G. W. LEWIS.

WRINGER.

APPLICATION FILED MAR. 4, 1915.

1,208,339.

Patented Dec. 12, 1916.

2 SHEETS—SHEET 1.

Fig. 3.

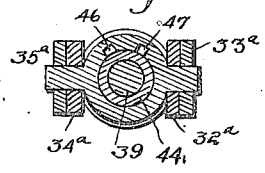


Fig. 2.

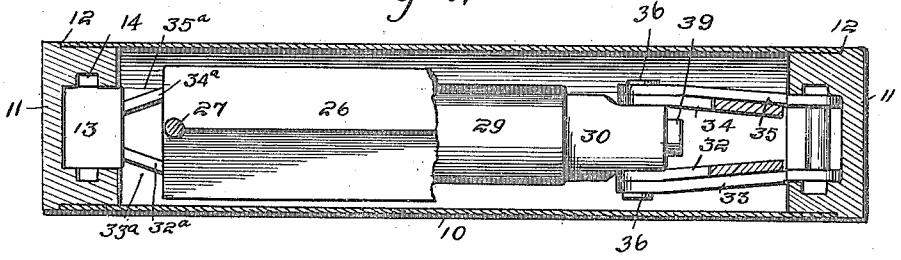
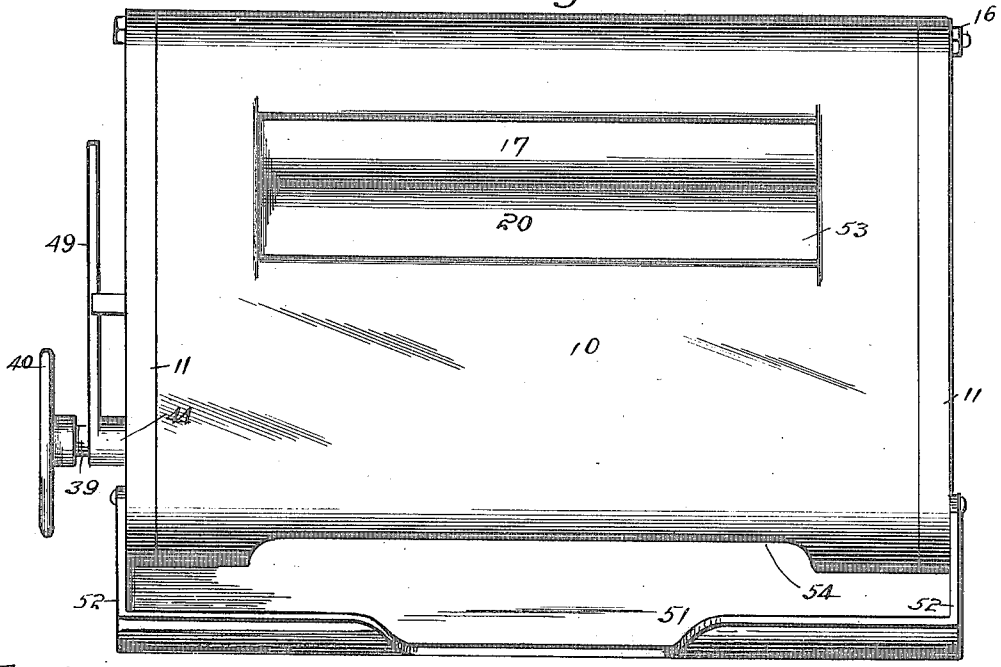


Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig 5

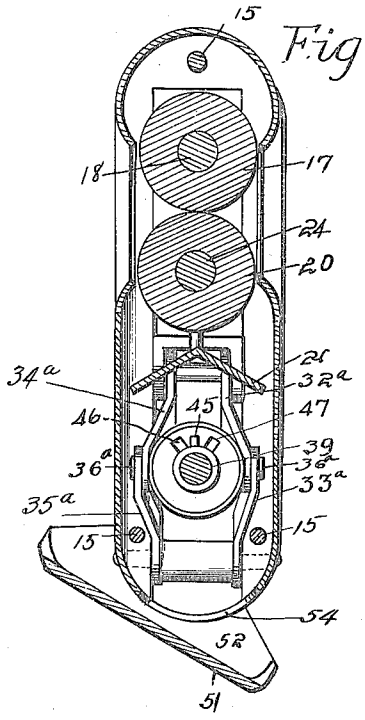


Fig. 6

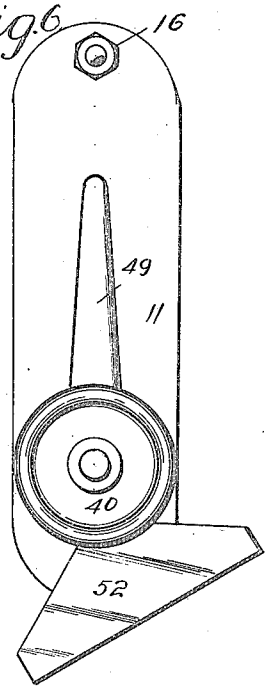
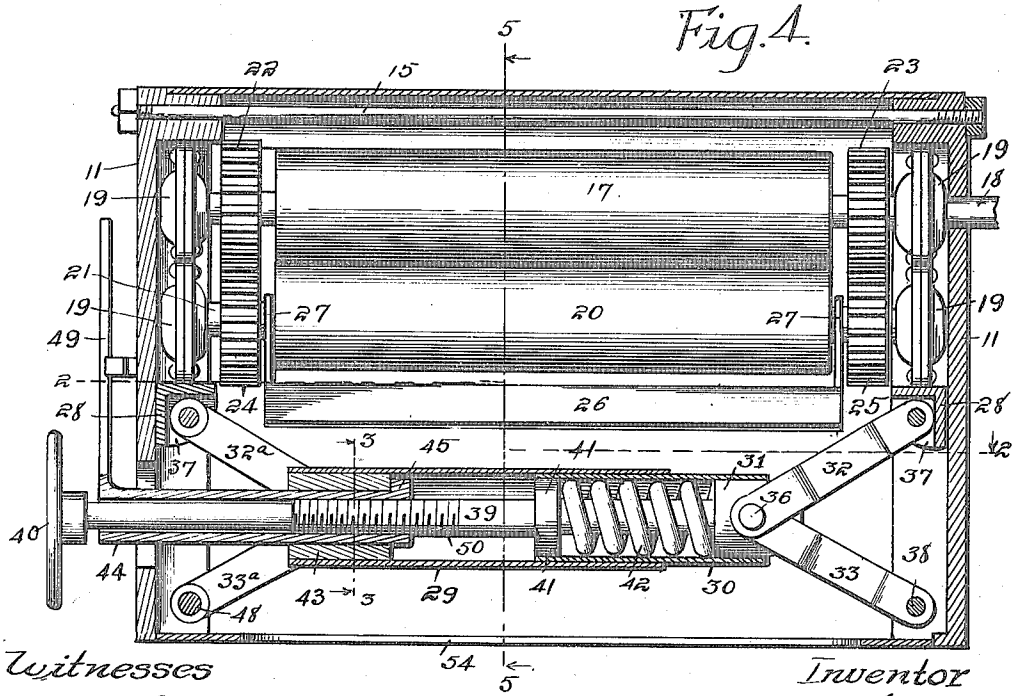


Fig. 4.



Witnesses

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GEORGE W. LEWIS, OF GRINNELL, IOWA.

WRINGER.

1,208,339. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed March 4, 1915. Serial No. 12,186.

To all whom it may concern:

Be it known that I, GEORGE W. LEWIS, a citizen of the United States, and resident of Grinnell, in the county of Poweshiek and State of Iowa, have invented a certain new and useful Wringer, of which the following is a specification.

The object of my invention is to provide a wringer especially adapted for power washing machines, of simple, durable and inexpensive construction.

A further object is to provide a wringer having a suitable supporting casing which serves as a protecting casing for the wringer parts, and also as a support for the rolls and other parts of the wringer.

Still a further object is to provide a wringer having means for yieldingly imposing tension upon the rolls for holding them together, and means for instantly releasing the tension device, the parts being so arranged that when the tension is released the rolls drop apart, so that not even the weight of one roll is imposed on the other roll.

Still a further object of my invention is to provide such a wringer having a tension device so constructed and arranged that parts thereof may be readily and quickly removed from the casing for repairs or replacing of parts.

Still a further object is to provide such a wringer having a tension device capable of being adjusted from outside the casing.

Still a further object is to provide such a wringer suitably adapted to support, and supporting a reversible water board.

My invention consists in the construction, combination and arrangement of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which:

Figure 1 shows a front elevation of a wringer embodying my invention. Fig. 2 shows a horizontal, sectional view taken on the line 2—2 of Fig. 4. Fig. 3 shows a vertical, transverse, sectional view taken on the line 3—3 of Fig. 4. Fig. 4 shows a vertical, sectional view through the casing, illustrating the manner of mounting the rolls and the tension device. Fig. 5 shows a vertical, transverse, sectional view taken on the line 5—5 of Fig. 4, and Fig. 6 shows an end elevation of my improved wringer.

In the accompanying drawings I have used the reference numeral 10 to indicate generally the casing in which the parts of my improved wringer are received and supported, which casing is substantially elliptical in vertical, transverse cross-section, as will be seen from the view shown in Figs. 1 and 5.

Opposite supporting end members 11 are provided, which end members may be cast or made of any suitable material. The members 11 fit in the opposite ends of the casing 10, and are provided with shoulders 12 which engage the edges of said casing. The inner faces of the end members 11 are provided with vertical slots 13. The upper portions of said slots 13 are provided with opposite lateral extensions 14, adapted to receive the flanges of the bearing boxes 19 hereinafter described. The end members 11 are held in position by means of rods 15 extending through them. The rods 15 are provided with nuts 16, as illustrated in Figs. 1 and 6.

Mounted on the upper portion of the casing 10 is an upper wringer roll 17, which is mounted on the shaft 18. The shaft 18 extends through the right hand end member 11, and is adapted to be operatively connected with any suitable source of power.

Received within the slots or recesses 13 of the end members 11 are bearing boxes 19, adapted to receive roller bearings for the shaft 18. Below the roller 17 is a roller 20, having a shaft 21 mounted in similar bearings 19.

On the shaft 18 are gears 22 and 23 in mesh with gears 24 and 25 on the shaft 21. The water shed 26, inclined downwardly in both directions from its median line, is supported on the shaft 21 by means of arms 27, and is adapted to protect the parts below the rollers from the water dripping down from the rollers.

The following means are provided for imposing an upward yielding tension on the roller 20, for holding the rollers 17 and 20 together: Slidably mounted in the slots or openings 13 just below the lower bearings 19, are angle irons 28, adapted to reciprocate vertically in said slots. Mounted below the water shed 26 are two sleeves 29 and 30, one of which is telescopically received in the end of the other. Mounted in one end of the sleeve 30 is a solid body or cylinder 31. Four links 32, 33, 34, and 35 are mounted on the cylinder 30 by the trunnions

36 on the walls of the cylinder 31. The links 32 and 34 extend upwardly, and are secured to end members 37 formed on the angles 28. The links 33 and 35 extend downwardly and are mounted on the pins 38 secured to or in the end member 11. Slidably mounted in the body 31 extending through the sleeves 30 and 29 and to a point outside the casing at the end thereof opposite the links 32, 33, 34 and 35, is a shaft or rod 39, on the outer end of which is a hand wheel 40. On the rod 39 within the cylinder 30, and spaced from the body 31, is a collar 41. Mounted within the cylinder 30 on the rod 39 between the collar 41 and the body 31, is a coil spring 42. In the end of the cylinder 29 opposite the cylinder 30, is a bushing 43 having a central opening in which is received the sleeve 44. The sleeve 44 is provided at its inner end within the cylinder 29 with an upwardly extending lug 45. The interior of the bushing 43 is provided at each side of the upper middle line of the opening therein, with two longitudinal grooves 46 and 47, so arranged that when the sleeve 44 is rotated to the proper point the lug 45 may be received and slide in one or the other of the grooves 46 and 47.

Links 32^a, 33^a, 34^a and 35^a similar to the links 32, 33, 34 and 35 already described, are secured to the bushing 43. The links 32^a and 34^a are pivotally secured to the ends 37 of the angle iron 28. The links 33^a and 35^a are secured by a pin 48 to the lower end of the left hand end member 11. On the outer end of the sleeve 44 is a handle 49. A part of the rod 39 is screw threaded at 50, and is received within the screw threaded portion of the sleeve 44.

Below the casing 10 is a reversible water board 51 having upturned ends 52 pivoted to the members 11. The casing 10 is provided with opposite slots 53 for admitting material to the rollers 17 and 20. The lower end of the casing is open at 54 to allow water to pass out.

In the practical use of my improved wringer it is mounted upon a tub or washing machine in any suitable way, and may be used either as a swinging wringer or as a stationary wringer, depending upon the method of mounting employed. The parts having been assembled, the hand wheel 40 may be rotated to compress the spring 42 for imposing any desired tension on the rollers. If the fingers of the operator or any delicate fabric should be caught in the rollers, or if the fabric should become wound on one of the rollers, the tension may be instantly released by moving the handle 49 in either direction. The lug 45 will then enter one of the slots 46 or 47, whereupon the spring will force the sleeve 44 and the rod 39 longitudinally outwardly, thereby releasing the tension on the rollers and permitting the lower roller to drop away from the upper roller. The rod 39 may then be secured upwardly and pushed back to position and the handle 49 moved to upright position, whereupon the hand wheel 40 may be rotated for again imposing proper tension on the rollers.

With a wringer of this kind all the moving parts except small portions of the rollers, are protected by the casing so that there is no danger of catching the fingers of the operator or parts of the material passing through the wringer, in the cogs or other mechanism.

It will readily be seen that one end of the device can be placed in position, and that the mechanism can then be assembled and inserted into the casing from the other end, and the bolts or pins 38 and 48 may be secured in position and the rods 15 assembled, so that the assembling of the wringer is easily and quickly accomplished.

The tension of the rollers is imposed from below. With the ordinary wringer tension is imposed from above, so that even if there is a releasing device, it only releases the spring tension and leaves the weight of one roller imposed on the other. With my wringer the release of the tension permits the lower roller to drop away from the upper roller entirely.

The tension imposing mechanism is entirely protected from water by means of the water shed device 26, and telescoping tubes 29 and 30.

The device when completed may be easily handled as a unit, and has a good appearance.

It will be understood that changes may be made in the details of the construction of my improved wringer without departing from its essential features and purposes, and it is my intent to cover by this application any such changes which may be included within the scope of my claims.

I claim as my invention:

1. In a device of the class described, a casing provided with opposite openings in its walls, and having a removable end, a wringer roll mounted in said casing, a second wringer roll movably mounted within the casing with relation to the first roll, coacting gearing devices for imparting motion from one of said rolls to the other, means within the casing for holding the rolls together under yielding tension, and means extending to a point outside the casing for regulating said last named means.

2. In a device of the class described, a casing provided with opposite openings in its walls, and having a removable end, a wringer roll mounted in said casing, a second wringer roll movably mounted within the casing with relation to the first roll, coacting gearing devices for imparting mo-

tion from one of said rolls to the other, means within the casing for holding the rolls together under yielding tension.

3. In a device of the class described, a casing open at its bottom, and having opposite openings in its side walls, end members, shafts in said casing, rollers mounted on said shafts, bearing devices for said shafts in said end members one of said shafts being vertically slidable, coacting gearing devices on the respective shafts, means below said rolls for imposing yielding tension on said rolls, means extending to position outside said casing for controlling said last named means, and means controllable from outside the casing for instantly releasing said tension device.

4. In a device of the class described, a casing open at its bottom, and having opposite openings in its side walls, end members, shafts in said casing, rollers mounted on said shafts, bearing devices for said shafts in said end members, one of said shafts being vertically slidable, coacting gearing devices on the respective shafts, slidable members below the bearing devices for the lower shaft, a supporting member below said rollers, a link pivoted thereto and to one of said sliding members, a link pivoted to said supporting member and to said end member, a second supporting member, a link pivoted thereto and to the other of said sliding members, a link pivoted to said second supporting member and to the other end, a sleeve received in said second supporting member and extending to position outside the casing, said sleeve being provided with a lug on its inner end, said second supporting member being provided with spaced slots adapted to slidingly receive said lug and handle on said sleeve outside said casing, said sleeve being screw threaded, a screw threaded rod received in said sleeve and slidably extended through said first support, a limiting device on said rod, a spring mounted on said rod between said limiting member and said first supportnig member, said rod extending to position outside the casing.

5. In a device of the class described, a casing having a removable member, a pair of wringer rolls mounted in the upper portion thereof, said rolls having shafts, one of said shafts being extended through said casing, means for imparting rotation from one shaft to the other, and an instantly releasable adjustable tension device arranged within the casing and below the wringer rolls, adapted to impose tension on the rolls.

6. In a device of the class described, a casing, a pair of wringer rolls mounted in the upper portion thereof having shafts, means for imparting rotation from one shaft to the other, said casing having openings in its side walls on opposite sides of the wringer rolls on a level with the adjacent parts of the wringer rolls, an adjustable tension device located in said casing below said wringer rolls, and means for instantly releasing said tension device, located outside of said casing and at substantially the same height as said openings.

Des Moines, Iowa, January 7, 1915.

GEORGE W. LEWIS.

Witnesses:
F. P. MARVIN,
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