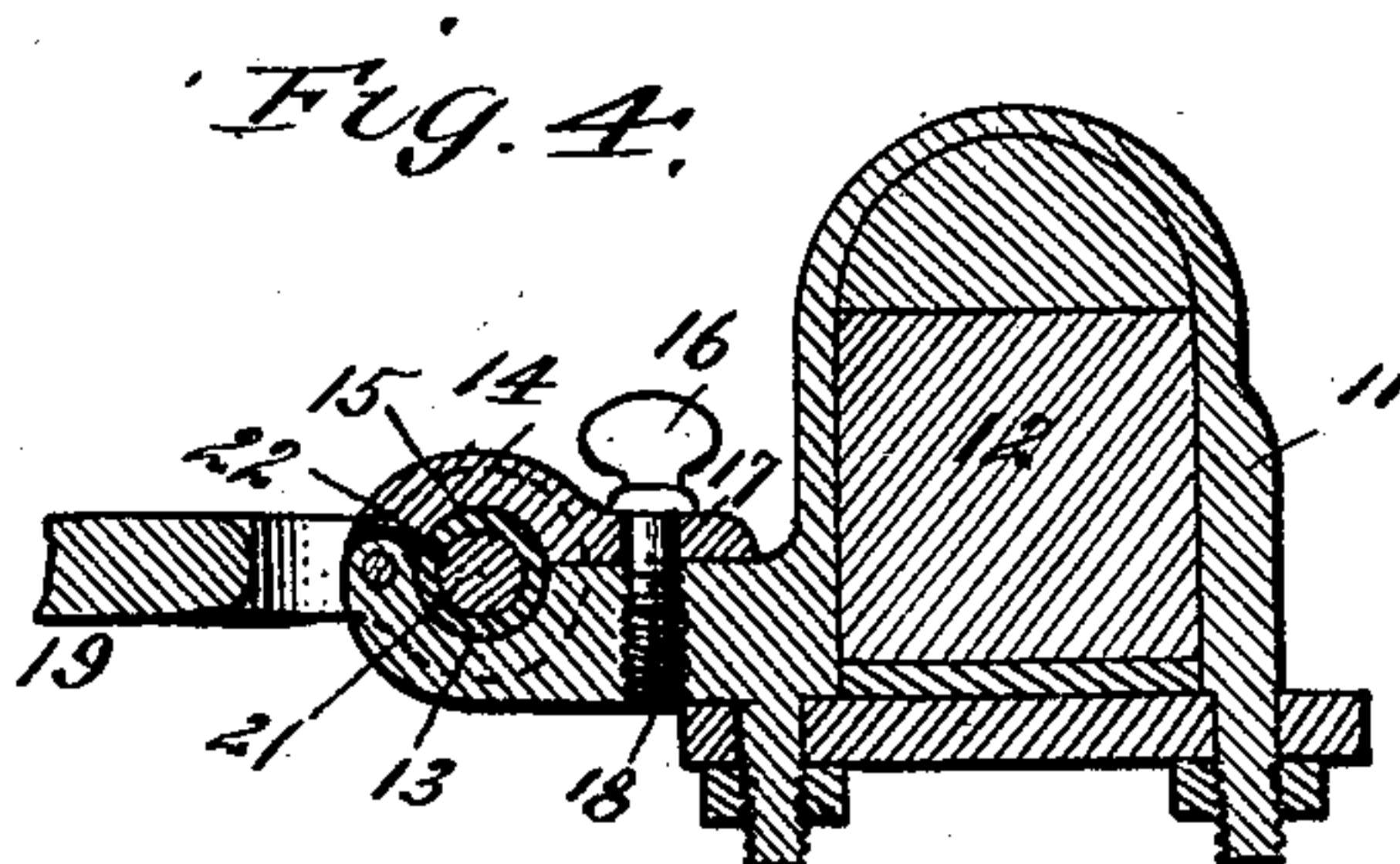
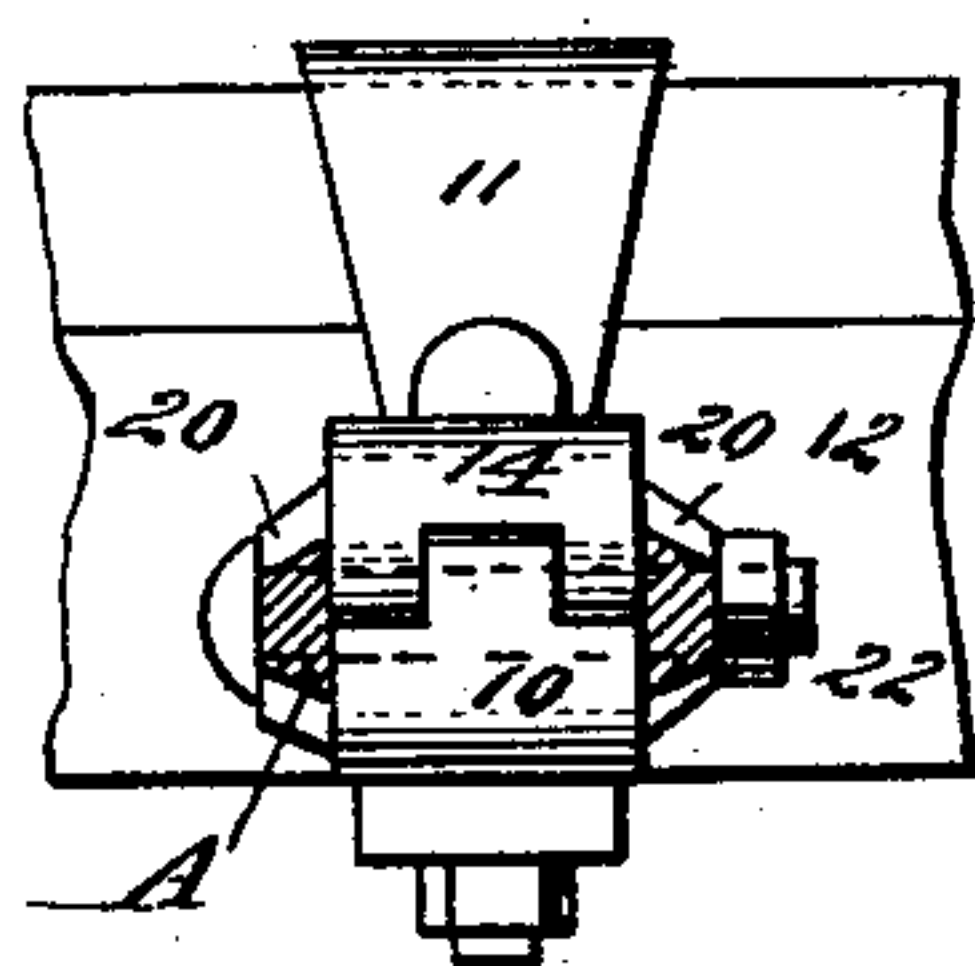
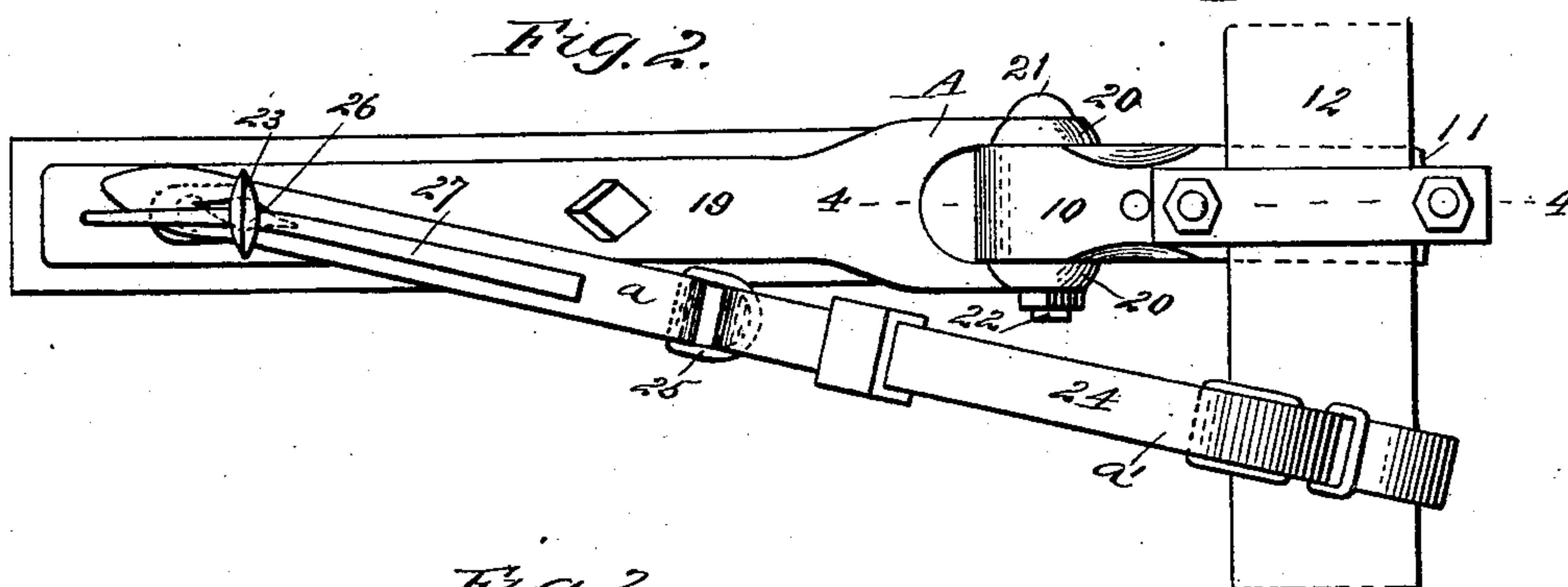
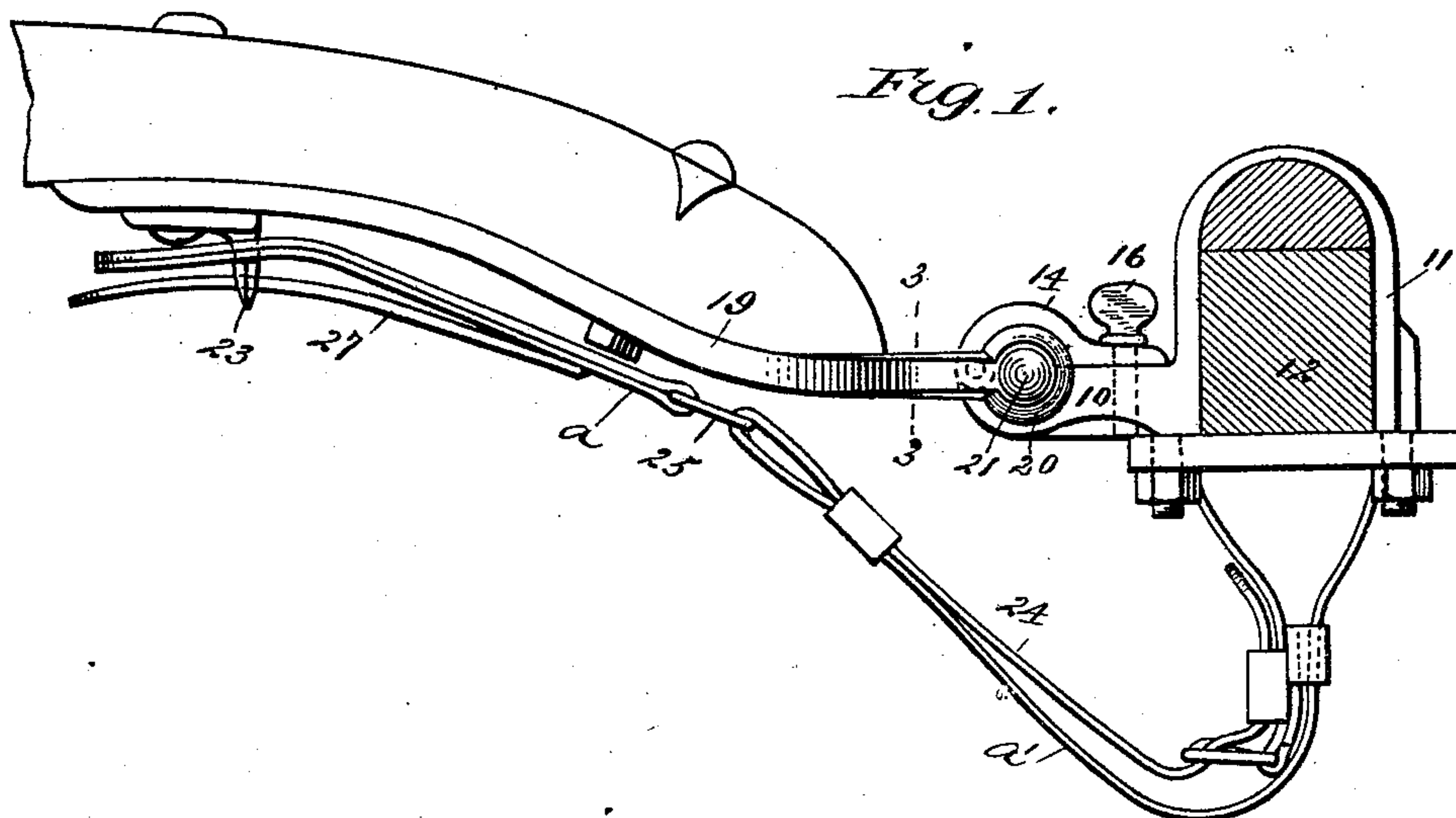


(No Model.)

A. BEALE.
THILL COUPLING.

No. 453,896.

Patented June 9, 1891.



WITNESSES:
W. R. Davis.
C. Sedgwick

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UNITED STATES PATENT OFFICE.

AUGUSTUS BEALE, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO JAS. ORIN NOAKES, OF NEW ROCHELLE, NEW YORK.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 453,896, dated June 9, 1891.

Application filed December 11, 1890. Serial No. 374,320. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS BEALE, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Shaft-Coupling, of which the following is a full, clear, and exact description.

My invention relates to an improvement in shaft-couplings, and has for its object to provide a simple, durable, and noiseless device, whereby the pole may be conveniently and expeditiously detached from or connected to the axle by any person, even the most inexperienced.

A further object of the invention is to provide a means whereby the safety-straps may be readily connected with or disengaged from the pole or shaft without the slightest inconvenience to the operator.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the coupling, the axle being in section. Fig. 2 is a bottom plan view of the coupling. Fig. 3 is a transverse section on line 3 3 of Fig. 1, and Fig. 4 is a longitudinal section on line 4 4 of Fig. 2.

A horizontal arm 10 is formed integral with or attached to one side of the clip 11, the clip being adapted for attachment to an axle 12 in any suitable or approved manner. A semi-circular transverse recess 13 is produced in the upper face of the arm near its outer end, and to the extremity of said arm a cover or tie plate 14 is hinged. The outer ends of both the arm and the tie or cover plate are rounded off, imparting thereto a symmetrical cylindrical appearance; but the inner end of the tie or cover plate is flat and is adapted to fit snugly upon the upper face of the arm back of its recess, the said surface being also flat, as best shown in Figs. 1 and 4. Immediately over the recess in the arm a corresponding recess 15 is produced in the under face of the cover or tie plate, whereby when the plate is

closed down upon the arm a circular horizontal and transverse eye is formed.

The cover or tie plate is locked firmly to the arm by a thumb-screw 16; but any form of bolt or its equivalent may be substituted. An aperture 17 is provided in the plate, and a threaded opening 18 is produced in the arm for the reception of the screw, as is best shown in Fig. 4.

The arm, plate, and connected parts constitute one section of the coupling, and the other section consists of a pole or shaft iron 19 and its attachments. The end of the iron adapted for connection with the axle-section of the coupling is forked or bifurcated, as shown best at A in Fig. 2. The distance between the members of the fork is just sufficient to neatly receive the arm and its hinged plate, and the extremities 20 of the members of the fork are preferably enlarged or re-enforced in order that apertures may be produced therein for the reception of a bolt 21, which extends from member to member of the fork, and is surrounded by the usual elastic packing-sleeve 22.

Upon the under face of the shaft or pole iron 19 near its outer end a button or cock-eye 23 is located, which button extends transversely of the iron, and is provided at or near its center with an aperture, as shown in dotted lines in Figs. 1 and 2.

The safety-strap 24 is attached to the axle in any suitable or approved manner, and is preferably constructed in two sections *a* and *a'*, the section *a'*, which is the loop-section, being connected with the axle, and the section *a*, which is in the nature of a billet, has a ring connection 25 with the section *a'*. The billet-section *a* of the safety-strap has a longitudinal button-hole 26, and to the under face of the said billet-section a key-strap 27 is rigidly secured, the said strap being adapted to pass through the aperture in the button or cock-eye 23.

In the operation of coupling, the thumb-screw 26 is removed and the cover or tie plate 14 is thrown forward, exposing the recess in the arm 10. The tie-plate, when thrown upward as far as possible, remains at an angle to the arm and serves to guide the pin 22 of

the shaft or pole iron into the recess of the arm. Thus a quick and convenient coupling is effected, as the shaft need simply be lifted upward and carried downward in engagement with the arm. When the bolt of the pole-iron is in the recess of the arm, the cover-plate is carried downward to an engagement with the arm and locked thereto through the medium of the set-screw 16.

It will be observed that an uncoupling may be effected as expeditiously and conveniently as the coupling, as the set-screw 16, being located upon the upper portion of the coupling, is readily reached and removed, and the tie-plate is as readily and quickly thrown outward to free the pole-iron.

The safety-strap is attached to the pole-iron by passing the button through the button-hole 26 of the strap and turning the strap so that the button will extend transversely across the hole, as shown in Fig. 2, and when this attachment has been effected the key-strap is passed through the aperture of the button, whereby the billet-section of the safety-strap is effectually prevented from becoming disengaged.

It is obvious that a connection of this character is a very convenient one, as in the old

style of connection in which buckles are employed when the strap becomes hardened by the influence of the weather it is an exceedingly difficult and tiresome task to disengage the billets from the buckles.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a thill-coupling, the combination of a clip constructed to embrace an axle, an arm or plate extending from the front thereof and having its upper side near the outer end provided with a semi-cylindric cavity, a thill having a coupling-pin seated in this recess, a cap-piece provided in its under side with a semi-cylindric cavity fitting the thill-pin and hinged at its forward or outer end directly to the outer end of the arm or plate that extends from the clip, and a thumb-screw passing loosely through the cap-piece in rear of its semi cylindric cavity and engaging with a tapped hole in the said arm or plate that extends from the clip, substantially as specified.

AUGUSTUS BEALE.

Witnesses:

J. FRED. ACKER,
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