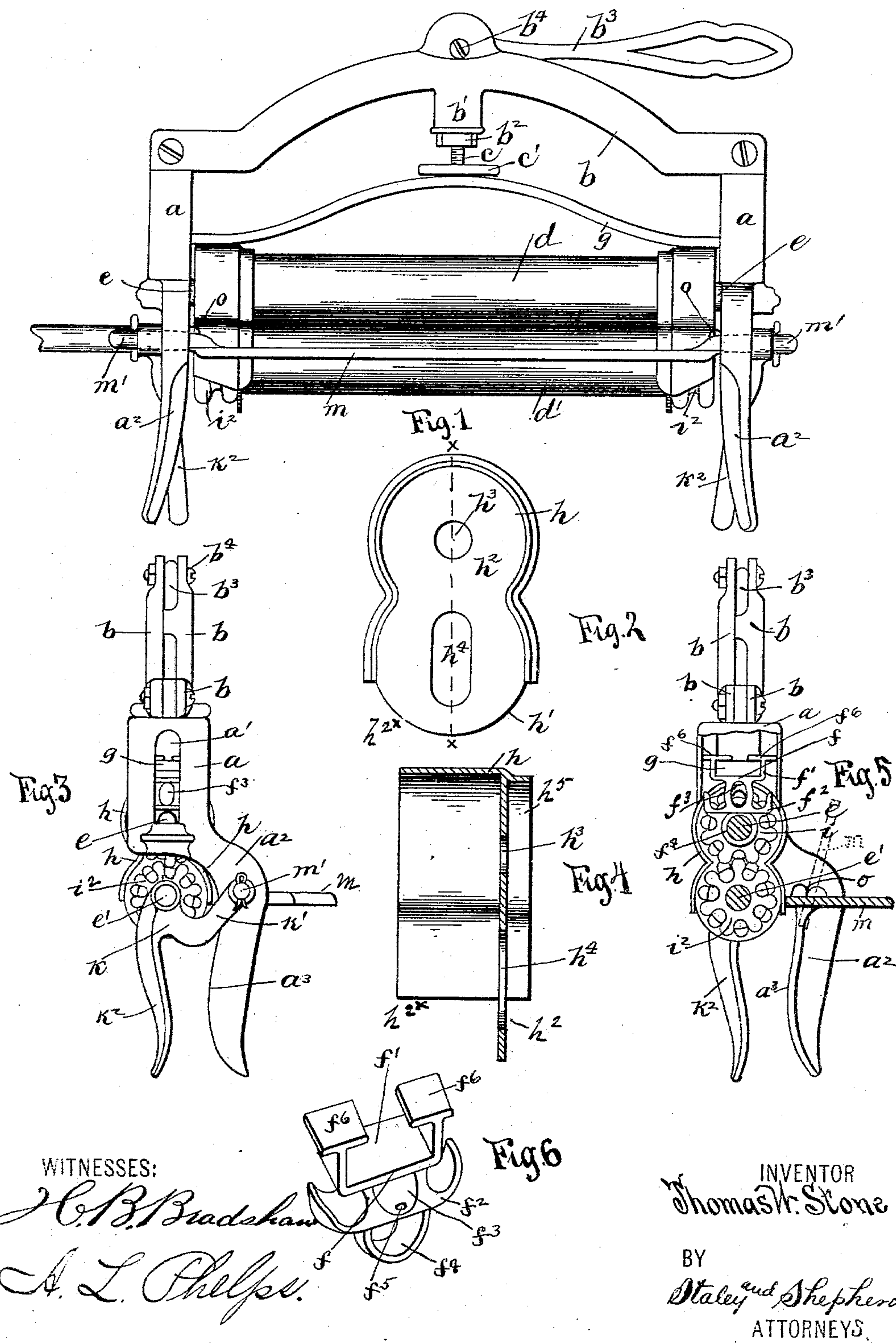


(No Model.)

T. W. STONE.  
CLOTHES WRINGER.

No. 559,760.

Patented May 5, 1896.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

THOMAS W. STONE, OF COLUMBUS, OHIO.

## CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 559,760, dated May 5, 1896.

Application filed March 3, 1893. Serial No. 464,584. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS W. STONE, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Clothes-Wringers, of which the following is a specification.

My invention relates to the improvement of clothes-wringers, and has particular relation to the improvement of the wringer shown in my former invention patented under date of July 15, 1890, No. 432,252.

The objects of my present invention are to so construct and locate the parts of the wringer as to bring the operating gear-wheels thereof within the framework of the wringer and at the same time provide against the oil or grease employed on the bearings of the roller-shafts being carried to the face of the rollers, to so protect the gear-wheels as to prevent the fingers of the operator or clothes being caught between said wheels, to provide improved bearing parts for the roller-spindles, and to produce other improvements which will be more specifically pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved wringer. Fig. 2 is a view in elevation of one of the hoods for the gear-wheels. Fig. 3 is an end elevation of the wringer. Fig. 4 is a central sectional view of the hood or casing shown in Fig. 2, said section being taken on line  $x-x$  thereof. Fig. 5 is an end view of the wringer, showing the end standard and its clamping-finger broken away; and Fig. 6 is a view in perspective of one of the bearing-pieces, one of which is employed in each end of the wringer, as hereinafter described.

Similar letters refer to similar parts throughout the several views.

$a$  represents the end pieces or standards of a wringer, the vertical upper end portion of each of which is provided with a central vertical slotted opening  $a'$ , on the rear and lower portion of each of which is formed an outwardly and downwardly extending finger  $a^2$ , the lower portion of which is curved slightly inward and then outward, producing a slight forward bulge  $a^3$ . The upper ends of the standards  $a$  are connected by upwardly-bowed

cross-arms  $b$ , the latter being arranged parallel with and adjacent to each other. Between vertical downwardly-extending portions  $b'$  of the arms  $b$  is loosely supported an adjusting-plug  $b^2$ , which is designed to be pressed downward, as described in my said former patent, by the cam-shaped end of a lever  $b^3$ , which is pivoted at  $b^4$  above said plug. In the lower end of the plug  $b^2$  is adjustably supported a vertical screw  $c$ , on the lower end of which is formed a head  $c'$ .

$d$  and  $d'$  represent, respectively, the upper and lower wringer-rolls, which are formed of rubber or other similar material, said rolls being located one above the other in the usual manner.

$e$   $e$  represent the end or bearing spindles of the upper roll  $d$ , and  $e'$  the corresponding spindles of the lower roll  $d'$ .

$f$  represents a bearing block or casting, which consists of a substantially U-shaped upper portion  $f'$ , a laterally-extending or transverse portion  $f^2$  beneath said portion  $f'$ , the portion  $f^2$  having a central opening  $f^3$  therethrough, and a bearing-loop  $f^4$ , which extends centrally below the portion  $f^2$ . In the portion  $f^2$  is formed a small vertical oil-opening  $f^5$ , which leads to the loop  $f^4$ . One of the bearing-castings  $f$  is designed to fit and slide between the side walls of the upper portion of each of the standards  $a$ . Within the U-shaped upper portions  $f'$  of the castings are inserted the ends of an upwardly-bowed wringer-spring  $g$ , upon the higher portion of which is adapted to bear the head  $c'$  of the screw  $c$ . Owing to the formation of flanged heads  $f^6$  upon the vertical arms of the U-shaped portion  $f'$  of each of the castings  $f$  the ends of the spring  $g$  are prevented from being raised vertically without at the same time raising the castings  $f$ . As shown in the drawings, the loops  $f^4$  of the castings  $f$  serve as bearings for the extremities of the upper roll-spindles  $e$ .

$h$  represents a metallic shield or hood, the walls of which, when viewed in cross-section, have the outline of a figure eight, the lower portion of which is open, as indicated at  $h^{2x}$ . Near its inner end this shield or hood is provided with a vertical partition  $h^2$ , which extends slightly below the walls thereof and which is provided in its upper partially-cir-



cular portion with a central opening  $h^3$ , beneath which in the lower portion of the partition is formed a vertical slotted opening  $h^4$ . As shown in the drawings, the inner end portion of said shield or that portion thereof which is separated from the main body by the partition-wall is somewhat smaller in circumference than said body. One of these shields  $h$  is designed, as shown in the drawings, to be supported adjacent to and on the inner side of each of the standards  $a$  beneath the end portions of the spring  $g$ . Within the smaller inner end portions of the hoods or shields  $h$ , which are indicated at  $h^5$ , are inserted the ends of the upper roll  $d$ , the spindles  $e$  of said roll passing through the openings  $h^3$  in the upper portion of the hoods. The ends of the lower roll  $d'$  are likewise made to enter the inner ends of the shields beneath said upper roll, the spindles  $e'$  of said lower roll passing through the slotted openings  $h^4$  of the hoods.

$i$  represents cog gear-wheels, one of which is mounted upon each of the spindles  $e$  within the outer and larger portions of the hoods  $h$ . These cog-wheels  $i$  are adapted to gear, as shown, with similar gear-wheels  $i^2$ , mounted on the spindles  $e'$  of the lower roll.

$k$  represents an angular clamping-piece consisting of a rearwardly and upwardly inclined arm  $k'$  and a downwardly-extending and inwardly and outwardly curved clamping-finger  $k^2$ . One of these clamping-pieces  $k$  is secured at its angle to the extremity of one of the spindles  $e'$  of the lower roll, while the upper ends of the arms  $k$  are fulcrumed, respectively, to the upper portions of the fingers  $a^2$  of the end standards of the machine upon the projecting ends  $m'$  of the delivery-plate.

$m$  represents the horizontal delivery-plate, which, as usual, is supported in a horizontal position in rear of the lower roll  $d'$ . This delivery-plate has formed with each end thereof a bearing-spindle  $m'$ , said bearing-spindles being journaled in the upper portions of the fingers  $a^2$ . In order to prevent the inner edge of the delivery-plate from turning upward from a horizontal position, I provide the inner sides of the fingers  $a^2$  with projecting stop-lugs  $o$ , the latter projecting over the ends of said plate. The method of securing my improved wringer on a washtub or other similar article consists, as set forth in my said former patent, in compressing the lever  $b^3$  downwardly to the position shown in Fig. 1 of the drawings, thereby causing a downward movement of the plug  $b^2$  in its bearing  $b'$  and through the downward movement of said plug exerting a pressure upon the spring  $g$ . The pressure of the ends of the spring  $g$  upon the blocks  $f$  results, as will readily be seen, in a downward pressure of the roll  $d$ , the lower roll descending until the clamping-finger  $k^2$  is pressed inward sufficiently to firmly clasp the tub-wall between the fingers  $k^2$  and  $a^2$ . In this connection it will be seen that the clamp-

ing-surface of the bulge  $a^3$  in the finger  $a^2$  projects inward beyond the pivot-point of the arm  $k'$  of the clamping-piece  $k$ . The relative position of these parts, as will readily be seen, admits of the fingers clamping upon an exceedingly thin tub-wall or other support, as well as upon the ordinary or thicker tub-walls.

The construction which I have herein shown and described is such, as will readily be seen, as to result in the production of a neat, reliable, and effective wringer, the parts of which are arranged in a compact form.

It will be observed that the shields or hoods  $h$  will serve to completely cover the gear-wheels and that by their use accidents caused by the fingers of the operator being caught in the cogs of the gear-wheel or by the clothes being caught therein are averted. It is obvious that the shield-partitions  $h^2$  will serve to separate the gear-wheels from the roll and admit of said gear-wheels being located within the side standards of the frame without the probability of oil or grease from the gear-wheels or bearings of the spindles being conveyed to the rolls. The opening  $f^5$  in each of the bearing-pieces  $f$  provide a means of supplying oil to the spindles  $e$  at the bearing-points of the latter on the outer sides of the gear-wheels, thus locating oil-points at a distance from the rolls.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a clothes-wringer the combination with the end standards  $a$  and rolls  $d$  and  $d'$  journaled one above the other in said standards, of shields or hoods  $h$ , a partition  $h^2$  in each of said shields, spindle-openings  $h^3$   $h^4$  in said partitions through which pass the spindles of said rolls and engaging gear-wheels on the opposite sides of said partitions from the roll ends substantially as and for the purpose specified.

2. In a clothes-wringer the combination with the wringer-frame consisting of the end standards  $a$  and cross-pieces  $b$ , upper and lower wringer-rolls, bearing-blocks vertically movable in the end standards said blocks each having an upper U-shaped portion and a lower loop which loops form bearings for the spindles of the upper roll, a compressing-spring the ends of which enter the U-shaped portions of the bearing-blocks, gears on the spindles of the rolls, and shields each having a vertical partition provided with openings for the spindles of the rolls, said shields inclosing the ends of the rolls at one side of the vertical partition, and the said gears at the other side of the partition, substantially as and for the purpose specified.

THOMAS W. STONE.

In presence of—

C. C. SHEPHERD,  
F. A. SIEGEL.