No. 698,721. Patented Apr. 29, 1902.

J. M. LOWE.

PUMP ROD COUPLING.

(Application filed Feb. 6, 1902.)

(No Model.)

Fig. 1.

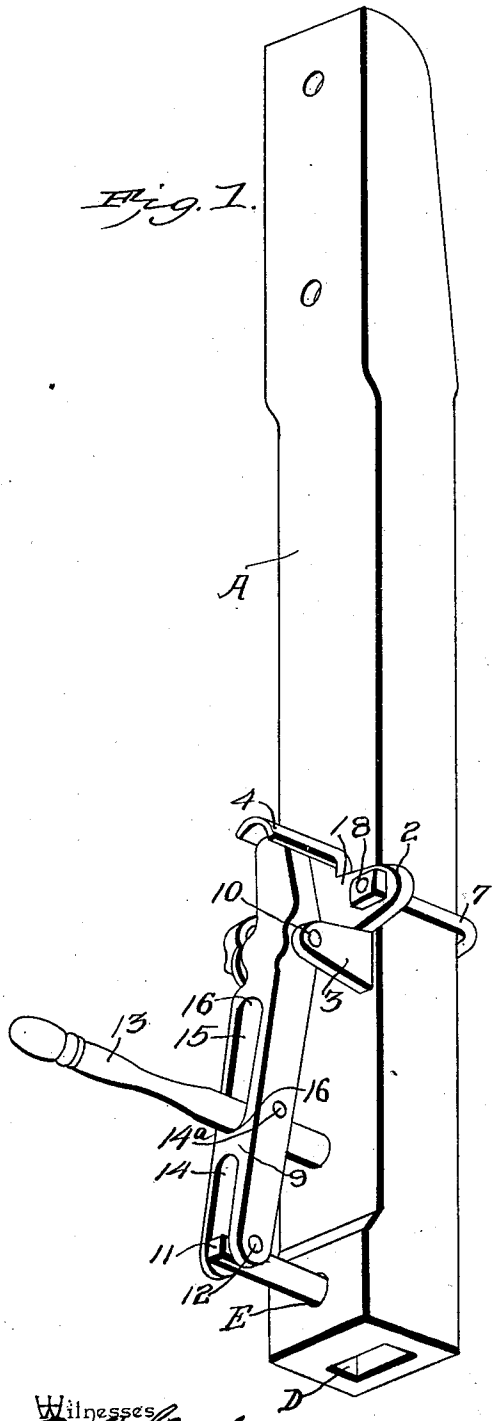


Fig. 2.

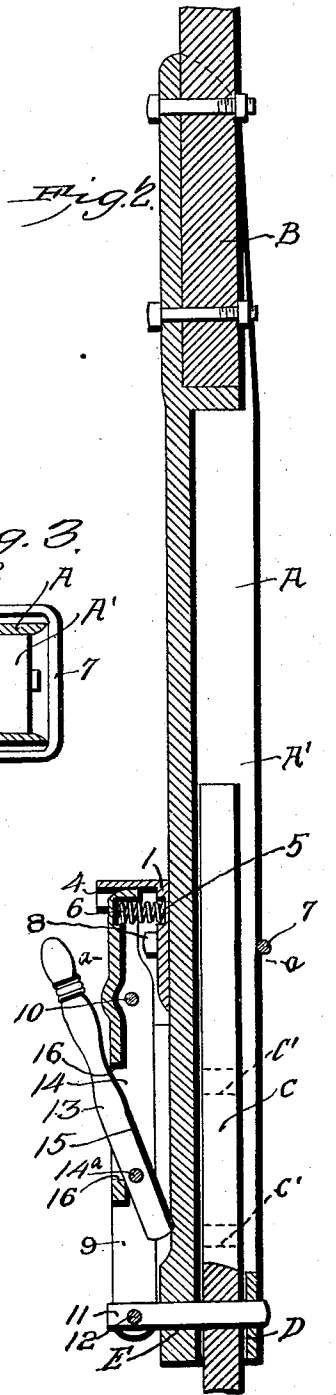
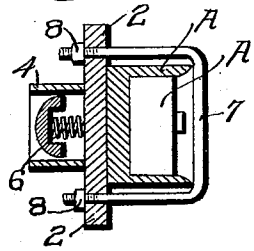


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN M. LOWE, OF BUTLER, INDIANA, ASSIGNOR OF ONE-THIRD TO GEORGE L. ROW, OF BUTLER, INDIANA.

PUMP-ROD COUPLING.

SPECIFICATION forming part of Letters Patent No. 698,721, dated April 29, 1902.

Application filed February 6, 1902. Serial No. 92,858. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. LOWE, a citizen of the United States, residing at Butler, in the county of Dekalb and State of Indiana, have invented a new and useful Pump-Rod Coupling, of which the following is a specification.

My invention is an improved pump-rod coupling adapted for connecting a pump-rod to a pitman-rod operated by a windmill or other engine; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

The object of my invention is to provide means, including a coupling-pin, adapted to be attached to and adjusted on a slide of ordinary construction and of any ordinary size without the necessity of cutting, drilling, or otherwise altering the slide or the pitman-rod in order to couple the pitman-rod to the pump-rod and by means of which the coupling-pin may be adjusted to operate in the registering openings of the slide and pitman-rod, a further object of my invention being to provide improved means for operating the coupling-pin and for locking the same either in engaged or disengaged position.

In the accompanying drawings, Figure 1 is a perspective view of the slide of a pump-rod coupling provided with my improved coupling device. Fig. 2 is a sectional view showing the slide, the upper portion of the pump-rod, the lower portion of the pitman-rod, and my improved coupling device, the latter being secured on the slide in operative position. Fig. 3 is a sectional view taken on a plane indicated by the line *a a* of Fig. 2.

The slide A here shown is of usual form adapted to be bolted to the lower end of a pitman B of a windmill or other engine having a channel or groove A′ on one side to receive the upper portion of the pump-rod C and having an opening D at its lower end, through which the pump-rod extends. The slide is further provided with the usual transverse opening E near its lower end, which is adapted to register with one of the openings C′ of the pump-rod when the latter is appropriately adjusted in the slide to effect a coupling between the pump-rod and the pitman-rod.

In the embodiment of my invention I provide a bearing-frame 1, which is adapted to be attached to and adjusted on the slide A. This bearing-frame is here shown as a base-plate having a pair of laterally-projecting ears 2, a pair of ears 3, which extend at right angles to the said ears 2 and outwardly from the face of the bearing-frame, and an outstanding guard 4, which is on the upper side of the bearing-frame. The latter is further provided with a socket 5 below the said guard 4 for the inner end of a coiled extensile spring 6. A U-shaped clip-bolt 7 is employed to connect the bearing-frame to the slide and adapt the bearing-frame to be adjusted on the slide as may be required. The said clip-bolt passes around the slide A, and the arms thereof pass through openings in the ears 2 and are provided with nuts 8, which engage the screw-threaded arms of the clip-bolt. It will be understood that by slightly loosening the nuts 8 the bearing-frame may be adjusted on the slide by tapping it with a hammer or other implement and that when the bearing-plate has been appropriately adjusted on the slide the same may be locked securely in the required position by tightening the nuts 8.

A link-arm 9 is pivoted near one end between the ears 3, as by a pin 10. The upper shorter end of said link-arm extends within the guard 4, and the coiled spring 6 bears at its outer end on the inner side of the upper portion of the link-arm. The lower end of the latter is here shown as slotted and in the said slot is disposed the outer end of a coupling-pin 11, which is pivoted in the slotted lower end of the link-arm, as by a pin 12. The said coupling-pin is adapted to enter the registering openings of the slide and pump-rod to couple the latter to the slide, as shown in Fig. 2, and the spring 6 normally secures the link-arm, with its coupling-pin, in such engaged position.

An operating-lever 13, which is here shown as a straight bar, is disposed in a slot 14 in the link-arm and is pivoted at a suitable distance from its inner end to the said link-arm, as by a pin 14^a. The upper and lower ends of the slot 15 form stops 16, which respectively engage the operating-lever. The inner end of the operating-lever bears against the slide, and when the said lever is turned upwardly

in the position shown in Fig. 2, so that its outer portion bears on the upper stop 16, the inner end of said operating-lever moves downwardly on the slide, its arcuate motion being such as to permit the lower end of the link-arm 9 to be moved inwardly toward the slide, and thereby insert the coupling-pin in the registering openings of the slide and the pump-rod. By turning the operating-lever to a position substantially at right angles to the link-arm 9 the inner end of said operating-lever by its upward arcuate motion on the slide causes the lower end of the link-arm to be drawn outwardly, and thereby withdraw the coupling-pin from the opening in the pitman-rod to disengage the latter from the slide. When thus disposed, the operating-lever 13 bears against the stop 16 at the lower end of the said slot 15, and hence said lever and the link-arm are disposed and maintained in such position as to hold the coupling-pin in its disengaging position with reference to the opening in the pitman-rod.

By adjusting the bearing-frame on the slide, as hereinbefore described, the bearing-frame may be so situated as to cause the coupling-pin to register and operate freely in the opening E of the slide. Hence my improved coupling device may be attached to any of the slides now in common use and readily adjusted with relation thereto and obviate the necessity of altering the slide or the pitman-rod in order to effect the coupling. So many different forms of slides are now manufactured and sold to be used for pump-rod couplings and the slides vary so much in length that it is of importance to provide a coupling device which may be attached to any of the slides and adjusted thereon in such manner as to cause the coupling-pin to operate freely in the openings of the slide. My invention provides such a coupling device.

I do not desire to limit myself to the precise construction and combination of devices herein shown and described, as it is evident that modifications may be made therein without departing from the spirit of my invention. Neither do I desire to limit myself to the use of my spring-pressed link-arm having the coupling-pin and the operating-lever in connection with a bearing base or frame therefor, which is adjustable on a slide, as within the scope of my invention the slide may be formed with permanent or integral bearings for said link-arm.

Having thus described my invention, I claim—

1. In a pump-rod coupling, including a slide adapted to be connected to a pitman-rod, and a pump-rod, said slide and pump-rod having openings adapted to register with each other, a spring-pressed link-arm pivotally mounted on the slide, a coupling-pin pivotally connected to the link-arm and adapted to enter the slide and pump-rod openings when the same register, and an operating-lever, pivoted to the link-arm and bearing at one end against the slide, said link-arm having stops to limit the play of said lever, substantially as described.

2. In a pump-rod coupling, including a slide adapted to be connected to a pitman-rod and a pump-rod, said slide and pump-rod having pin-openings adapted to register with each other, a bearing-frame secured and adjustable on the slide, a spring-pressed link carried by said adjustable bearing-frame, a coupling-pin carried by the link and adapted to enter the slide and pump-rod openings when the same register with each other and means to operate said link and lock the same with the coupling-pin in engaged or disengaged position, substantially as described.

3. In a pump-rod coupling, including a slide adapted to be connected to a pitman-rod and a pump-rod, said slide and pump-rod having pin-openings adapted to register with each other, a frame secured and adjustable on the slide, a spring-pressed link carried by the frame, a coupling-pin connected to the link and adapted to enter the slide and pump-rod openings when the same register with each other, and an operating-lever pivoted to the link and bearing at one end against the slide, said link having stops to limit the play of said lever, substantially as described.

4. In a pump-rod coupling, including a slide adapted to be connected to a pump-rod and a pitman-rod, and having a pin-opening to register with an opening in the pump-rod, a link having a coupling-pin to enter said openings, means to lock said link with the pin in engaged or disengaged position, and a bearing for said link, said bearing being attached to and adjustable on the slide, substantially as described.

5. As a new article of manufacture, a bearing-frame having means whereby it may be attached to and adjusted on the slide of a pump-rod coupling, a link pivoted to and carried by said bearing-frame, a coupling-pin carried by said link, a spring coacting with said link to normally engage said coupling-pin with the openings of the slide and pump-rod, and an operating-lever pivoted to said link to bear against the slide and coact with the slide, link and spring to lock the link with its coupling-pin in engaged or disengaged position, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN M. LOWE.

Witnesses:
S. M. HUSSELMAN,
J. W. THOMPSON.