

UNITED STATES PATENT OFFICE.

GEORGE E. PECK, OF CHICAGO, ILLINOIS, ASSIGNOR OF THREE-FOURTHS HIS RIGHT TO AUSTIN WISWALL, OF SAME PLACE.

IMPROVEMENT IN CLOTHES-WRINGERS.

Specification forming part of Letters Patent No. 154,897, dated September 8, 1874; application filed September 1, 1874.

To all whom it may concern:

Be it known that I, GEO. E. PECK, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Clothes-Wringers; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a wringer constructed with my improvement. Fig. 2 is a sectional elevation of the same.

This invention relates to that class of wringing-machines wherein both rollers have imparted to them a positive movement by means of gear-connections with the prime motor. It is required that articles very various in thickness and rigidity shall pass between the rollers, and it is therefore necessary that they shall be enabled to separate or approach each other according to circumstances; and to accomplish this relative movement of separation or approach, without interfering with the action of the driving mechanism, gears with very long teeth have been employed, and also a third shaft arranged to drive the rollers from opposite ends, so that each roller is free to rise and fall at one end only, while the other end maintains its position in relation to its driving-gear; and also that the rollers have been geared together, and driven by a pinion working within an internal gear on the shaft of the lower roller, said pinion, shaft, and crank being mounted in a bracket bolted to the frame. The first-named plan is objectionable, because the rollers are liable to be separated so far that the cog-teeth will go out of gear; and the second-named plan is objectionable, because the rollers depart from their horizontal position as they separate. The third-named plan is objectionable, because the rollers will vary in speed as they separate, and because the said bracket will be very liable to become loose, and cause the pinion to fail in its operation.

It is also desirable that the power of the prime motor shall be so regulated as to make the operation easy under all circumstances, because machines of this kind are commonly operated by women who are not only ignorant of mechanism, and therefore unable to adjust

the pressure of the rollers, but are also deficient in physical strength.

My invention therefore consists of an arrangement of gears placed upon the ends of the roller-shafts, whereby the rollers are speeded down from the prime motor, and in a flexible section of one of said roller-shafts, so that the said rollers may separate without disturbing the mesh of the driving-gears.

That others may fully understand my improvement, I will particularly describe it.

A A is the frame of a wringing-machine, constructed in any usual and proper manner, and B B' are the elastic rollers, such as are usually employed—*i. e.*, constructed of india-rubber, with central axes or shafts *b b'* of iron. The shaft *b* has its bearings fixed in the frame A, while the bearings of the shaft *b'* are in movable boxes *c c*, which slide in the frame A A, so as to permit said rollers to be separated, as above set forth. Said separation is resisted by springs placed above said boxes, and the tension of said springs is regulated by a screw or other device. The shaft *b* of the roller B is provided at its outer end with a loose gear-wheel, D, to which the operative crank E is rigidly secured. The pinion D meshes with and drives a larger wheel or pinion, F, which is mounted at the end of the shaft *b'* of the roller B', so that said roller revolves at a less speed than the crank E. A gear-wheel, G, smaller than the pinion F, is rigidly secured also to the shaft *b'*, and meshes with the wheel H, of corresponding size, and rigidly secured to the shaft *b*, whereby the rollers B and B' revolve at the same speed, but at a slower rate than the crank, and all the gear-wheels have but two studs or axes only, and those two are the ends of the roller-shafts *b b'*. In order to enable the rollers B and B', to approach or recede from each other, as may be required, to permit the passage of objects of various thicknesses without disturbing the mesh of the driving-gears, I insert a series of jointed links, *J h i*, in the shaft *b'*, and mount the ends of said shaft, near to the roller, in the sliding boxes *c c*, so that, though out of line with the axis of the pinions F G, or even out of parallelism therewith, the said rollers B and B' will still revolve with

their relative speed unchanged, and without changing the mesh of their driving-gears. The pinions F G are rigidly secured to the stud *g*, which, when the links *J h i* are employed, forms the termination of the shaft *b'*, and said stud projects backward through the bearing-plate I, and is jointed to the link-piece *i*; but as the plate I is too thin to afford sufficient bearing-surface for the journal of said pinions, a hollow hub, *k*, is placed upon said plate, and the stud *g* passes through said hub; and in order to make the bearing-surface for the said pinions in their center, and thus relieve them from side strain, and also to economize space, said hub is placed on the outer side of said bearing-plate I, and projects into the recess or chamber *t* in the pinions F G. The stud *g* is rigidly secured to the pinion F, and projects backward through its bearing in the hub *k*, and is secured in place by a washer, *w*, and a pin, *p*. Said pin also serves as a joint-pin to connect said stud *g* with the link-piece *i*.

Having described my invention, what I claim as new is—

1. In combination, the elastic rollers B B' of a wringing-machine, the pinions H and F

G, rigidly secured to their respective shafts *b b'*, as set forth, and the pinion D, adapted to be operated by the crank E revolving on the end of the shaft *b* to drive said pinion and rollers, as set forth.

2. The elastic rollers B B', the loose pinion D, adapted to be operated by the crank E, and the pinion H upon the rigid shaft *b*, in combination with the pinions F G upon the stud *g*, and the joint-links *J h i*, (to connect said stud with the shaft *b*), as and for the purpose set forth.

3. The stud *g* and joint-links *J h i*, in combination with the hollow hub *k* upon the plate I, and the pinions F G, provided with the recess *t*.

4. The pinions F G, constructed with the recess *t*, and rigidly secured to the stud *g*, combined, in the manner shown and described, with the hub *k* upon the bearing-plate I, the washer *w*, and the joint-pin *p*, all as set forth.

GEO. E. PECK.

Witnesses:

A. WISWALL,
R. D. O. SMITH.