(No Model.) 3 Sheets—Sheet 1.

W. HERMANN.

CLOTHES WRINGER.

No. 365,006. Patented June 14, 1887.

Fig. 1.

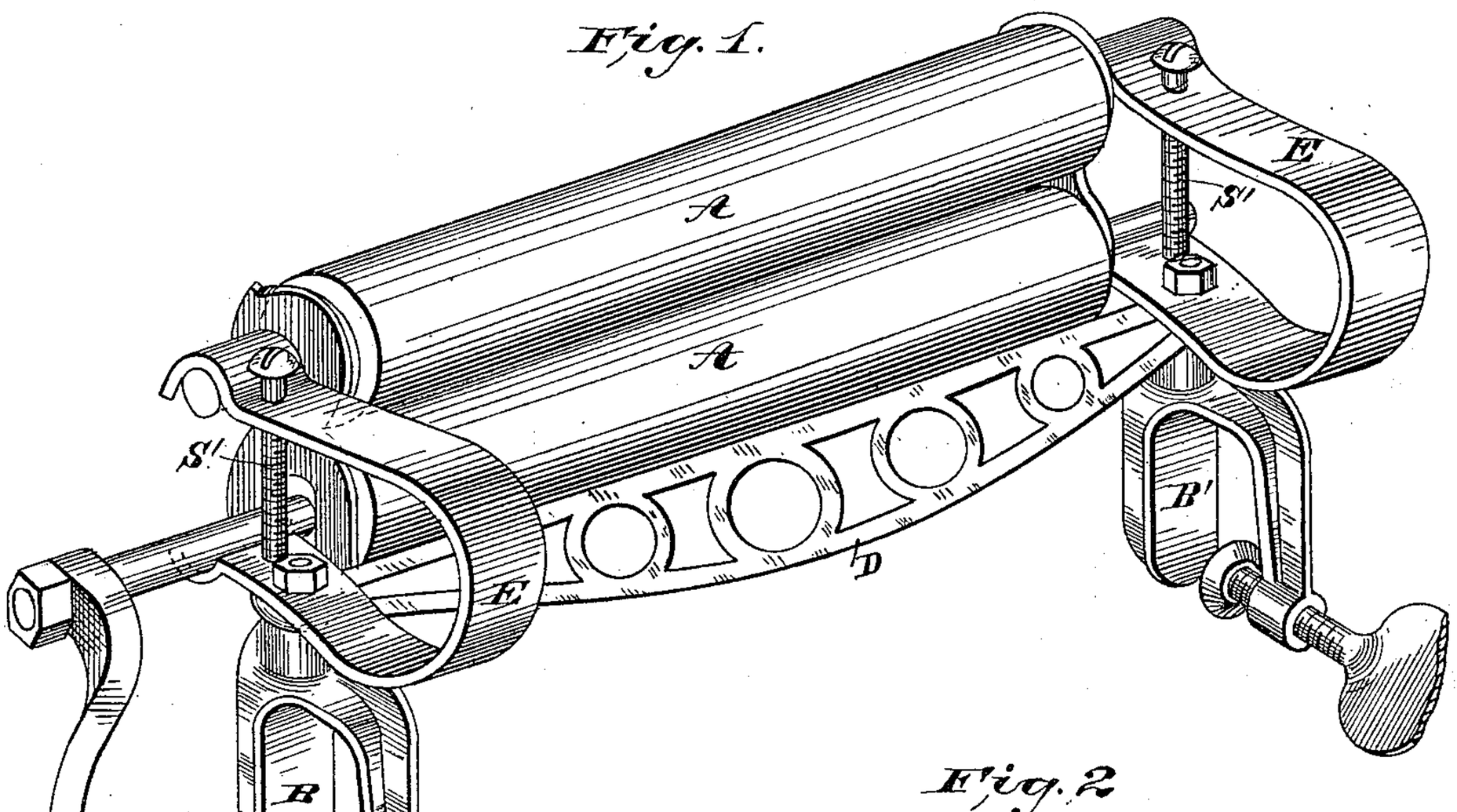


Fig. 2

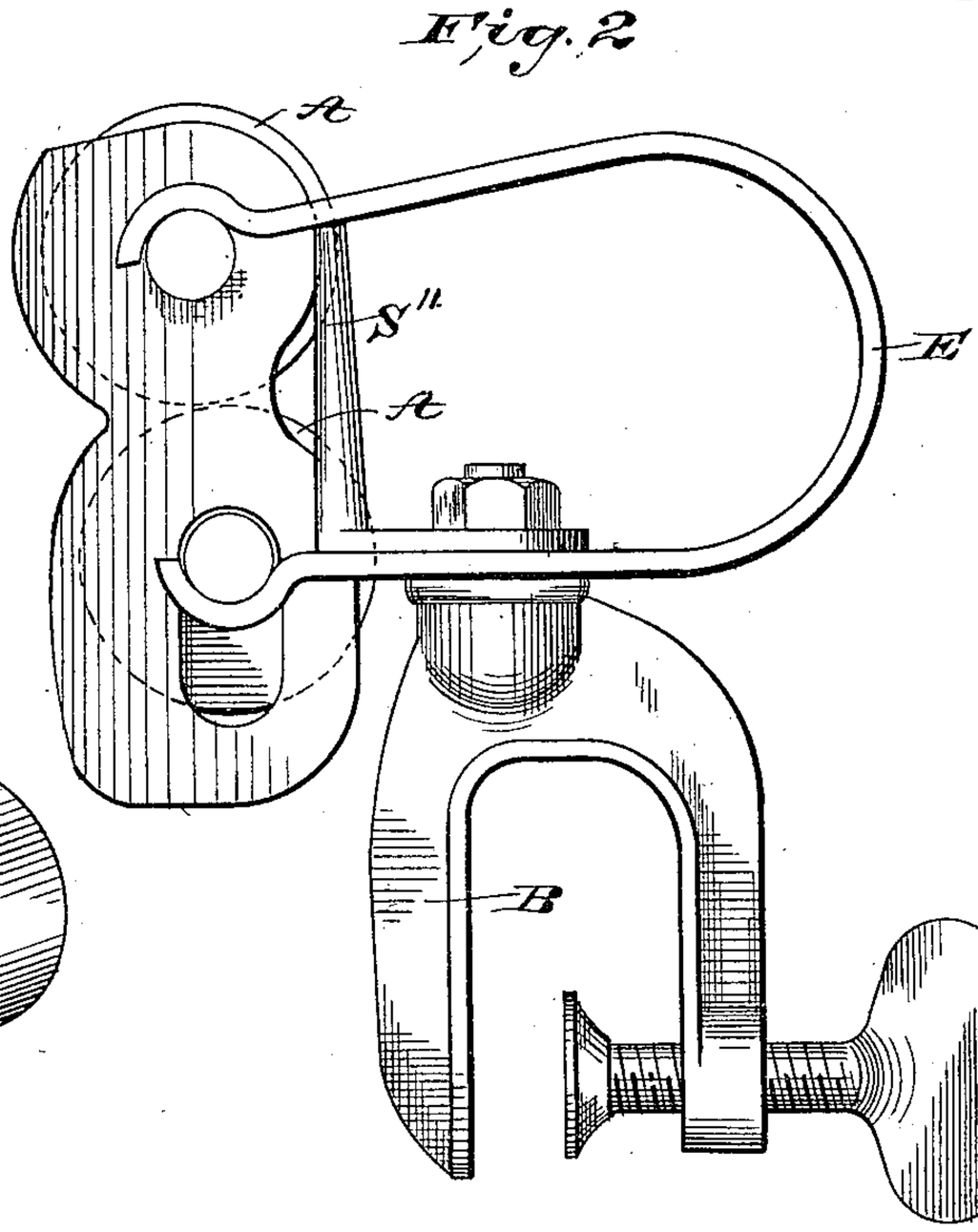
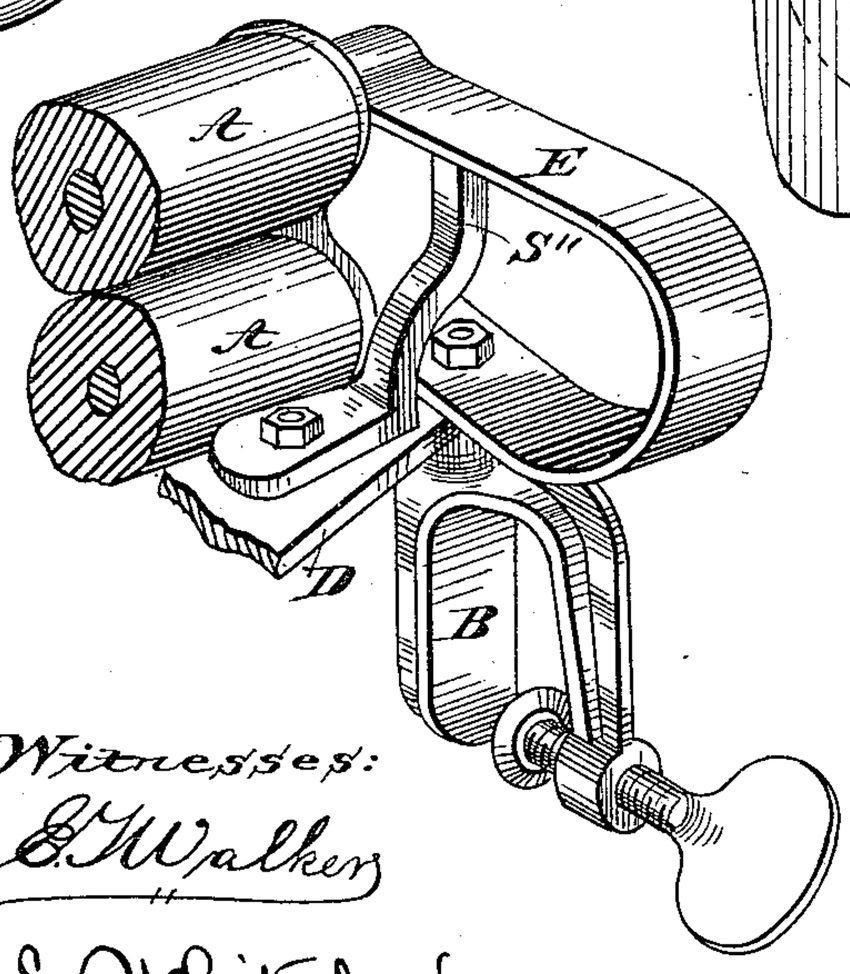


Fig. 3.



Witnesses:
E. M. Walker
L. B. Whitaker.

Inventor:
Wilhelm Hermann
by his attys.
Whitaker & Prouse

(No Model.) 3 Sheets—Sheet 2.

W. HERMANN.

CLOTHES WRINGER.

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Fig. 4.

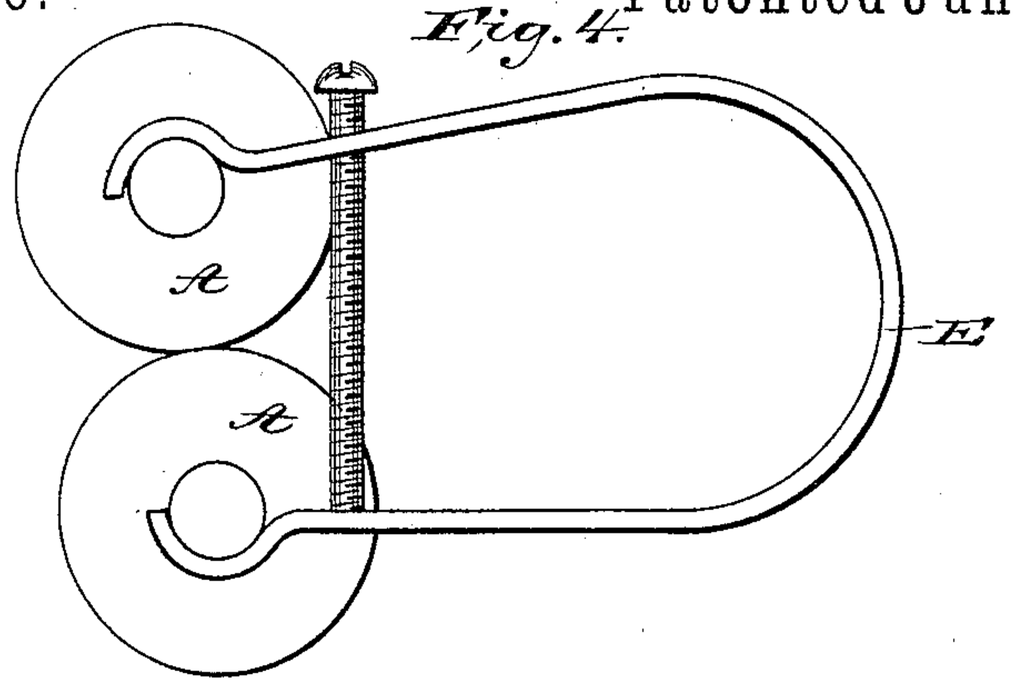


Fig. 5.

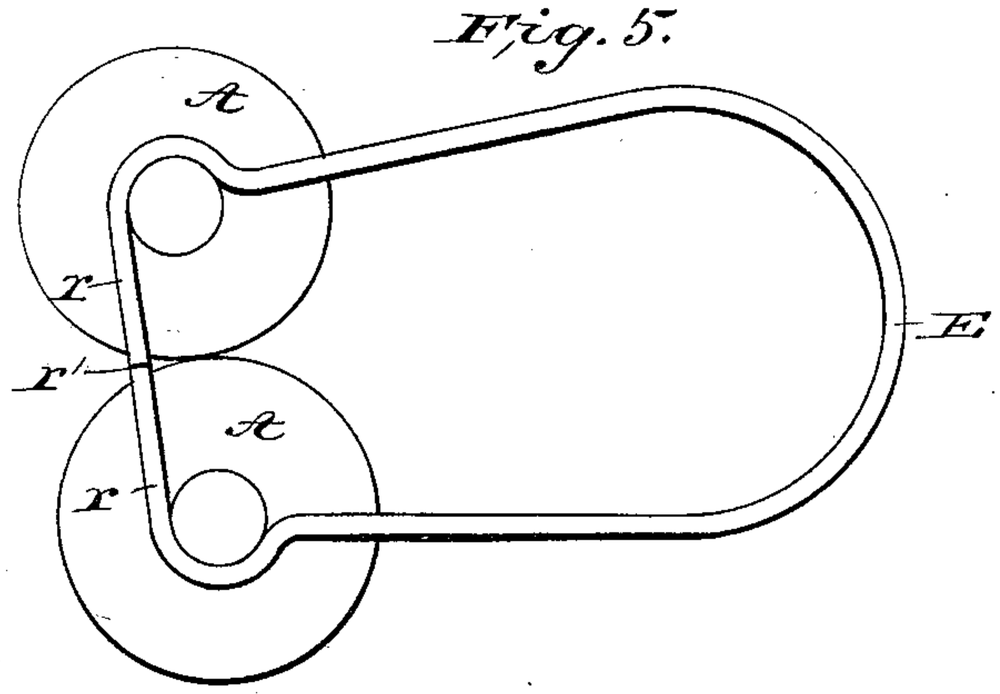


Fig. 6.

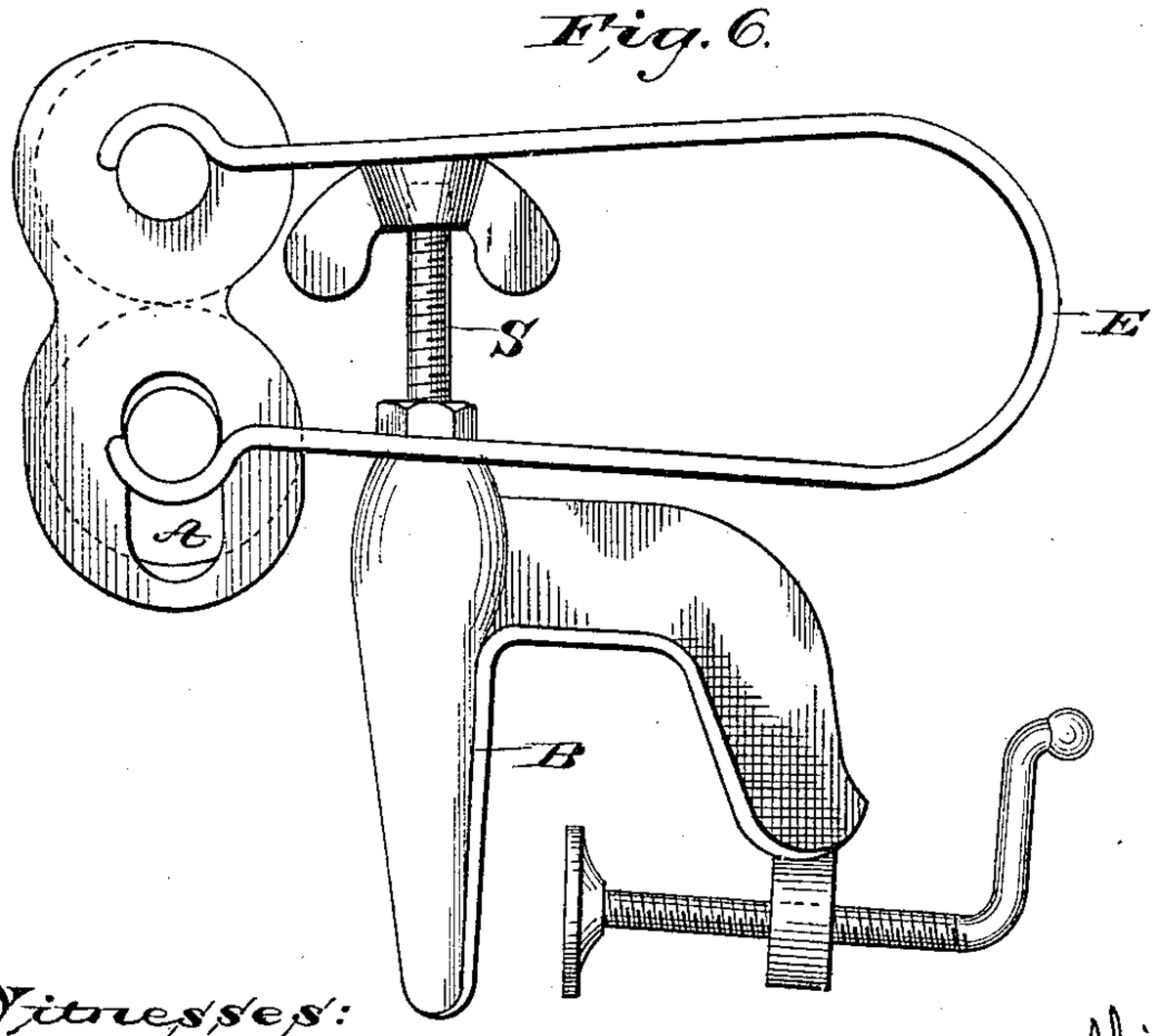
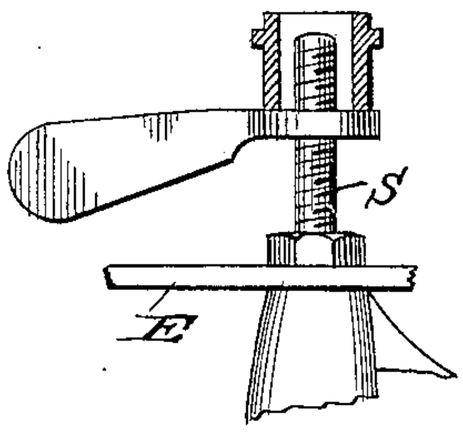


Fig. 7.



Witnesses:

C. H. Walker

L. B. Whitaker

Inventor.

Wilhelm Hermann

by his attys.

Whittaker & Prosch

(No Model.) 3 Sheets—Sheet 3.

W. HERMANN.

CLOTHES WRINGER.

No. 365,006. Patented June 14, 1887.

Fig. 8

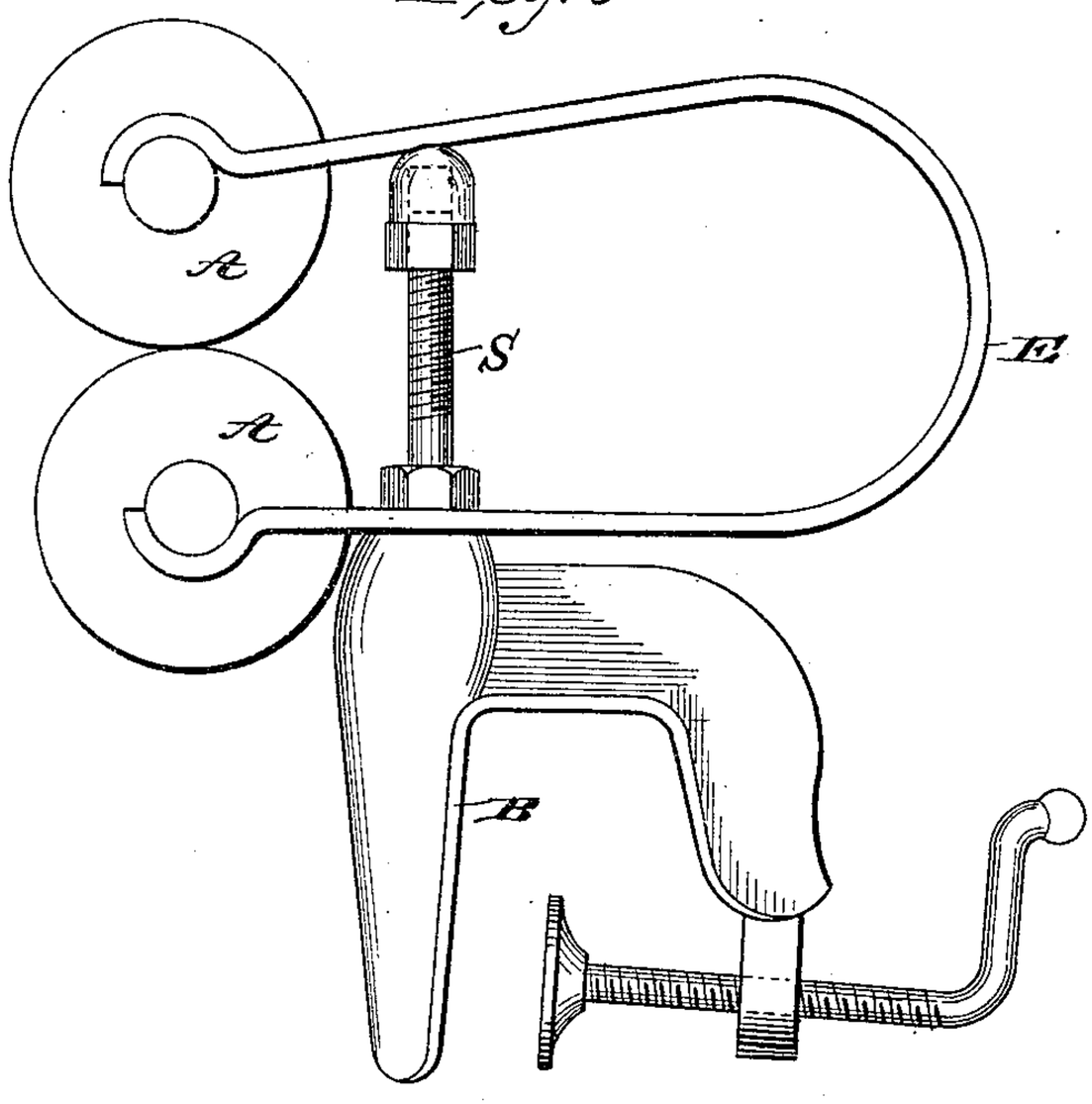
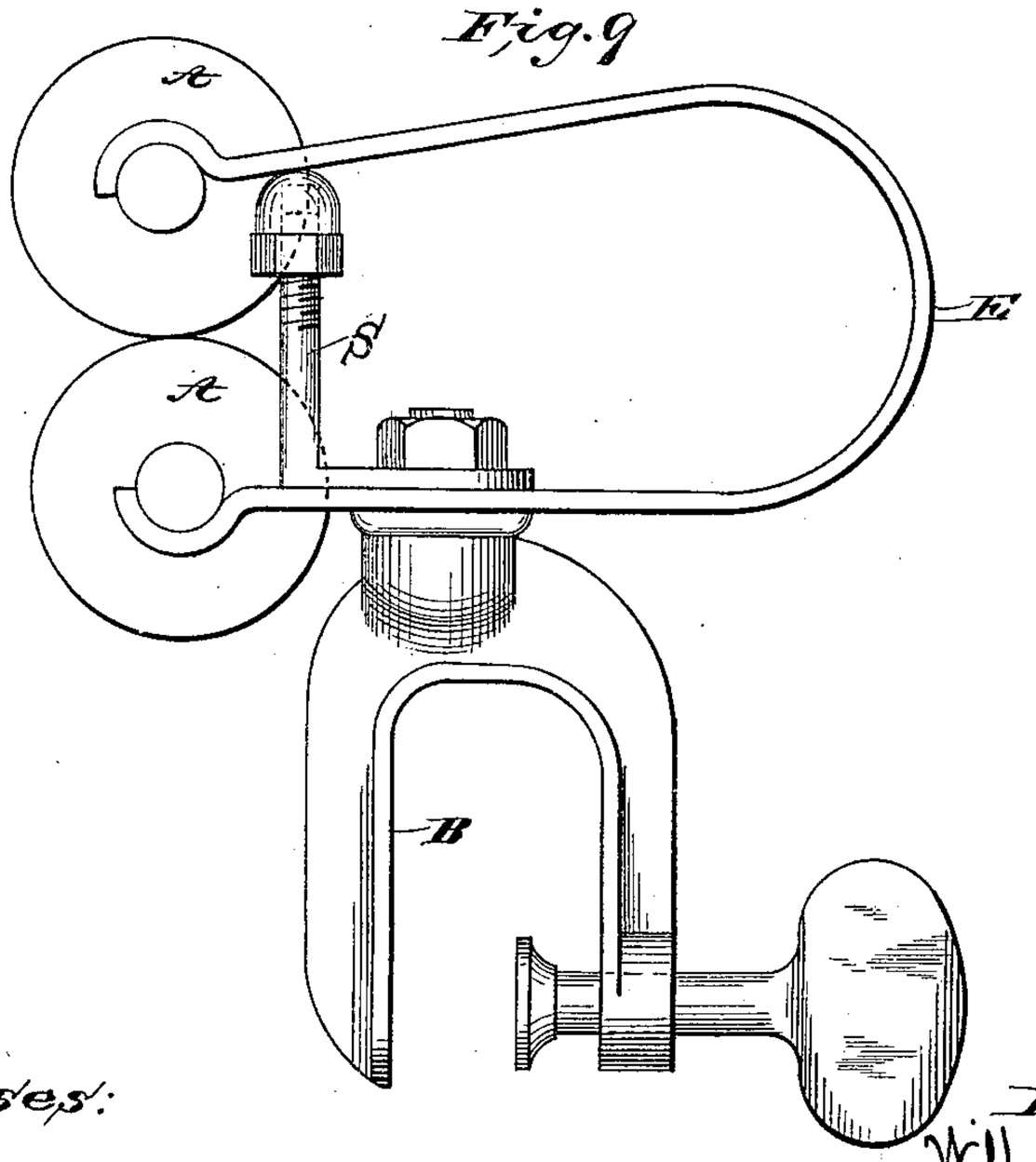


Fig. 9



Witnesses:
E. M. Walker
L. B. Whitaker

Inventor:
Wilhelm Hermann
by his attys.
Whittemore & Prouty

UNITED STATES PATENT OFFICE.

WILHELM HERMANN, OF HAMBURG, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO JOHN J. BRINKERHOFF, OF AUBURN, NEW YORK.

CLOTHES-WRINGER.

SPECIFICATION forming part of Letters Patent No. 365,006, dated June 14, 1887.

Application filed December 8, 1886. Serial No. 221,044. (No model.) Patented in Germany September 29, 1880, No. 13,709, and November 9, 1883, No. 27,185.

To all whom it may concern:

Be it known that I, WILHELM HERMANN, a subject of the Emperor of Germany, residing at Hamburg, in the State of Hamburg, have invented certain new and useful Improvements in Clothes-Wringers, (including constructions shown in my patents in Germany, No. 13,709, of September 29, 1880, and No. 27,185, of November 9, 1883;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to clothes-wringers; and it consists in the several novel features of construction and combination of parts hereinafter fully set forth, and specifically defined in the claims annexed to this specification.

During a large portion of the time that clothes-wringers are in operation they are employed upon small articles which require very little pressure. Under my arrangement no matter how much pressure may be applied none of it is permitted to operate upon either roll or its bearings, except what may be necessary to bring the rolls firmly together, until articles are passed through the wringer, and then the amount of pressure operating upon the rolls and their bearings will be in proportion to the size of the article being wrung.

My invention is herein shown and described as applied to that class of wringers which have C-shaped springs for exerting the pressure employed in the wringer, and consists of stops constructed and arranged so that they permit the pressure to be applied to the rolls as the clothes enter and pass between them, and automatically hold the same back from the rolls and their shafts and bearings as the articles acted upon pass out from between the rolls, as will be hereinafter more fully set forth.

In the drawings, Figure 1 is a perspective view of a wringer with one form of my stop attached. Fig. 2 is an end view of a part of a wringer with another form of stop. Fig. 3 is a similar view with a modification of the stop shown in Fig. 2. Fig. 4 is an enlarged view showing a spring and rolls with the adjustable stop shown in Fig. 1. Fig. 5 is a partial end view showing a construction in which the stops are formed by a continuation of the spring-arms. Fig. 6 is a like view with another form of stop. Fig. 7 is a modified form of the nut shown in Fig. 6. Figs. 8 and 9 are views of stops already shown with a nut having a rounded or cone-shaped top.

In the drawings, A A are the elastic rolls of the wringer.

B B′ are the clamps for attaching the wringer to the wash-tub.

E E are the C-shaped springs, which serve to apply pressure to the rolls in the usual manner. The shafts of the rolls are mounted in bearings provided for them near the free ends of the arms of the springs. The clamps are attached to the springs by bolt-extensions passing through the springs.

S′ in Fig. 1 is a stop composed of a threaded bolt tapped through the upper arm of the spring and extending downward and bearing against the opposing arm. This bolt is screwed down until it permits the rolls to come together with a firm but not injurious pressure. When any article is introduced between the rolls, the separation of the rolls brings the full pressure of the springs into play, while as soon as the article or articles pass from between the rolls the stop comes into contact with the lower branch or arm of the spring and the rolls and their bearings are automatically relieved from a portion of the pressure. It will be understood that the position of this threaded bolt can be reversed and be tapped through the lower spring and bear against the upper.

In Figs. 2 and 3 the stops consist of studs or arms S″, bearing against the under sides of the movable arms of the springs. In Fig. 2 these studs or arms are provided with feet or extensions, which have an opening therethrough, and are attached to the lower branches or arms of the springs by the bolts connecting the clamps to the springs. They might, however, be attached by separate bolts. It is obvious that these studs or arms might be attached to the movable arms of the springs and bear against the others.

In Fig. 3 the feet are attached to the cross-bar D, connecting the clamps and springs at the opposite ends of the wringer together. When more convenient, it might be attached to any other rigid portion of the frame. When

desired to lower these studs to bring the rolls nearer together, in consequence of the wear of parts, some article of considerable thickness can be placed between the rolls and the ends of the stops lowered the necessary amount by filing; or when preferred the upper end of the stop and the one shown in Fig. 2 may be provided with nuts, as shown in Fig. 9.

In Fig. 5 the ends of the two arms of the springs are provided with the usual curved portions, forming bearings for the roller-shafts, and are also provided with portions *r r*, extending from each end toward the opposing end of the spring, the two meeting at the point *r'*. The operation of these stops will be the same as those heretofore described.

In Fig. 6 the clamps B B' are provided with threaded attaching-bolts S S, which pass up through the lower arms of the springs and extend upward to near the upper arm of the springs, and are provided above said lower arms with two nuts, one serving to hold the parts firmly together, and the other, near the end, serving as a means of adjustment. This nut is provided with wings, by which it may be turned. If it should be found desirable to have a greater leverage wherewith to turn the nut, a nut with an arm or extension of greater length may be employed, as shown in Fig. 7.

I do not limit myself to the exact construction of stops shown, nor to their application to the type of wringers to which it is herein applied, as I desire to apply it to other styles of wringers whenever I can do so by modifying its structure without departing from the spirit of my invention.

I do not herein make any claim to a spring with a stop connected thereto, as that is claimed by me in my application, Serial No. 221,043, filed December 8, 1886.

The construction and arrangement of parts, as shown in Figs. 6 and 7, are embraced in my German patent, No. 13,709, of September 9, 1880. While such construction and arrangement of parts are effective to screw the arms of the springs apart when the wringer is not in use, they are ineffective to always secure an automatic interception of the pressure at a desired point as the clothes pass out from between the rolls. The clamps are adapted to be rotated, in order to fit various tubs and other supports to which it may be attached, and any rotary motion of the clamps is liable to vary the length of the stops, as the pressure of the spring upon the flat surface of the nut is so great that the bolt will often turn in the nut when the clamps are rotated. In order to avoid this difficulty in this construction and arrangement of parts, I use a nut having its upper end rounded or cone-shaped, as shown in Fig. 8. This form of nut has so little of its upper surface in contact with the spring that when the clamp is rotated the bolt and nut turn together and the length of the stop is not varied. This arrangement and the stops disconnected from the clamps are my preferred forms of construction, as they always remain effective to automatically arrest the pressure at a desired point, as the clothes pass out from between the rolls throughout all movements of any of the parts of the wringer.

The form and arrangement of stops shown in Figs. 1 and 4 are shown in my German patent, No. 27,185, of November 9, 1883.

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

1. In a clothes-wringer, the combination, with a pair of rubber rolls and supports for the same, of devices for applying a compressing force to said rolls, said devices including movable parts communicating the compressing force to the rolls and a stop applied in the path of a movable part actuated by each pressure device, substantially as described.

2. The combination, with a wringer provided with C-shaped springs, of a stop attached to the wringer, but disconnected from the clamping devices interposed in the path of each movable arm of said spring, substantially as and for the purposes set forth.

3. The combination, with a wringer provided with C-shaped springs, of stops interposed between the movable arms of said springs and stationary parts of the wringer, said stops being connected with one of the parts with which it is in contact, substantially as described.

4. The combination, with a wringer provided with C-shaped compressing-springs, of stops interposed between the arms of said springs, whereby the whole or a part of the force of said springs is automatically arrested as the clothes pass from between the rolls, substantially as described.

5. The combination, with a wringer provided with C-shaped springs, of a stop connected to the wringer and interposed in the path of each movable arm of said springs, said stop being provided at its free end with a nut forming a part of said stop, having a reduced bearing-surface, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILHELM HERMANN.

Witnesses:
CHAS. H. BURKE,
JOSEPH BRUS.