

J. D. ELLISON.  
 AUTOMATIC SHAFT LIFTING AND SUPPORTING DEVICE.  
 APPLICATION FILED DEC. 30, 1908.

930,539.

Patented Aug. 10, 1909.

Fig. 1.

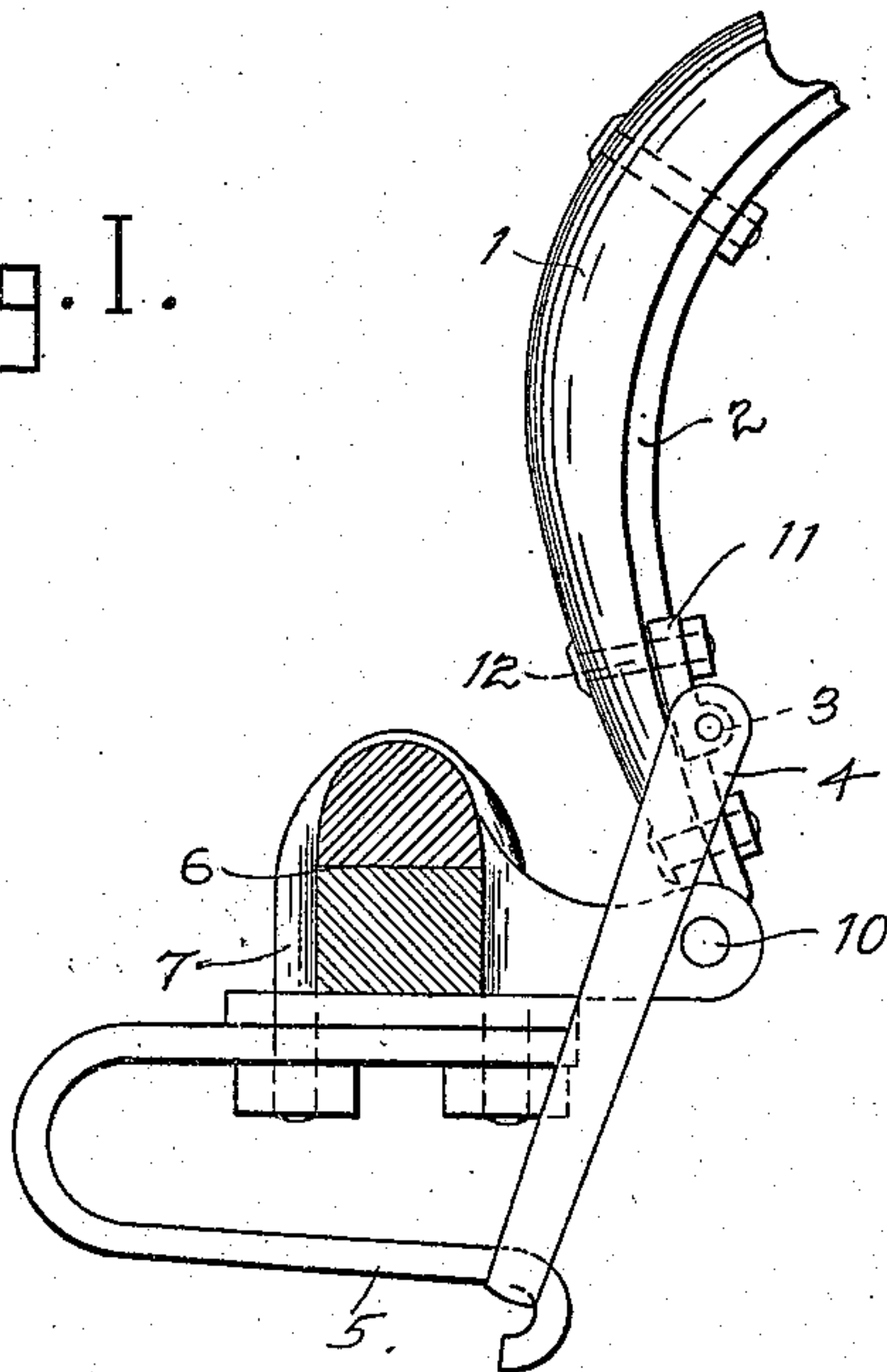


Fig. 4.

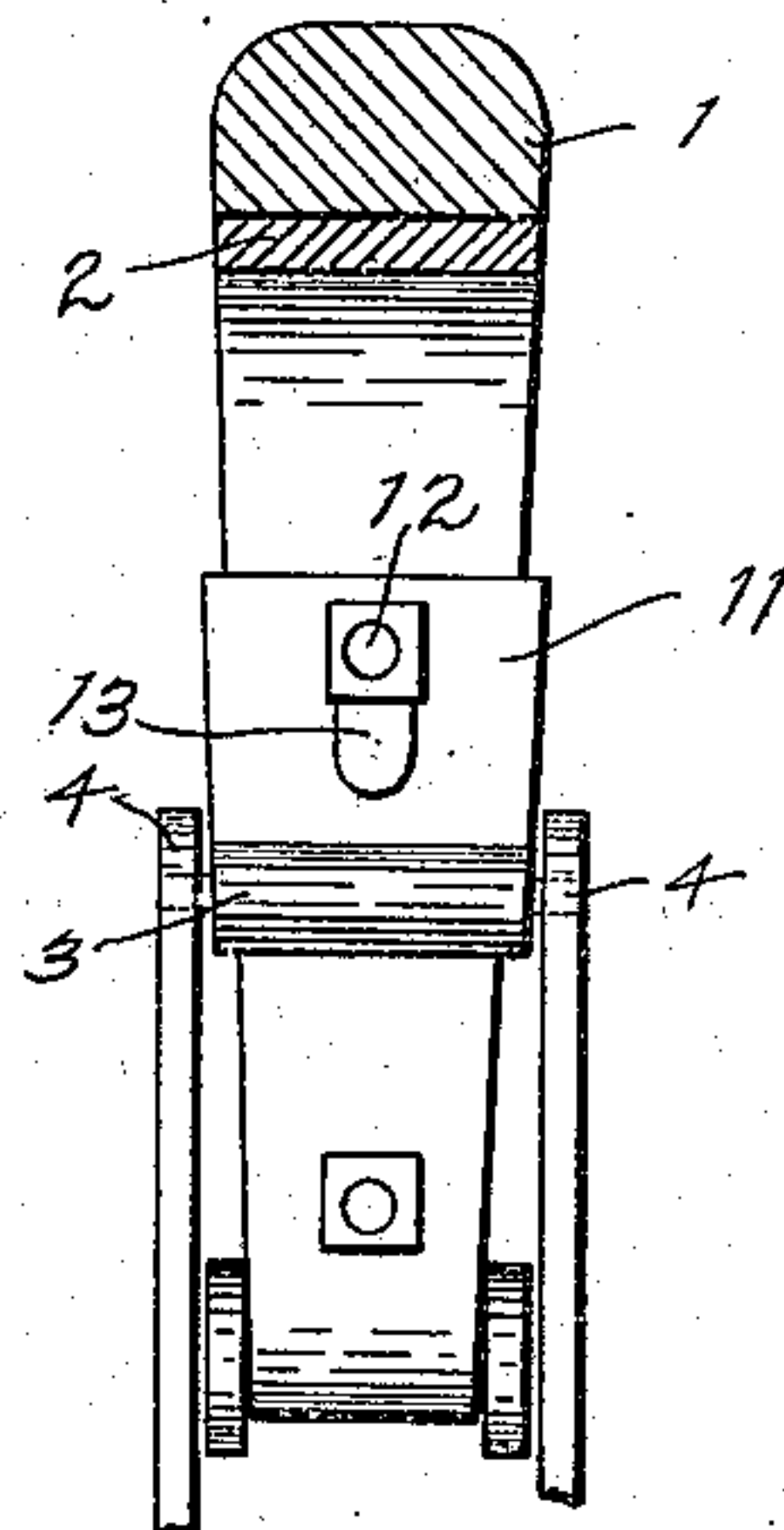


Fig. 2.

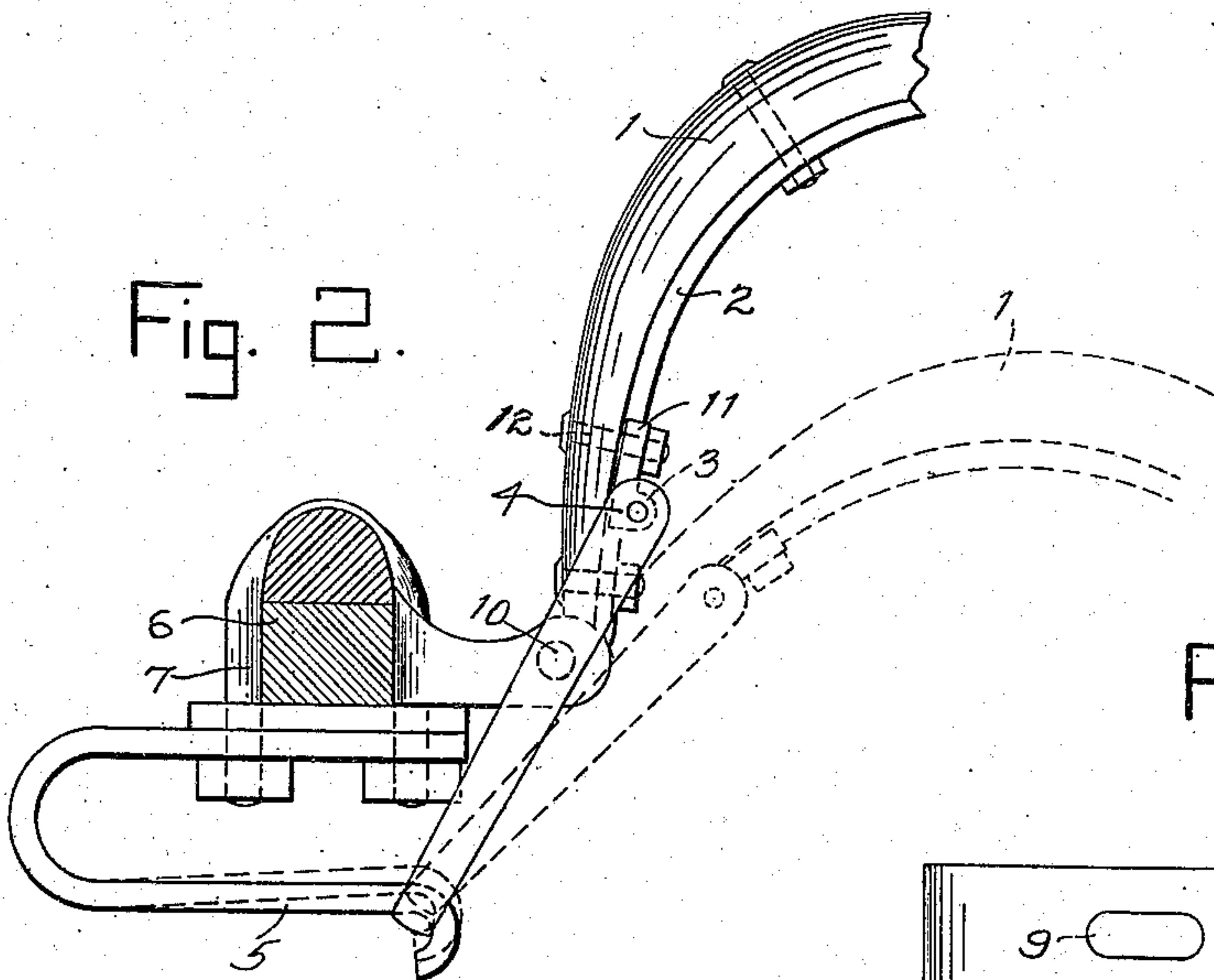
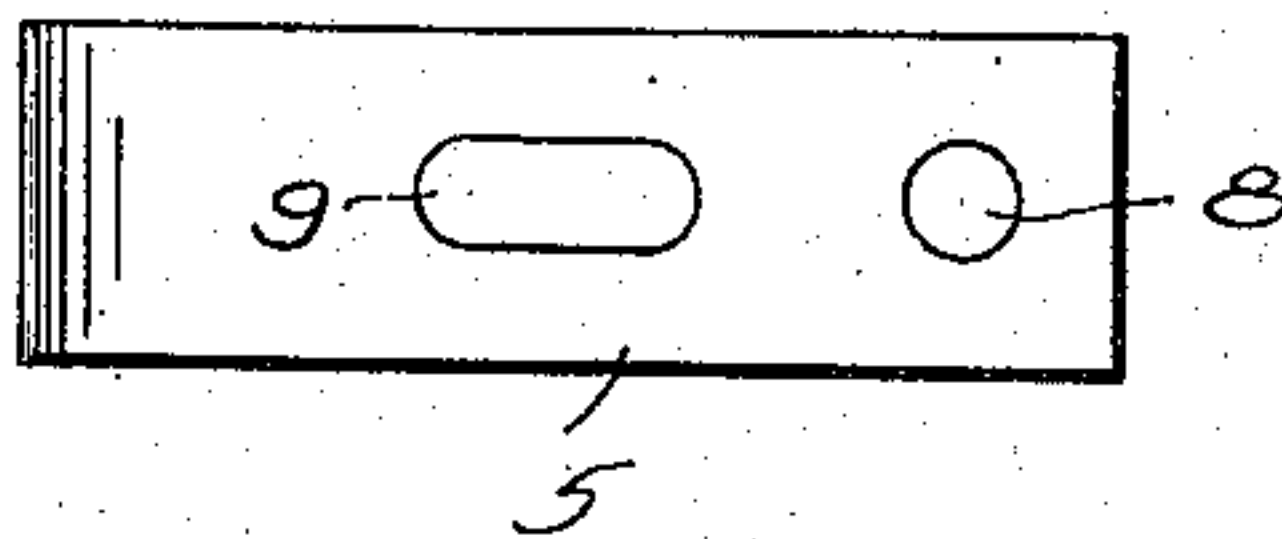


Fig. 3.



Witnesses

*Ernest Hutchinson*  
*M. E. Shook*

Inventor

*John D. Ellison*  
*By Edison Bros., Attorneys.*



# UNITED STATES PATENT OFFICE.

JOHN D. ELLISON, OF RIVES, TENNESSEE.

## AUTOMATIC SHAFT LIFTING AND SUPPORTING DEVICE.

No. 930,539.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed December 30, 1908. Serial No. 469,946.

*To all whom it may concern:*

Be it known that I, JOHN D. ELLISON, a citizen of the United States, residing at Rives, in the county of Obion and State of Tennessee, have invented certain new and useful Improvements in Automatic Shaft Lifting and Supporting Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to thill-couplings.

It has for its object to automatically lift and support the shafts in a raised position when they are moved slightly upwardly out of their normal horizontal position, whereby the necessity of supporting said shafts by hand or by other unsatisfactory means is avoided.

Other objects are to prevent the coupling from rattling, to prevent the pivot bolt of said coupling from working loose and to so arrange the automatic lifting device that it will not exert its lifting pressure when the shafts are in their normal horizontal position.

The invention consists in the use of a spring arranged below the coupling and adapted to exert a downward pressure, in combination with a stirrup which is secured to said spring at its lower end and pivoted at its upper end to the thill above the coupling. When the shafts are in their normal position, a straight line connecting the ends of the stirrup passes through the pivot of the coupling whereby no pressure is exerted to move the thill either upwardly or downwardly. As soon as the shafts are moved slightly upward or downward, however, the spring, exerting pressure through the stirrup, will either lift the shafts automatically and support them in a raised position or will draw said shafts down and hold them with their points on the ground. The stirrup covers the ends of the pivot bolt of the coupling when the shafts are in their normal position, thereby preventing said bolts from working loose.

The invention also consists in the features of construction and combinations of parts hereinafter described and specified in the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention: Figure 1 is a side view of a thill-coupling embodying my improvements, the axle being

shown in section and the thill raised as when the shafts are lifted, and supported by my attachment. Fig. 2 is a sectional view of the same showing the thill in its normal position as when the shafts are horizontal, the lowered position of the thill being shown in dotted lines, Fig. 3 is a detailed view of the spring showing the slots therein for connection with the clip, and Fig. 4 is a broken view looking at the inner face of the thill-iron.

Referring more particularly to the drawing, 1 designates the thill and 2 the thill-iron on which is formed an eye or loop 3 for connection with the upper end of the stirrup 4. The lower end of said stirrup is connected to the hooked free end of a bowed spring 5 which is secured to the axle 6 by a clip 7. Said spring is provided with two slots 8 and 9 therein, the latter being elongated to adapt said spring for attachment to various sizes of clips. In Fig. 2, the stirrup is illustrated as covering the ends of the pivot bolt 10 of the coupling.

I am aware that changes may be made in the details of construction shown and described herein without departing from the spirit or sacrificing the advantages of my invention. I, therefore, reserve the right to make such changes as may fairly fall within the scope of my invention as specified in the claims.

If desired, the eye or loop 3 may be carried by a separate plate 11 adjustably secured to the thill-iron by means of the bolt 12 engaging an elongated slot 13 in said plate as illustrated particularly in Fig. 4. This adjustment of the loop to which the inner end of the stirrup is connected, permits the spring to be tightened or compressed when it has lost some of its resiliency from continued use. It also makes it possible to regulate the drawing power of said spring to suit the weight of any particular pair of shafts.

I claim:

1. The combination, with a thill-coupling, of a spring arranged below said coupling and exerting a downward pressure, of a stirrup secured to said spring at its lower end and pivoted to the thill at its upper end, said stirrup being arranged so that a straight line connecting its ends passes through the pivot of said coupling when the shafts are in their normal horizontal position.

2. The combination, with a thill-coupling, of a spring arranged below said coupling and exerting a downward pressure, of a stirrup



secured to said spring at its lower end and pivoted to the thill at its upper end, said stirrup being arranged so as to cover the ends of the pivot bolt of said coupling when  
5 the shafts are in their normal horizontal position.

3. The combination, with a thill-coupling and a clip, of a bowed spring secured to said clip by means of slots in said spring, one of  
10 said slots being elongated for the purpose

specified, the free end of said spring being bent into the form of a hook, and a stirrup connected at its lower end to said hook and pivoted at its upper end to the thill.

In testimony whereof, I affix my signature, 15  
in presence of two witnesses.

JOHN D. ELLISON.

Witnesses:

C. BONNER,

E. E. SHORE.