

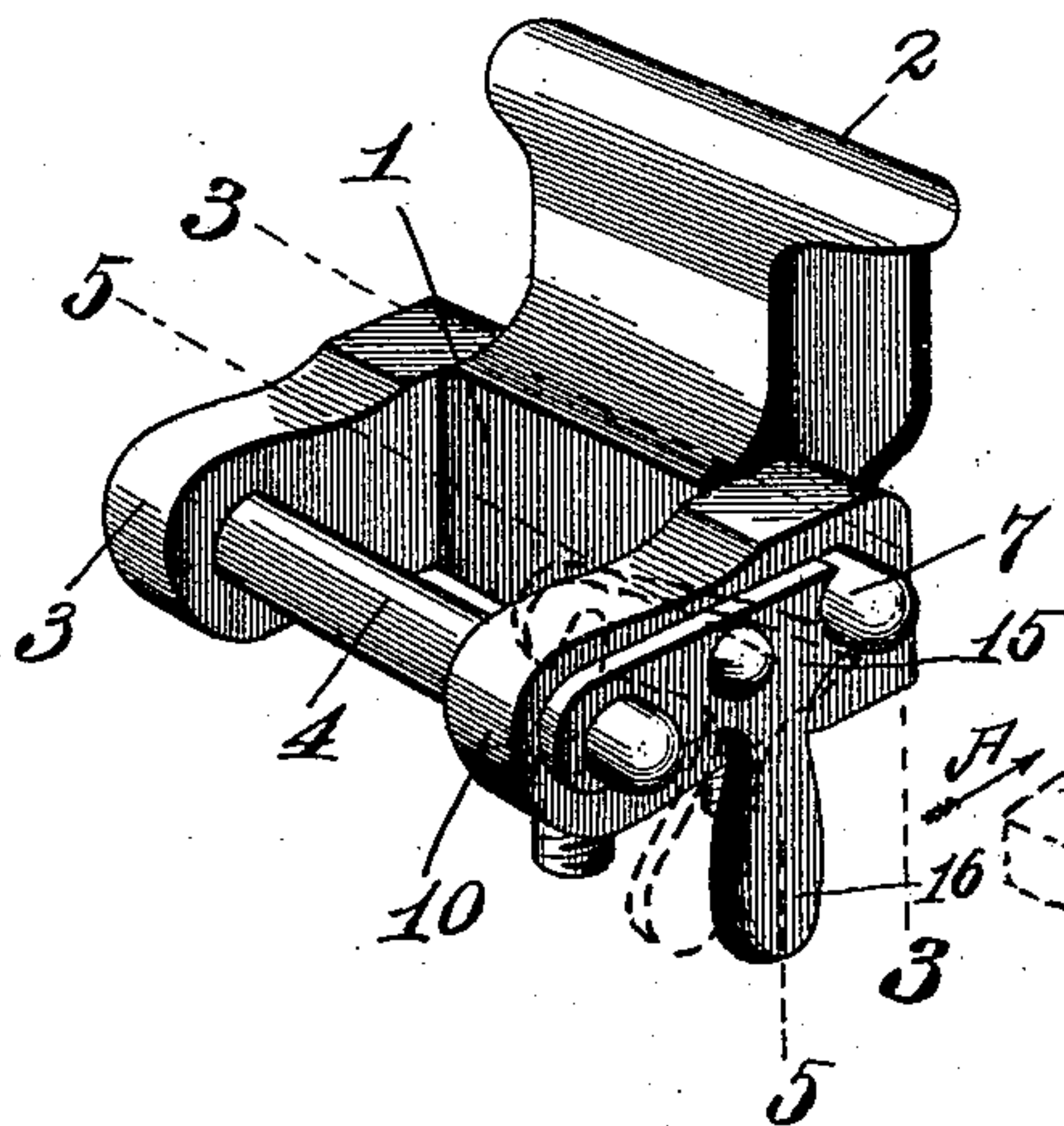
(No Model.)

A. J. KUEPFERT & R. STADLER.  
THILL COUPLING.

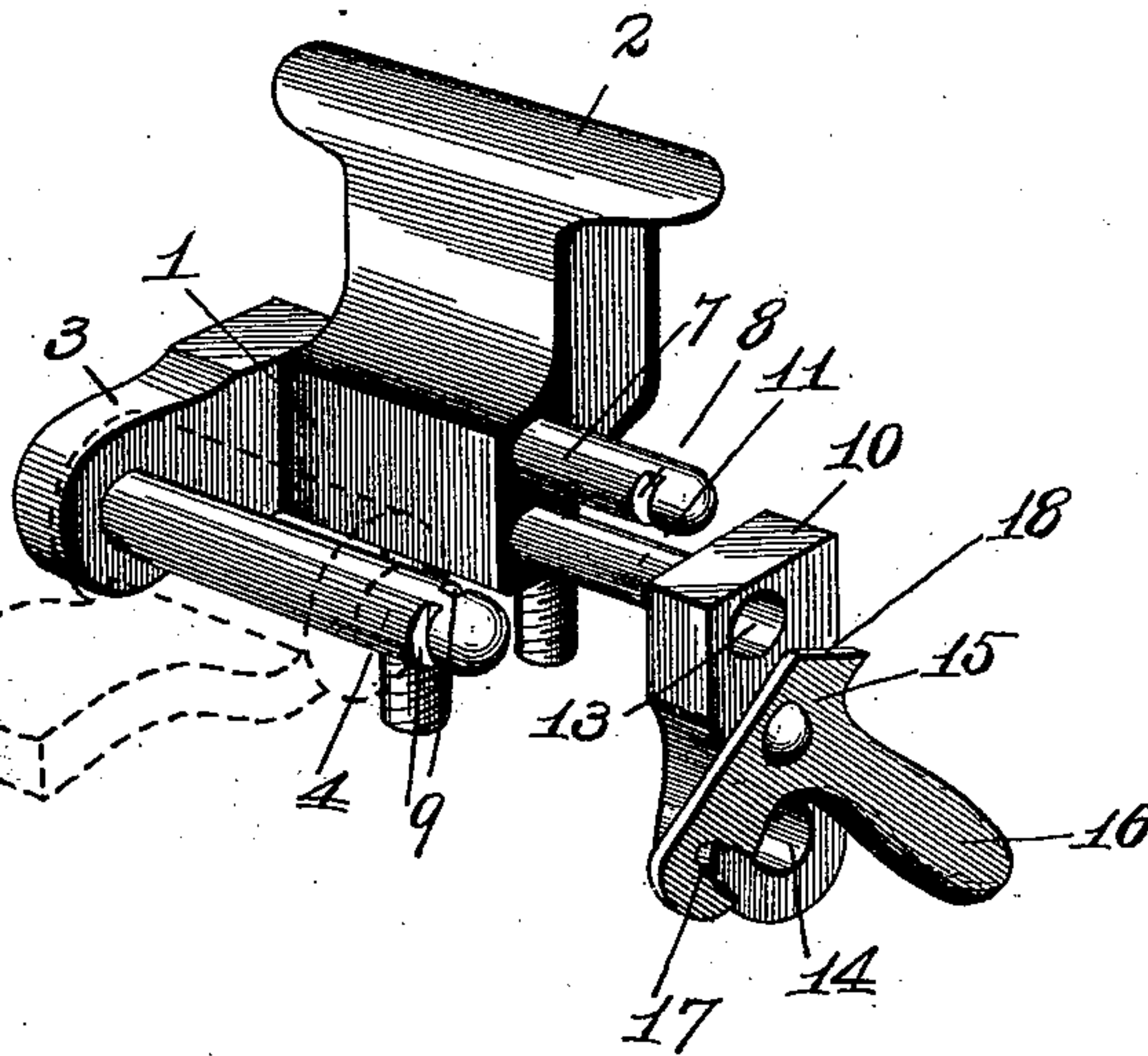
No. 554,449.

Patented Feb. 11, 1896.

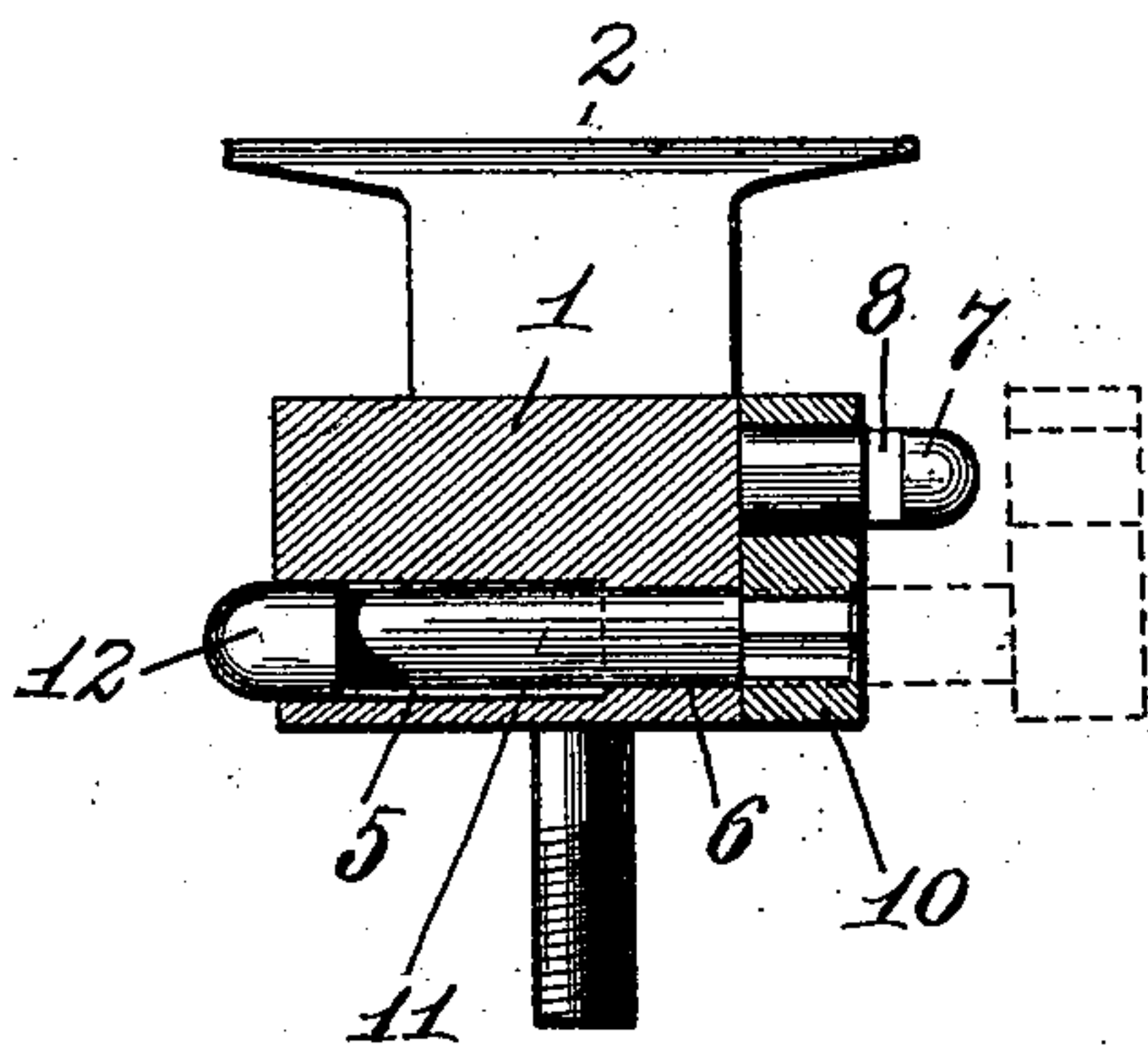
*Fig. 1*



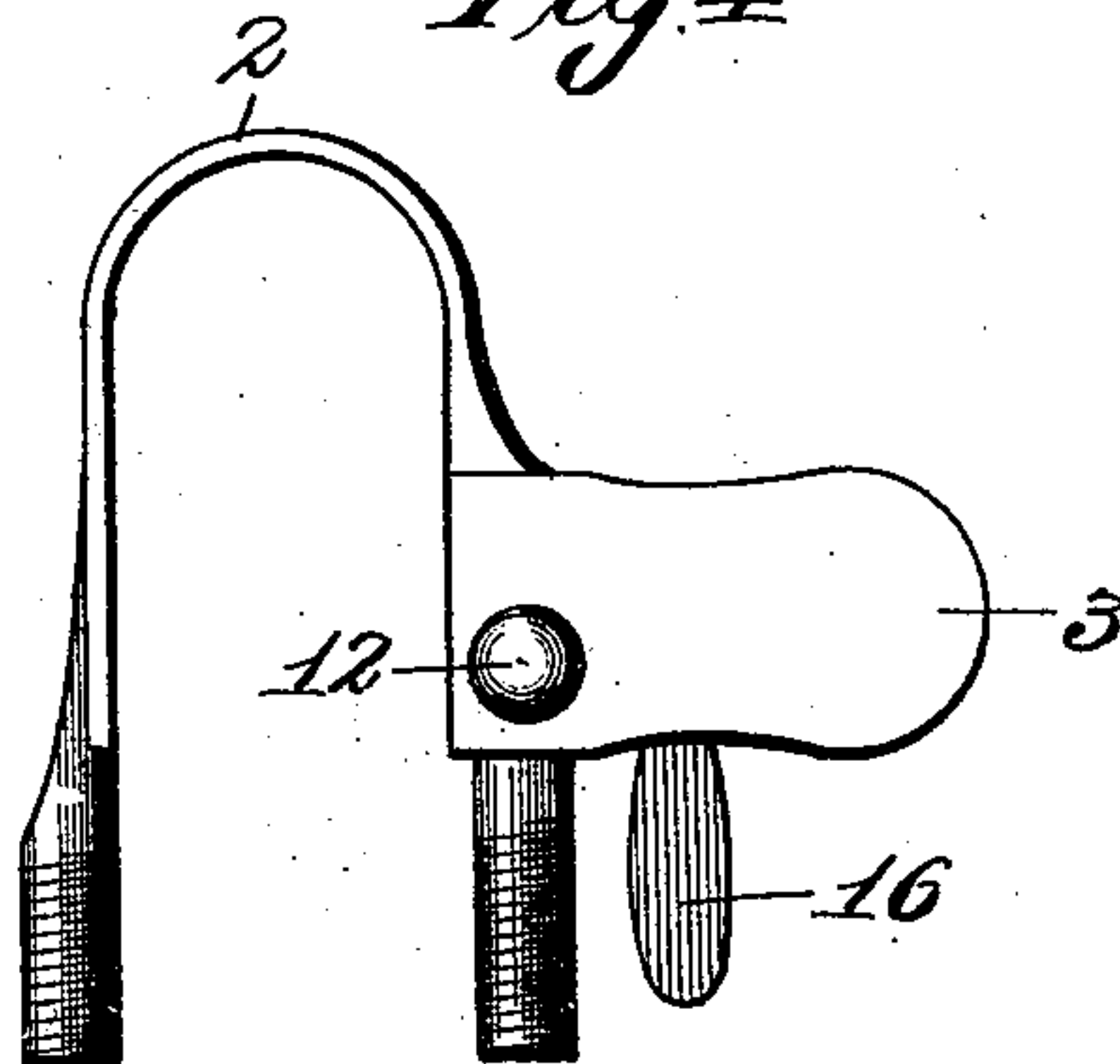
*Fig. 2*



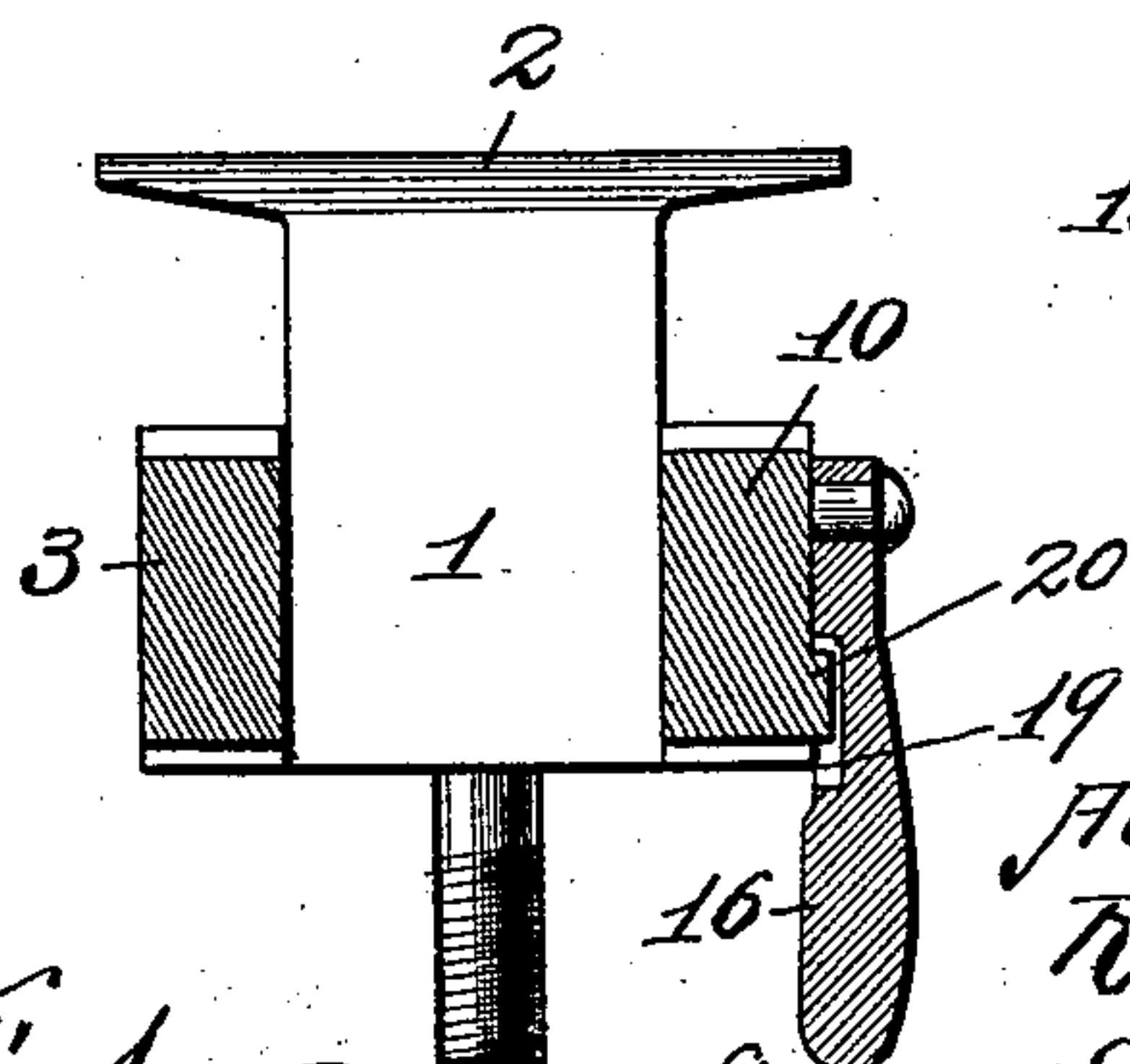
*Fig. 3*



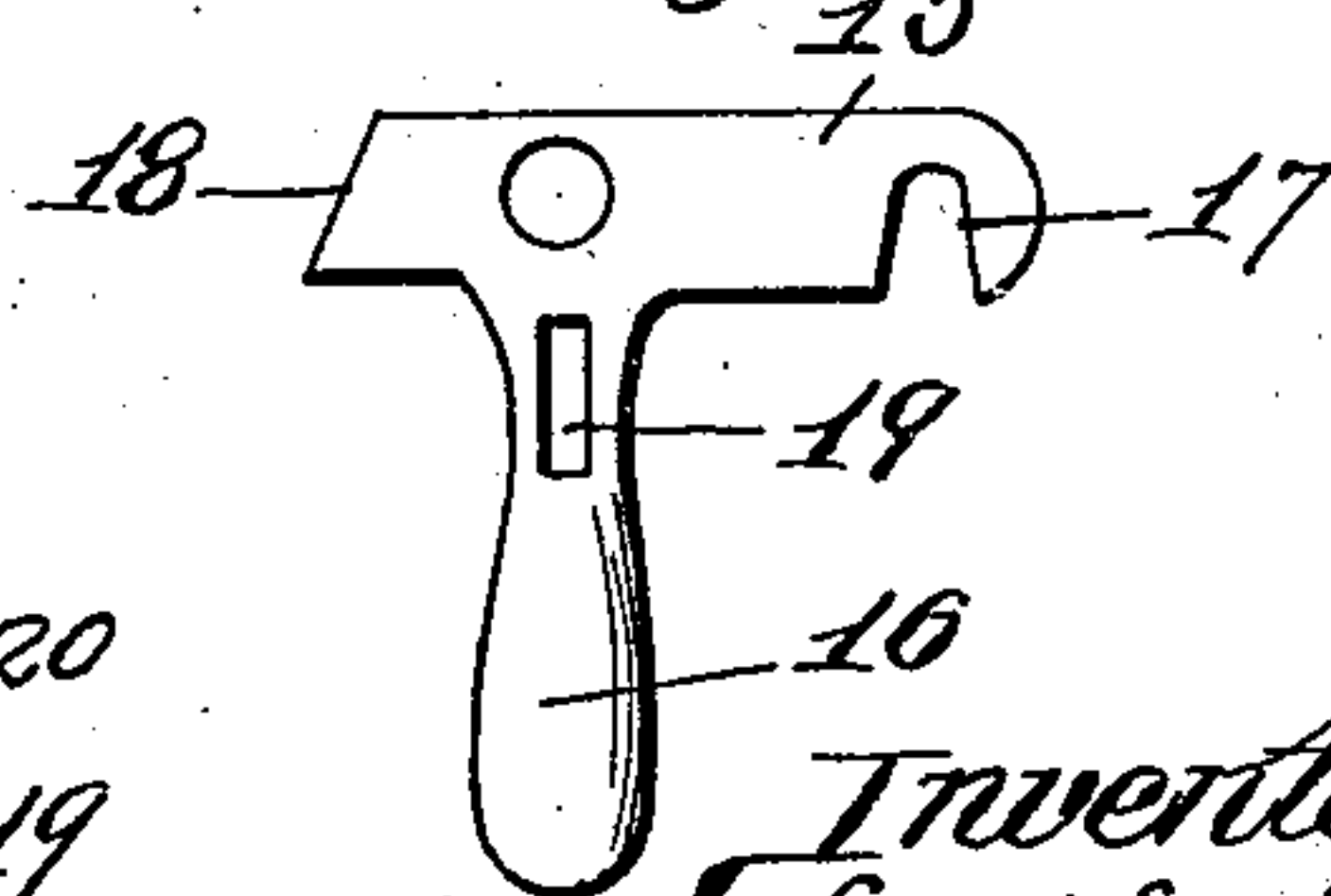
*Fig. 4*



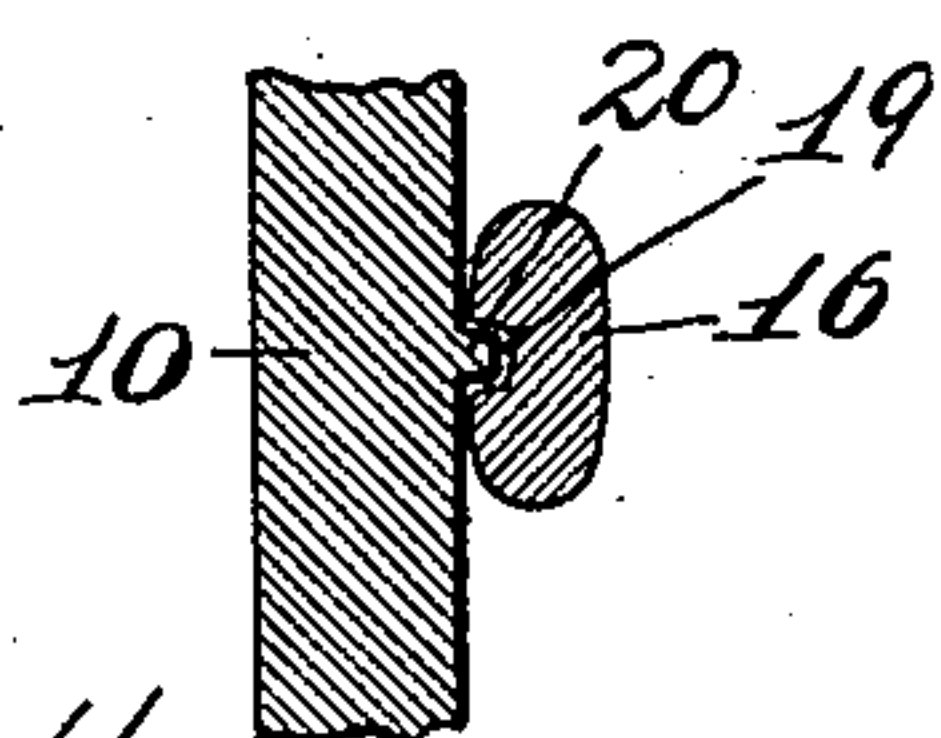
*Fig. 5*



*Fig. 6*



*Fig. 7*



*Attest*  
*John L. Thompson,*  
*Mark O. Smith*

*Inventors*  
*Albert J. Kuepfert,*  
*Rudolph Stadler,*  
*By Higdon & Higdon & Tonger*



# UNITED STATES PATENT OFFICE.

ALBERT J. KUEPFERT AND RUDOLPH STADLER, OF ST. LOUIS, MISSOURI.

## THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 554,449, dated February 11, 1896.

Application filed September 9, 1895. Serial No. 561,933. (No model.)

*To all whom it may concern:*

Be it known that we, ALBERT J. KUEPFERT and RUDOLPH STADLER, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to an improved thill-coupling; and it consists in the novel construction, combination and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a view in perspective of our improved thill-coupling, the same being shown in a closed position. Fig. 2 is a similar view showing one of the arms of said thill-coupling in an unlocked position. Fig. 3 is a section on the line 3 3 of Fig. 1 and looking in the direction of the arrow A. Fig. 4 is a side elevation of our improved thill-coupling. Fig. 5 is a sectional view on the line 5 5 of Fig. 1 and looking in the direction of the arrow A. Fig. 6 is a side elevation of a latch of which we make use in carrying out our invention. Fig. 7 is a detail cross-sectional view on the line 7 7 of Fig. 5.

Referring by numerals to the accompanying drawings, 1 indicates the body portion of our improved thill-coupling, the same being provided with the usual stirrup 2 for attaching the same to the axle of a vehicle. Formed integral with the body 1 and extending at right angles thereto is an arm 3. Formed on or fixed to the forward end of the arm 3 and projecting therefrom in the same plane as the body portion 1 is a pin or cylindrical lug 4. Formed in the body portion 1 and adjacent the lower edge thereof is an aperture 5, said aperture having a contracted portion, (indicated by the numeral 6.) Projecting from the body portion 1 and directly over the aperture 5 is a cylindrical lug 7, the same being provided with a notch or groove 8 adjacent the end thereof. The pin or cylindrical lug 4 is provided on opposite sides with a pair of notches 9 similar to the notch 8 in the lug 7.

A movable arm 10, in form and size identical with the arm 3, is provided at its lower rearward end with a cylindrical pin 11 which passes through the aperture 5. The body of this pin 11 is of such diameter as will readily

fit in the contracted portion 6 of the aperture 5, and said pin 11 is provided with a head 12 that readily fits within the enlarged portion of said aperture 5. Formed in the arm 10 and directly above the point of attachment of the pin 11 is an aperture 13 of such size as will readily admit the pin 7. The arm 10 is provided at its forward end with an aperture 14 of such size as will readily admit the circular lug or pin 4.

An arm 15 is pivoted at a point midway between the apertures 13 and 14, and said arm is provided with a downwardly-pending portion 16, forming convenient means for operating the same. Formed in the forward end of the arm 15 is a recess 17, this end of the arm 15 being adapted to engage in the notches 9 in the cylindrical lug 4. The opposite end of the arm 15 is beveled, as indicated by 18, and said beveled portion is adapted to engage in the notch 8 of the pin 7. The projecting ends of the pins 4, 7, and 12 are rounded, as plainly shown in the drawings.

The depending portion 16 of the arm 15 is provided with a recess 19 upon the side adjacent the face of the arm 10, and said arm 10 is provided with an integral projecting portion 20, adapted to engage in the recess 19 when the arm 15 is in a closed position. When the arm 10 is in a locked position, it is in the same plane as the arm 3, and the pins 4 and 7 project through and beyond the openings 13 and 14 in said arm. When in this position, the ends of the arm may be readily engaged in the notches 8 and 9 in the pins 7 and 4.

When it is desired to attach the shafts to a vehicle equipped with our improved thill-couplings, the arm 15 is moved to the position as indicated by dotted lines in Fig. 1. This releases the beveled portion 18 from the notch 8 in the pin 7 and releases the opposite end of said arm from the notches 9 in the pin 4. The arm 10 is now free to be moved away from the body portion 1 or into the position as shown by dotted lines in Fig. 3. The arm 10 may now be swung downwardly or into the position as shown by full lines in Fig. 2, and when said arm is in this position the eye fixed upon the ends of the shafts may readily pass over the pin 4, this being shown by dotted lines in the same figure. The arm 10 may now be swung upwardly until the apertures



13 and 14 in said arm 10 readily receive the pins 7 and 4. The arm 15 is now moved to the position as shown by full lines in Fig. 1, thus engaging said arm in the notches 8 and 9 and securing said arm 10 in position. As the arm 15 is being moved to its locked position, the projecting portion 20 upon the arm 10 will be brought into engagement with the recess 19 in the depending portion 16. As said depending portion 16 is rounded upon the face adjacent the arm 15, as seen in Fig. 7, said depending portion may be readily forced over the projecting portion 20. This forms a lock for preventing accidental movement of the arm 15 while the same is in a locked position. The rounded ends of the pins 4 and 7 are for the purpose of facilitating their entrance into the apertures 13 and 14 in the arm 10.

It will be noted by reference to Fig. 3 that the head 12 upon the pin 11 protrudes a slight distance beyond the side of the body portion 1, said end being also rounded.

When our improved thill-coupling has been in use a great length of time, the various parts may become so firmly fixed that they cannot be removed without some degree of force. In this case a blow of a hammer upon the projecting end 12 of the pin 11 will readily loosen said pin and arm 10 to which said pin is attached.

In the construction of our improved device it is the intention to nickel-plate the various pins and apertures in which they engage so as to overcome the liability of corroding or rusting.

A thill-coupling of our improved construction is very simple, and owing to its construction the various parts may be fitted very closely so as to obviate the annoyance caused by rattling, such as is common in other thill-couplings. We are also enabled to dispense with the use of bolts, screws or like devices, which may readily become lost.

We claim—

In an improved thill-coupling, a body portion having an integral arm, means for attaching said body portion to an axle, a pin carried at right angles to said arm, a pin carried by said body portion in a plane parallel to the first-mentioned pin, said pins being formed with notches adjacent their ends, a third pin mounted in an aperture formed in said body portion below said last-mentioned pin, an arm rigidly mounted upon said pin, said arm being provided with apertures in which the first and second mentioned pins engage, a locking device comprising an arm and integral depending portion, the ends of said arm being adapted to engage in the notches in the first and second mentioned pins, and means for holding said arm and integral depending portion in a locked position.

In testimony whereof we affix our signatures in presence of two witnesses.

ALBERT J. KUEPFERT.  
RUDOLPH STADLER.

Witnesses:

JOHN C. HIGDON,  
MAUD GRIFFIN.