

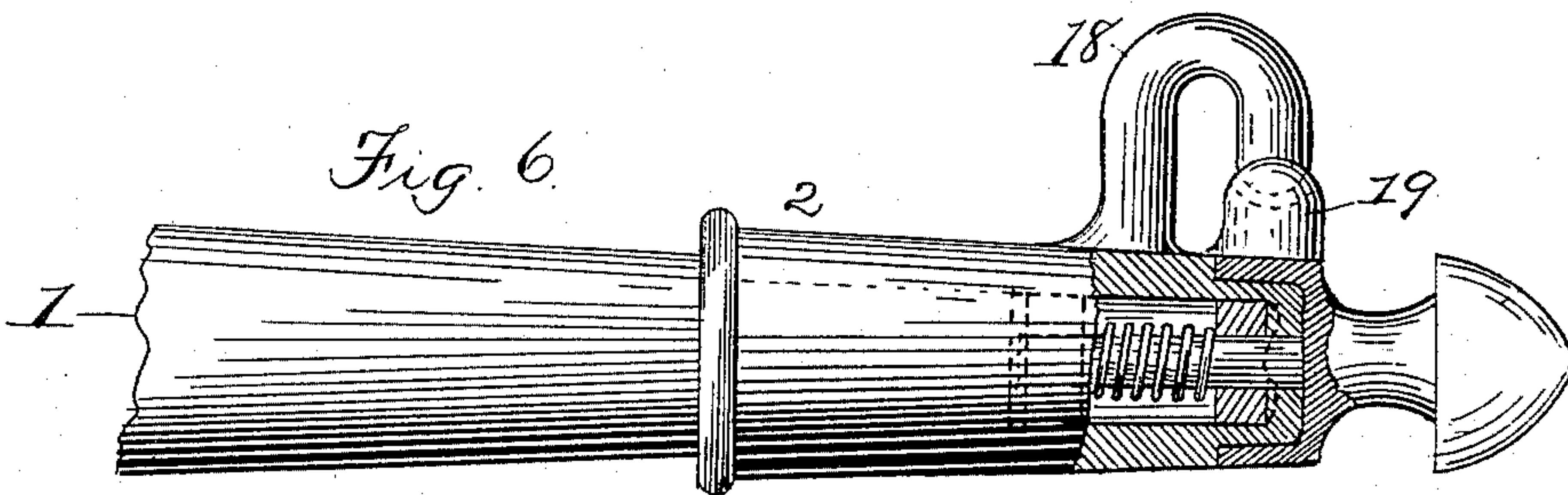
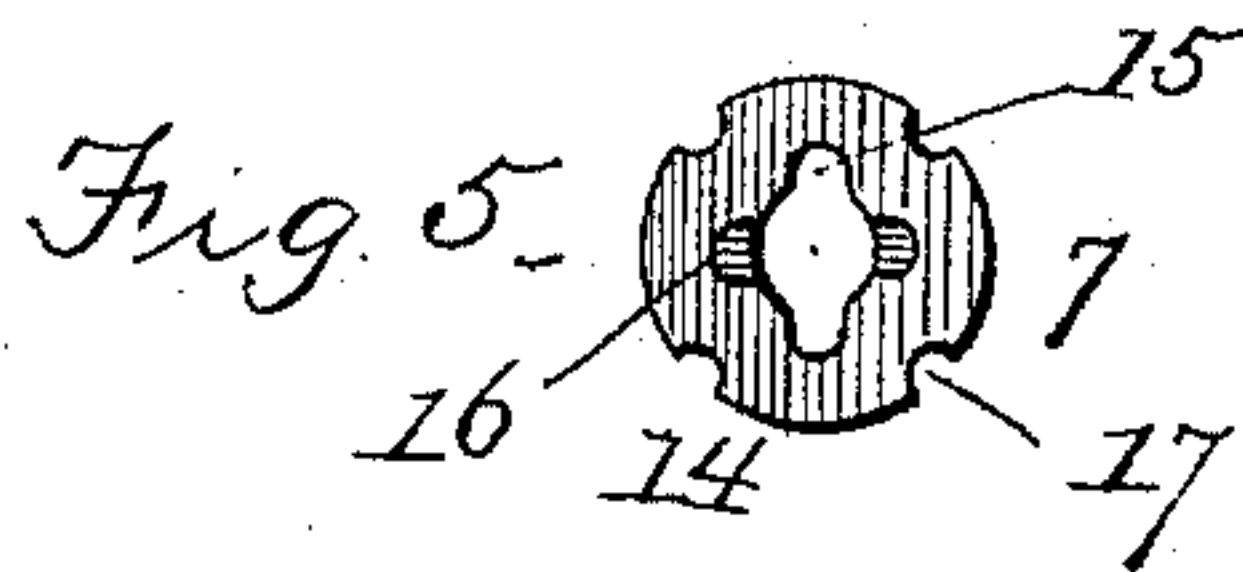
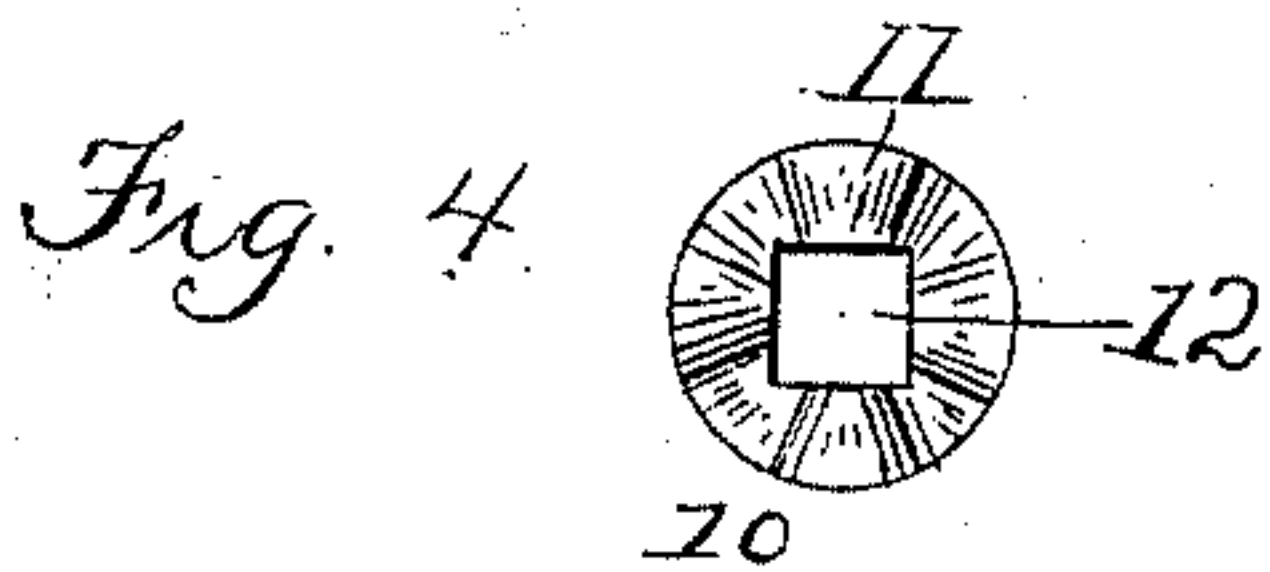
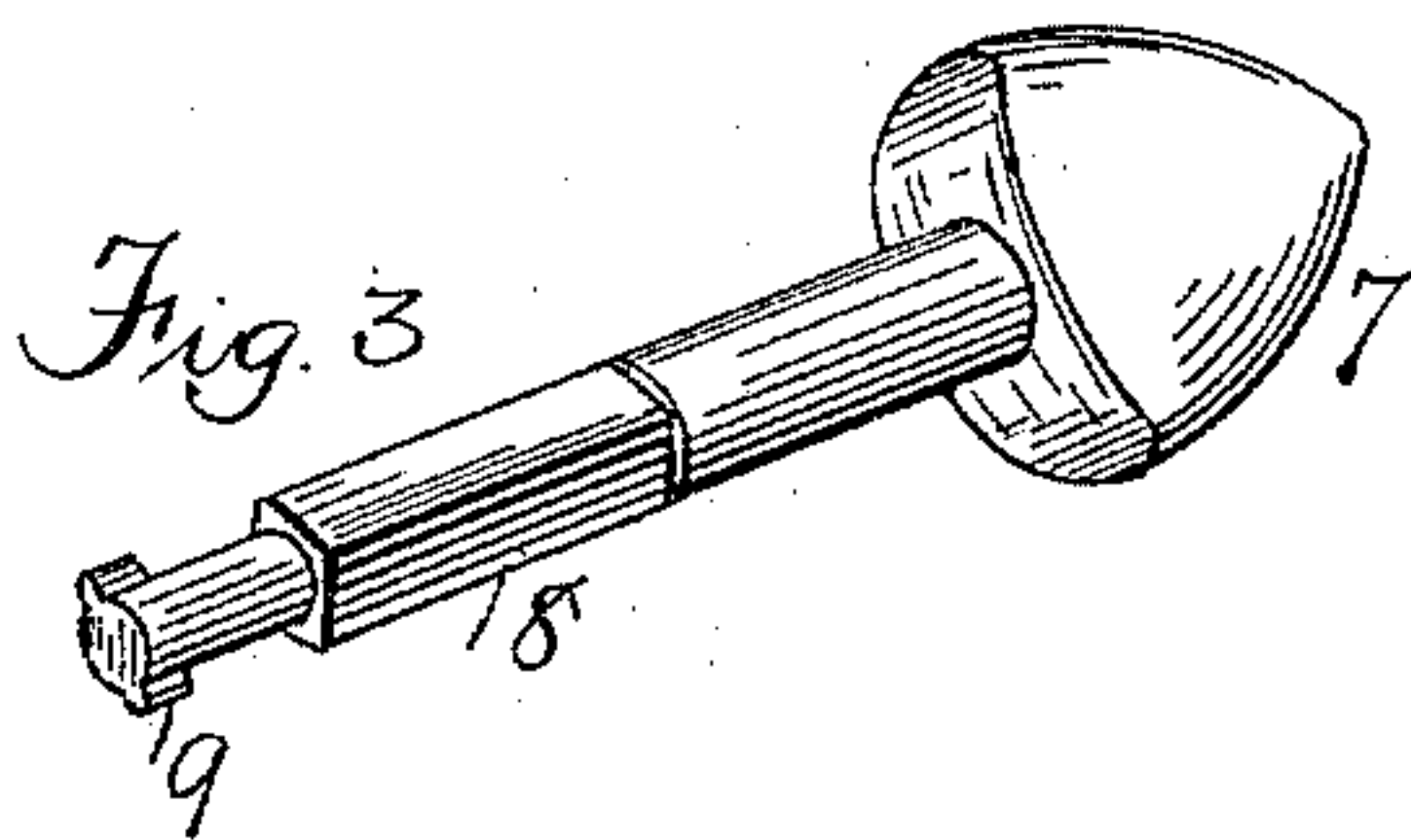
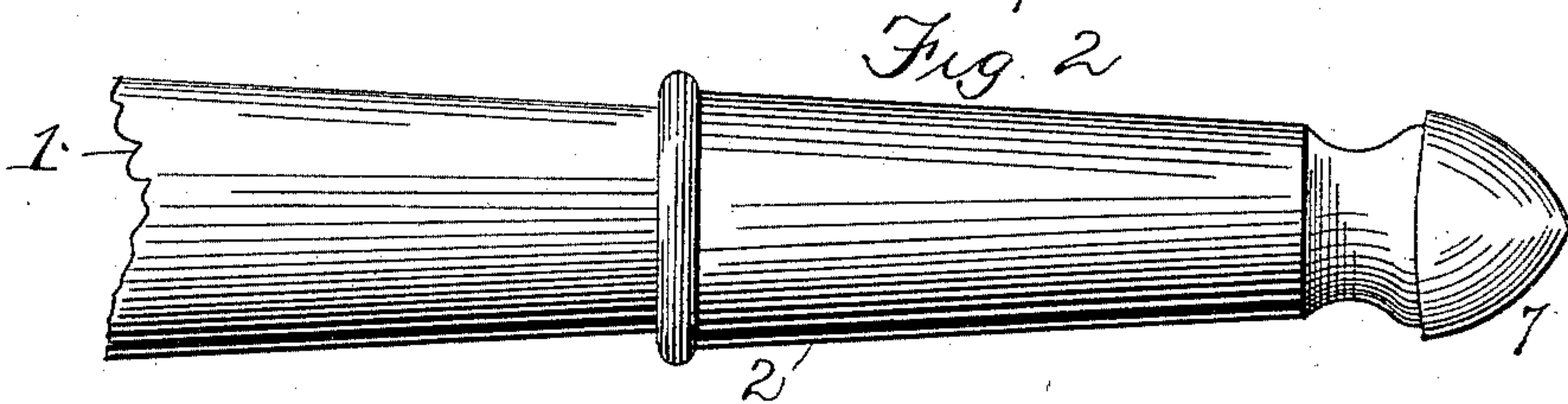
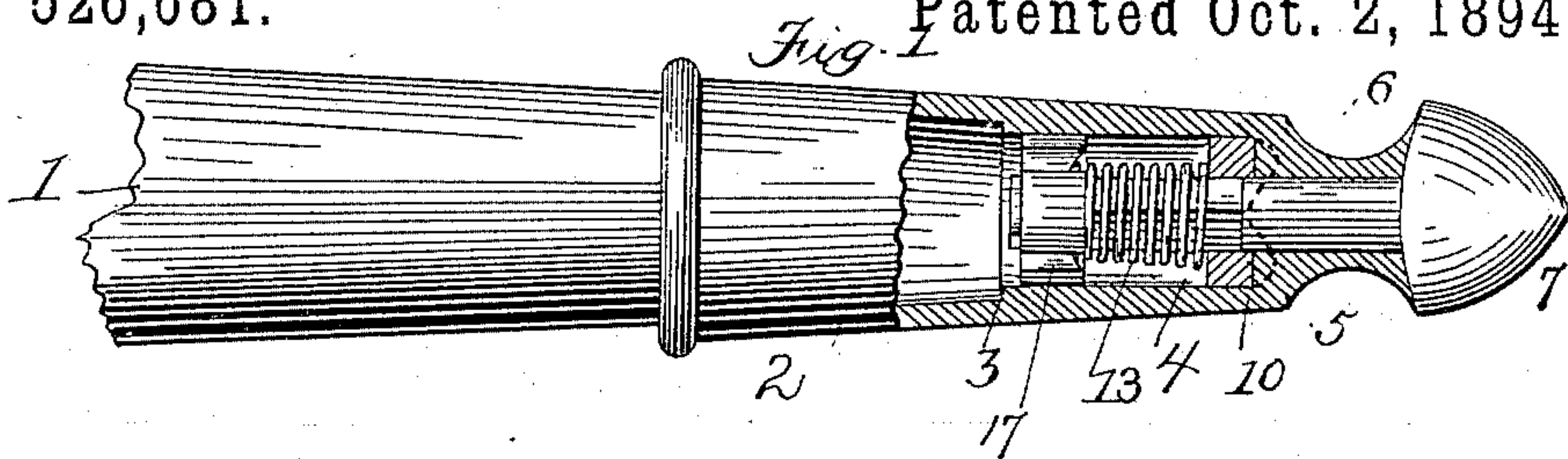
(No Model.)

2 Sheets—Sheet 1.

P. BROWN.  
TRACE FASTENING.

No. 526,681.

Patented Oct. 2, 1894.



Witnesses  
*Thos. E. Robertson*  
*W. E. Clendaniel*

Inventor  
*Perry Brown*  
By *J. W. Robertson*  
Attorney

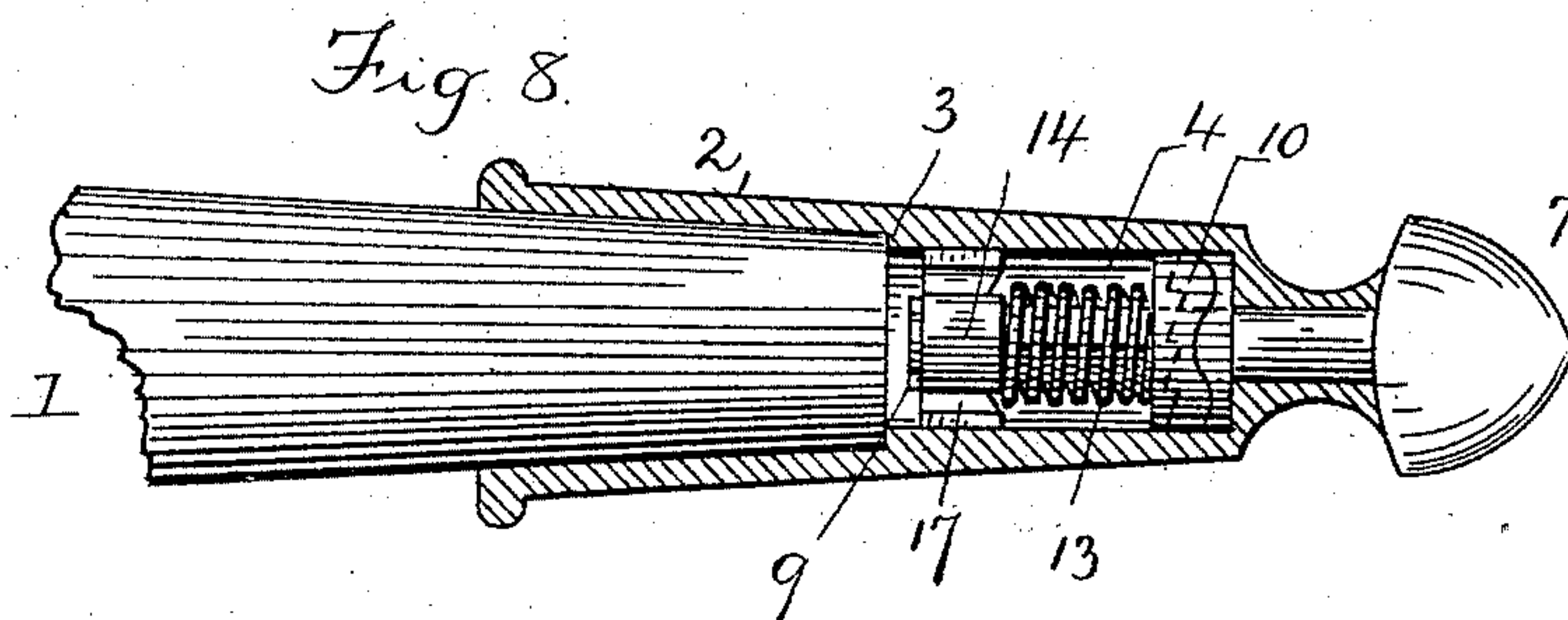
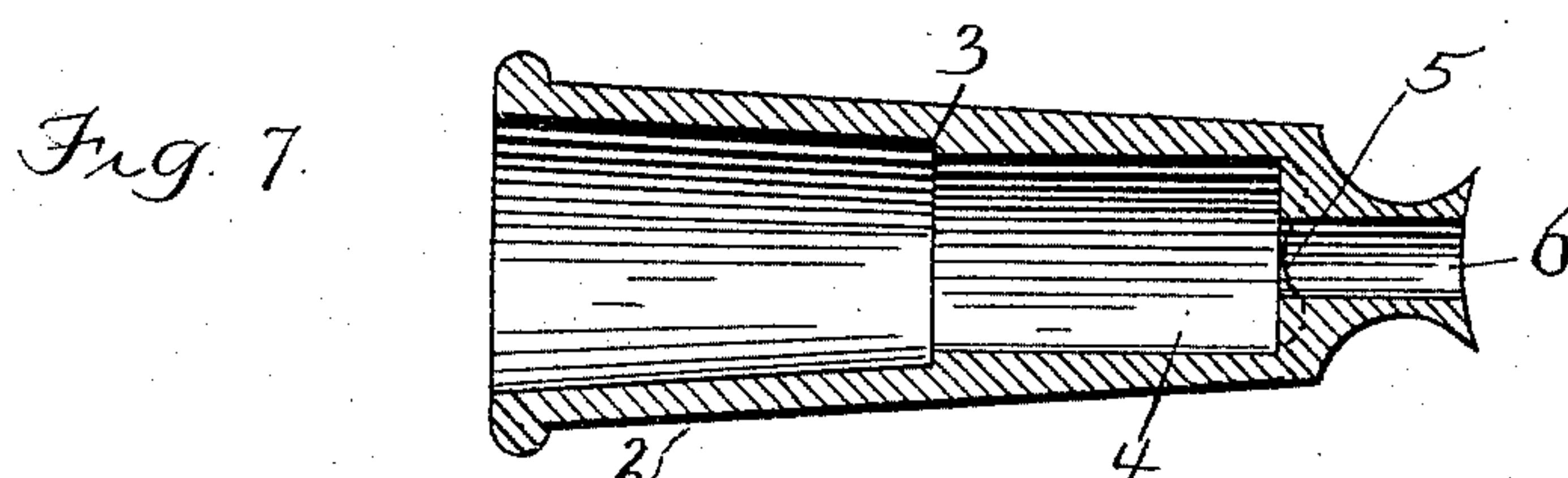
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2 Sheets—Sheet 2.

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H. E. Clelandaniel

Inventor.

Perry Brown

By T. J. W. Robertson

Attorney



# UNITED STATES PATENT OFFICE.

PERRY BROWN, OF SHARONVILLE, OHIO.

## TRACE-FASTENING.

SPECIFICATION forming part of Letters Patent No. 526,681, dated October 2, 1894.

Application filed October 20, 1891. Serial No. 409,260. (No model.)

*To all whom it may concern:*

Be it known that I, PERRY BROWN, a citizen of the United States, residing at Sharonville, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Trace-Fastenings, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This improvement is designed to provide a trace fastener, whether of the hook or the turn-button variety, with a strong and convenient turning piece or button that will be cheaply made and not liable to get out of order, and 15 the invention consists in the peculiar construction, arrangement and combinations of parts hereinafter more particularly described and then definitely claimed.

In the accompanying drawings—Figure 1 is 20 a side view of part of a whiffletree provided with the simplest form of my invention, which is shown mostly in section and with the button in its normal position. Fig. 2 shows a plan of the same with the button turned to 25 allow of the trace being readily passed over it. Fig. 3 is a perspective view of the turning piece or button, detached. Fig. 4 is a face view of a clutch washer. Fig. 5 is a similar view of a fastening washer, by which the 30 parts are secured in the thimble. Fig. 6 shows the best mode in which I have contemplated applying my principle, as it shows a button and hook combined so that the whiffletree can be used either with a trace or chain. Fig. 35 7 is a central horizontal longitudinal section of the thimble. Fig. 8 is a similar section to Fig. 1 of a modification.

Referring now to the details of the drawings by figures—1 represents the end of a 40 whiffletree which is provided with a thimble 2, against which the end of the whiffletree abuts. Inside the shoulder is a chamber 4, at the bottom of which are clutch projections 5, within which is a bearing 6, for the turning 45 piece or button 7. This turning piece or button has part of its shank squared, as shown at 8, in Fig. 3, and is reduced in size at its inner end, which is provided with teats 9, for a purpose hereinafter explained.

50 The clutch-washer 10 has a series of projections 11 on one side, a square hole 12

through it, to fit the squared part of the shank of the turn-button, and is recessed on the side opposite the cams to receive one end of a spiral spring 13, whose other end sets in a 55 corresponding recess in the fastening washer 14, which is provided with a hole 15 shaped to allow the teats 9 to pass through it and having recesses 16, in which the teats will rest, when the washer has been given a quar- 60 ter turn, and will be held there by the power of the spring 13, so that the whole will be securely fastened in place.

At 17 are shown notches to receive the ends of a forked tool adapted to engage in 65 said recesses by which the washer 14 when the parts are being assembled can be forced down against the pressure of the spring 13, and then turned round to enable the teats 9 to drop into the recesses 16 when the pressure 70 on the tool is relaxed, after which the tool is removed for use on another washer.

The operation, where the button only is used, is as follows: Supposing the button is in its normal or vertical position as in Fig. 1, 75 when it is desired to put the trace on the button, the latter is turned at right angles, or as shown in Fig. 2, to allow the trace to be put on, and then turned again to the vertical position to prevent the trace slipping off. As 80 the button is turned, the projections on the clutch-washer slip over the projections 5, for the spring allows the washer to rise and pass over said projections, and then, as the turning is continued, the force of the spring drives 85 the projection on the washer into the recesses between the projections 5, as before.

Where it is desired to use a chain, I add a hook 18, (see Fig. 6,) and provide the turning 90 piece or button with a projection 19, hollowed out on the under side and adapted to lap over and around the end of the hook, as shown. In this form, I prefer that the button shall be provided with a sleeve to inclose the end of the thimble as shown by the sectional 95 part of Fig. 6.

I prefer to make the button curved at the back, as shown in Fig. 2, which serves two purposes, viz: The curved portion of the thimble will tend to keep the curved back of 100 the button in a vertical position, and the curved back of the button will prevent the



defacing, or cutting of the trace, which will occur if the back were square cornered.

The clutch projections may, if preferred, be made on a separate piece fixed in the bottom of the chamber 4, as shown in Fig. 8.

In some cases, I may make the projecting cams, ratchet-shaped, as shown in dotted lines in Fig. 8, but prefer the shape shown in full lines.

By the constructions above set forth, I am enabled to provide trace fasteners, all of whose parts, except the spring, can be readily cast of malleable iron and set in place without any drilling, or tapping, as no screw-threads are required to be made, and thus the whiffletrees may be provided with very convenient and secure trace fasteners, which can not only be made cheaply, but will be very durable, and therefore not likely to get out of order.

For the purpose of more clearly defining my meaning in the following claims, I here state that by the word "button" in the claims I mean to include not only the button as shown in Figs. 1, 2 and 3, but also when provided with a projection 19 or its equivalent for co-operation with a hook.

What I claim as new is—

1. The combination of a thimble, having projections in its interior surface, a washer co-acting with said projections, a turning button passing through said washer and the end of the thimble and having teats on its ends, a washer having a hole to allow the teats of the button shank to pass through and recesses to hold said teats, and a spring around the

shank of the button, substantially as described.

2. The combination of a thimble 2, having projections in its interior, a button having a polygonal shank, a clutch-washer 10 fitting said polygonal shank, a fastening washer 14, and a spring 13 set between the washers, substantially as described.

3. The whiffletree-hook herein described comprising the thimble 2, having clutch projections in its interior, the turning-button having a polygonal shank and teats 9, the clutch washer 10, having a polygonal hole through it, the spring 13, and the fastening washer 14 having a hole to allow the teats 9 to pass through and recesses 16 to hold said teats, all substantially as shown and described.

4. The whiffletree hook herein described, comprising the thimble 2, having clutch projections in its interior, and a hook on its exterior, the turning-button having a projection 19 co-acting with the hook and a polygonal shank 8 with teats 9, the clutch washer 10 provided with a polygonal hole, the spring 13, and the fastening washer 14 having a hole to allow the teats 9 to pass through and recesses 16 to hold said teats, all substantially as shown and described.

In testimony whereof I affix my signature, in presence of two witnesses, this 19th day of October, 1891.

PERRY BROWN.

Witnesses:

THOS. E. ROBERTSON,  
M. P. CALLAN.