

No. 654,430.

Patented July 24, 1900.

J. A. BERGER.  
PNEUMATIC MATTRESS.

(Application filed Nov. 11, 1899.)

(No Model.)

Fig. 1.

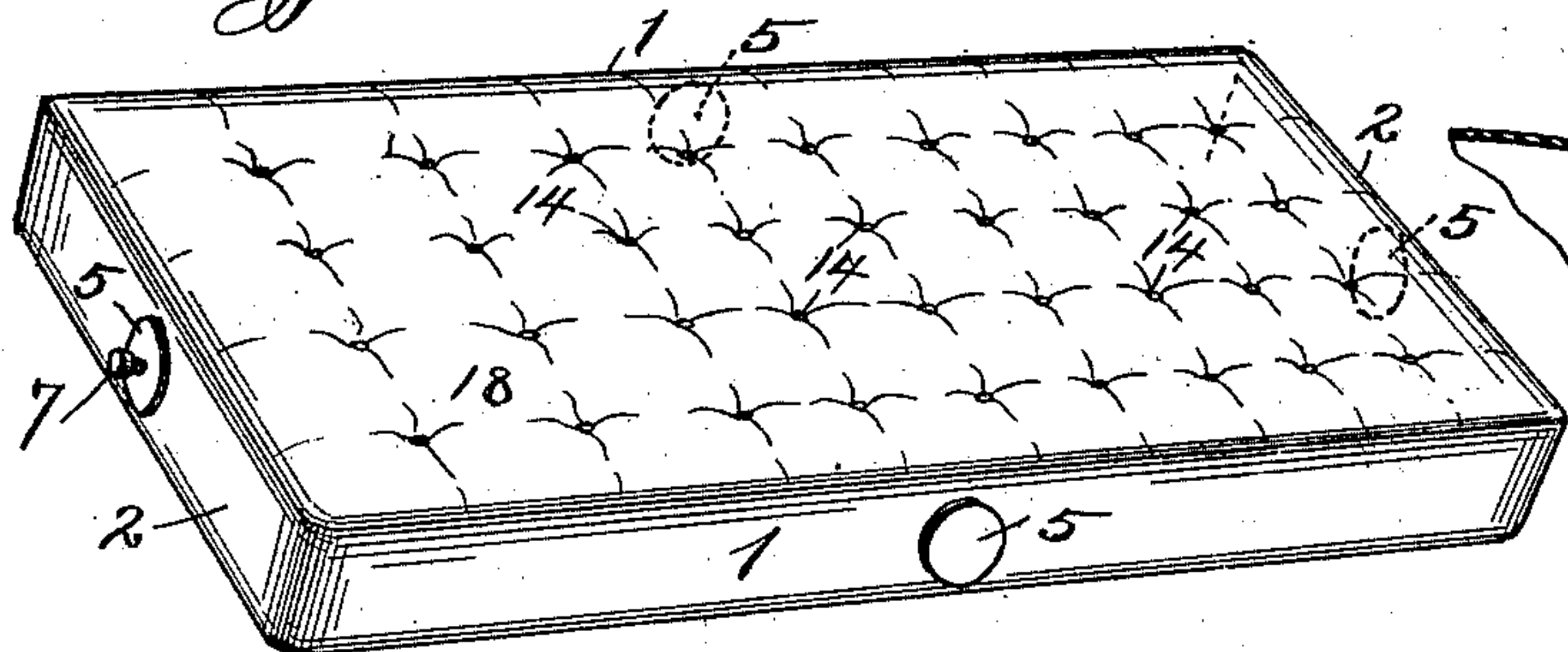


Fig. 2.

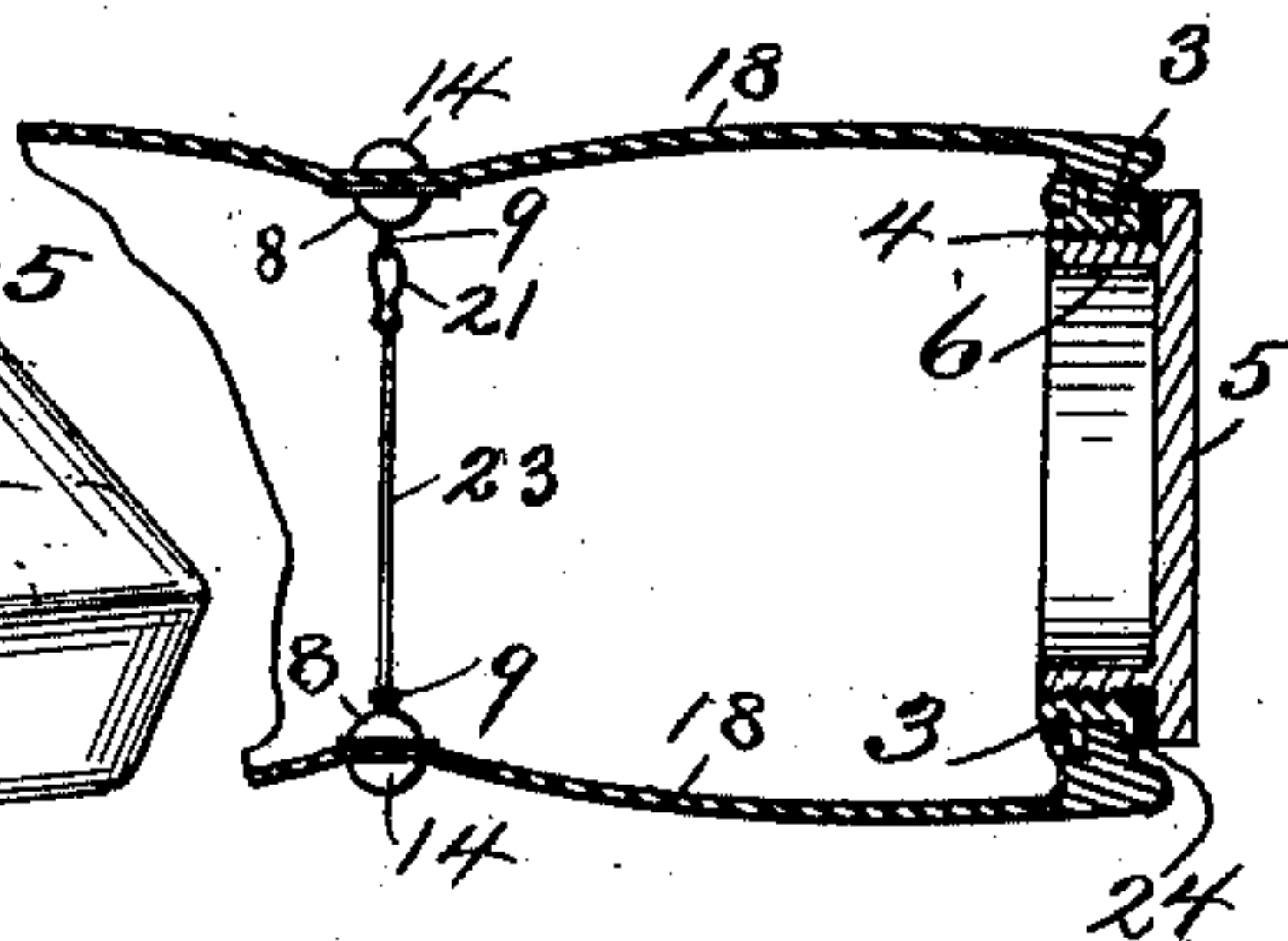


Fig. 3.

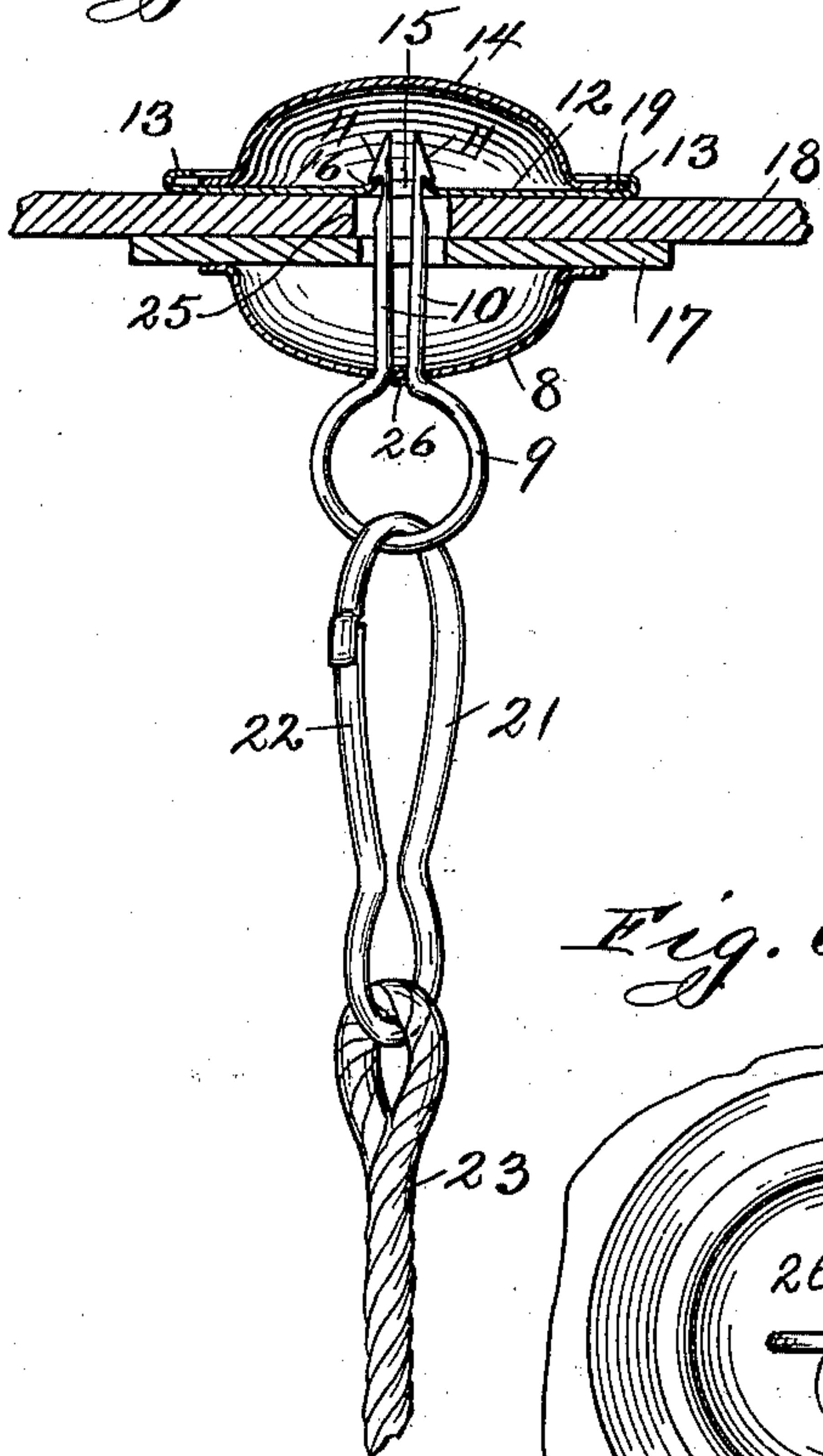


Fig. 4.

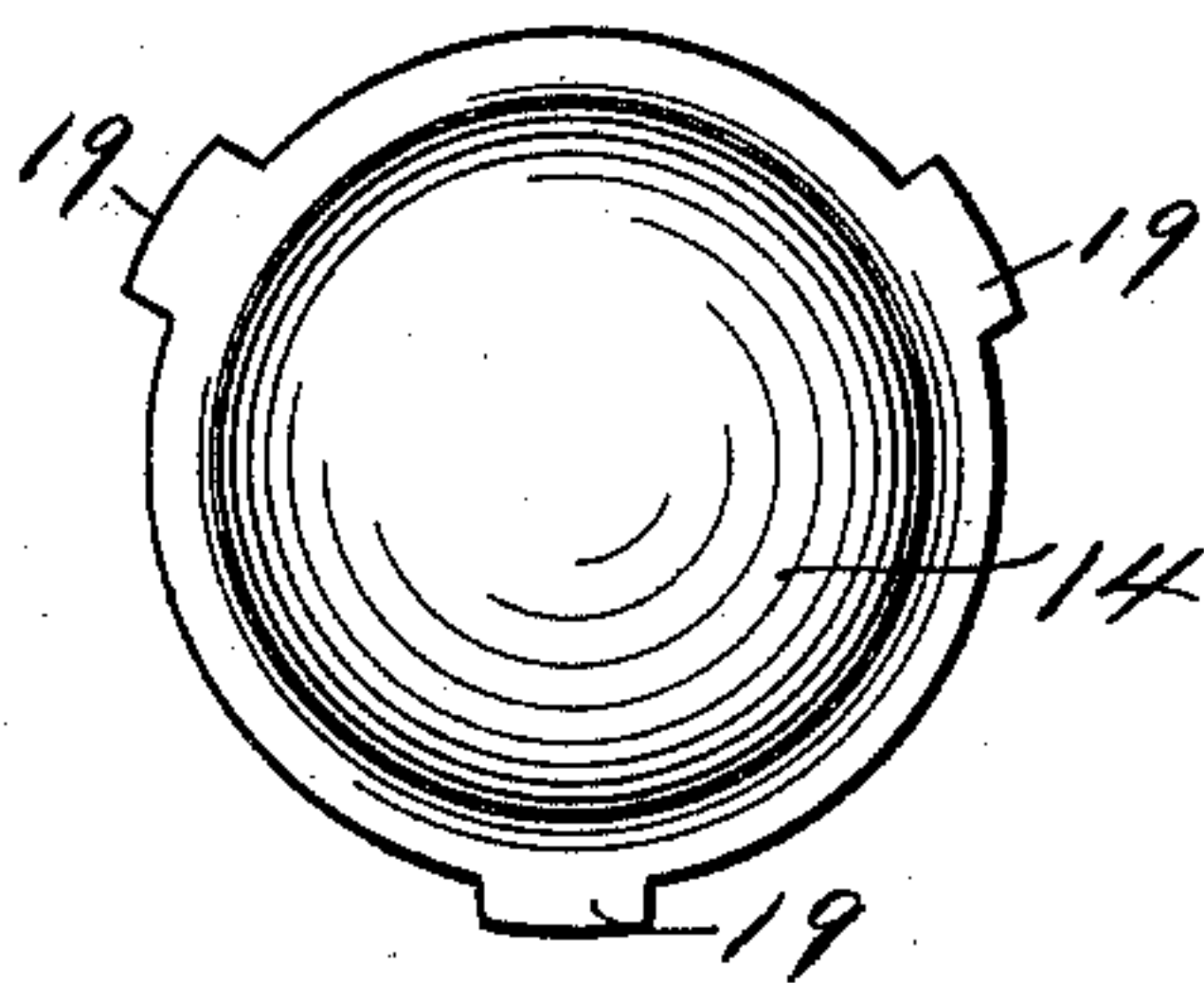


Fig. 5.

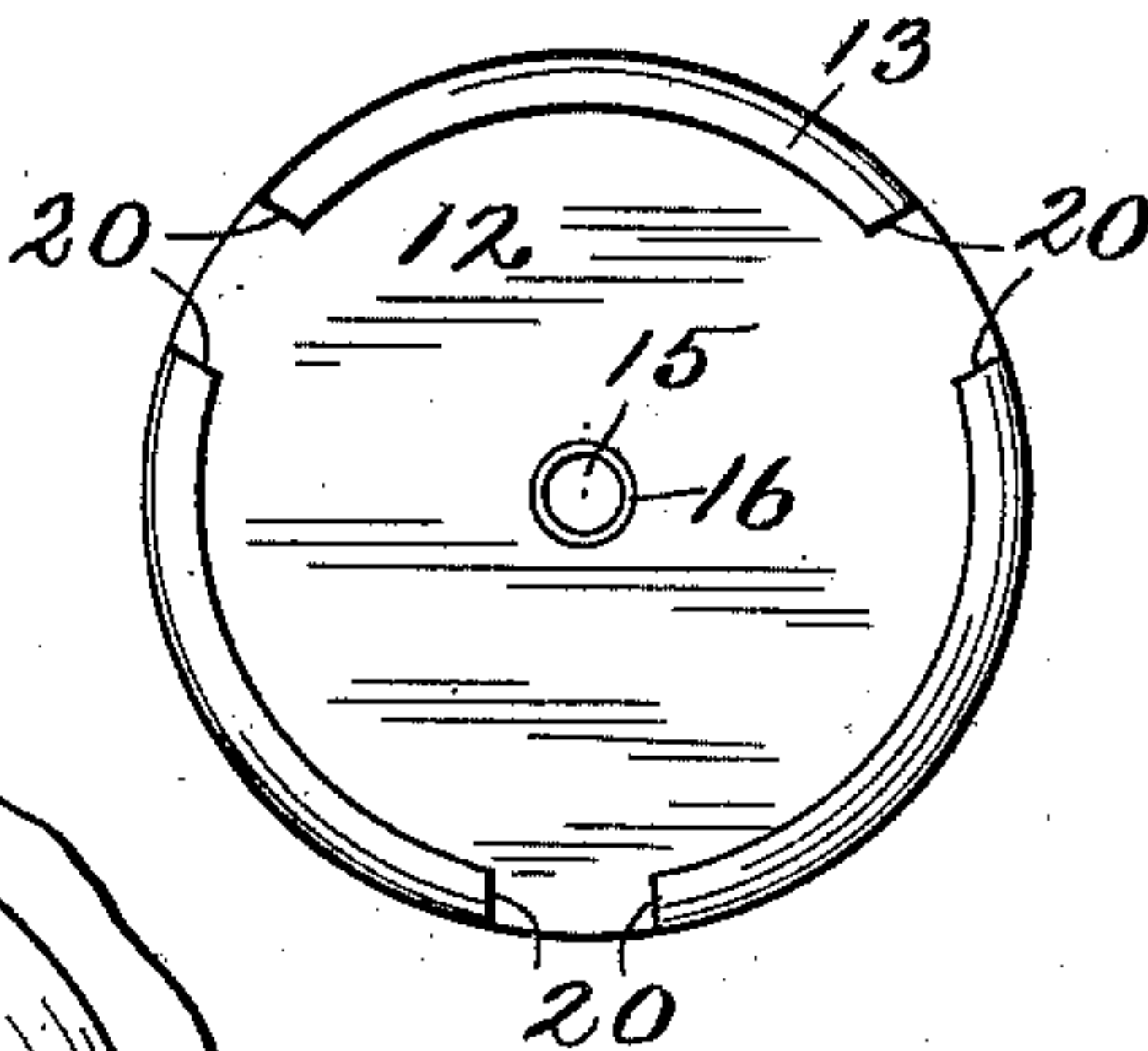
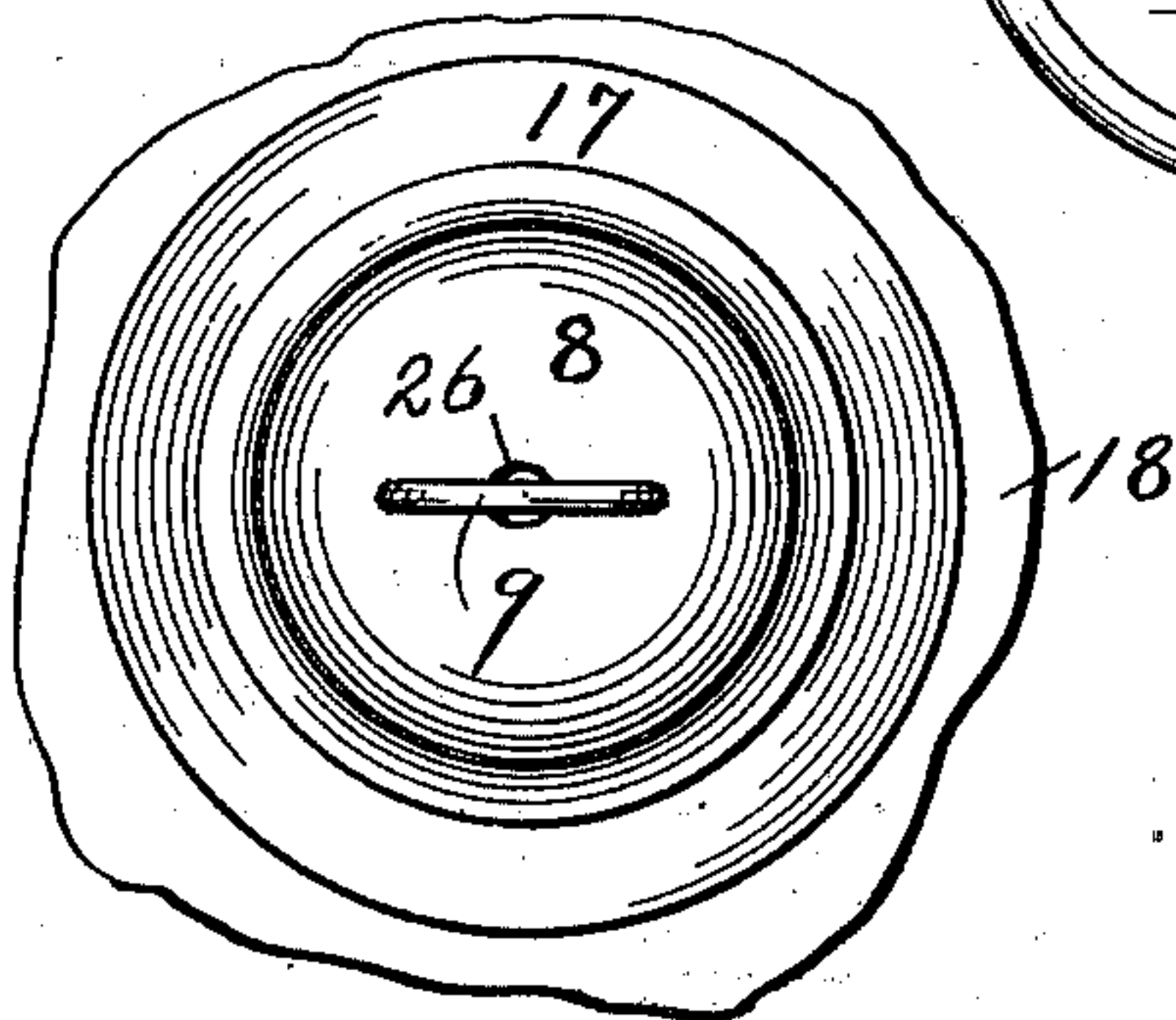


Fig. 6.



Witnesses:

R. J. Jaeger,  
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Inventor:

Joseph A. Berger  
By *[Signature]*  
his Atty.



# UNITED STATES PATENT OFFICE.

JOSEPH A. BERGER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
SANDFRID HARNSTROM, OF SAME PLACE.

## PNEUMATIC MATTRESS.

SPECIFICATION forming part of Letters Patent No. 654,430, dated July 24, 1900.

Application filed November 11, 1899. Serial No. 736,570. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH A. BERGER, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pneumatic Mattresses, of which the following is a specification.

My invention has particular reference to a form of pneumatic mattress adapted to permit a puncture to be mended from the inside. To this end I provide a mattress with armholes in the side and end walls and detachable connections between the upper and lower tufting-buttons arranged so that an operator may draw any part of the inside of the walls through one of the armholes, and thus be enabled to mend a puncture by a patch on the inner surface of said part.

The construction and operation of the parts with which I put my invention into practice will be understood from the following description with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of a mattress constructed according to my invention. Fig. 2 is an enlarged vertical section through one of the armholes and cap for closing same and the adjoining part of the mattress, showing the position of a pair of the tufting-buttons and their connection. Fig. 3 is a vertical section through one of the upper tufting-buttons and the part of the wall engaged by same, showing also the connection whereby same is attached to the opposite button in the lower wall. Fig. 4 is a plan of the outer part or cap of one of the buttons. Fig. 5 is a plan of the disk engaging said cap. Fig. 6 is a plan of one of the inner caps, showing the loop or ring projecting from same, showing part of the wall of the mattress and the washer between said cap and wall.

The body of the mattress is formed of rubber cloth or rubber-lined ticking. Side walls 1 and ends 2 are each provided with a bushing 3, which is vulcanized or otherwise permanently sealed to the material of said walls and is interiorly threaded at 4. A cap 5 has an exteriorly-threaded flange or projection 6, fitting within said bushing. One of said caps

is provided with a valve 7, such as is ordinarily used on pneumatic tires and through which the mattress is inflated.

The tufting-buttons consist of an inner cap 8 and loop 9, having its shanks 10 projecting through said cap, with the barbs 11 at their ends engaging a disk 12. Said disk 12 has peripheral flanges 13 engaging the outer cap 14. The perforation 15 is punched, so as to leave a slightly-raised rim 16 upon same. This permits the barbs 11 to be readily inserted through said perforation, so as to engage said rim 16, as shown in Fig. 3. A washer or gasket 17 is preferably placed between the cap 8 and the wall 18. The cap 14 is provided with projections 19, which are held under the flanges 13. Said flanges 13 are cut away at 20 to permit the insertion of the projections 19. The cap 14 is placed upon the disk 12, with the projections 19 registering with the perforations 20. The cap is then turned in either direction to bring the projections 19 under the flanges 13. The snap-hook 21 is removably secured to the ring 9 by depressing its spring-tongue 22. A flexible cord 23 is secured to the hook 21 and at its lower end secured to the ring 9 of the lower button. The cap 8 is soldered to the shanks 10 at 26 to make the connection air-tight.

The operation of the device is as follows: The tufting-buttons are connected together in pairs, as shown in Fig. 2. This is done by an operator, who passes his hand through the armhole at one of the bushings 3 and snaps the hooks 21 into the rings 9 in the position shown in Fig. 2. After the opposite buttons have been thus connected the caps 5 are firmly screwed into the bushings against the gaskets 24, making an air-tight connection. The mattress is now inflated by an air-pump through a valve 7. In case of a puncture in any of the walls the operator will now remove the nearest cap 5 and will unhook the hooks 21 from the rings 9 near and around said puncture. He will then pull the punctured part of the wall through the armhole until same is in convenient position to patch outside of said armhole. The patch will then appear on the inner surface of the mattress after same has been returned through the armhole to its



former position. The cap will then be returned and the mattress again inflated.

The tufting-buttons are in the first instance secured by placing the gasket 17 over the shanks 10 and upon the cap 8, then placing the disk 12 in position over the perforation 25 in the wall of the mattress, and then forcing the barbs 11 through the disk 12. After this the operator will secure the cap 14 upon said disk, as before described. One of the buttons of each pair will have the cord 23 secured to same before fastening said button to the wall. It will be understood that these buttons may be secured to the walls by an operator, who passes one hand through one of the armholes for handling the inner parts of the button, while the outer part of the button is steadied and secured in position by the other hand.

It will be understood that the minor details of my device, such as the particular form of tufting-buttons and the means for connecting the outer and inner caps, may be altered in various ways without departing from the spirit of my invention. I therefore do not confine myself to the particular form of parts shown, except as hereinafter limited in the claims.

I am aware that it is old to form a pneumatic mattress in which the walls are oppo-

sitely connected to form tufts. I therefore do not claim such construction broadly.

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

1. In a pneumatic mattress, a tufting-button comprising an inner cap, a ring or loop having shanks extending through said cap with barbs at their free ends, a perforated disk adapted to be engaged by said barbs at said perforation, and an outer cap covering said barbs and engaging said disk, substantially as described.

2. In a pneumatic mattress, a tufting-button comprising an inner cap, a ring or loop having shanks extending through said cap with barbs at their free ends, a perforated disk adapted to be engaged by said barbs at said perforation, and having the peripheral flanges 13 with the spaces 20 between their ends, and a cap 14 having projections 19 adapted to register with said spaces and to be engaged by the flanges 13 when said cap is turned, substantially as described.

Signed by me at Chicago, Illinois, this 4th day of November, 1899.

JOSEPH A. BERGER.

Witnesses:

WM. R. RUMMLER,  
GLEN C. STEPHENS.