

A. W. WOODROOF.
 REACH ROD SUPPORT.
 APPLICATION FILED SEPT. 4, 1912.

1,056,312.

Patented Mar. 18, 1913.

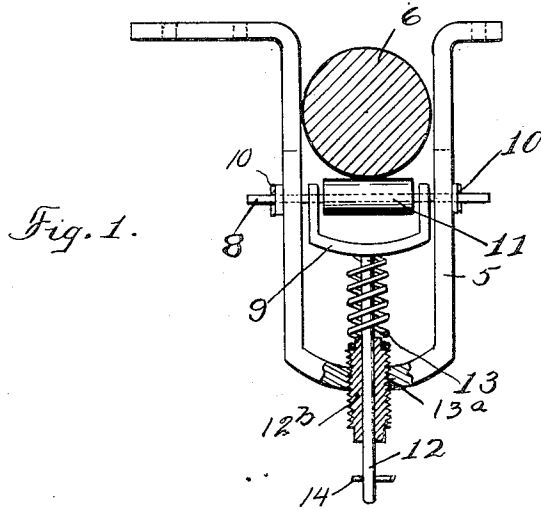


Fig. 1.

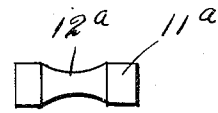


Fig. 5.

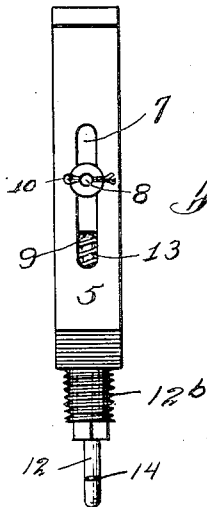


Fig. 2.

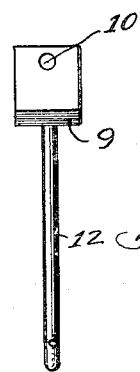


Fig. 3.

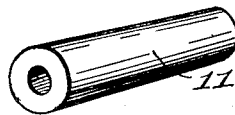


Fig. 4.

Witnesses

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REACH-ROD SUPPORT.

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To all whom it may concern:

Be it known that I, ASHLEY W. WOODROOF, a citizen of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in Reach-Rod Supports, of which the following is a specification.

My invention relates to a reach rod support and guide.

An important object of the invention is to provide a device of the above mentioned character, which will support a reach rod and allow the same to partake of a restricted vertical movement and free longitudinal movement, and at the same time positively preventing its lateral displacement.

A further object of the invention is to provide spring means to hold the movable support elevated, together with adjustable means to regulate the tension of the spring means.

A further object of the invention is to provide means of the above mentioned character which is simple in construction, durable, and cheap to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a face view of the device with portions thereof and the reach rod shown in section, Fig. 2 is a side view of the same, Fig. 3 is a similar view of the vertically movable support, Fig. 4 is a perspective view of the roller, and, Fig. 5 is a side view of a different form of roller.

In the drawings, wherein for the purpose of illustration, I have shown a preferred embodiment of my invention, the numeral 5 designates a U-shaped bracket, to be attached to the frame work of an engine or any other fixed support. Disposed within this U-shaped bracket is a reach rod 6, which may be employed to shift the valve of a steam engine or for any other desired purpose. The upstanding sides of the U-shaped bracket 5 are provided with elongated slots 7, for receiving a transverse horizontal rod or shaft 8, as shown. Disposed within the bracket 5 is a U-shaped vertically movable support 9, provided near its end with open-

ings 10', to receive the shaft 8, as shown. This shaft is held against longitudinal displacement with relation to the bracket 5 by cotter pins 10. Rotatably mounted upon the shaft 8 within the U-shaped support 9 is a roller 11, as shown. Instead of employing the plain roller 11, I may use a roller 11^a (see Fig. 5) having an annular recess 12^a, as shown. Rigidly attached to the U-shaped support 9 is a depending stem or rod 12, mounted to reciprocate within an externally screw-threaded sleeve 12^b, which is disposed in a screw-threaded opening 13^a formed through the lower end of the bracket 5. Surrounding the stem 12 within the bracket 5 is a suitably stiff coiled spring 13, which serves to yieldingly support the vertically movable support and engages the sleeve 12^b, as shown. The stem 12 carries near its lower end a cotter pin 14, to limit the upward movement of the U-shaped support 9.

The operation of the device is as follows:—When the reach rod is moved longitudinally back and forth the same is supported by the roller 11. The reach rod 6 may be pivotally connected with a swinging lever (not shown), which is employed to move the same. In this case the swinging lever when moving the reach rod longitudinally also moves the same in a vertical plane. It is obvious that the vertically movable support 9 will permit of this vertical movement of the reach rod. The spring 13 allows the support 9 to move vertically and yieldingly supports the same to take up all shock. By turning the sleeve 12^b, the tension of the spring 13 may be varied.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. In a device of the character described, a relatively stationary supporting bracket, a longitudinally movable reach rod operating therein, a vertically movable support mounted within the relatively stationary bracket, a roller connected with the vertically movable support and engaging the reach rod, means to guide the vertically



movable support in its movement, and a spring to yieldingly support said vertically movable support.

2. In a device of the character described,
5 a relatively stationary U-shaped supporting bracket having its upstanding sides provided with elongated slots, a longitudinally movable reach rod operating within the U-shaped supporting bracket, a vertically movable U-
10 shaped support, a shaft extending through the ends of the vertically movable U-shaped support and said elongated slots, a roller mounted upon the shaft and engaging the reach rod, a depending stem attached to the
15 vertically movable support and operating through an opening formed in said U-shaped supporting bracket, and a suitably stiff coil spring surrounding the stem within said U-shaped supporting bracket.

3. A reach rod support of the character 20 described, comprising a relatively stationary bracket to receive the reach rod, a vertically movable support disposed within the bracket and carrying a depending stem, a roller carried by the vertically movable sup- 25 port and engaging the reach rod, an adjusting sleeve having screw-threaded engagement with the lower portion of the relatively stationary bracket, and a coil spring surrounding said stem in engagement with 30 the adjusting sleeve.

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

ASHLEY WILLIARD WOODRUFF.

Witnesses:

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