(Model.) 2 Sheets—Sheet 1.

J. J. BRINKERHOFF.

CLOTHES WRINGER.

No. 345,952. Patented July 20, 1886.

Fig. 1.

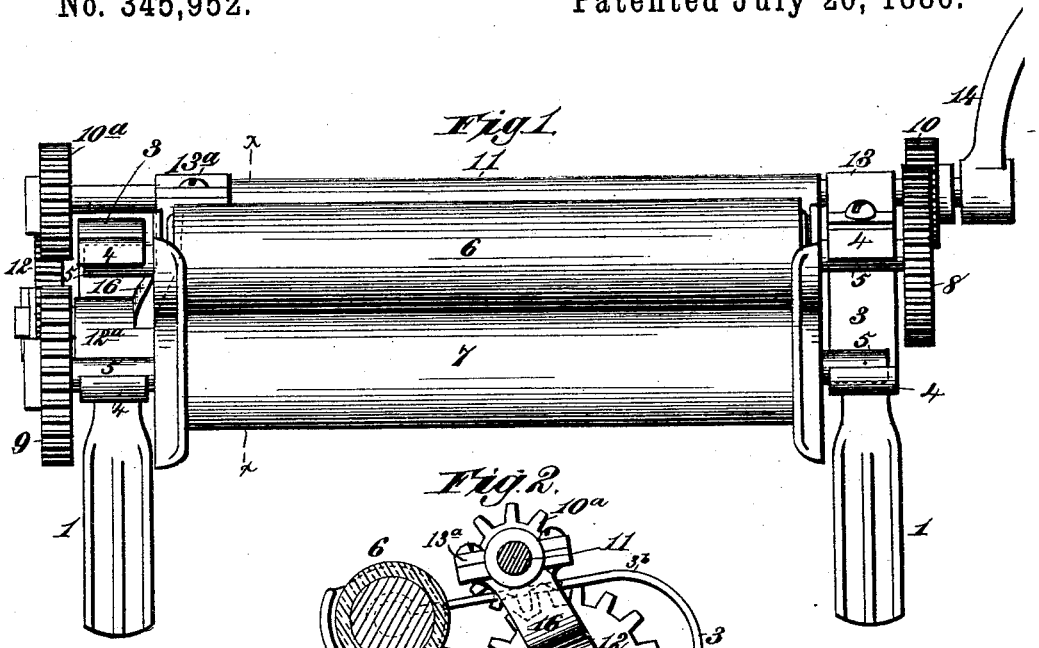


Fig. 2.

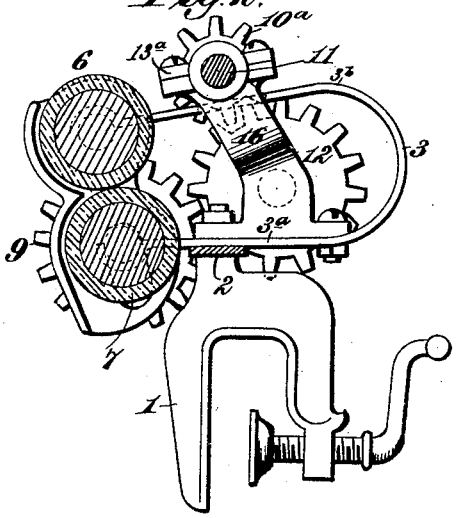
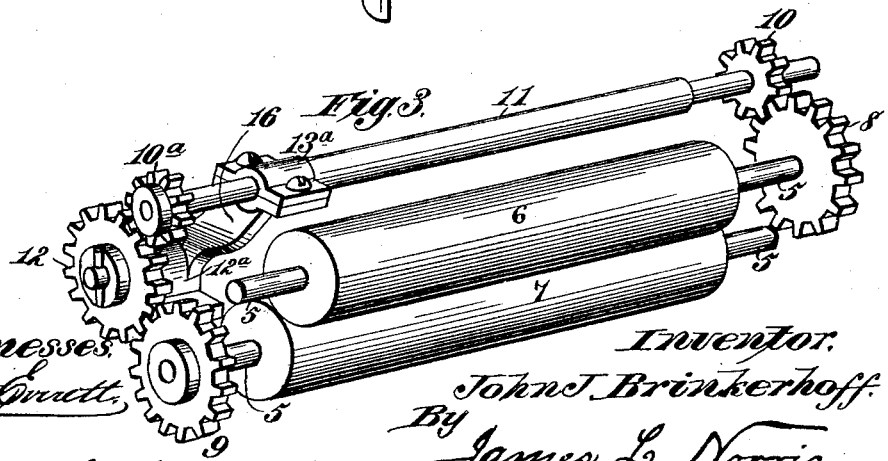


Fig. 3.



Witnesses.
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Dennis Dumby

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(Model.) 2 Sheets—Sheet 2.

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Fig. 4.

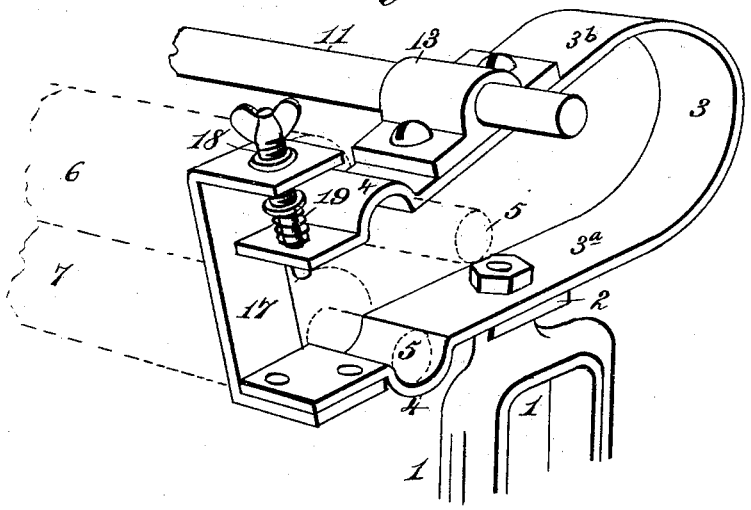
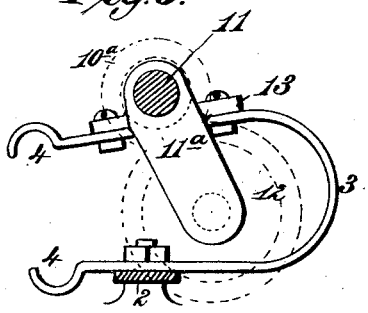


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOHN J. BRINKERHOFF, OF AUBURN, NEW YORK.

CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 345,952, dated July 20, 1886.

Application filed February 6, 1886. Serial No. 191,060. (Model.)

To all whom it may concern:

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

My invention relates to clothes-wringers; and the purpose thereof is, first, to provide the wringer-rolls with actuating-gearing so combined therewith that the rolls shall not only have synchronous revolution, but shall be capable of separation or other relative adjustment at either or both ends without unmeshing the gearing or impeding its natural, easy, and effective operation; second, to so organize the parts of a wringer that in all the movements of the upper or adjustable roll with relation to the other or lower roll there shall not only be no separation of the gears at either end of the machine, but that said gears shall at all times and during every adjustment occupy substantially the same relative position, retain the same mesh, and wear practically upon the same pitch.

It is my purpose, also, to accomplish the results proposed by simplifying the mechanism heretofore in use by reducing the number of essential parts, and thereby promoting the efficiency and durability of the mechanism, and greatly reducing the cost of its manufacture.

My invention consists in the several novel features of construction and combinations of parts, hereinafter fully set forth, and definitely pointed out in the claims annexed to this specification.

In the accompanying drawings, Figure 1 is a front elevation of a wringer in which my invention is embodied. Fig. 2 is a transverse section in the line *x x*, Fig. 1. Fig. 3 is a perspective view of the operative parts in correct relative position, one of the bearings of the counter-shaft and roll-compressing springs being removed. Fig. 4 is a perspective view of the crank end of the machine. Fig. 5 is a similar view showing a further modification.

In the said drawings, the reference-numeral 1 designates the clamps by which the wringer is attached to the tub, and which may be of any desired form. Upon each of these clamps is mounted, in any suitable manner, a connecting-bar or cross-strip, 2, to each end whereof is bolted a **U**-spring, 3, or, as it is sometimes termed, a **C**-shaped spring. These springs are preferably attached to the cross-bar 2 by their lower arms, 3^a, the point of attachment being near the extremity of each arm, whereby the free ends of said arms are arranged in about the same vertical plane.

The arms of springs 3 are provided near their opposite extremities with bearings 4, adapted to receive the journals 5 of the roll-shafts, and these bearings may be formed in the metal of the spring-arms, or may be separately constructed and attached.

The wringer-rolls 6 and 7 have their shafts journaled in the manner set forth. Upon the shaft of one roll, at the crank end of the machine, is mounted a gear, 8, and upon the shaft of the other roll, at the opposite end of the wringer, is mounted a similar gear, 9. The gear 8 meshes with a pinion, 10, carried by a counter-shaft, 11, and the gear 9 is driven by the same counter-shaft through an intermediate gear, 12, meshing with a pinion, 10^a, on the counter-shaft.

In the preferred form of construction shown in Figs. 1, 2, and 3, the counter-shaft 11 is journaled at the crank end in a bearing, 13, carried by the upper arm, 3^b, of the spring 3, said bearing being located just in rear of the bearing 4 of the upper-roll journal. These parts will, therefore, at all times and under all circumstances of possible adjustments, occupy the same relative position, and the gears 8 and 10 remain in mesh, wearing upon the same pitch. The counter-shaft is at this end prolonged to receive and carry the actuating-crank 14. At the other extremity of the counter-shaft I prefer to mount the bearing upon the lower arm, 3^a, of the spring 3, and to make it a part of the bearing for the intermediate gear, 12. In using this construction I mount upon the lower arm of said spring a bearing-piece, 16, rising preferably inside the spring and containing a support for the intermediate gear, 12, the bearing 13^a for the counter-shaft being upon or in the bearing-piece 16, at or near its upper end, which is carried outward above the arm of the spring 3, so as to permit any desired upward movement of

the roll 6 within practical limits. By this construction the axes of the intermediate gear and of the counter-shaft at that end of the wringer are carried by the same rigid support, and the upper roll is free to move upward to any extent necessary in the practical operation of the machine without in the slightest manner affecting the relations of the intermediate gear, 12, and the gear 10^a, or disturbing their mesh. Moreover, it will be seen that no matter what adjustment may be given the upper or movable roll, 6, relatively to the lower roll, 7, whether the separation takes place at one or at both ends, the actuating-gearing at both ends will remain at all times in the same mesh, acting and wearing practically upon the same pitch-line, and thereby greatly promoting the ease of operation and the durability of the machine.

As a modified construction, I may mount the end of the counter-shaft 11 in a box, 13, upon the upper arm of the spring, and journal the intermediate gear in an arm, 11^a, which may be rigidly attached to or form part of the bearing 13 of the counter-shaft, as shown in Fig. 5.

Every element of my organized mechanism is an active and positive factor in the production of the results sought; and owing to this arrangement the wringer is not only greatly simplified in construction and materially reduced in cost, but is rendered more effective in use, is more easily operated, and is far more durable.

What I claim is—

1. The combination, with the wringer-rolls and U-shaped springs, of a shaft mounted on one of said springs and provided with a driving-gear, said driving-gear meshing with a gear upon one of said rolls, substantially as described.

2. The combination, with the wringer-rolls and U-shaped springs, of a shaft mounted at one end upon one of said springs and provided with a driving-gear meshing with a gear on one of the wringer-rolls, said shaft being geared at its opposite end with and driving the other wringer-roll, substantially as shown and described.

3. The combination, with the wringer-rolls and U-shaped pressure-springs, of a counter-shaft provided with a pinion at each end and a crank, one of said pinions gearing with and operating the upper roll, and the other geared with and operating the lower roll, the said counter-shaft being mounted at the end geared with the upper roll in a bearing upon the upper branch of one of the U-shaped springs, substantially as shown and described.

4. The combination, with the wringer-rolls and U-shaped springs, of a counter-shaft provided with a pinion at each end and a crank, one of said pinions geared with and operating the lower roll, the other geared with and operating the upper roll, the said counter-shaft being mounted at one end in a bearing upon one of the U-shaped springs, and at the other end in a bracket attached to a stationary part of the wringer, substantially as shown and described.

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

JOHN J. BRINKERHOFF.

Witnesses:

J. BRINKERHOFF,

JOS. C. ANDERSON.