No. 686,848. Patented Nov. 19, 1901.

D. M. HATCH.

WINDMILL COUPLING.

(Application filed Mar. 28, 1901.)

(No Model.)

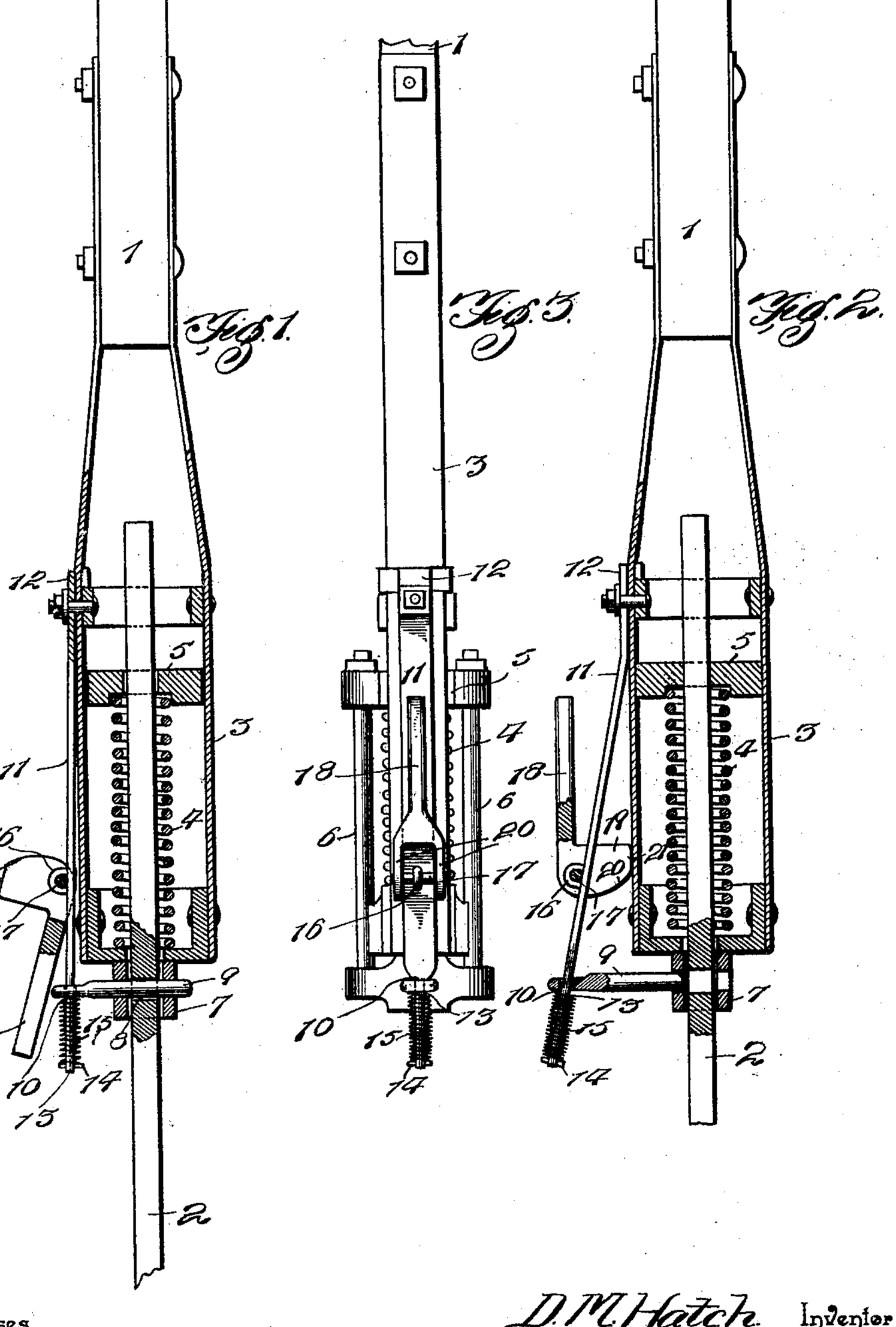

Fig. 1.

Fig. 3.

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

DWIGHT M. HATCH, OF EAST DELAVAN, WISCONSIN.

WINDMILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 686,848, dated November 19, 1901.

Application filed March 28, 1901. Serial No. 53,320. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT M. HATCH, a citizen of the United States, residing at East Delavan, in the county of Walworth and State of Wisconsin, have invented a new and useful Windmill-Coupling, of which the following is a specification.

The invention relates to improvements in windmill-couplings.

The object of the present invention is to improve the construction of the means employed for coupling a pump-rod to a windmill and to provide a simple, inexpensive, and efficient device adapted to be readily applied to a windmill and capable of enabling the pump-rod to be readily secured to and disconnected from the same.

A further object of the invention is to provide a device of this character which will be adapted for use in connection with cushioned pump-rods and which will be capable of yielding to the expansion and compression of the cushioning device.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a vertical sectional view of a windmill-coupling constructed in accordance with this invention, the upper and lower sections of the pump-rod or plunger-rod being coupled. Fig. 2 is a similar view, the parts being uncoupled. Fig. 3 is a side elevation, the parts being arranged as shown in Fig. 2.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 and 2 designate upper and lower sections of a plunger or pump-rod, the upper section 1 being designed to be connected in the usual manner to a windmill and the lower section 2 being connected with the pump mechanism. The upper section carries a frame 3, receiving a spring 4, which is interposed between the bottom of the frame and an upper cross-head 5, and the latter is connected by rods 6 to the lower cross-head 7. The frame, the spring, and the cross-heads form a cushioning device of the ordinary construction, and when the lower cross-head is secured to the lower section of the pump-rod or plunger the two sections of the same are yieldingly connected and are cushioned.

The lower cross-head, which is arranged beneath the frame, is provided with a perforation 8 for the reception of a pin or key 9, which is adapted to pass through a perforation of the lower section of the pump-rod or plunger, as clearly illustrated in Fig. 1 of the accompanying drawings. The lower section of the pump-rod is of a size to pass freely through the coiled spring, and the upper and lower cross-heads are provided with openings to receive the lower section of the pump-rod and to permit the upper section to reciprocate on the lower section when the pin or locking device 9 is out of engagement, as illustrated in Fig. 2 of the accompanying drawings. The bottom of the frame is also provided with an opening which registers with the openings of the upper and lower cross-heads to provide a way for the lower section of the pump-rod.

The pin or locking device 9, which is provided at its outer end with an eye 10, is retained in engagement with the lower section of the pump-rod by a spring 11, bolted or otherwise secured at its upper end 12 to one side of the frame and having its lower end or portion 13 reduced and arranged in the eye 10 of the locking device 9. The lower end of the spring 11 is perforated for the reception of a key 14, which forms a stop or bearing for a coiled spring 15, which is arranged on the reduced portion of the spring 11 and which is interposed between the stop and the locking device or pin 9. By this construction a yielding connection between the locking device 9 and the longitudinal spring 11 is provided to yield to the action of the cushion formed by the main coiled spring 4 and to prevent the spring or the locking device from being strained by the expansion or compression of the main cushioning-spring.

The longitudinal spring 11 is provided between its ends with an eye 16, receiving a pivot 17 of a cam-lever 18, having a bifurcated head 19, in which is arranged the pivot 17. The bifurcated head receives the longitudinal spring 11 and projects outward from the body portion of the lever and is provided with curved edges 20 and with straight outer edges 21. The curved edges are adapted to abut

against the adjacent side of the frame to permit the longitudinal spring to be readily forced outward, and the square edges are adapted to fit against the frame to hold the spring in its flexed position, as illustrated in Fig. 2 of the accompanying drawings. The transversely-disposed pin or locking device is adapted to be readily drawn outward when the lever is swung upward, and it is held in engagement with the lower section of the pump-rod and carried to such position when the lever is swung downward by the longitudinal spring 11.

It will be seen that the device for locking the pump-rod section 2 to the upper section 1 is exceedingly simple and inexpensive in construction, that it is easily operated, and that it is adapted to yield to the expansion and compression of the cushion.

What I claim is—

1. In a device of the class described, the combination with the upper and lower sections of a pump-rod or plunger, of a locking-pin for connecting the sections, a spring connected with the locking-pin and adapted to hold the same in its engaging position, and a bifurcated cam-lever straddling the spring and pivotally mounted on and carried by the same, substantially as described.

2. In a device of the class described, the combination with the upper and lower sections of a pump-rod or plunger, and a cushion, of a locking-pin for connecting the said sections, a spring slidably connected with and capable of longitudinal movement independently of the locking-pin to permit the latter to move with the cushion, and means for holding the spring to retain the locking-pin out of engagement, substantially as described.

3. In a device of the class described, the combination with the upper and lower sections of a pump-rod or plunger, and a cushion, of a locking-pin having an eye or opening, a longitudinal spring passing through the eye or opening and adapted to hold the locking-pin in its engaging position, a coiled spring disposed on the longitudinal spring and engaging the same and the locking-pin, and a lever connected with and adapted to hold the longitudinal spring in a flexed 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.

DWIGHT M. HATCH.

Witnesses:

RAYMOND B. CALKINS,

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