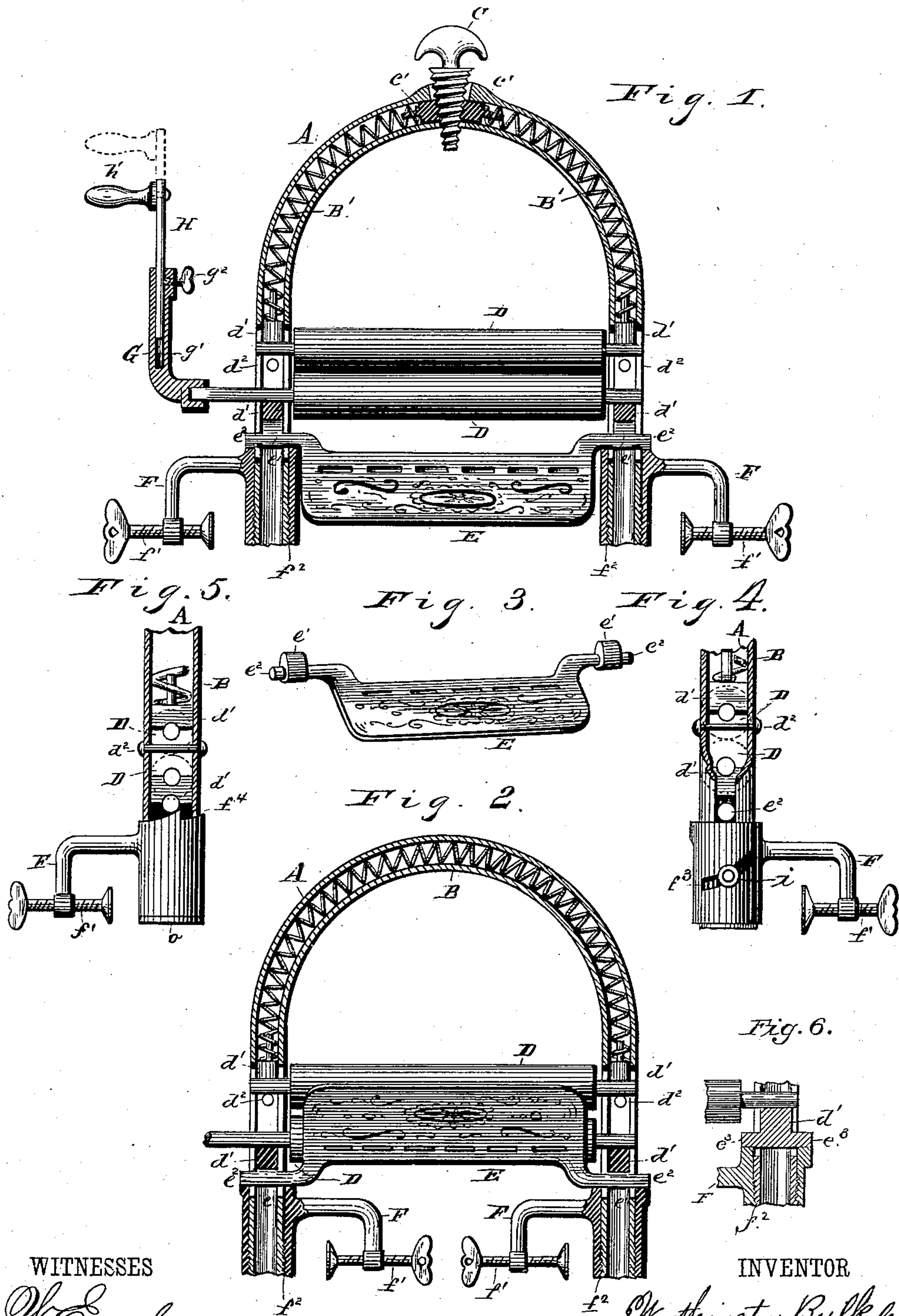


(No Model.)

W. BULKELEY.  
CLOTHES WRINGER.

No. 333,107.

Patented Dec. 29, 1885.



WITNESSES

*W. Engel*  
*Chas. H. Dorer*

INVENTOR

*Worthington Bulkeley*



# UNITED STATES PATENT OFFICE.

WORTHINGTON BULKELEY, OF CLEVELAND, OHIO.

## CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 333,107, dated December 29, 1885.

Application filed December 13, 1883. Serial No. 114,476. (No model.)

*To all whom it may concern:*

Be it known that I, WORTHINGTON BULKELEY, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Clothes-Wringers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to clothes-wringers in which pressure-rollers are combined with frame, springs, and adjusting devices to adapt it to general use.

The objects of my invention are, first, to provide a better spring; second, to furnish improved facilities for adjusting the pressure on the rollers. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical sectional view showing the clamp and apron open, ready for use. Fig. 2 is a central vertical sectional view showing the clamp and apron closed, ready for storage. Fig. 3 shows the apron detached from the machine, and Figs. 4 and 5 are end views showing the arrangement of frame, rollers, bearings, and spring, also modifications in the swinging clamps, referred to hereinafter. Fig. 6 shows the lower bearing,  $d'$ , with projection  $e^3$ , to be used when apron E, with its pivots  $e^2 e^2$ , is removed.

Similar letters refer to similar parts throughout the several views.

The frame A is made in the form of an arch, which sustains the spiral spring B. The lower parts of the frame A are straight and support the rollers D D, bearings  $d' d' d'$ , pins  $d^2 d^2$ , folding apron E, and swinging clamps F F. The spring B is made of coiled wire, and conforms to the arch of frame A, thus utilizing the space between the bearings  $d' d'$  of the upper roller, D, and forming a long-arched and easy-acting spring. (See Fig. 2.) The shaft of the upper roller D passes freely through vertical slots in the frame A, and rests in the bearings  $d' d'$ , which in turn press the spring B. The pins  $d^2 d^2$  pass through the frame A, and serve to sustain the upper roller D when the support of the lower adjusting devices E F F is removed. (See Fig. 2.) The shaft of

the lower roller D also passes freely through vertical slots in the frame A, and rests in the sliding bearings  $d' d'$ , which in turn rest on the lower adjusting devices, E F F. The lower bearings,  $d' d'$ , move vertically in the frame A and rest on the projections  $e' e' e^2 e^2$  of apron E, or, in the absence of said apron, are formed with projections  $e^3 e^3$ , which shall rest on the swinging clamps F F. (See Fig. 6,  $d' e^3 e^3$ .) The folding apron E has its extremities fitted with pivots  $e^2 e^2$  and cams  $e' e'$ . The pivots  $e^2 e^2$ , resting in the frame A or on the swinging clamps F F, allow the cams  $e' e'$  to move freely by the swinging of the apron into horizontal or vertical positions, for the purpose of adjusting the rollers by their action on the sliding bearings  $d' d'$ . (See Figs. 1 and 2.) The adjustable swinging clamps F F, having their outer arms fitted with screws  $f' f'$  to secure the machine to a tub or support, are arranged to swing horizontally on the frame A, (see Figs. 1 and 2,) and are so fitted by means of screw-threads  $f^2 f^2$  that the swinging of the clamps F F about the frame A causes them to move the bearings  $d' d'$  vertically along the same, and thereby adjust the pressure on the rollers D D. The crank G, attached to the projecting shaft of the lower roller D, is formed with a socket,  $g'$ , and fitted with set-screw  $g^2$ , to secure the sliding arm H so it may be extended, as shown by dotted lines at  $h'$ , for the purpose of increasing the power of the crank.

In Figs. 4 and 5 I show modifications in the swinging clamps. Fig. 4 shows the body of clamp F formed with the incline  $f^3$ , and connected to the frame A by means of the pin  $i$ . It is evident the swinging of the clamp will cause it to move vertically along the frame A, press the bearing  $d'$ , and adjust the rollers D D. In Fig. 5 the incline  $f^4$  is formed on top of the clamp F, which swings on the frame A, and is sustained by the shoulder  $o$ , the effect in action being the same as in the preceding.

I also show in Fig. 1 a modification of the spring B, cutting it in two parts, B' B', and inserting the half-nuts  $c' c'$  and taper screw C, for the purpose of further increasing the tension on the spring, as is obvious from the drawings.

Wringers are ordinarily made with springs, which act independently at each end of the

rollers. My spring will admit of such construction, (see Fig. 1,) but is preferably made continuous, (see Fig. 2,) that it may be free to yield fully from either end in case the strain  
5 between the rollers is greater at one end than at the other.

I do not herein claim the combination and arrangement of the folding apron E, as shown and described, as I have made said improvement the subject of separate application for  
10 Letters Patent filed March 14, 1885, Serial No. 158,883.

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

15 1. In a wringer, the combination, with frame,

rollers, and bearings, of an arching spiral spring, B, substantially as shown, and as herein set forth.

2. In a wringer, the combination, with frame, springs, rollers, and sliding bearings, of horizontally - swinging and vertically - adjusting  
20 clamps FF, substantially as shown, and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two  
25 scribing witnesses.

WORTHINGTON BULKELEY.

Witnesses:

L. H. WARE,  
WM. F. NUTT.