

No. 693,668.

H. S. PHILLIPS.  
CHAIN JACK.

Patented Feb. 18, 1902.

(Application filed June 21, 1901.)

(No Model.)

Fig. 1.

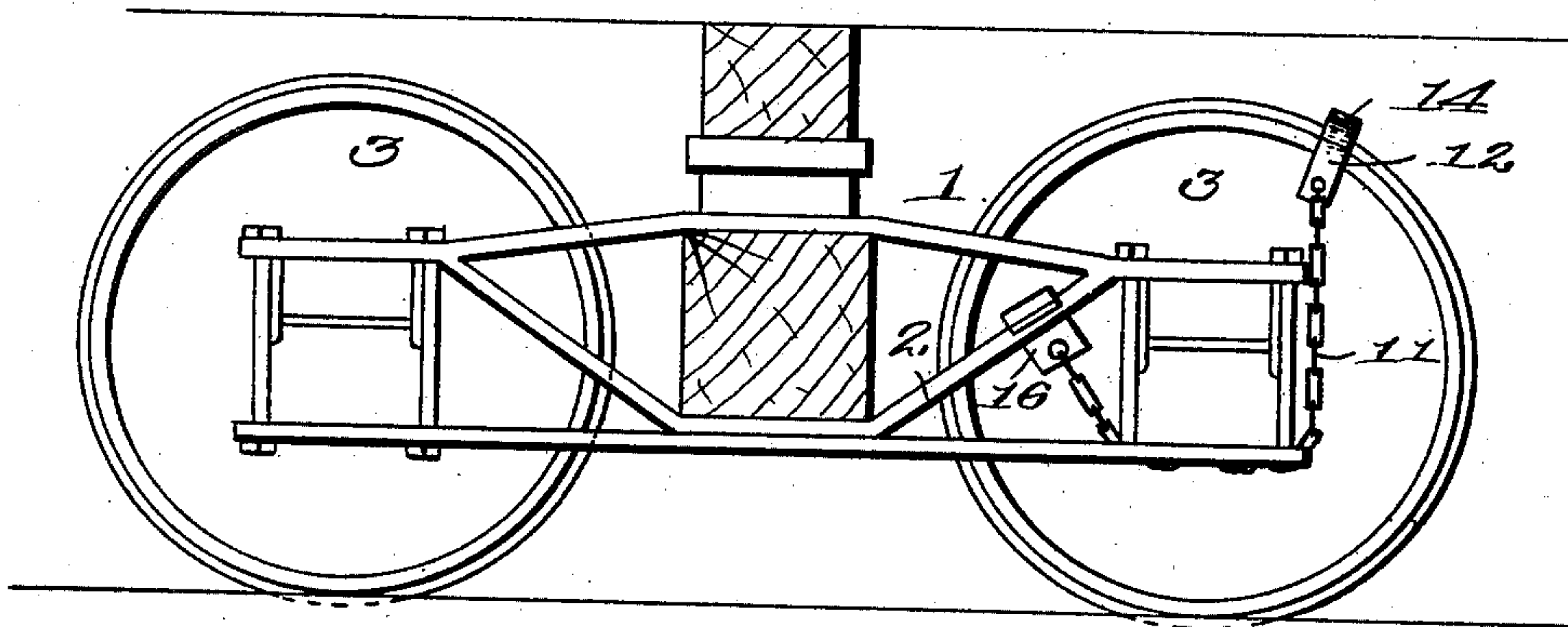


Fig. 2.

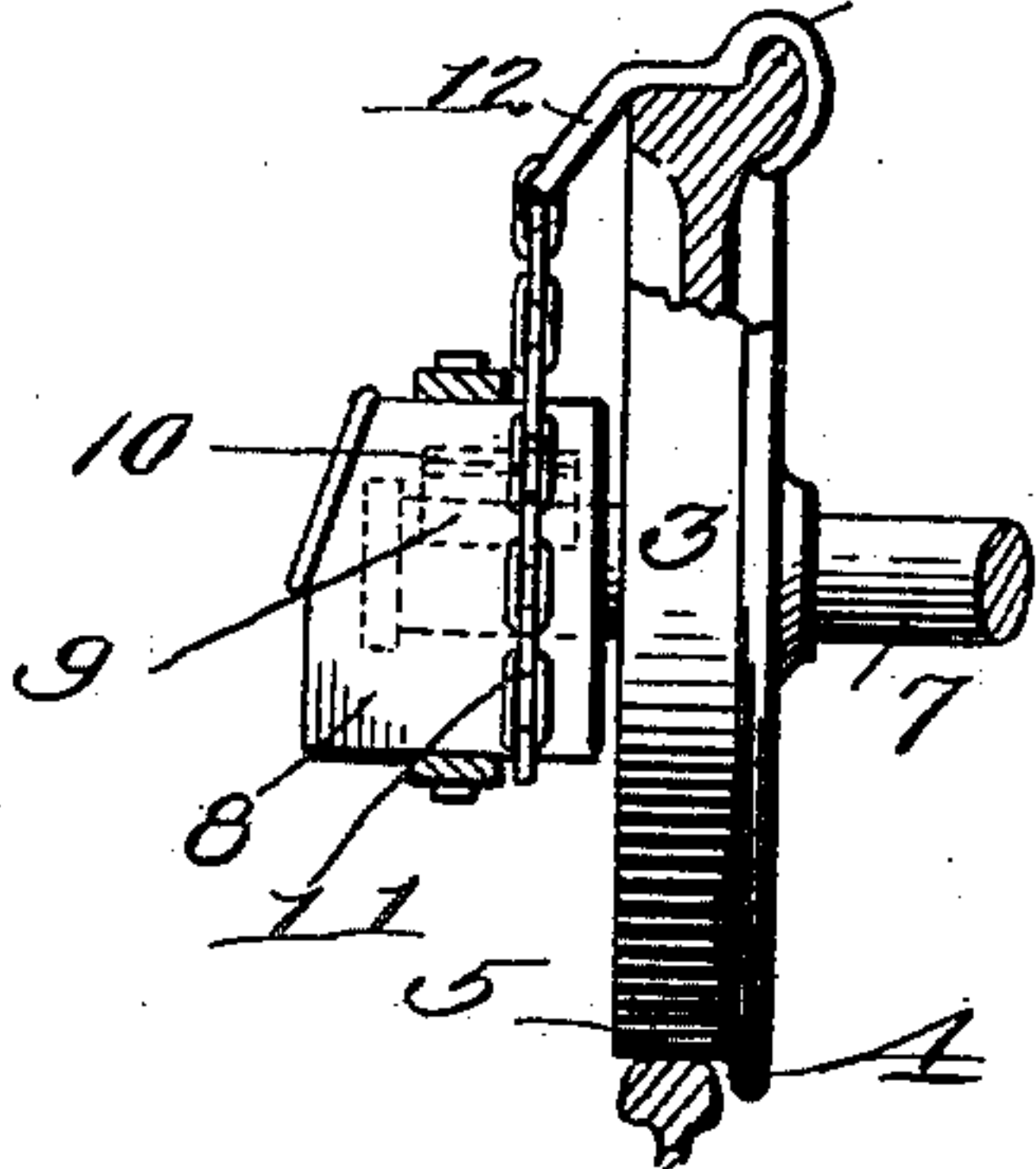


Fig. 3.

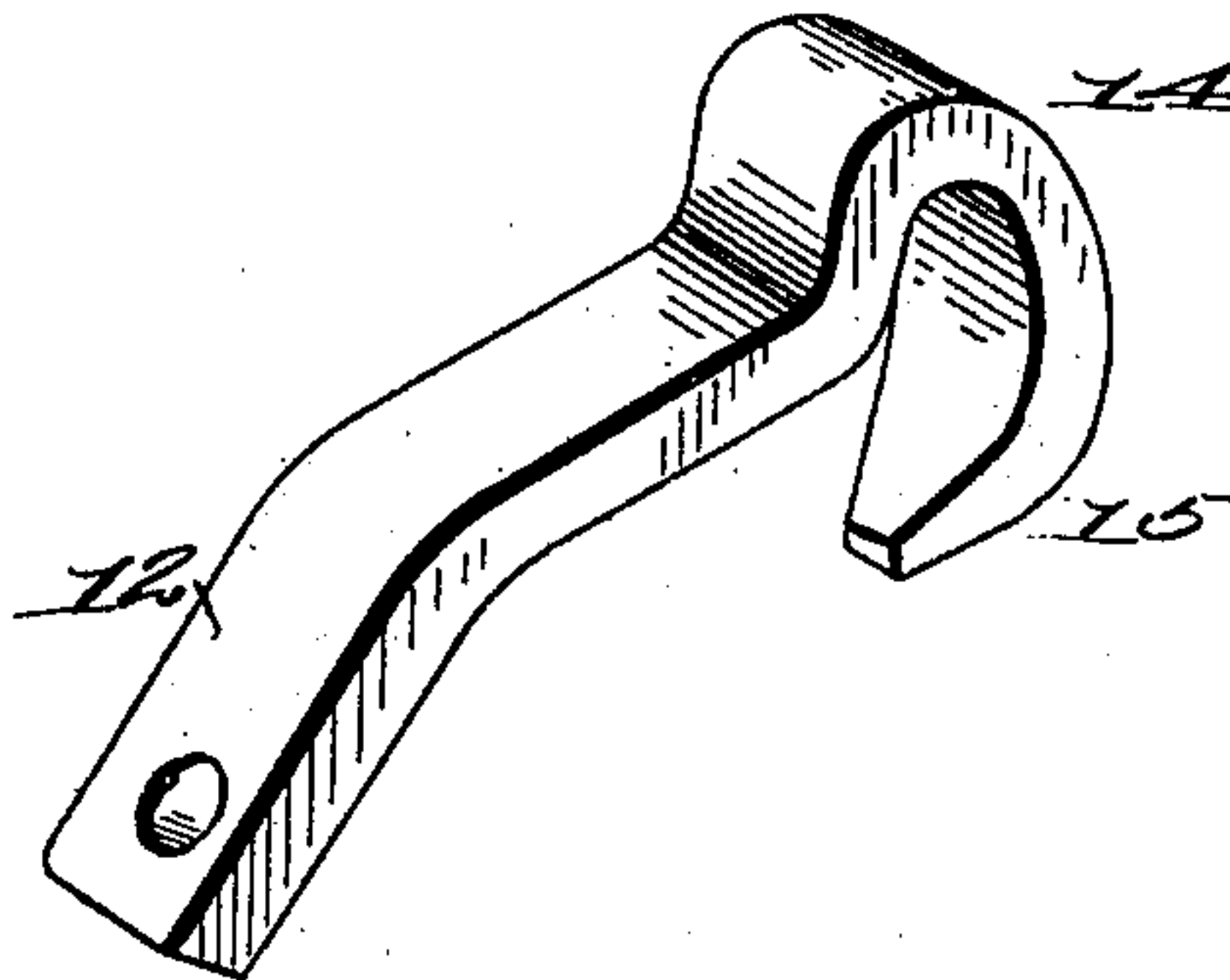


Fig. 4.

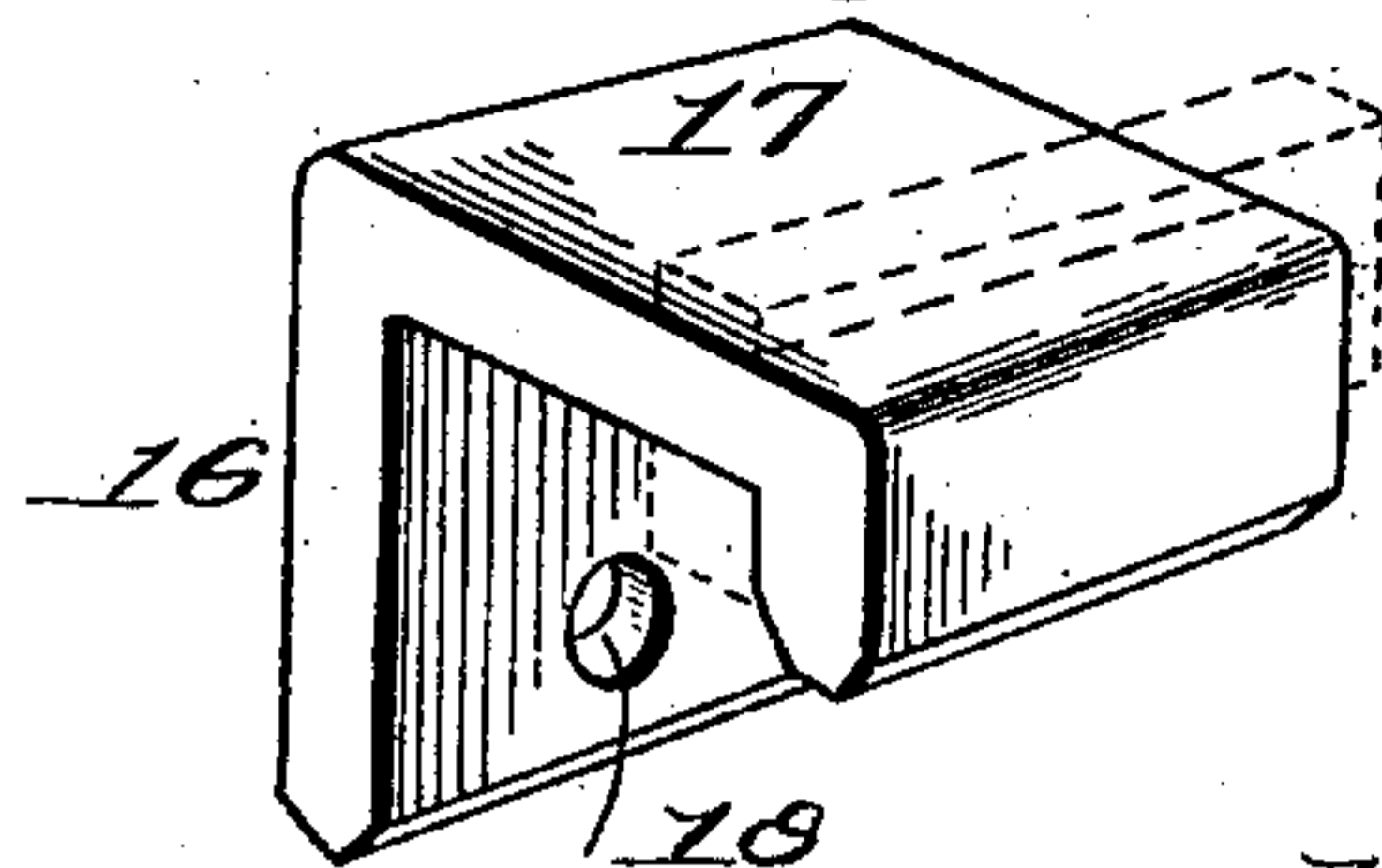
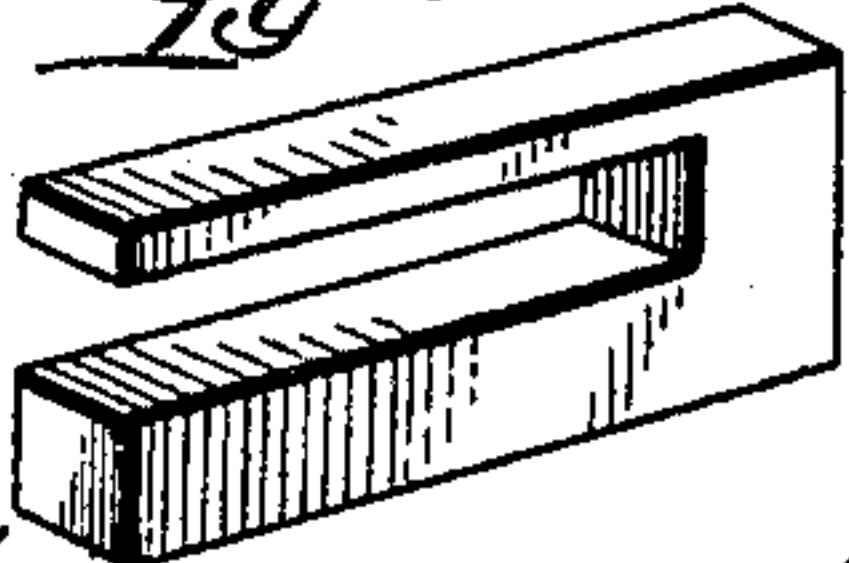


Fig. 5.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HENRY S. PHILLIPS, OF LAREDO, TEXAS.

## CHAIN-JACK.

SPECIFICATION forming part of Letters Patent No. 693,668, dated February 18, 1902.

Application filed June 21, 1901. Serial No. 65,490. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY S. PHILLIPS, a citizen of the United States, residing at Laredo, in the county of Webb and State of Texas, have invented new and useful Improvements in Chain-Jacks, of which the following is a specification.

This invention relates to certain new and useful improvements in chain-jacks particularly adapted for lifting journal-boxes.

The invention aims to provide a chain-jack for lifting the boxes of axles, so that the bearings or brasses therefor can be readily replaced, and is designed especially for use in cases of hot boxes on railway-cars.

In moving trains of cars on long runs hot boxes are of frequent occurrence, and by the method ordinarily in use—such as screw-jacks, levers, &c.—delays of considerable length are the rule before trains can be made ready to proceed. Such delays generally arise from the comparatively long time required in the use of the usual appliances for lifting the box to free the heated bearings, so that they can be replaced by others. These delays I overcome by my improved chain-jack, by which the boxes can be lifted in a brief space of time to free and replace the brasses or bearings.

The invention further aims to construct a chain-jack for the above-mentioned purpose which shall be extremely simple in its construction, strong, durable, efficient in its operation, comparatively inexpensive to manufacture, and easily set up; and to this end it consists in the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like reference-numerals indicate corresponding parts throughout the several views, and in which—

Figure 1 is a side elevation of a car-truck, showing my improved chain-jack connected thereto. Fig. 2 is a sectional end elevation. Fig. 3 is a detail perspective view of the wheel-hook. Fig. 4 is a detail perspective view of

the arch-bar hook, and Fig. 5 is a similar view of the bifurcated reducing-lug.

Referring to the drawings by reference-numerals, 1 2 denote the upper and lower arch-bars, respectively, of the car-truck; 3, the car-wheels, 4 the tread-flange thereof; 5, the wheel-tread; 7, the car-axle; 8, the journal-box; 9, the brass or bearing, and 10 the wedge. The foregoing is shown to enable one to understand the arrangement and operation of my improved chain-jack in connection with the lifting of journal-boxes.

The reference-numeral 11 denotes the body portion of my improved jack, which is constructed of a chain of a suitable length and of the required strength. One end of the chain or body portion 11 is connected to the shank 12 of the wheel-hook 14. The latter is constructed to conform to the shape of the tread-flange 4 and wheel-tread 5. The shank 12 extends downwardly and away from the web of the wheel at an inclination, so that the lower end of the shank when connected to the chain 11 and in operative position will be above the journal-box 8, so that the latter can be lifted in a vertical manner. The end 15 of the wheel-hook extends over and beneath the tread-flange 4 and engages with the web of the wheel near the outer edge thereof.

The reference-numeral 16 denotes the shank of the arch-bar hook 17. The latter is adapted to extend over the top edge of the lower arch-bar of the truck, and the former is provided with an opening 18 to permit of connecting the same to the opposite end of the body portion or chain 11 of the jack.

The reference-numeral 19 denotes a bifurcated reducing-lug for the arch-bar hook 17 to prevent any slack in the chain 11. To prevent slack in the chain 11, the lug 19 is interposed between the end of the arch-bar hook and the side edge of the arch-bar.

The jack is set up in the following manner: The wheel-hook is first placed in position, the chain then passed under the journal-box between the wheel and arch-bars, the arch-bar hook is then placed in position upon the lower arch-bar with the back of the arch-bar hook to the wheel. If there be any slack in the chain, the bifurcated reducing-lug is mounted in position. When the jack is in



the position as set forth, the engine is adapted to move the car forward about one foot, which is sufficient to take out the brass. This movement of the car will lift the box at the same time the jack will hold the wheel down upon the rail. When the box is raised, the brass is removed and a new one replaced. The car is then moved backward to its former position, which lowers the box as well as the brass on the journal. It will be evident that from the employment of the jack, as hereinbefore described, it saves the oil and waste, as the old packing is not removed, but simply pressed down in the bottom of the box by the journal as the corner of the truck raises, and when lowered the packing is simply stirred up and used again by the ordinary packing-iron. The foregoing operation is applicable when it is desired to remove the brass from the rear box of the truck. If it should be the forward wheel or box of the truck, the engine is moved first in the opposite direction from that stated above. If the engine should move the car more than the distance required for elevating the box, it will not damage the truck or the wheel, only sliding the wheel upon the rail when the box is at its highest point. By employing the wheel-hook in the manner shown when the engine is moved forward the point of the wheel-hook holds steadily in one place, and as the wheel and hook move forward the body portion or chain is shortened, which causes the rising of the box in order to take out the brass. This overcomes the fact that when a common screw-jack is employed to jack up a box the wheel will also go up with the box off the rail and wedges the brass tight; but my improved chain-jack holds the wheel down on the rail and raises the box until the bottom thereof engages the journal. This overcomes the wedging of the brasses or bearings.

It is thought the many advantages of my improved jack can be readily understood from the foregoing description taken in connection with the accompanying drawings, and it will

also be noted that minor changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. A chain-jack for replacing the bearings or brasses of journal-boxes of car-wheel-truck frames, consisting of a chain, an arch-bar hook attached to one end of said chain for connecting the latter to one of the arch-bars of the car-truck, and a wheel-hook attached to the other end of said chain and conforming to the shape of the tread and tread-flange of a car-wheel and provided with a downwardly and outwardly extending inclined shank for causing the lifting of the journal-box in a vertical manner when the jack is operated.

2. A jack for replacing the bearings or brasses of journal-boxes of car-wheel-truck frames, consisting of a chain, a hook attached to one end of said chain for connecting it to one of the arch-bars of the truck-frame, a reducing device adapted to be mounted upon said hook, and a wheel-hook having a downwardly and outwardly extending shank secured to the other end of said chain and constructed to conform to the shape of the tread and tread-flange of a car-wheel for gripping said tread and tread-flange and further adapted to have the free end of said hook engage the web of the wheel when the hook is in its gripping position, said downwardly and outwardly extending shank of the hook adapted to cause the elevation of the journal-box in a vertical manner when the jack is operated, substantially as herein shown and described and for the purpose specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY S. PHILLIPS.

Witnesses:

M. G. BENAVIDES,  
CHAS. ROSS.