

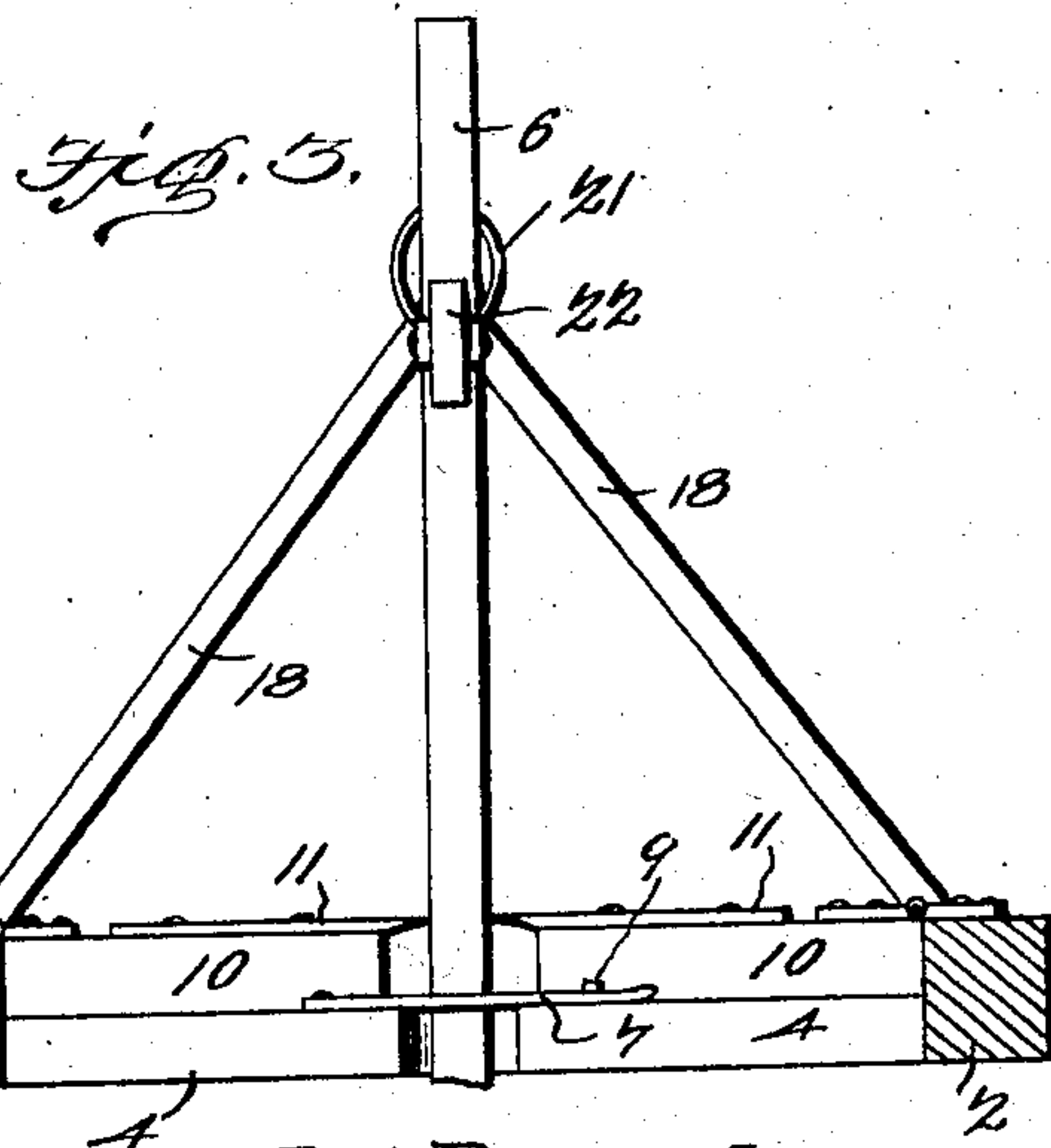
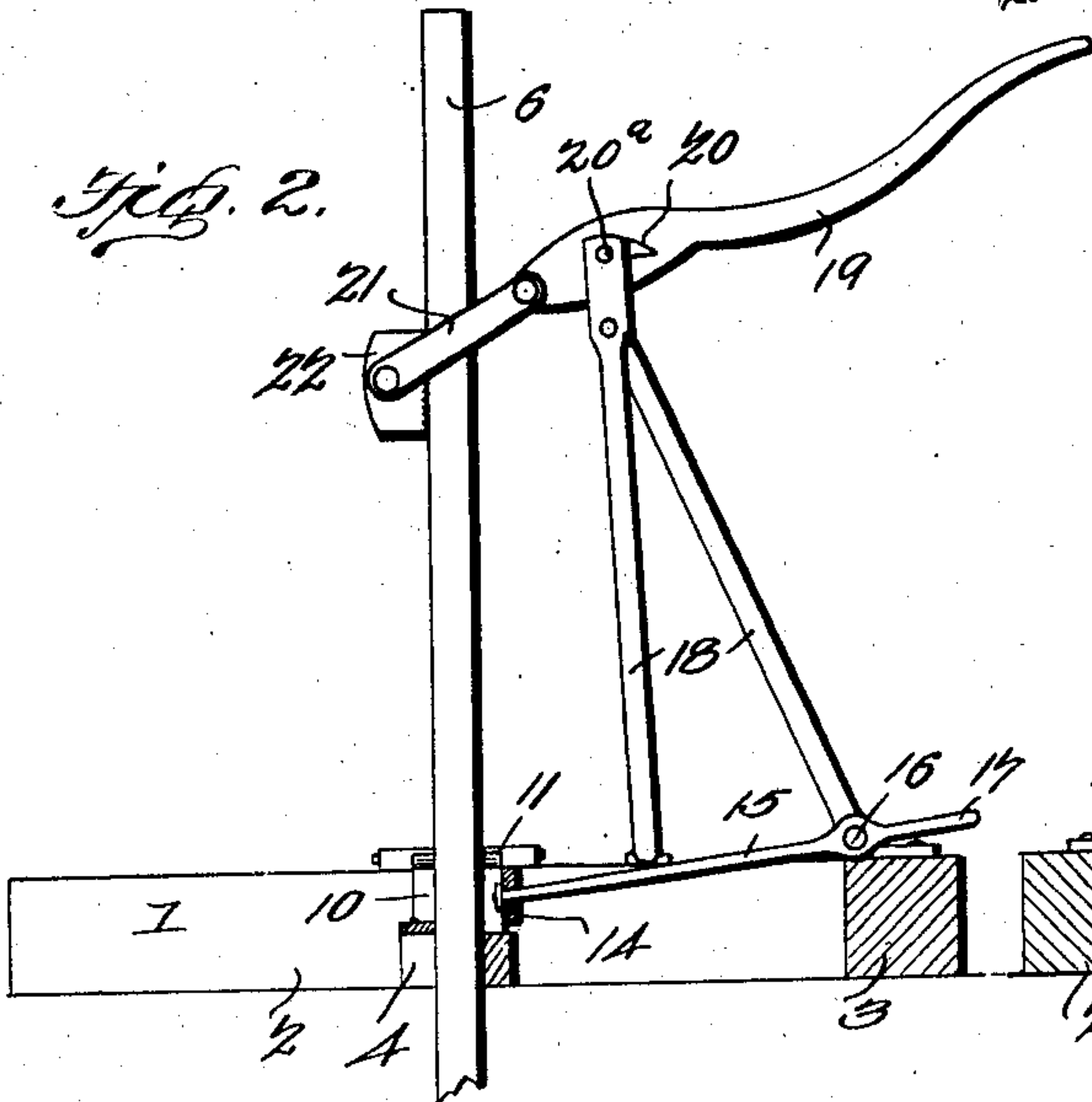
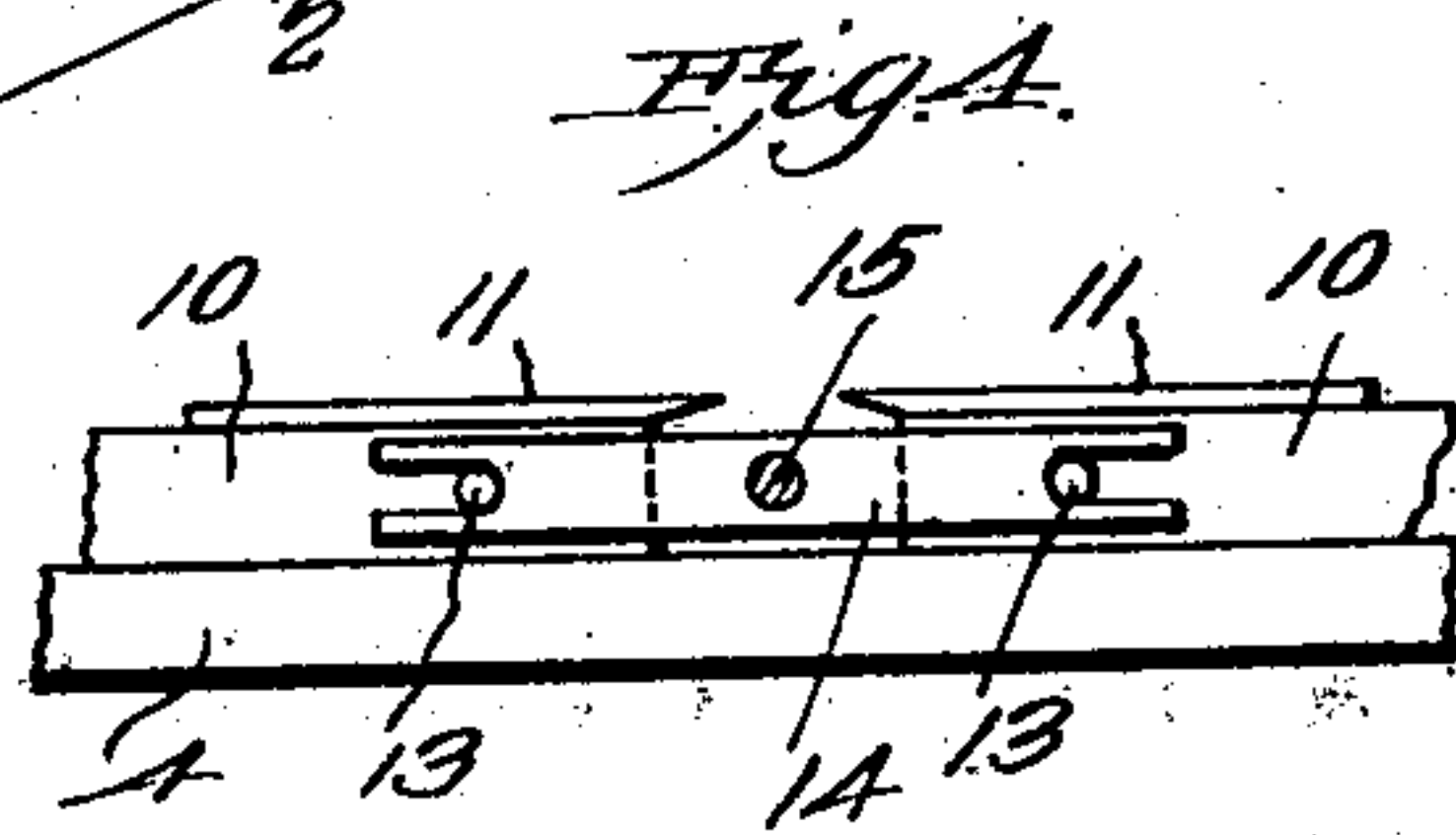
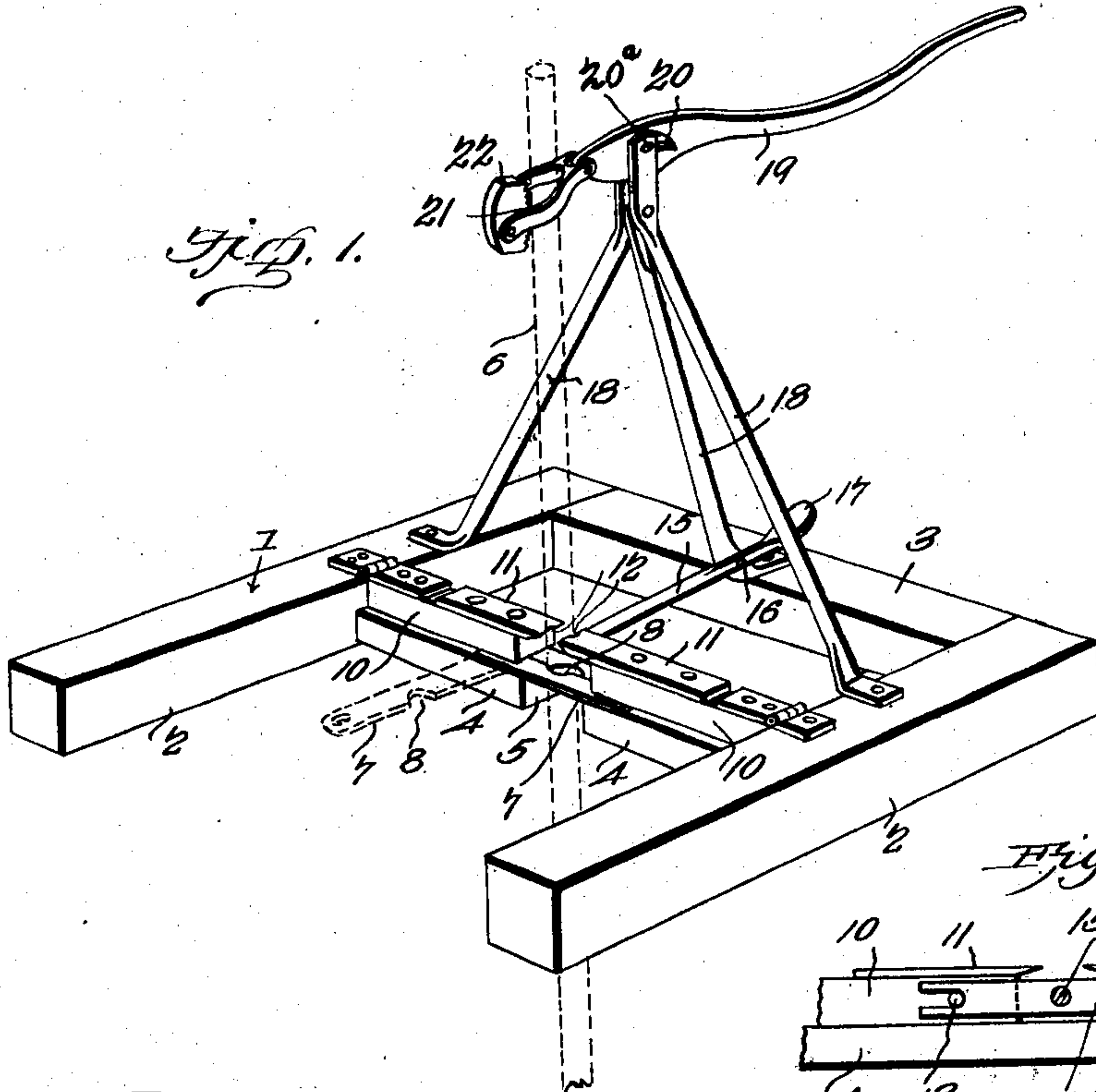
No. 742,111.

PATENTED OCT. 20, 1903.

I. C. BEARD & J. H. STEPHENS.
PIPE JACK.

APPLICATION FILED OCT. 18, 1901.

NO MODEL.



Witnesses
E. J. Stewart
Roll. E. Smith

I. C. Beard
J. H. Stephens Inventors
by *Chas. Snow*
Att.

UNITED STATES PATENT OFFICE.

ISAAC C. BEARD AND JOHN H. STEPHENS, OF STROUD, OKLAHOMA TERRITORY, ASSIGNORS OF ONE-HALF TO THOMAS R. HALL AND LITTLETON LANCASTER, OF STROUD, OKLAHOMA TERRITORY.

PIPE-JACK.

SPECIFICATION forming part of Letters Patent No. 742,111, dated October 20, 1903.

Application filed October 18, 1901. Serial No. 79,125. (No model.)

To all whom it may concern:

Be it known that we, ISAAC C. BEARD and JOHN H. STEPHENS, citizens of the United States, residing at Stroud, in the county of Lincoln and Territory of Oklahoma, have invented a new and useful Pipe-Jack, of which the following is a specification.

This invention relates to pipe-jacks, and particularly to that class employed for raising or lowering well-tubing.

The object of the invention is to present a simply-constructed, highly-efficient, and durable machine of the character specified, in the use of which pipes and tubing may be readily placed in a well and removed therefrom.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a pipe-jack, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification and in which like numerals of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the scope of the invention.

In the drawings, Figure 1 is a view in perspective of the apparatus. Fig. 2 is a view in side elevation, partly in section. Fig. 3 is a view in front elevation, partly in section. Fig. 4 is a fragmentary detail view in rear elevation.

Referring to the drawings, 1 designates generally the base of the machine, comprising two side beams 2, an end beam 3, and a sill-beam 4, arranged intermediate of the ends of the side beams and of less thickness than the same and provided at its center with a vertical recess 5, through which passes the pipe or tube 6, (indicated by dotted lines in Fig. 1 and in full lines in Figs. 2 and 3.) Pivottally associated with the sill-beam is a guide-plate 7, having at or near its center a semicircular slot 8 to embrace the pipe, the guide-plate

being held associated at its free end with the sill-beam by a suitable catch 9.

Hinged to the side beams in alinement with the sill-beam are two arms 10, to the upper surface of which are secured plates 11, which project beyond the arms 10 and have their opposed ends beveled downward and recessed at 12 to grip the pipe, these two plates 11 constituting a pipe-clamp. Each of the arms 4 carries a pin or projection 13, (shown in Fig. 4,) the pins being engaged by the bifurcated ends of a plate 14, to which is connected one end of a lever 15, the opposite end portion of which is pivottally connected with one of the members of the supporting standard or frame, as at 16, and is provided with an extension 17, by which the lever may be rocked, the function of the lever being, through the medium of the plate 14 and pins 13, to lift the arms 10, and thus lift the clamp out of engagement with the pipe in order to permit the same to be lowered.

The standard comprises three uprights 18, merged together at their upper ends to constitute a tripod, and disposed between the upper terminals of two of the uprights is a lever 19, having an opening 20, through which extends a fulcrum-pin 20^a, rigidly secured in the uprights. The forward end of the lever carries a pivoted yoke 21, to which is pivottally connected a toothed grapple 22, the teeth of which by frictional contact with the pipe will operate to lift the same in a manner that will be readily understood.

The opening 20 is a slot disposed lengthwise of the lever and has in this instance a straight bottom wall and a curved top wall, with which walls the fulcrum-pin engages. The slot is provided to permit the lever to have a limited longitudinal reciprocatory movement when it is rocked on its fulcrum to raise or lower a pipe, thereby to overcome any tendency on the part of the lever to move the pipe out of a vertical line. To render clear an understanding of the coaction between the fulcrum-pin and the slot, let it be supposed that the lever is in a horizontal position, with the fulcrum-pin in engagement with or in juxtaposition to the forward end of the slot. Now if the lever be raised

to drop the grapple 22 to cause it to take a fresh purchase on the pipe the forward or yoke-carrying end of the lever will advance a distance exactly proportionate to the arc traversed by its rear end, and when the lever is depressed, thus to raise the grapple, the yoke-carrying end will recede in like proportion. By these two movements of the lever there is no forward or rearward thrust transmitted to the pipe, so that it will always retain its vertical position. When a piece of pipe is to be lowered, the reverse of the operations above described takes place—that is to say, when the lever is depressed to elevate the yoke-bearing end the fulcrum-pin will then be at the rear end of the slot and as the lever is raised its yoke-bearing end will recede, and thereby bring the pin to the front end of the slot.

The manner in which the pipe-jack is operated is as follows: The guide-plate 7 is moved outward to the position indicated by dotted lines in Fig. 1 and the lever 15 is operated to open the clamp, after which the frame or base is moved to position over the well, with the recess 5 in alinement with the bore thereof, and in the event of a section of tubing being disposed above the ground the guide-plate is moved into the position shown in full lines in Fig. 1, thereby securing the structure in position against the tube, with the grapple 21 in engagement therewith. The lever 19 is now operated, and as the tube lifts the clamp members will also lift; but as soon as the movement of the lever is reversed to take a fresh purchase on the tube the clamps will operate automatically to prevent the tube from dropping back, this operation

being repeated until the tube has been removed. When a section of tube is to be lowered into a well, the reverse of the above operation takes place—that is to say, the lever 19 is depressed to cause the front end to swing upward and the lever 15 is depressed to throw the clamps out of engagement with the pipe, after which the lever is operated to lower the tubing to the limit of its stroke, and the clamps are then allowed to engage the tubing, while the lever is then operated to take a fresh purchase.

It will be seen from the foregoing description that although the device of this invention is exceedingly simple of construction it will be thoroughly efficient for performing the functions designed, and the parts thereof being simple in character a part that is broken or damaged may be readily replaced by a mechanic of ordinary ability.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a pipe-jack, the combination with a base, of automatically-operating pipe-clamping jaws carried thereby and movable through opposite arcs, and a pivoted guide-plate for holding a pipe in operative relation with the said jaws.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

ISAAC C. BEARD.
JOHN H. STEPHENS.

Witnesses:

R. L. TAYLOR,
A. J. WHITMORE.