

No. 874,123.

PATENTED DEC. 17, 1907.

H. R. SINCLAIR.  
PIPE VISE.

APPLICATION FILED APR. 6, 1903.

2 SHEETS—SHEET 1.

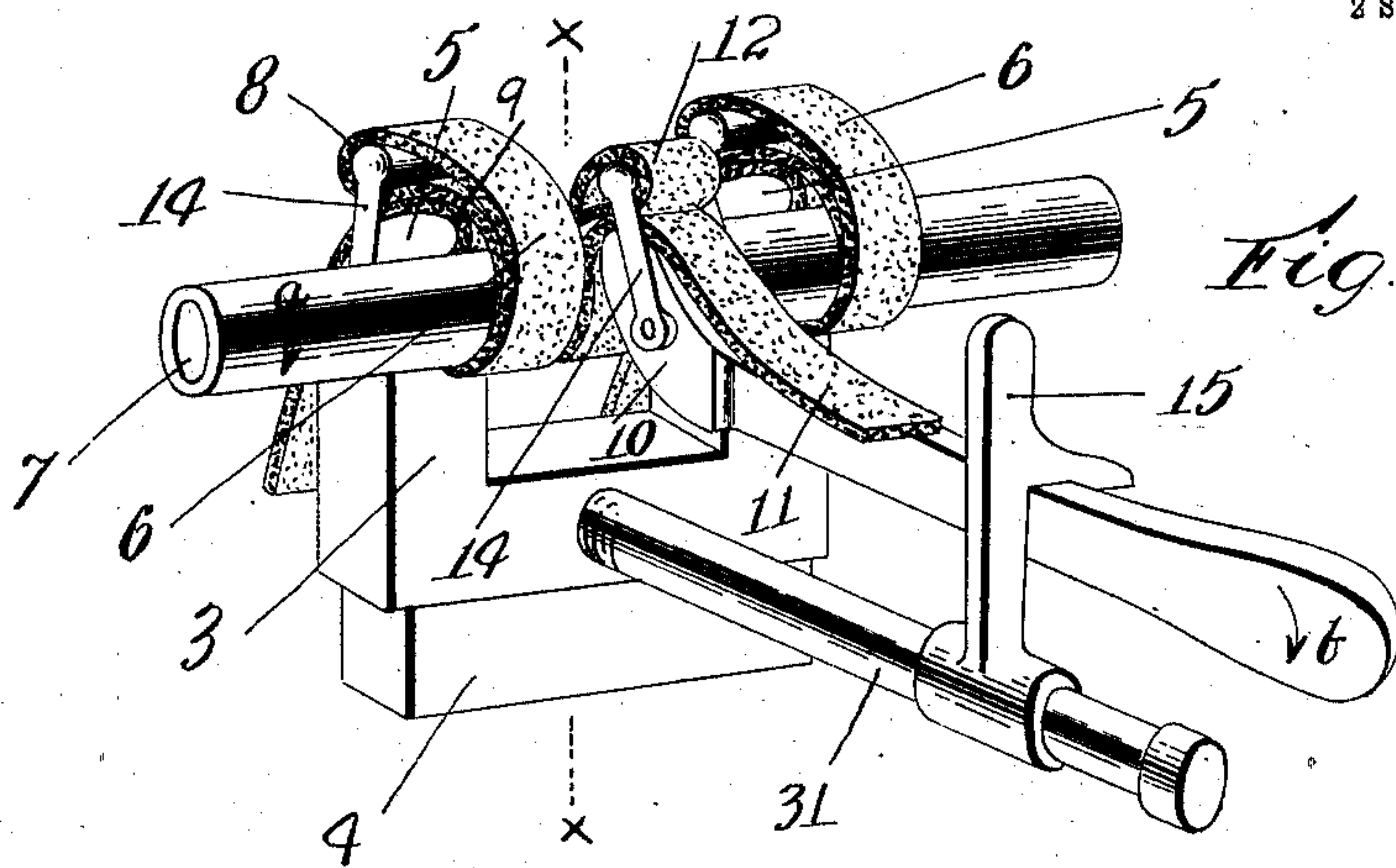


Fig. 1.

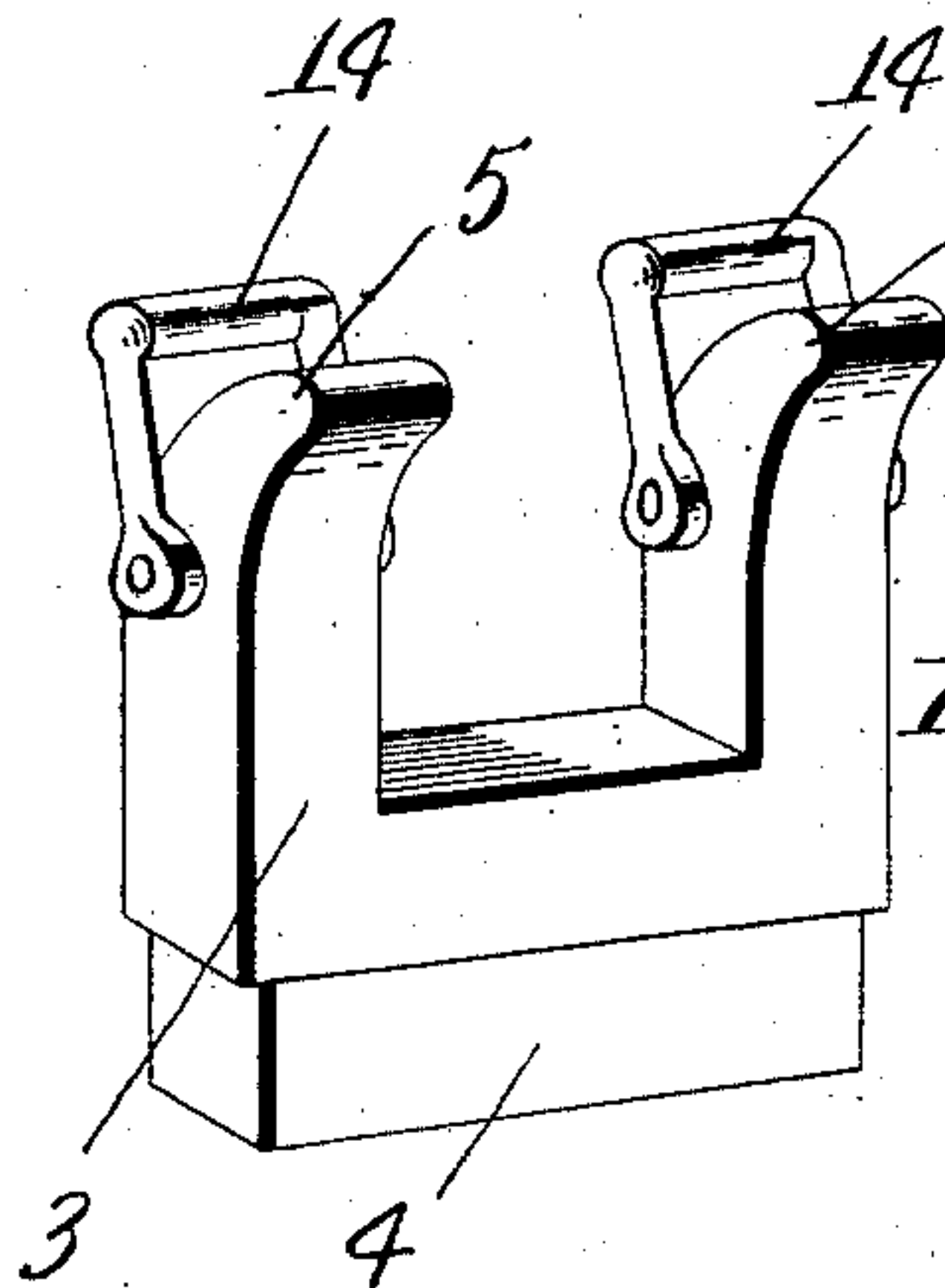


Fig. 2.

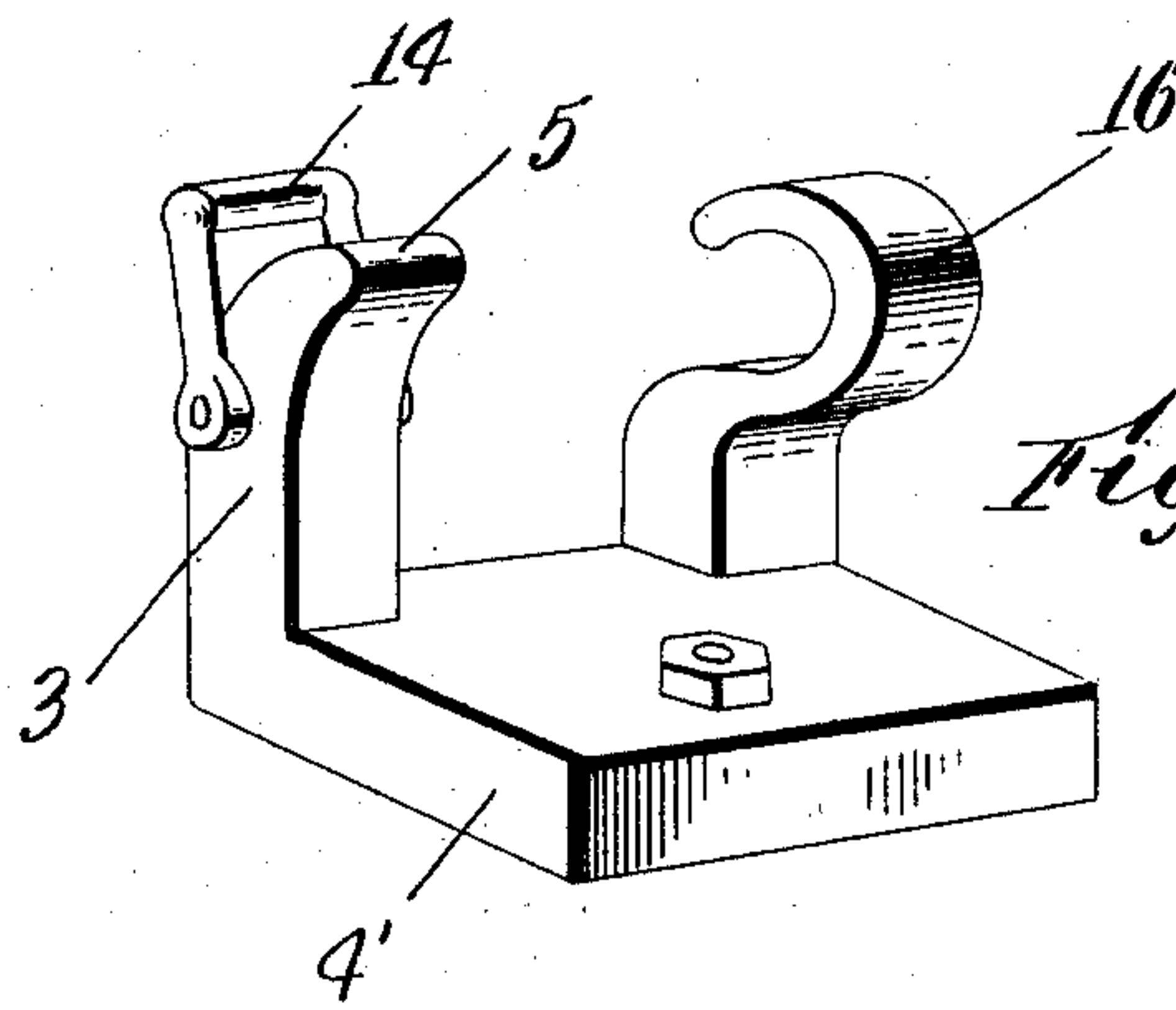


Fig. 3.

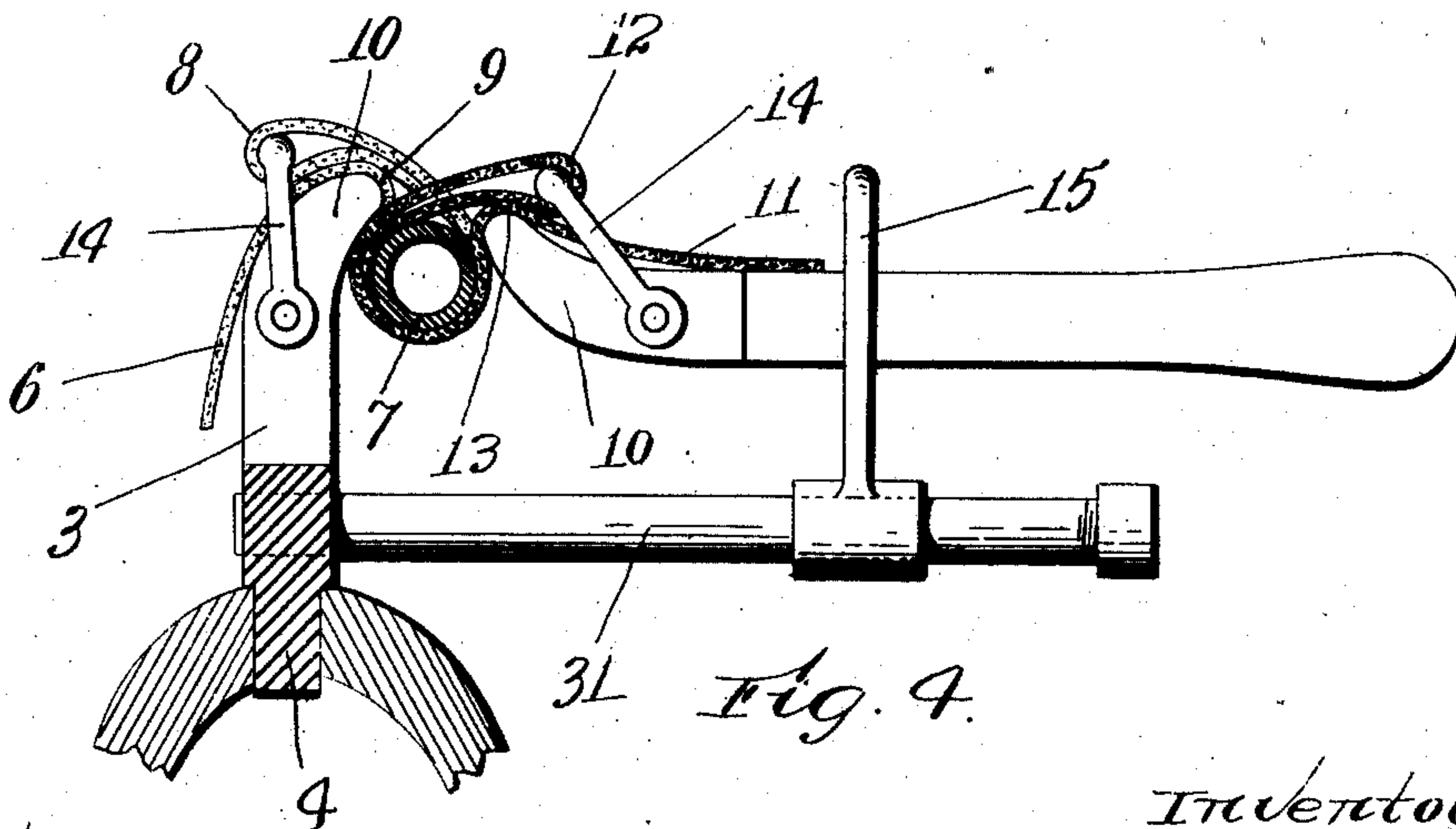


Fig. 4.

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2 SHEETS—SHEET 2.

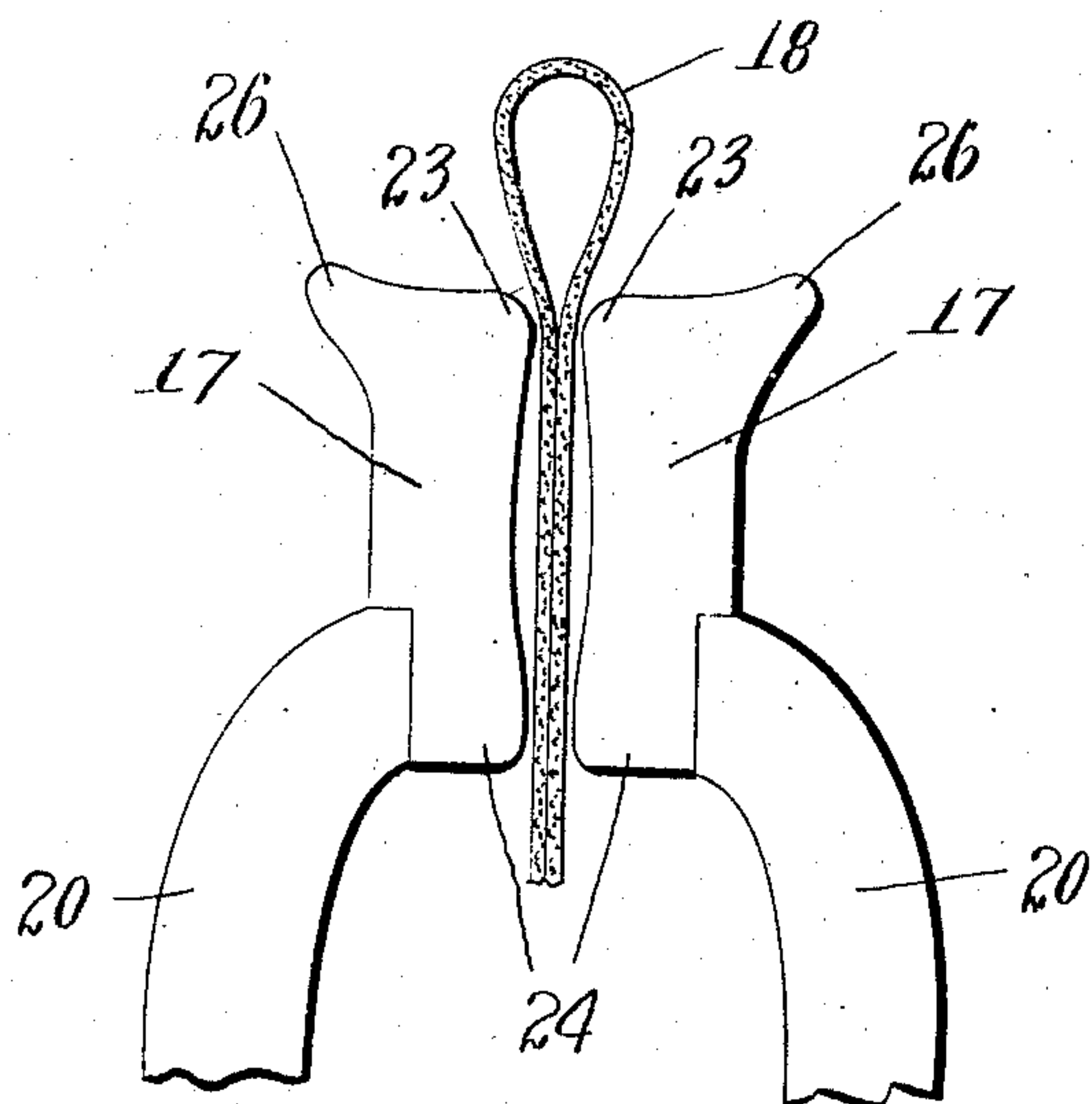


Fig. 5.

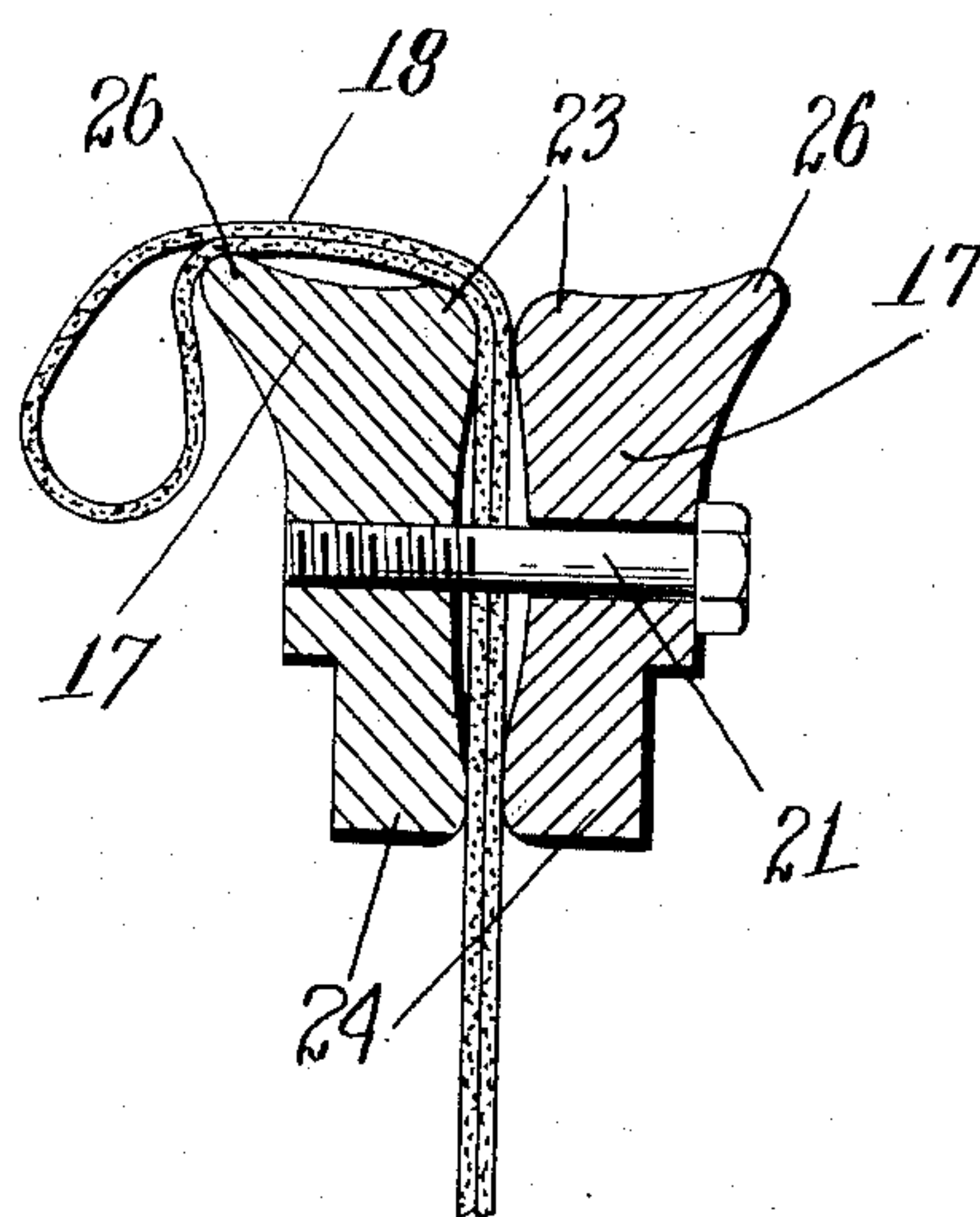


Fig. 6.

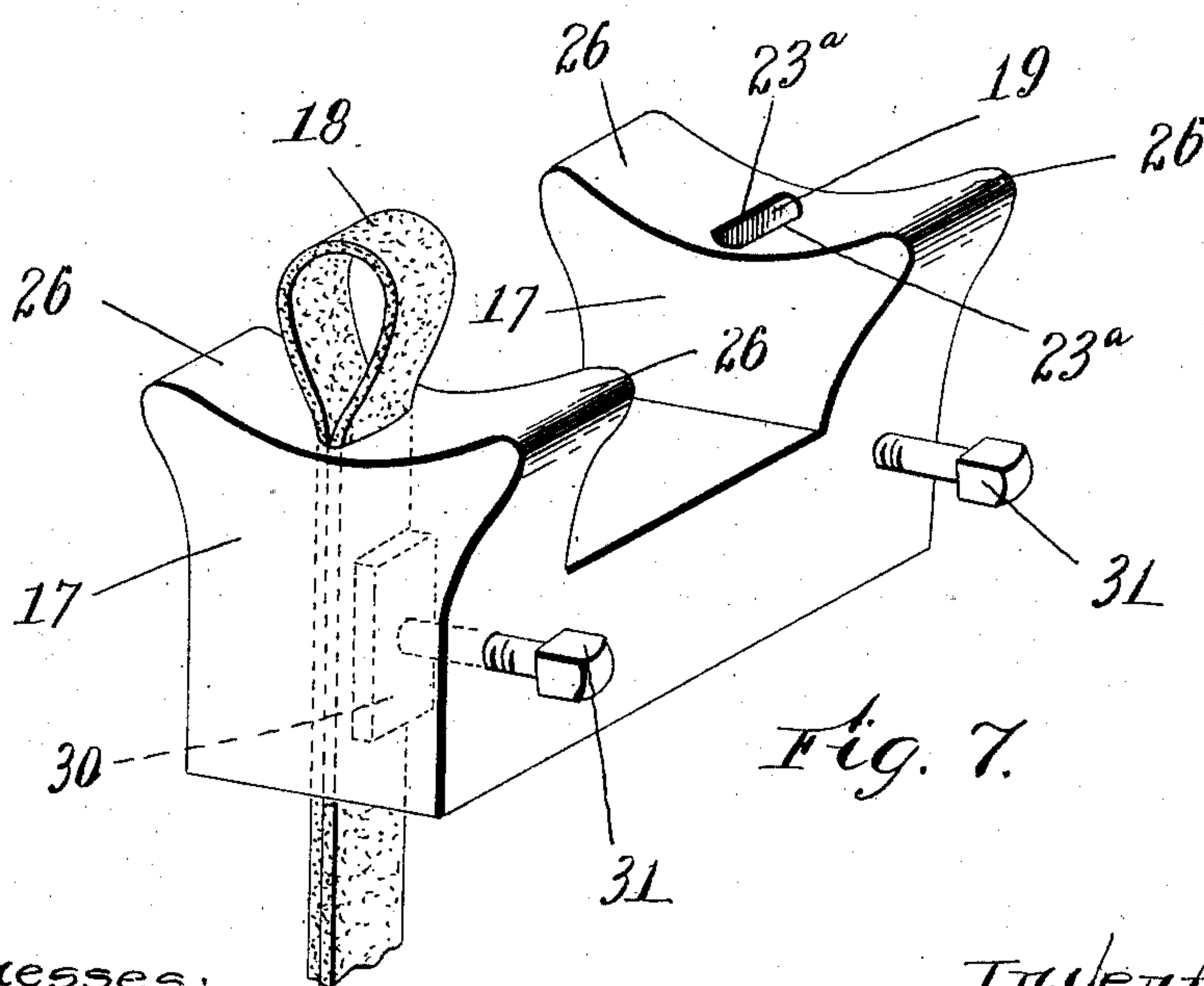


Fig. 7.

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# UNITED STATES PATENT OFFICE.

HARRY R. SINCLAIR, OF WORCESTER, MASSACHUSETTS.

## PIPE-VISE.

No. 874,123.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed April 6, 1903. Serial No. 151,355.

*To all whom it may concern:*

Be it known that I, HARRY R. SINCLAIR, a citizen of the United States, residing at Worcester, county of Worcester, State of Massachusetts, have invented a new and useful Improvement in Pipe-Vises, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to a pipe vise, and has for its object to provide a novel vise which is especially adapted for clamping smooth and polished pipe.

The vise is so constructed that it will hold any size pipe, and clamp it firmly without marring or scratching it in any way.

The vise comprises a head having a nose, and a flexible band either secured to said head or held in any other suitable way and having a pipe encircling loop extending beyond the nose. The loop and nose have such a relative position and the nose is so shaped that as the pipe in the loop is rolled over the nose all the looseness in the loop is taken up in folding over the nose, and the result is that the band is drawn tightly about the pipe. The more the pipe is turned the tighter the loop becomes, and the firmer the pipe is gripped.

A single head will hold the pipe from turning in one direction. To grip it against turning in either direction, I may use two heads such as above described, but which are placed with their noses opposing each other, and provide either a single band to cooperate with both heads, or a band for each head. In either case the band or bands and one head lock the pipe against turning in one direction, and said band or bands and the other head lock the pipe from turning in the other direction. By simply changing the size of the loop or loops, any size of pipe can be accommodated, and the character of the band or bands is such that even the most highly polished piping is not marred by being gripped in the vise.

In the drawings, Figure 1 is a perspective view of one form of my invention. Fig. 2 is a similar view of two clamping heads with the bands removed. Fig. 3 is a modified form of the invention with the bands removed. Fig. 4 is a section on line  $x-x$  Fig. 1. Fig. 5 shows another form of my invention. Fig. 6 is a section through the clamping head showing one way of securing the bands thereto, and Fig. 7 is a perspective

view of still another embodiment of my invention.

Like letters refer to similar parts throughout the drawings.

I have illustrated several different ways, in which my invention may be embodied, and I will first describe the forms shown in Figs. 1 to 4. 3 indicates a clamping head, having a clamping or biting nose 5. Said head may rise from a base 4, which is adapted to be held between the jaws of an ordinary vise as seen in Fig. 4, or from a base 4' constructed to be secured to a bench as in Fig. 3, or held in any other appropriate way. 6 indicates the strap which encircles the pipe 7, and which is tightly clamped about the pipe by the clamping lever as will be presently described. This strap may be made of any suitable material which will not injure the highly polished surface of the pipe. One branch 8 of the loop in the strap encircling the pipe is secured to the clamping member in some suitable way, and the other branch or leg 9 of the strap passes between the branch 8 and the nose 5. With this construction, if the pipe 7 is turned in the direction of the arrow  $a$ , as for instance if right hand thread were being cut on the near end of said pipe in Fig. 1 by a suitable die, the pipe will roll over the nose, and will fold the looseness in the loop around said nose, thus causing the loop to tightly grip the pipe, and securely hold it. It will be understood, of course, that in case the vise is holding highly polished pipe, the strap will be of such nature as not to mar the finished surface.

A vise having a single head or clamping member 3 and its strap 6 as above described will securely hold pipe from turning in one direction. I have found, however, that in order to hold the pipe from turning in both directions, it is advisable to use a second clamping head, which is opposed in its action to the clamping head above described. As illustrated in Figs. 1 and 4, such second clamping head is designated by 10, and I employ a strap similar to strap 6 which encircles the pipe, one branch 12 of the loop in the strap being secured to the clamping member, and the other branch 13 being clamped between the branch 12 and the nose 14. In this embodiment of my invention (Figs. 1 & 4) this second clamping member may be provided with a suitable handle by which it may be moved relative to the other member. In



operation the pipe is gripped by the stationary head and its strap, and then the second gripping device comprising the clamping member 10 and its strap is applied, and the handle moved in the direction of the arrow *b* toward the stationary head. This action tends to tightly clamp the strap 11 about the pipe, and also to tighten the pipe securely in the strap 6. The first stationary gripping device tends to prevent the pipe from turning in the direction of the arrow *a*, and the second or movable gripping device securely holds the pipe from turning in the opposite direction. The handle 10 may be secured with a latch 15 if desired as in Figs. 1 and 4. If desired, I may employ two stationary clamping heads, both of which will rise from the base 4, and use a gripping band with each head. Such a form is illustrated in Figs. 1 and 2. In this case, the movable head 10 will preferably be situated between the two stationary heads. While two stationary heads serve to hold the pipe more securely than one, yet in some cases it may not be necessary to employ two to obtain a proper grip on the pipe. The two heads, however, serve to steady the pipe, and hold it from being twisted by the action of the two opposed heads. This holding of the pipe steady, while the movable head is being brought into operation, can be secured by employing a rest or horn 16 in place of the second stationary head, as shown in Fig. 3.

In the above described embodiments of my invention, the bands or straps are each secured at one end to the corresponding head, by means of the shackle or clevis 14. The outside branch 8 of the loop is secured to the head, while the inside branch is passed between the nose 5 and said outside branch.

In the above described embodiments of my invention the opposed heads, each have a band cooperating therewith. It is possible to embody my invention in a device in which a single strap cooperates with both of the opposed heads, and in Figs. 5 to 7 I have illustrated this form of my invention. The two opposed heads are designated by 17, and each has a clamping nose 23. The two heads are placed directly opposite to each other, so that a single strap or band 18 may cooperate with both heads. In Fig. 5 these heads are shown as being held between the jaws 20 of any suitable vise, and as each having a head portion 24 which serves to grip the straps when the vise jaws are closed together. In using this form of my invention, the vise jaws 20 are separated slightly, and the double strap or band inserted between the heads, as shown, so as to form a loop above or beyond the opposed noses 23. The pipe is then inserted in the loop, and the strap drawn down to take up the slack, after which the heads are closed together to firmly

bite the strap between the opposed heads 24 and the noses 23. When the pipe is turned in either direction after having been thus clamped, it rolls over one or the other of the noses, according to the direction in which it is turned, and in so doing it folds the loop about the nose and causes it to tightly grip the pipe.

In Fig. 6 I have illustrated the two heads as being clamped together by means of a screw 21. The form of head shown in Figs. 5 to 7 has a second nose 26, so that if desired the loop may be folded over said nose to clamp the pipe as seen in Fig. 6. The object of clamping the two opposed heads together as shown is to firmly secure the strap to said heads. It is not necessary to make the two opposed heads in separate pieces, however, as they may be combined in a single structure as seen in Fig. 7, in which case the combined head has a slot 19, through which the strap 18 passes. In this embodiment of my invention the securing of the strap to the head is accomplished by a clamping plate 30 and a clamping screw 31. In this form the edge 23<sup>a</sup> of the slot 19 forms a clamping nose corresponding to the nose 23 in Figs. 5 and 6.

From the above it will be seen that my invention comprises a head having a clamping nose, and a strap or band secured or held in such a way as to form a pipe receiving loop beyond the nose, whereby as the pipe is rolled over the nose the loop is clamped tightly about the pipe. My invention also comprises a device having two such heads so placed that one will oppose the action of the other, whereby the pipe may be prevented from turning in either direction. The two opposed heads may be placed in the same plane so that a single strap may cooperate with each, or they may be placed side by side and a separate strap used for each head.

While I have shown a few ways in which my invention may be embodied, I do not wish to be limited to the precise construction shown, and many details in construction may be changed without departing from the spirit of the invention, as expressed in the appended claims.

In Figs. 1 and 4, the latch 15 is carried by an arm 31, which may be detachably secured to the base 4. I desire to add that two pairs of opposed heads 17, such as shown in Fig. 5 may be employed, and in some cases I should prefer to use them as two pairs serve to hold the pipe steadier than one.

Having described my invention, though without attempting to set forth in detail all the forms in which it may be embodied, what I claim and desire to secure by Letters Patent is:

1. In a pipe vise, two opposed heads, each having a clamping nose, flexible pipe gripping means detachable from the heads but



confined therebetween and having a loop to encircle the pipe, and means to clamp the pipe gripping means between the heads.

2. A pipe-vise having two opposed clamping edges or noses, a detachable flexible band doubled to form a loop to encircle a pipe, said band passing between the opposed clamping noses, and means operable independently from the noses to clamp said band to prevent it from being drawn out from between the noses when strain is put on it by turning the pipe.

3. A pipe vise having two pairs of opposed heads, each having a clamping edge or nose, a flexible band for each pair of opposed heads, said band being separate and detachable from both the heads and doubled to

form a loop to encircle the pipe, the ends of the band loosely passing between the opposed clamping noses whereby the band may be drawn down between the noses to form loops of different diameters, and means operable independently from said noses to clamp said band therebetween to prevent it from being drawn out when strain is put on it by the turning of the pipe.

In witness whereof I have signed my name to this specification in the presence of two witnesses.

H. R. SINCLAIR.

Witnesses:

F. C. CUTLER,  
C. F. WESSON.