A. W. & A. E. HALL.

Wringer.

No. 161,781. Patented April 6, 1875.

Fig. 1.

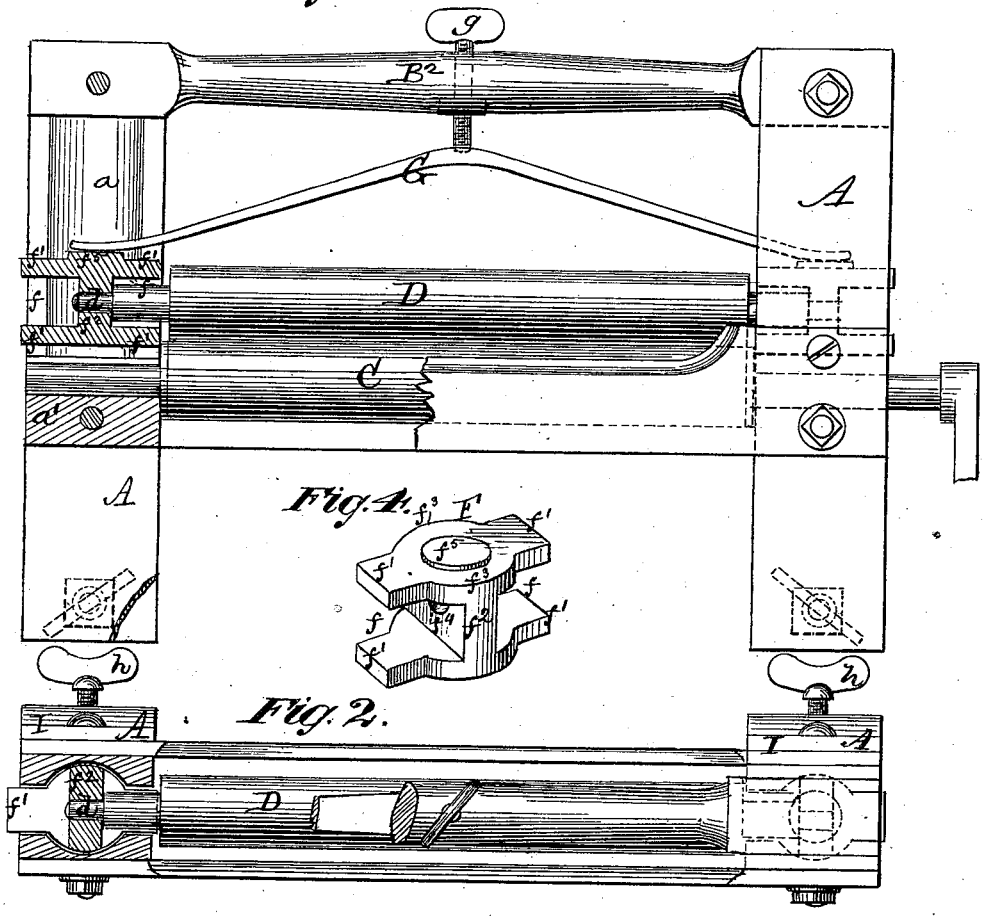


Fig. 4.

Fig. 3.

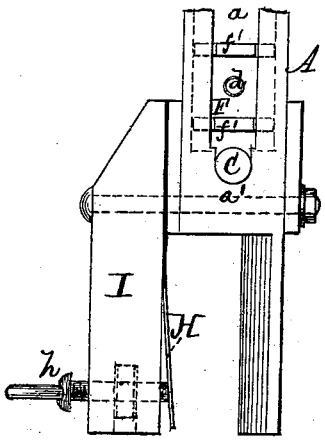
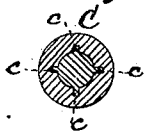


Fig. 5



Witnesses
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by their Attorneys
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UNITED STATES PATENT OFFICE.

ALEXANDER W. HALL AND ALBERT E. HALL, OF ADRIAN, OHIO.

IMPROVEMENT IN WRINGERS.

Specification forming part of Letters Patent No. **161,781**, dated April 6, 1875; application filed February 19, 1875.

To all whom it may concern:

Be it known that we, ALEXANDER W. HALL and ALBERT E. HALL, both of Adrian, in the county of Seneca and State of Ohio, have invented certain Improvements in Clothes-Wringers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification.

The object of our invention is to produce a cheap and effective wringer with rubber rolls, and without the use of gearing for turning them.

The invention consists in certain improvements in the journals and journal-boxes of wringers, whereby we reduce the size of the journals of the upper roller-shaft, and so reduce the friction of the upper roller that we can use thinner rubber, and cause the upper roller to turn, without the use of gearing, by friction of the lower roller and the clothes, and without being liable to stop.

In the accompanying drawing, Figure 1 is a side view, partly in section, of our improved clothes-wringer. Fig. 2 is a top view, partly in section. Fig. 3 is an end view. Fig. 4 is a perspective view of the upper journal-box. Fig. 5 is a transverse section of the lower roller.

The rollers are journaled in a frame of substantially the same construction as those in common use, consisting of two standards, A A, connected by cross-bars B^1 B^2. The lower roller C has its journals *c* working in suitable bearings *a'* in the standards A, and is of the usual construction, except that its shaft has longitudinal ribs *c'* formed on it to prevent the rubber from slipping during its revolution. The upper roller D is of the usual construction, with the exception of its journals *d*, which are reduced to a much smaller diameter than that of the shaft, in order to lessen the friction, and are also made much shorter, in order to secure the requisite strength commensurate with the diameter. These journals *d*, thus constructed, work in journal-boxes constructed as follows: A block, F, (see Fig. 4,) is cut away from its ends toward its center, so as to form recesses *f*, above and below which are four lugs or projecting guide-flanges, f^1, extending horizontally in two opposite directions from a vertical central portion, f^2. The upper and lower surfaces of the block are formed with projections or enlargements f^3, extending horizontally from the center in directions at right angles with the lugs f^1. In the center of the vertical portion f^2 is a hole, f^4, which serves as the bearing for the journal *d*. The blocks thus formed work in grooves of corresponding shape in guide-slots *a* in the standards A A, and the lugs or flanges f^1, and enlargements or projections f^3 serve to guide them and prevent them from tilting, and insure their maintaining the proper position in the standards. The ends of the shaft of the upper roller D extend into the recesses *f*, between the inner lugs or guide-flanges f^1, up to the central portion f^3, so as to nearly touch the same, and the journals *d* extend from said ends into the bearings f^4. By this construction the journals are made to bear centrally in the boxes, and they may be made much smaller and shorter, and their bearings much narrower, than by the usual construction, in consequence of which the friction is reduced, and a thinner coating of rubber may be used, and thus a wringer is produced at less expense, which serves the required purpose quite as well. The ribs *c'* on the lower roller prevent the rubber from turning thereon, but are not required on the upper one, as it receives its motion from friction against the lower one. A spring, G, is arranged with its ends extending into the slots *a*, and resting upon the upper surfaces of the boxes, which may be formed with bosses f^5, to prevent too much wear from the spring. A set-screw, *g*, passes through the upper cross-bar B^2, and bears against the spring for the purpose of regulating its tension. To the lower ends of the standards A A are attached legs I, so as to form forks for engagement with the edge of the tub, and said legs are provided with set-screws *h*, for securing the wringer to the tub. On the inner sides of the legs are attached the upper ends of elastic plates H, the lower portions of which are free to bend outward when pressed against by the ends of the screws *h*. When the screw is tightened to secure the

wringer to the tub, the plate H bears against the surface of the tub, and protects it from being marred by the point of the screw.

What we claim as new, and desire to secure by Letters Patent, is—

The combination, with the standards A of a clothes-wringer, of the journal-boxes F for the upper roller, constructed with the recesses *f*, vertical portions f^2 of reduced thickness, and projecting guide-flanges f^1, substantially as and for the purpose described.

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ALBERT E. HALL.

Witnesses:
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