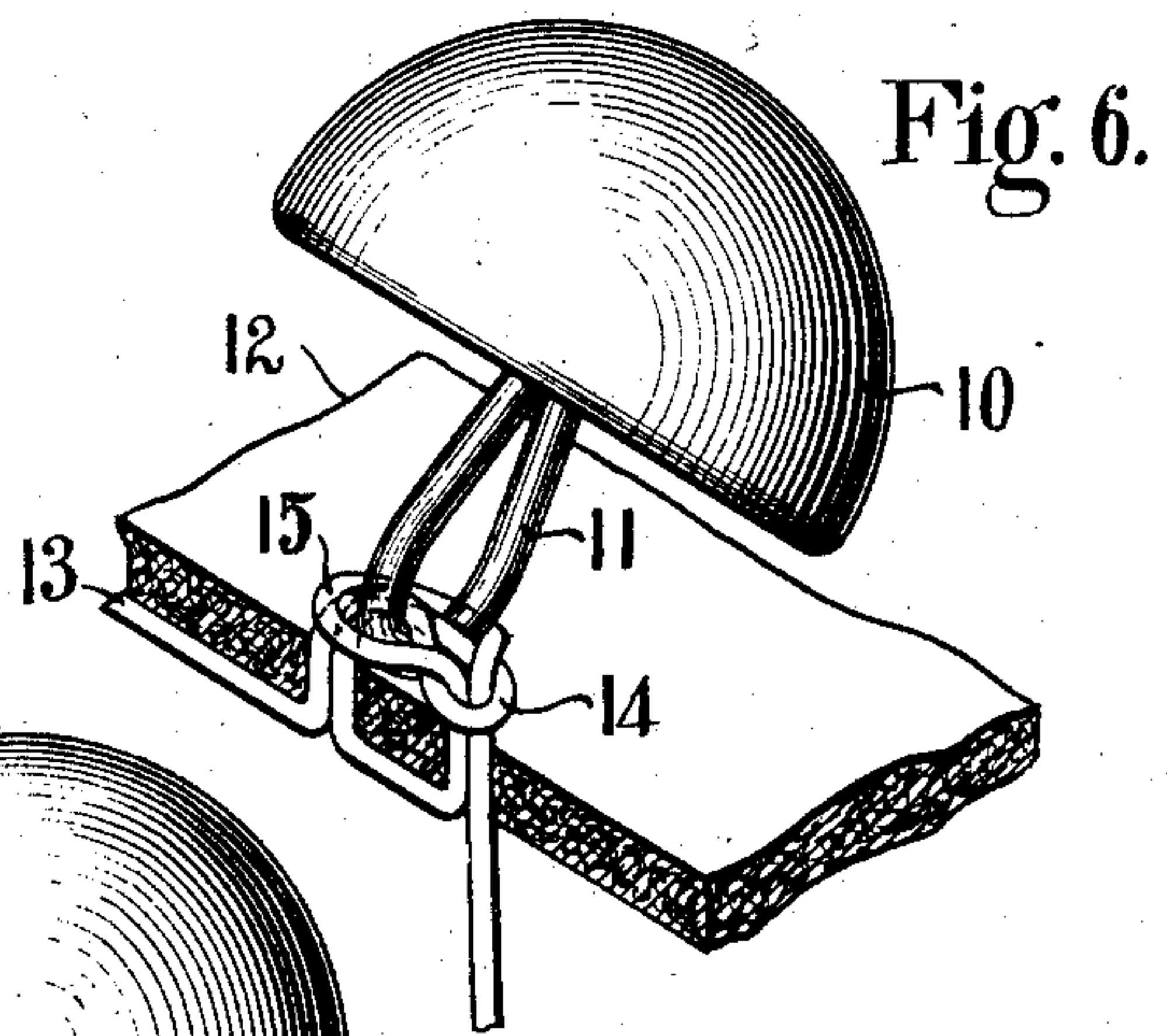
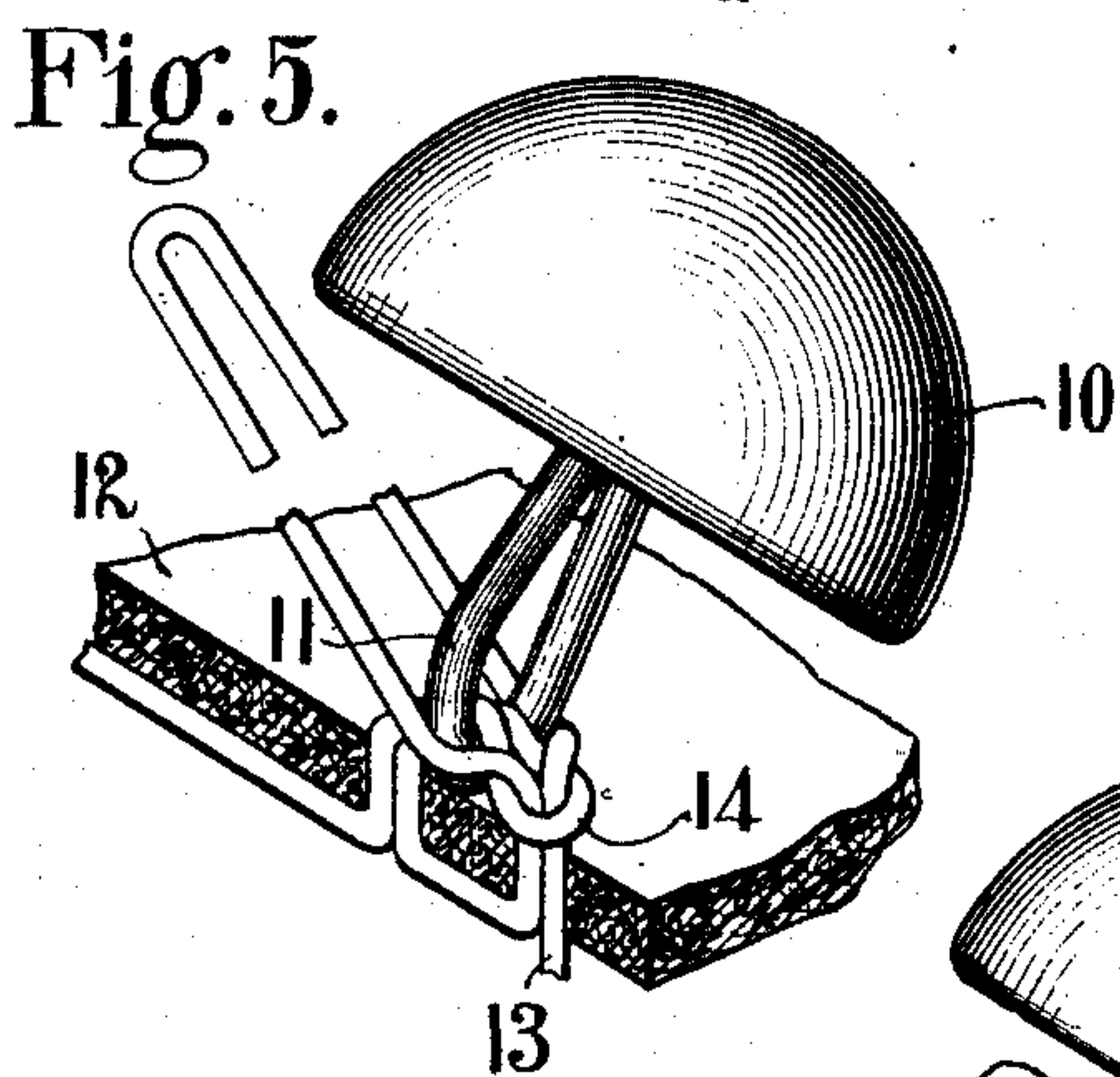
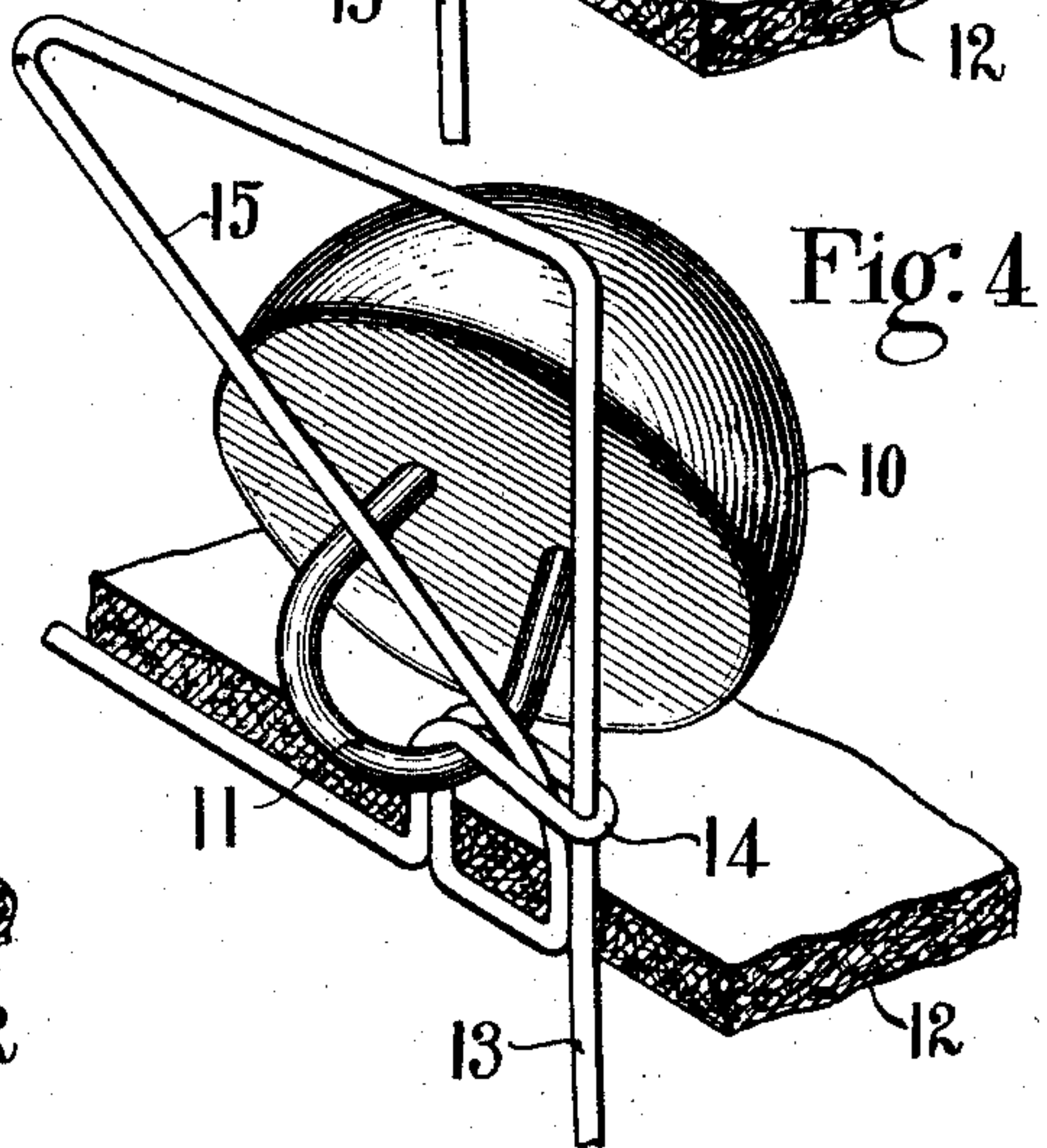
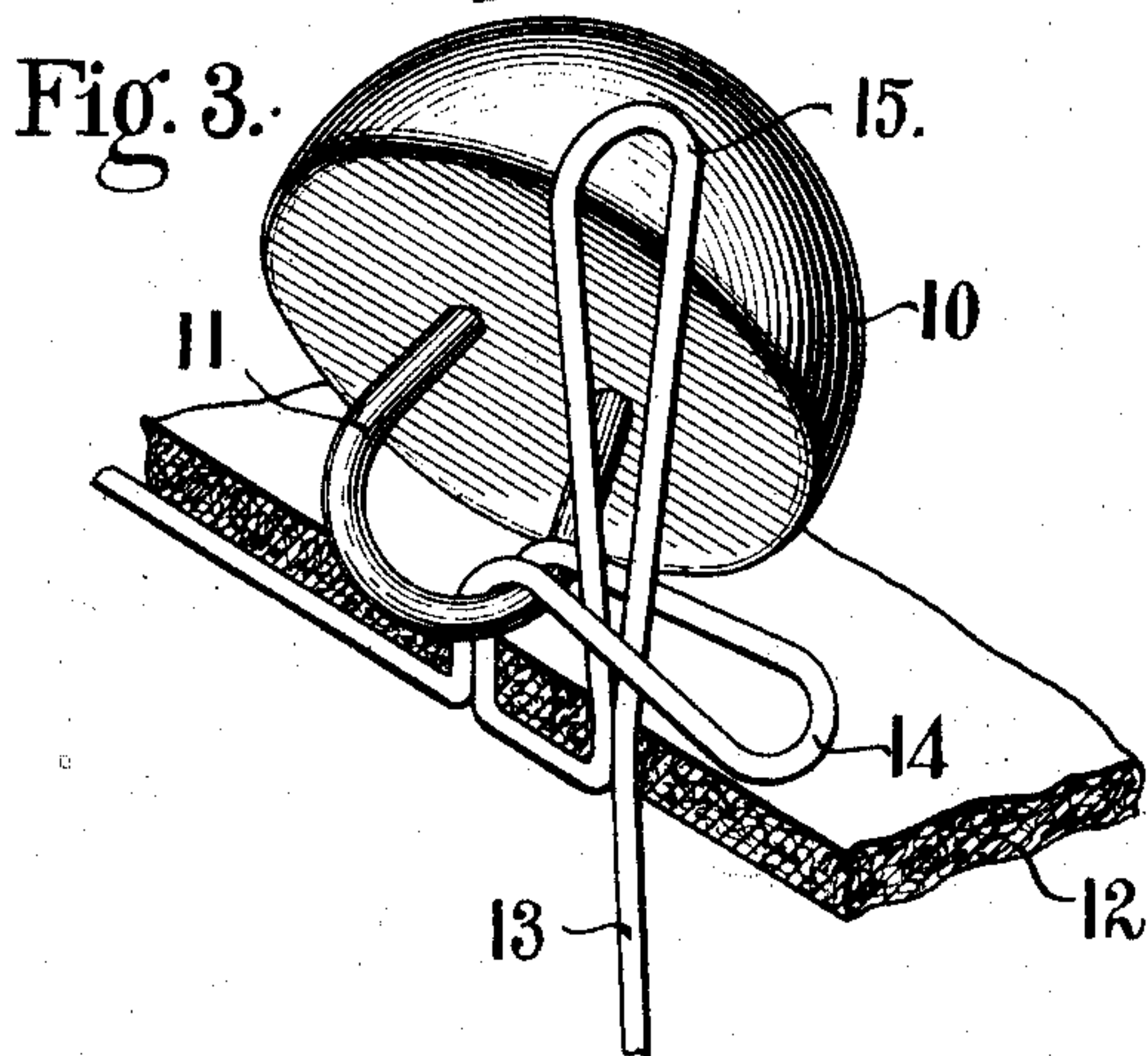
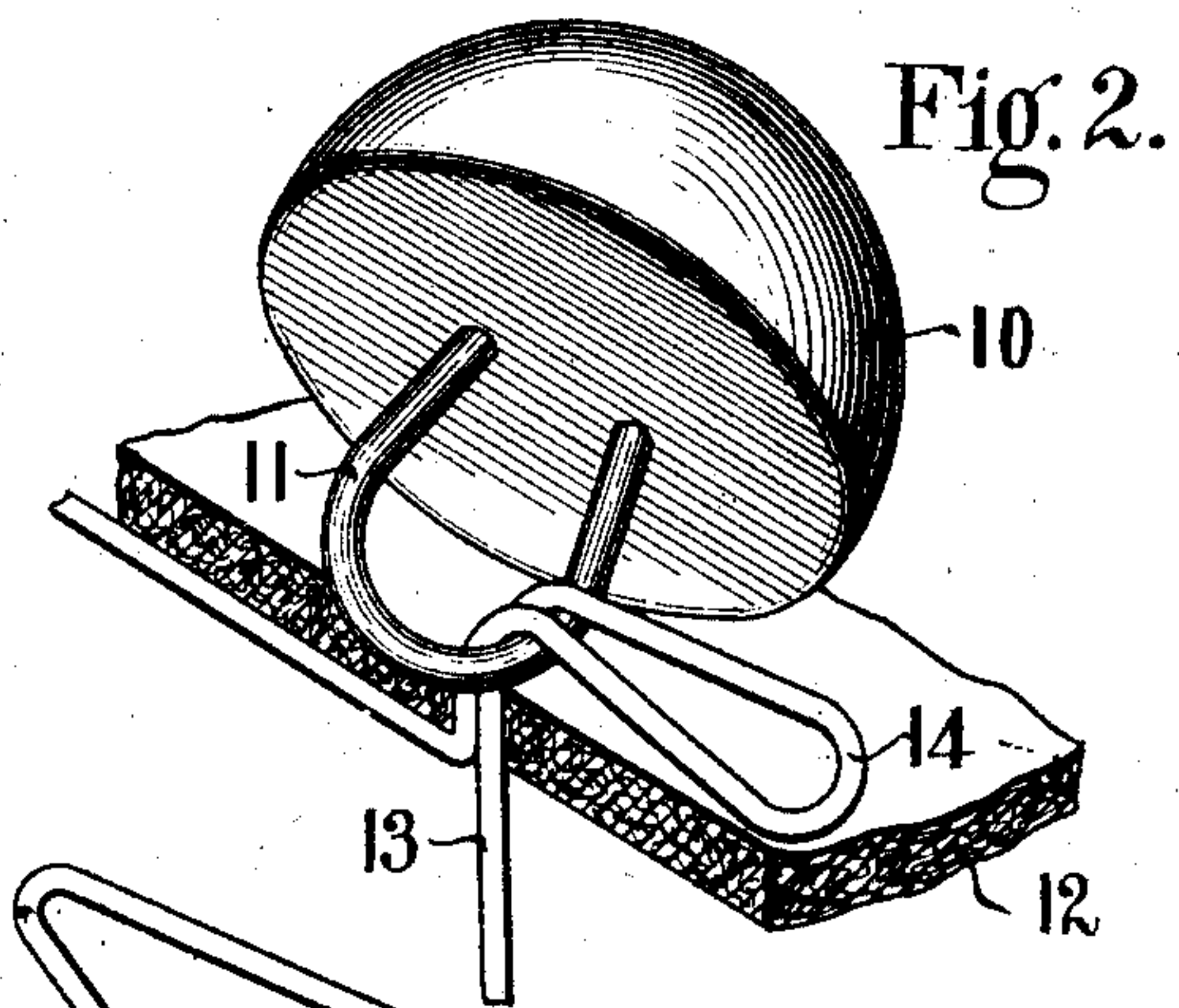
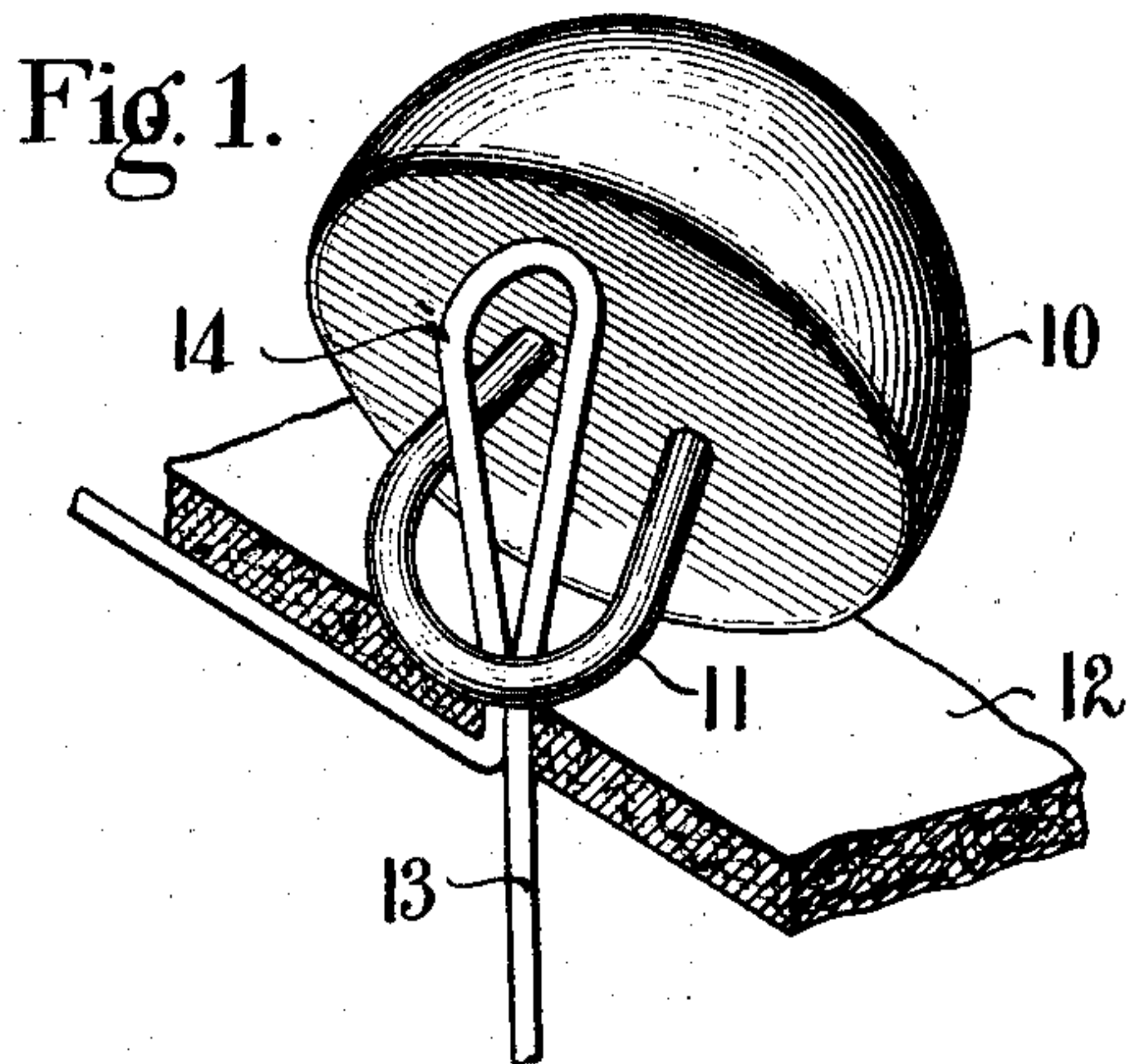


J. MATHISON.  
METHOD OF ATTACHING BUTTONS TO THE UPPERS OF BOOTS OR SHOES.  
APPLICATION FILED MAR. 12, 1908.

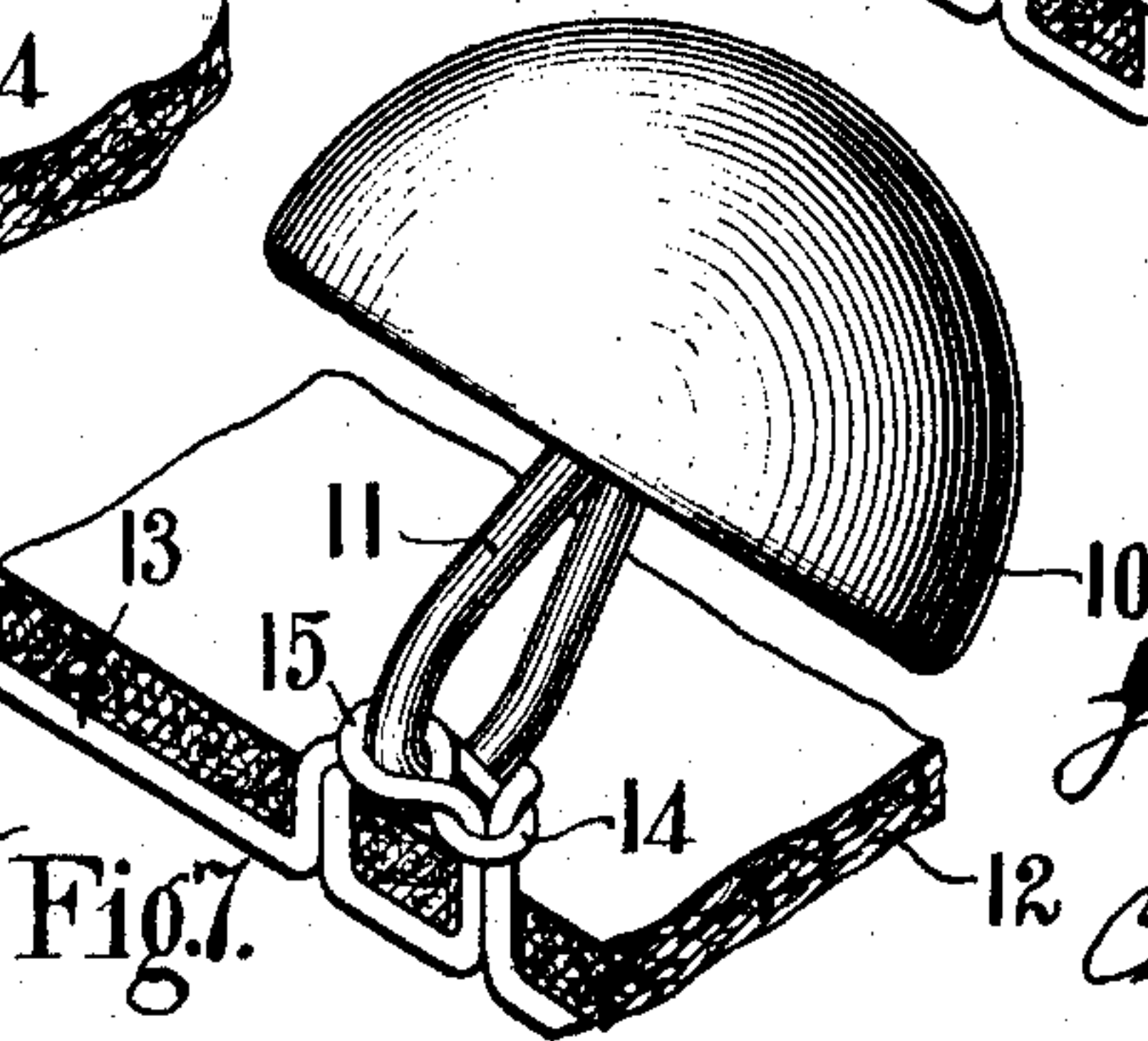
907,385.

Patented Dec. 22, 1908.



Witnesses:

Walter J. Tins  
Ernest A. Steff



Inventor

Joseph Mathison,  
by his attorney,  
Charles S. Gooding.



# UNITED STATES PATENT OFFICE.

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## METHOD OF ATTACHING BUTTONS TO THE UPPERS OF BOOTS OR SHOES.

No. 907,385.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed March 12, 1908. Serial No. 420,655.

*To all whom it may concern:*

Be it known that I, JOSEPH MATHISON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Methods of Attaching Buttons to the Upper of a Boot or Shoe, of which the following is a specification.

This invention relates to an improved method for attaching eye-buttons to the uppers of boots and shoes by loops of thread.

The object of the invention is to secure an eye-button to a boot or shoe upper in such a manner that it will be impossible to detach said button from the upper, even if the thread between two adjacent buttons is cut or broken, without either cutting or breaking that portion of the thread which is immediately connected to the button-eye.

The invention consists in the improved method for attaching an eye-button to the upper of a boot or shoe by loops, as hereinafter described and particularly as set forth in the appended claims.

A patent for a machine for carrying out the method hereinafter set forth has been issued to applicant dated November 3, 1908, No. 902,828.

Referring to the drawings: Figure 1 is a perspective view, enlarged, of a shoe button and a portion of an upper, with a primary loop of thread passed through the upper and through the eye of the button. Fig. 2 is a perspective view of the button, with the primary loop carried to one side of the eye. Fig. 3 is a perspective view of a button, with a secondary loop passed through the primary loop. Fig. 4 is a perspective view of a button, a portion of the upper being shown in section and the secondary loop passed through the primary loop, with the primary loop drawn up tight and the secondary loop spread into triangular form in order that the button may be pushed therethrough. Fig. 5 is a perspective view with the upper shown in section, showing the button pushed through the secondary loop. Fig. 6 is a perspective view of a button with a portion of the upper and the primary and secondary loops drawn up around each other and around the eye of the button. Fig. 7 is a perspective view similar to Fig. 6 in which the primary and secondary loops are drawn tight against the eye of the button and around each other.

Like numerals refer to like parts throughout the several views of the drawings.

In carrying my improved method into practical operation, the material is clamped against a suitable work-rest, preferably by a presser foot and released therefrom when it is desired to feed the same. An eye needle is employed to make the stitch and to feed the material, and coacting with said eye needle in forming the stitch I prefer to employ two loopers, one to take the first loop from the needle, called the "primary" loop; and the other to take a second loop from the needle, called the "secondary" loop, while the thread is controlled at the proper time and held by a clamp and tightened by a take-up to take up the slack in the thread and to tighten said loops.

In the drawings, 10 is a button having an eye 11, and 12 is the upper.

13 is the thread leading to the supply or spool.

14 is the primary loop and 15 the secondary loop.

Assuming the material to be held by suitable means, such, for instance, as between a work-rest and a presser foot, the needle, threaded in the usual manner, is passed up through the material and through the eye of the button, thus carrying the primary loop 14 upwardly through the upper and through the eye of the button, as illustrated in Fig. 1. The clamp then opens and releases the material while the needle is moved laterally thereof to feed the material and the button the extreme length of the distance between the centers of the eyes of the buttons. The material is then firmly held by clamping the same by means of the presser foot and the needle is then moved downwardly and throws out the primary loop 14 at one side thereof, and this primary loop is taken from the needle by any suitable means, such, for instance, as a hooked looper, and is held by the looper while the needle descends through the material to its lowest point, said loop being carried by the primary looper toward the operator and slightly to the left of the line of feed. The needle then moves toward the operator the length of the short stitch. The needle then rises through the material, outside of the eye of the button and through the first loop, which is at this time held by the primary looper and spread in the path of the needle by reason of the



forward and side movement of said primary looper. When about half way up the needle rests and the primary looper moves still farther sidewise to the left of the line of feed, and then moves backwardly from the operator, releasing the primary loop of the thread from the hook of the looper and leaving the loop of thread around the needle, as in Fig. 3.

A suitable thread clamp then clamps the free end of the thread and the needle continues its upward movement and draws up all of the slack of the thread of the first stitch. The thread clamp is then released and the needle passes downwardly, throwing out a secondary loop 15 to one side, so that the same may be taken by any suitable means, such as a secondary hooked looper, which enters the loop thrown out by the needle and draws it out in the direction of the line of feed to form a triangle, as shown in Fig. 4, whereupon the button is pushed through the triangle by a suitable button pusher. Now the needle descends to its lowest position and as it descends the thread supply is clamped and held tightly. The secondary hook stands in a rigid position, while the thread take-up moves forward and pulls the thread while said thread is still held by the secondary looper and while it is rigidly clamped, taking up all the remaining slack of the first stitch and drawing the primary and secondary loops and the eye of the button down near the hole made by the needle in its first upward movement, as shown in Fig. 5, leaving the button eye at right angles with the line of feed and drawing said primary and secondary loops tight together near the first hole made by the needle in its first ascent. The secondary loop is now cast off of the secondary looper, the take-up moves a second time to draw up the slack of the second stitch or to draw up the slack of the second loop and to draw the loops tightly down against each other and around the eye of the button, as illustrated in Figs. 6 and 7, successively, forming a flat knot. It will be seen that even if the thread is cut between two adjacent buttons, it will have no effect upon loosening this knot.

Having thus described my invention, what I claim and desire by Letters Patent to secure is:

1. The herein described method of attaching a button to the upper of a boot or shoe which consists in passing a threaded needle upwardly through said upper and through the eye of said button, then moving said needle downwardly and throwing out a primary loop of thread; next taking said primary loop from the needle and holding the same while the needle descends through the upper and moves laterally thereof; then moving said primary loop laterally of the needle and spreading the same into position, so that

upon a second upward movement of the needle through the upper and at one side of the button eye, a secondary loop of the same thread will be passed through the primary loop; then releasing the primary loop, the needle drawing up all of the slack at the end of its second upward movement, the thread leading from the needle to the spool being at this time held fast; next moving the needle downwardly a second time and throwing out a secondary loop; then taking said secondary loop from the needle and spreading it in triangular form; then pushing the button through said secondary loop, the needle descending to its lowest position; then tightening the thread while the secondary loop is held fast, drawing up all of the slack of the thread of the first stitch and leaving the secondary loop through the primary loop and drawing the secondary loop and primary loop tight together near the hole made by the needle in its first rise; then casting off the secondary loop; and finally drawing up the slack of the second stitch, with the loops drawn tight around each other and around the eye of the button.

2. The herein described method of attaching a series of buttons to the upper of a boot or shoe which consists in clamping the upper with a suitable clamp, then passing a threaded needle through the upper and the eye of the button; then releasing the clamp and moving the material, by means of the needle, the extreme length of the distance between the centers of the eyes of two adjacent buttons; then clamping the material; and then moving the needle downwardly and throwing out a primary loop of thread; next taking said primary loop from the needle and holding the same while the needle descends through the upper and moves laterally thereof; then moving said primary loop laterally of the needle and spreading the same into position, so that upon a second upward movement of the needle through the upper and at one side of the button eye, a secondary loop of the same thread will be passed through the primary loop; then releasing the primary loop, the needle drawing up all of the slack at the end of its second upward movement, the thread leading from the needle to the spool being at this time held fast; next moving the needle downwardly a second time and throwing out a secondary loop; then taking said secondary loop from the needle and spreading it in triangular form; then pushing the button through said secondary loop, the needle descending to its lowest position; then tightening the thread while the secondary loop is held fast, drawing up all of the slack of the thread of the first stitch and leaving the secondary loop through the primary loop and drawing the secondary loop and primary loop tight together near the hole made by the needle in



its first rise; then casting off the secondary  
loop and drawing up the slack of the second  
stitch, with the loops drawn tight around  
each other and around the eye of the button;  
5 and finally moving the needle into position to  
again be moved upwardly through the upper  
and the eye of the button.

In testimony whereof I have hereunto set  
my hand in presence of two subscribing wit-  
nesses.

JOSEPH MATHISON.

Witnesses:

CHARLES S. GOODING,  
LOUIS A. JONES.