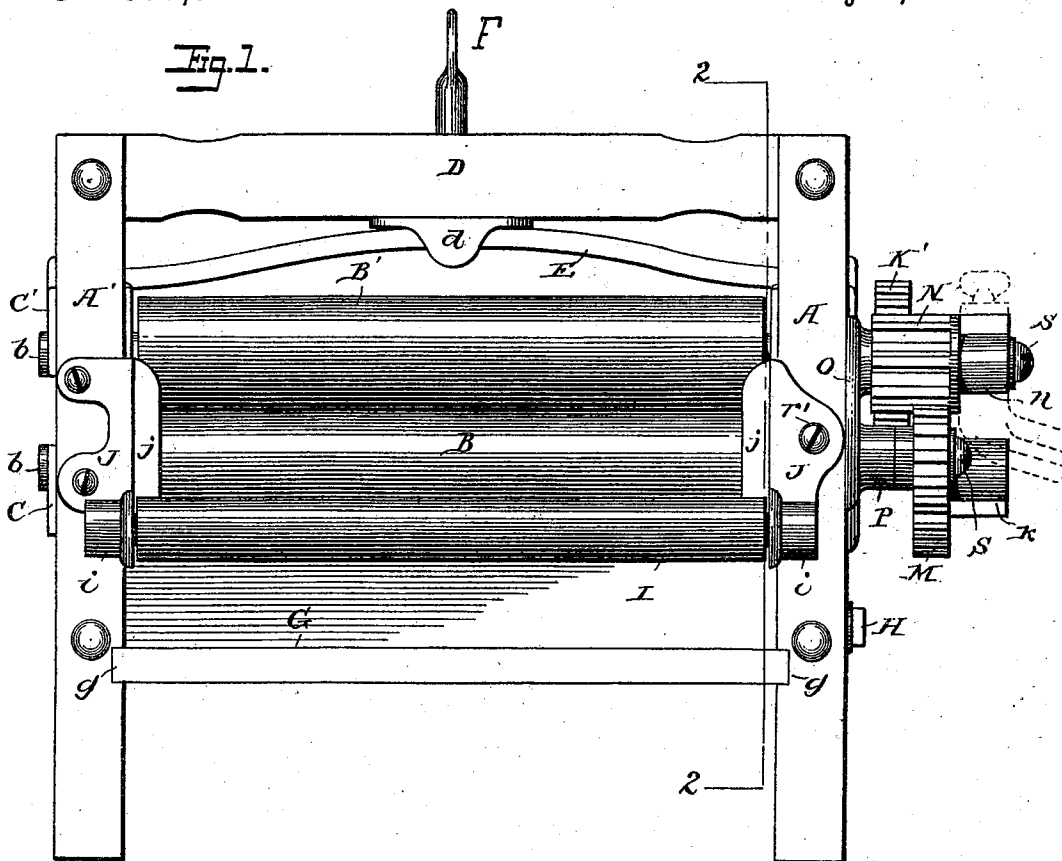
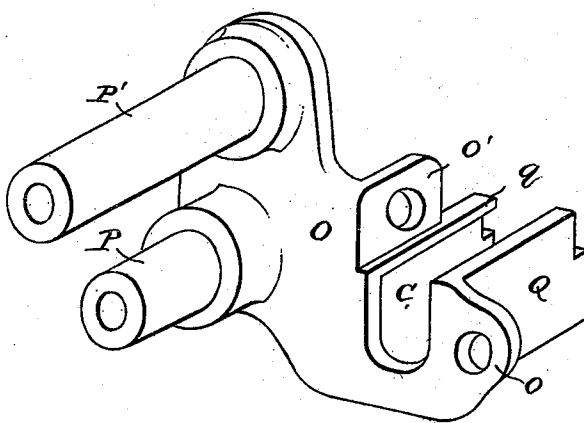


Fig. 5.



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2 Sheets—Sheet 2.

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Fig. 2.

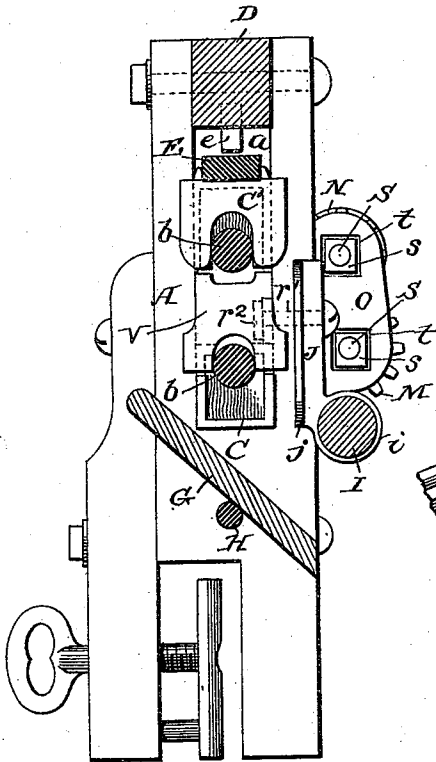


Fig. 3.

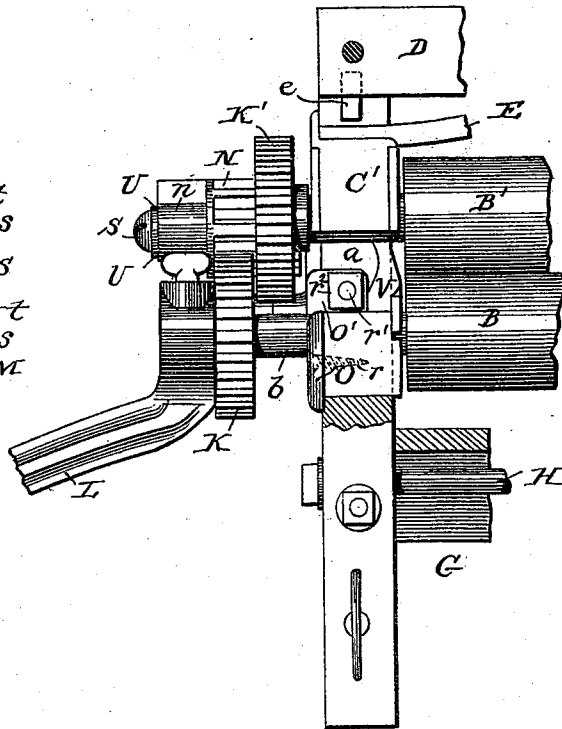


Fig. 5.

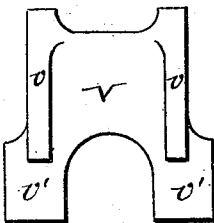


Fig. 4.

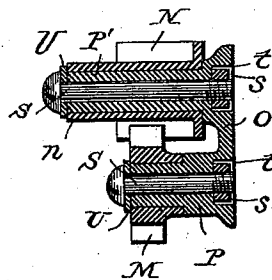
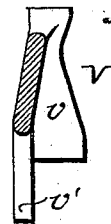


Fig. 7.



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UNITED STATES PATENT OFFICE.

CYRENUS WHEELER, JR., OF AUBURN, NEW YORK.

CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 500,984, dated July 4, 1893.

Application filed September 15, 1892. Serial No. 445,983. (No model.)

To all whom it may concern:

Be it known that I, CYRENUS WHEELER, Jr., a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Clothes-Wringers, of which the following is a specification.

My invention relates to clothes-wringing machines, having especially for its object to improve the style of such machines known as "purchase gear" machines, in which the rolls are mounted in a wooden frame-work;—although the various features of my invention are applicable to machines of different styles from that shown in the drawings herein referred to, and which I will presently describe.

The invention consists in the several novel features of construction of the various parts of the wringer to be hereinafter particularly pointed out and described.

In the drawings Figure 1 is a front view of a wringer embodying my improvements. Fig. 2 is a vertical section taken on the line 2—2 on Fig. 1, looking toward the gear end of the machine. Fig. 3 is a rear elevation, parts being in section, of the gear end of the wringer. Fig. 4 is a section through the intermediate gear wheels and their supports. Fig. 5 is a perspective view of the plate which is provided with the fixed axles for the intermediate gear wheels, and with the seat for the bearing for the lower roll. Figs. 6 and 7 are respectively an elevation and a vertical section of the stop and deflecting plate V.

In the drawings A A' designate the side or end frame pieces of the wringer, which are, in the style of wringer shown, constructed of wood, and are provided with straight vertically arranged slots *a*, to receive the shafts *b* of the rolls B and B'. The lower roll, B, is stationary,—by which I mean that it has no vertical movements,—and it is mounted in stationary bearings C, situated in the bottoms of the slots *a*, and which, by preference, consist of properly shaped blocks of wood which have been boiled in tallow so as to require no oiling. The upper roll, B', is vertically movable, and its shaft turns in the bearings C', which are free to move up and down in the slots *a*.

D is the cross bar connecting the upper ends of the end frame pieces, and E is the

spring mounted below this cross bar, and bearing upon the upper roll bearings C'.

F is the screw by which the pressure of the spring is regulated.

The spring rests between the flanges of a guide *d* arranged centrally thereof, and is prevented from having too much vertical play in the slots *a* by the pins or bolts *e* which project downward from the cross bar to within a short distance of the upper surface of the spring directly over the bearings C'.

G is the inclined drip board arranged between and connecting the frame pieces A and A' below the rolls. Its ends are seated in shallow grooves *g* in the end pieces A A', which are drawn close against its ends by the long bolt H passing between the end pieces under the drip board. The rear or outer edge of the drip board extends well up toward the center of the lower roll, and its front edge extends quite to the front edges of the pieces A and A'. By arranging the drip board and connecting it with the end frame pieces as I have just described, no vertical boards between the end frame pieces are required at either the front or the rear edge of the drip board, the drip board of itself carrying the water squeezed from the clothes back into the tub, and also serving to keep the end pieces vertical and in proper relation to the other parts of the wringer.

I is a roller mounted in bearings *i* carried by the brackets J secured to the front or inner edges of the end pieces A A'. This roller is mounted opposite the lower portion of the roll B and prevents the dragging of the clothes as they are being fed between the rolls thus greatly lessening the wear thereon. The brackets J are provided with inwardly projecting flanges *j* which overlie the ends of the rolls and prevent the clothes or fabric being wrung from crowding beyond the ends thereof. The shafts *b* of the rolls project through the slot in the end frame piece A, and beyond the outer face thereof, and have mounted upon them the gear wheels K and K' which are larger than the rolls and lie in different vertical planes as shown in Fig. 3. The hub *k* of the wheel on the lower roll shaft is adapted to receive the hand crank L by which the wringer is operated.

M is the intermediate wheel which meshes

with the lower gear wheel K, and N is the other intermediate wheel arranged between the wheels M and K'. The wheel N is the smallest of the gear train just described, and its hub *n* is adapted to receive the crank L, which is applied thereto when heavy work is being done. The arrangement of the wheels of this gear train is the same as that shown, described and claimed in my application filed August 19, 1892, Serial No. 443,540, that is to say, the gear wheels M and N are mounted upon fixed axles arranged in front of the rolls. The advantages of this arrangement of the roll drying gearing are fully set forth in the said application, and need not therefore be described herein.

O is a metal plate secured to the frame piece A at the gear end of the wringer. It is provided with two hollow stud axles P and P' upon which are mounted respectively the intermediate gear wheels M and N. These axles are in front of and parallel with the rolls B and B'. From the opposite face of the plate O there projects a box or chambered portion Q in which is mounted the bearing C for the lower roll shaft, this box being fitted to and resting in the lower portion of the slot *a* in the end frame piece.

o is an extension of the plate O beyond the box Q, perforated for the passage of the screw *r* which secures the plate O to the end piece A.

o' is a small plate arranged at right angles to the plate O, and above the box or bearing seat Q. It is perforated and the bolt *r'* which passes through it also passes through a perforation in the plate of the bracket J in which the roller I is mounted, so that this one bolt *r'* secures these two metallic parts,—J and O,—to the frame piece A. The rib *q* situated immediately below the plate *o'* and which assists in holding the bearing C in place, also prevents the nut *r*² on the bolt *r'* from turning.

SS are screw bolts which are passed through the longitudinal holes in the axles P and P' and are held therein by the nuts *s s*, seated in the recesses *t t* in the rear face of the plate O. Between the headed ends of the screw bolts and the gear wheels N and M are placed the washers U, which are larger than the ends of the axles and serve to hold the gear wheels in proper working position. The bolts S add strength and stiffness to the axles.

The portion of the plate O which is provided with the axles P and P' projects beyond the frame piece, as shown in Fig. 2, thus permitting easy access to the recesses *t* in the rear face of the plate, so that the gear wheels M and N can be easily removed and put on after the plate has been permanently secured to the frame-work of the machine.

It is desirable that the upper roll B' be prevented from being forced down by the adjusting screw F so far as to cause the rolls to be flattened to an undesirable extent, and it is also desirable that some means be employed to prevent the water which is squeezed out

beyond the ends of the rolls from falling upon the roll shaft bearings, and from running down outside of the tub, this latter objection being particularly liable to occur in wooden frame machines, from the fact that, the frame being a part of the clamps, the ends of the rolls are nearly over the edge of the tub. I avoid both of these undesirable results by means of a simple device which I will now describe. It consists of a little plate V—one at each end of the machine,—situated between the ends of the rolls and the inner faces of the frame pieces A and A', and partially in the slots *a* between the shafts *b* of the rolls. The plate is provided near each edge with a rib *v*, which ribs engage with the edges of the slot *a* and properly hold the plate. These plates rest upon some stationary part of the machine with their upper edges at such distance below the upper roll shaft bearings C' as it is desirable that these bearings should be moved vertically under the influence of the spring E and its adjusting screw. A convenient support for the plate V is the lower stationary bearing C for the lower roll shaft, and the plate is provided with two legs *v' v'* which straddle the lower roll shaft and rest upon the upper edge of the said bearing. As shown in Figs. 3 and 7, the plates V incline outward toward the top so that any water which may be forced out at the ends of the rolls will be caught by these plates and directed downward inside of the lower roll bearings and into the tub.

Without limiting myself to the precise construction and arrangement of parts as herein shown and described, what I claim is—

1. In a clothes-wringer, the combination of the frame-work having slotted end pieces, the rolls mounted in bearings in the slots, and carrying on their projecting shafts gear wheels larger than the rolls, the gear-supporting plate secured to one of the end frame pieces and provided with two outwardly projecting fixed axles, and with an inwardly projecting box or journal-bearing seat adapted to fit the lower end of the slot in the end piece, and the intermediate gear wheels mounted upon the said fixed axles in front of the rolls, and arranged to turn freely thereon and to mesh together and with the gear wheels on the roll shafts, substantially as set forth.

2. In a clothes-wringer, the combination of the frame-work having slotted end pieces, the rolls mounted in bearings in the slots, and carrying on their projecting shafts gear wheels, the gear-supporting plate O attached to the end piece A, and carrying two hollow outwardly projecting fixed axles P and P' and the inwardly projecting bearing seat Q, and the intermediate gear wheels mounted on the axles P and P', and the screw bolts passing through the axles for securing the wheels thereon, substantially as set forth.

3. In a clothes-wringer, the combination of the slotted end frame pieces, the rolls mounted therein, the upper roll being vertically

movable to a limited extent, the spring which forces the upper roll toward the lower one, and the stop plate V inclining outward toward the top and situated partially within the slot in the end frame piece, and resting
5 upon the bearing for the lower roll, the said plate serving as a stop for the upper roll and also to turn the water which overruns the

ends of the rolls back into the tub, substantially as set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

CYRENUS WHEELER, JR.

Witnesses:

CHAS. G. ADAMS,

CHARLES W. STORKE.