

M. WARREN.
Clothes-Pin.

No. 204,927.

Patented June 18, 1878.

Fig. 1.

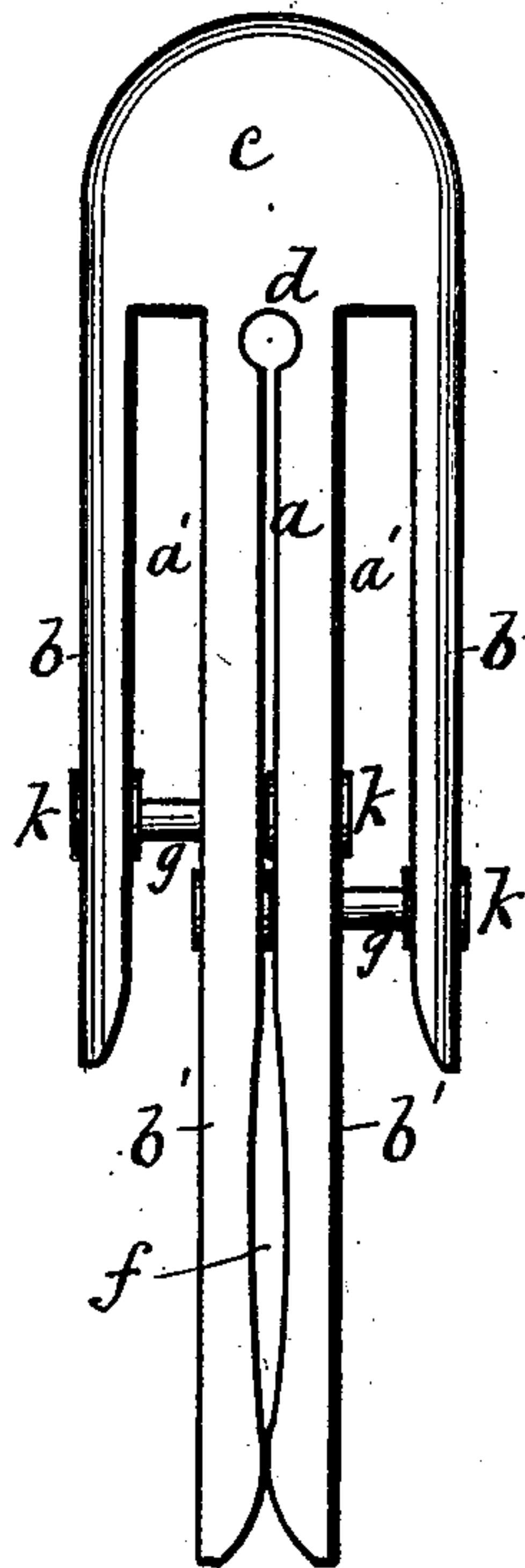


Fig. 2.

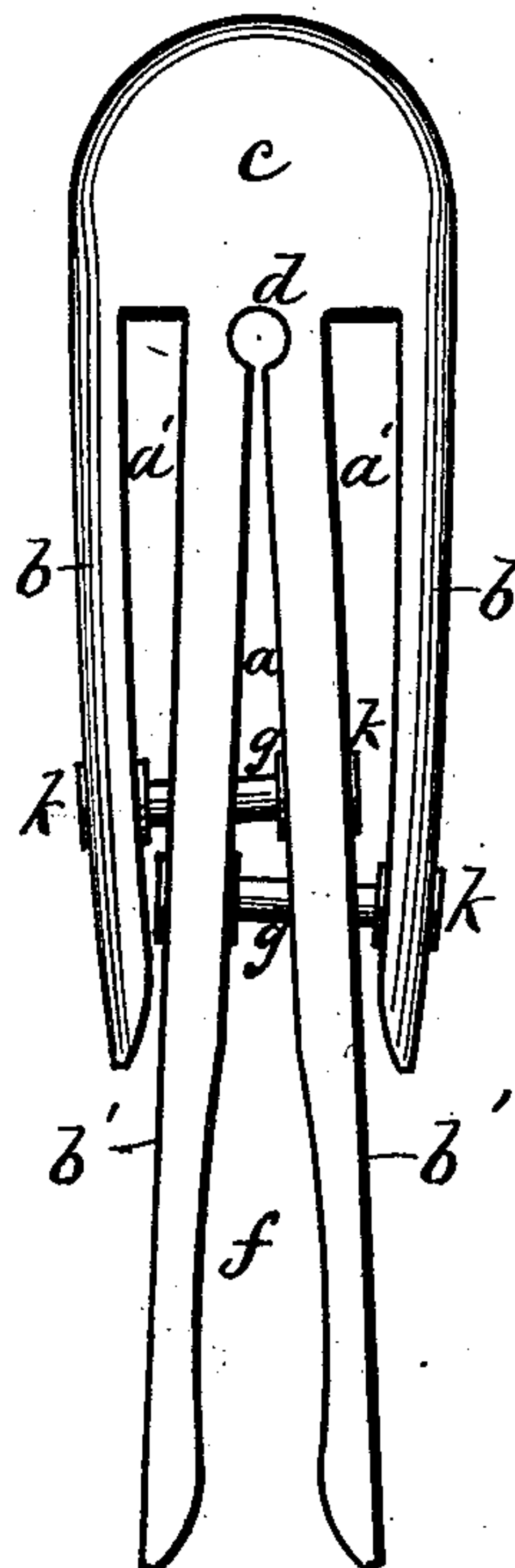
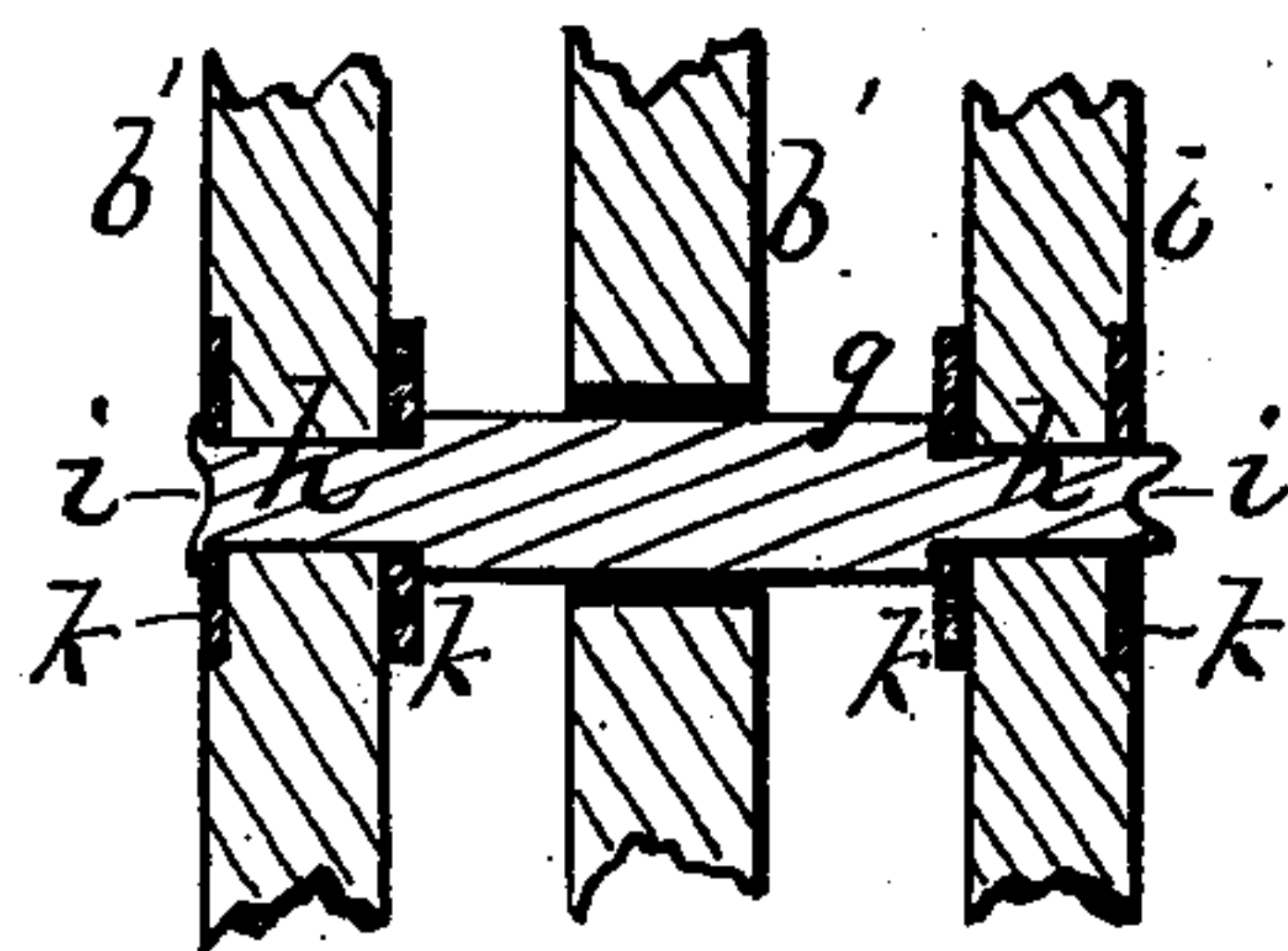


Fig. 3.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN CLOTHES-PINS.

Specification forming part of Letters Patent No. **204,927**, dated June 18, 1878; application filed February 26, 1878.

To all whom it may concern:

Be it known that I, MARION WARREN, of Penn Yan, in the county of Yates and State of New York, have invented a certain new and useful Improvement in Clothes-Pins; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of one of the clothes-pins in the closed position. Fig. 2 is a similar view of the same in the open or expanded position. Fig. 3 is a section longitudinally through one of the rivets, showing the same enlarged above the natural size for clearness of illustration.

My improvement relates to wooden clothes-pins. The object is to render the same stronger and more elastic than ordinary clothes-pins, and obviate the danger of splitting.

The invention consists in the construction and arrangement hereinafter more fully described.

The clothes-pins are turned from a rectangular stick of wood placed in a lathe, which delivers them in blanks. They are then subjected to three saws or cutters, arranged on a single mandrel at a suitable distance apart. The middle saw cuts the narrow kerf *a*, while the two outside saws cut the wide kerfs *a' a'*. This leaves the pin with two outside arms, *b b*, which are short, and two center arms, *b' b'*, which are long, the latter being nearly double the length of the former. A solid head, *c*, is left at the top, as shown. A round hole, *d*, is preferably formed at the top of the middle kerf, for the purpose of imparting elasticity to the middle arms, and obviating the tendency to split. A milling-head is then run between the middle arms, which produces the concave space *f* between said arms, and also bevels the inner ends of the arms, so as to more easily pass over the line or wire. In this condition the clothes-pin is complete, with the exception of applying the rivets.

g g are the rivets, of which two are used, made of brass wire, cut into suitable lengths, or of other non-corrosive metal. The ends of these rivets are turned down, forming shoulders *h h*, and the extremities are bored out

conical or hollow, as shown at *i i*, Fig. 3. Each rivet is attached to one of the outside arms *b*, and passes loosely through the contiguous or adjoining middle arm *b'*, and is attached at the opposite end to the farther middle arm *b'*. Thus each middle arm is attached fast to one of the rivets, and slides freely upon the other, and each rivet at its ends is attached to one outside arm and the farther inside arm, by which means, when the pin is grasped in the hand and pressed forcibly together, so as to compress the two outside arms, the two inner arms will be thrown apart, ready to be slipped upon the clothes-line, as shown in Fig. 2; and in so operating the pin the outside pressure inward will counteract or neutralize the inner expansion outward of the middle arms, and prevent the tendency to split at the top, which is a great difficulty in ordinary wooden clothes-pins made in a single piece. A much greater elasticity is also produced, which renders the pin effective from its own inherent elasticity, and obviates the necessity of interposing metallic springs.

The attachment of the ends of the rivets to the arms is made by means of washers *k k*. The shoulders *h h* are made long enough to extend through the arms. One washer rests inside and one outside of the arm upon the shouldered end, and when in place an instrument like a pair of pliers, but having jaws which fit into the conical ends *i i*, is used; and when said instrument is inserted and a partial turn is made, said conical end of the rivet will be upset or expanded outward over the eye of the washer, as shown at the left in Fig. 3, thereby securing it fast in place. As the rivets are cut from a length of wire, the shoulders cut, and the ends hollowed by a milling-tool, the work of preparing the rivets is rapidly and cheaply done, and they are expeditiously and easily applied.

The inward motion of the outside arms and the outward motion of the inside arms counteract each other, and when fully compressed said arms strike each other and produce stops, so that the pin can be opened only to a certain extent, which prevents any tendency to split.

Instead of wood, any other suitable material may be used.

What I claim herein as new is—

1. A clothes-pin consisting of the head *c*, provided with the exterior short arms *b b* and interior long arms *b' b'*, each exterior arm being connected with the farther interior arm by a rivet or other connection, arranged so that pressure upon the two outside arms inward will produce expansion of the center arms outward, as shown and described, and for the purpose specified.

2. The combination, with the arms *b b'*, of the rivet *g*, provided with the shoulders *h*

h, and the washers, *k k*, fitting on said shoulders on the opposite sides of the arms, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MARION WARREN.

Witnesses:

R. F. OSGOOD,

CHAS. F. SPENCER.