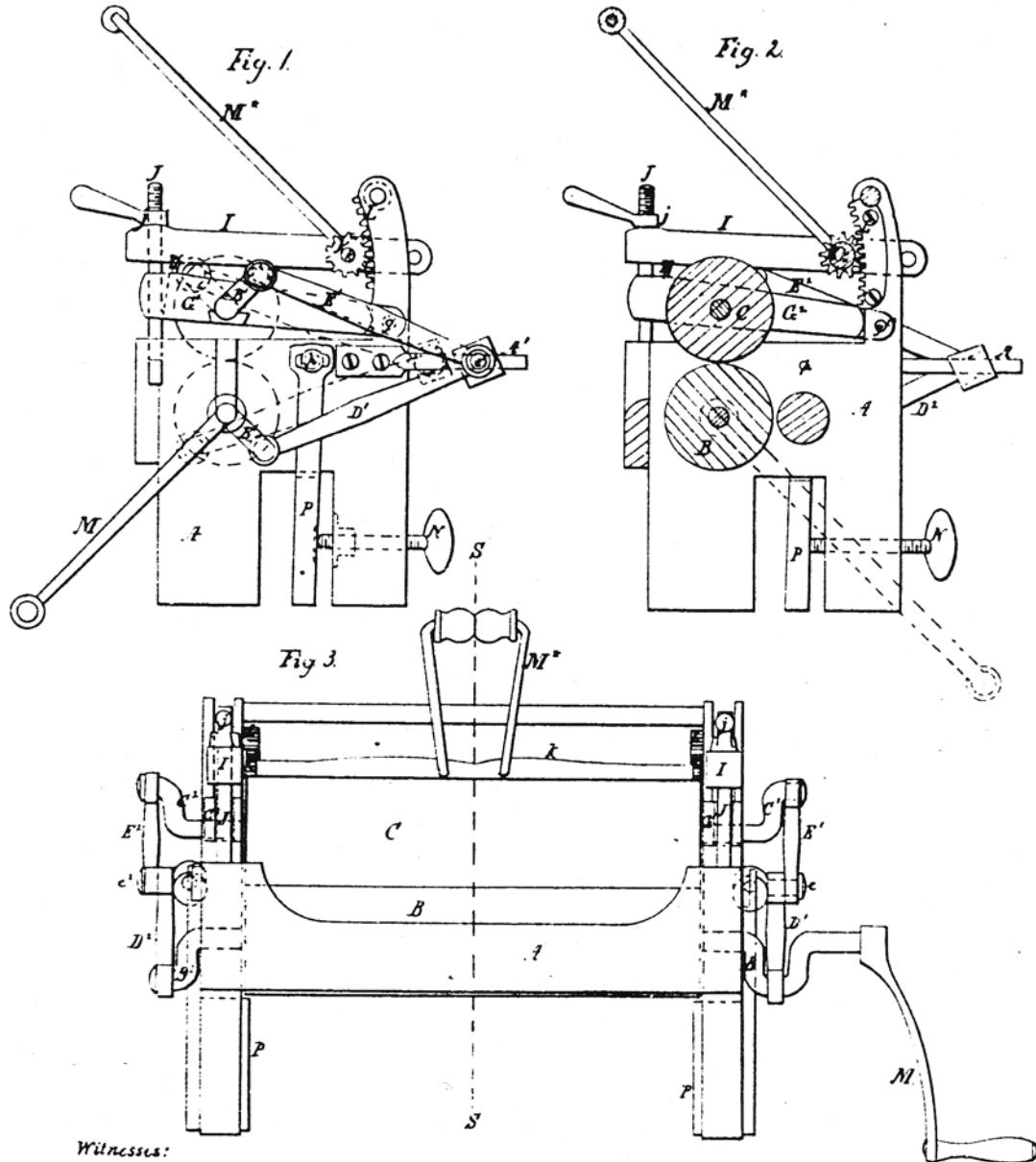


J. N. Pease,

Wringer,

N^o 49,043.

Patented July 25, 1865.



Witnesses:

R. W. Stetson

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Inventor:

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UNITED STATES PATENT OFFICE.

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WRINGING-MACHINE.

Specification forming part of Letters Patent No. 19,013, dated July 25, 1865.

To all whom it may concern:

Be it known that I, JAMES N. PEASE, of Panama, in the county of Chautauqua, in the State of New York, have invented certain new and useful Improvements in Clothes-Wringers; and the following is a full description thereof, and the accompanying drawings, forming part of this specification, represent one of the best forms of my machine.

Figure 1 is an end view. Fig. 2 is a section on the line S S in Fig. 3, and Fig. 3 is a front view.

Similar letters of reference indicate like parts in all the figures.

A is a rigid frame-work forked at the bottom to allow it to be placed upon a tub in the obvious manner.

B is the lower roller, and C the upper roller. These are made of rubber, secured upon shafts of iron, and the shaft of each is formed with a crank at each end, the crank at one end standing at right angles to the crank at the other end.

The crank B' carries a connecting-rod, D', which is adapted to fit over and slide on the fixed rod A' at the other end. The crank C' carries a connecting-rod, E', which is attached to the rod or connection D' by the pivot e'. The lower roll, B, is turned by the large additional crank M in the ordinary manner, and at each revolution the connections D' and E' slide outward and return on the rod A' in the manner which will be obvious.

The crank B² on the end of the roll B opposite to B' carries a connection, D², which at its other end slides on the fixed rod A². The crank C² carries the connection E², which is hinged to the rod D² by the pivot or rivet e².

The upper roll, C, is adapted to rise and sink either in a direction strictly vertical or more or less inclined or curved. It is preferable to make this motion in the arc of a circle, of which the center of the rods A' and A² forms the axis, because in such case a rise or fall of the roll C does not tend to lengthen or shorten the connections E' and E²; but if the motion of C is vertical, it will allow of the moderate rising and sinking usually required.

The operation of the connections is very simple. When the rolls are put severely to work the upper roll is liable to stop unless some

means be introduced to compel it to turn at the same rate as its mate. Ordinary gearing does not well allow of the vertical motion of the roll C, because the gearing becomes disconnected; but my device compels both rolls to turn together and allows them to diverge and again approach freely. The connections D' and D², being moved outward and inward on their respective slides A' and A², compel a corresponding movement of the connections E' and E², and consequently compel the revolution of the upper roll, C, at a proper rate, whether it bears directly upon B or is considerably elevated by treating a thick mass of clothing. The cranks B' and B², being set quartering or in planes at right angles to each other, or thereabout, as practiced with locomotives and the like, allow one to be effective while the other is on the "dead-point;" so the rolls are always certainly and powerfully connected.

G' is a stout lever hinged at g'. G² is a corresponding lever hinged at g² to the framing A. The shaft of the upper roll, C, is carried in holes in these levers, as indicated.

H is a narrow bearing-piece.

I is a lever which stands above G', and which is adapted to press on the piece H, so as to produce a sufficient pressure on the clothes passing through the rolls B C, there being corresponding levers and connections on each side of the machine to press down both ends of the roll C.

The bolts J, fixed on the frame-work A, serve both as guides for the levers G' and G² and as fulcrums for the levers I. The nuts j, fitted to be adjusted on the bolts J, press on the upper faces of the levers I, either directly or through suitable washers or bearing-pieces, and by being set at various heights by the obvious process of turning them correspondingly affect the position of the fulcrums of the levers. Screwing down on the nuts j induces a greater pressure on the goods being wrung, other things being equal.

K K are gear-wheels mounted to mesh with the racks L L on the framing. The wheels K are fixed on the shaft k, which is carried in holes or bearings in the levers I, and may be partially turned by the hand-lever M*. In operating my machine it is common to take hold

the crank M with the right and the lever M* with the left hand, and as the crank M is turned the hand-lever M* is raised and lowered as required to alternately tighten and relax the rolls, it being obviously proper to let the roll C rise when a thick article is being wrung and sink again with force when it has passed and a thinner mass is being treated.

The operation of my gearing K and rocks L differs from cams which have been before used to confine the rolls of wringers, because cams are subject to greater friction. My levers I might, if preferred, be connected to the framing at L by a flexible strap of rubber belting or other suitable material adapted to roll around smooth wheels at K, instead of the gearing and racks, and I consider such an equivalent for my gearing and racks. Such devices, which are nearly frictionless, possess the quality of self-adjustment when the weight of the levers I is alone availed of to depress the upper roll, and in this respect are superior to cams, and they allow the hand of the operator to be applied so soon as free from the duty of introducing a garment and to aid by its weight or by its positive action upward or downward in inducing the right action of the apparatus on the fabric or clothes being squeezed. When the machine is to receive a very thin set of articles—as ladies' collars—the screw-nuts *j* are set down by the hand or by a suitable tool, and when to receive a thick lot—as bed-blankets—these screw-nuts should be turned in the opposite direction. In other words, my levers I are hand-levers so arranged and combined that they may be also adjusted by the nuts *j*, and that they are or tend to be self-acting, so as to press by their own weight and the weight of the hand upon the clothes, and to rise automatically without care or forethought by the operator so soon as a thick portion of the goods comes into the rolls.

This portion of the invention may obviously be worked without the adjustment provided by the nuts *j*, or with far less scope for such adjustment than is here provided. The movement of hand-lever M* alone by the will of the operator, in anticipation of a thick mass, or automatically with the mobile weight of the hand when the mass is actually compressed, or partly by each, as by an active movement of the hand after the mass is struck, will provide for ordinary differences in thickness sufficiently; but it is for great variations in thickness very important to provide the nuts *j* or some equivalent means of adjusting at that point, in combination with the hand-lever adjustment, as described.

The screw N is for attaching the machine to a tub and releasing at pleasure; but the turning of a screw against a tub is liable to deface and abrade it. The shield P, turning or slid-

ing on the pivot *p*, is adapted to receive the force of the screw N and transmit it without injury. The slot in the shield where it embraces *p* is sufficient to allow such a sliding motion as compensates for the usual difference in the size of tubs, while the shield is free to move to a much greater extent by swinging, so as to very readily slide down upon the tub to its place and then be very effectually tightened.

It is not absolutely necessary that the reciprocating ends of the connecting-rods B', &c., shall slide on a rod so as to move in precisely right line. A sufficient approximation thereto may be obtained by providing a long link extending either downward or upward from the points of juncture *e'* or *e''*, and pivoted to a fixed portion of the framing A. In such case the reciprocating motion will be curvilinear, but it may be performed with less friction than on a slide, and it may be made to operate successfully.

I believe my mode of communicating motion from one roll to the other to be absolutely new in the arts in all the various applications where rolls or equivalent wheels, &c., whether hard or soft, smooth or toothed, are required to be turned toward each other. I propose to employ my invention as above described for the feed motion rolls of planing-machines, stave-dressing machines, and other lumber and metal working devices; also in calendering, printing, drawing, and pressing for any and all purposes whatsoever where this motion—*i. e.* rotation in opposite directions—is required.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. The cranks B' C' and B² C² and rods D' E' and D² E², with suitable guides for the reciprocating ends of the connections, all arranged for joint operation, so as to transmit the motion of one roll to the other, substantially as and for the purposes herein specified.
2. The gear K and rack L, or their equivalents, in combination with the hand-lever M* and with the movable roll C, adapted to be operated by the weight of itself and of the hand, substantially as herein specified.
3. The hand-lever M*, operating to depress one end of the lever I, in combination with the adjusting screw-nut *j* or its equivalent, adapted to press upon and form a movable fulcrum at the opposite end, substantially as herein specified.
4. The sliding and swinging shield-piece P, mounted and arranged substantially as and for the purpose herein set forth.

JAMES N. PEASE.

Witnesses:

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