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ADJUSTABLE POINTER AND STOP FOR PUMPS AND THE LIKE.

APPLICATION FILED NOV. 29, 1912.

1,137,455. Patented Apr. 27, 1915.

Fig. 1.

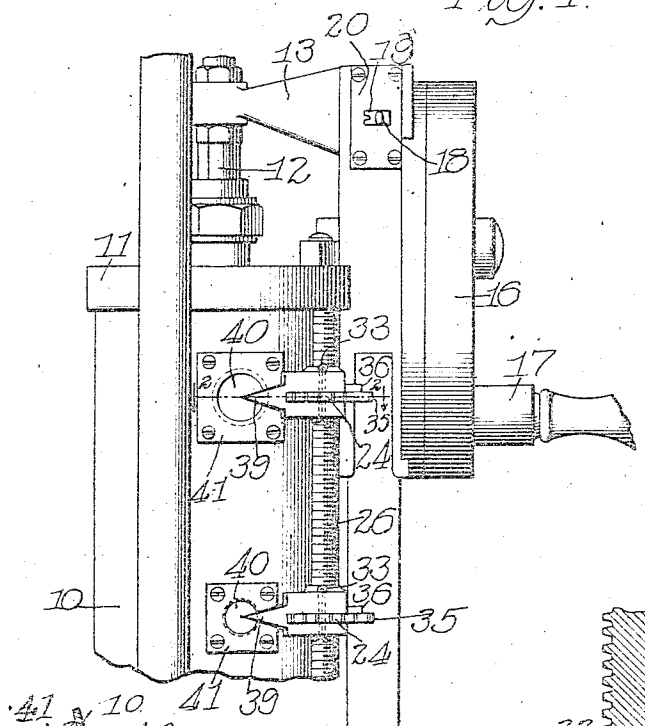


Fig. 2.

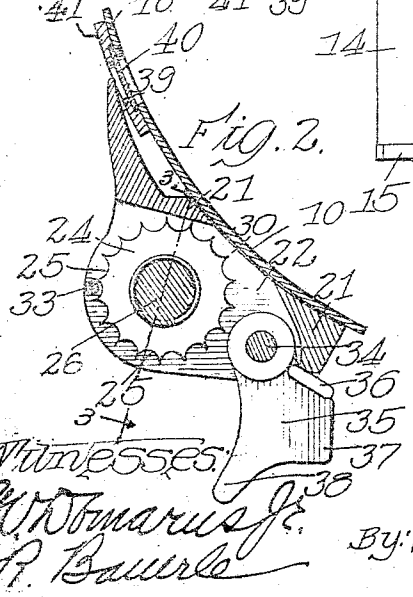
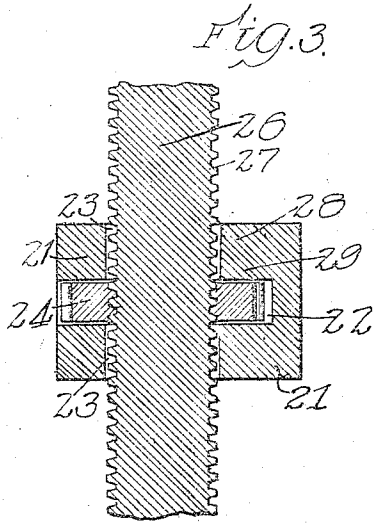


Fig. 3.



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UNITED STATES PATENT OFFICE.

SYLVANUS F. BOWSER, OF FORT WAYNE, INDIANA, ASSIGNOR TO S. F. BOWSER & COMPANY, INCORPORATED, OF FORT WAYNE, INDIANA.

ADJUSTABLE POINTER AND STOP FOR PUMPS AND THE LIKE.

1,137,455. Specification of Letters Patent. Patented Apr. 27, 1915.

Application filed September 29, 1912. Serial No. 733,997.

To all whom it may concern:

Be it known that I, SYLVANUS F. BOWSER, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Adjustable Pointers and Stops for Pumps and the like, of which the following is a specification.

This invention relates to combined pointers and stops for use in connection with pumps and the like, and one of the principal objects of the invention is to provide an improved device of this class which may be accurately positioned and locked in position.

A further object of the invention is to provide a device of this class which may be used both as a pointer and as a stop, and which is effective and efficient in operation.

For the attainment of these ends and the accomplishment of other new and useful objects, as will appear, the invention consists in the features of novelty in the construction, combination and arrangement of the several parts generally shown in the accompanying drawing and described in the specification but more particularly pointed out in the appended claims.

In the accompanying drawing, Figure 1 is a detail elevation of a portion of a pump showing a combined pointer and stop as applied thereto; Fig. 2 is an enlarged detail sectional view taken on the line 2—2 of Fig. 1, and Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

In a certain class of pumps the stroke of the pump piston is limited in one direction by one or more stops. The amount of liquid pumped by the pump during a single stroke of the piston may be varied by moving the corresponding stop into position to engage a moving part of the pump. The present invention relates to a stop device of improved construction and operation.

Referring now more particularly to the drawing and in the present exemplification of the invention the numeral 10 designates generally the cylinder of a pump of any desired or suitable construction having a cap member 11 through which a piston rod 12 extends. This piston rod is connected by means of an arm 13 to a reciprocable rack 14 having an extending shoe or projection 15 at one end thereof. This rack may be reciprocated in any desired or suitable manner as, for example, by means of gears (not shown) disposed in the casing 16 which are rotated by means of a hand lever 17. The lowermost position of the rack is indicated by a character 18 which appears through an opening 19 in a plate 20 secured to the casing 16. The reciprocation of the rack 14 causes also the movement of the piston rod 12, the rack 14 carrying with it the projection 15. An adjustable detent is provided to limit the movement of the rack in one direction and the present invention relates to a stop device for accomplishing this result. Although this stop device is particularly adapted for use in the present connection, it is obvious, of course, that it must have a broad and general application to any machine.

In its preferred construction, this stop device consists of a member 21 provided with a recessed portion 22 extending through the member intermediate of its ends. The sides of the recess are provided with alined openings 23 extending substantially at right angles to the recess. Disposed within the recess is a ring-shaped member 24 internally threaded and provided on the outer edge with a series of notches 25. The ring-shaped member 24 is adapted to be threaded upon a rod 26 which latter extends substantially parallel with the pump casing 10 and at a distance therefrom. The openings 23 of the member 21 are slightly larger than the diameter of the rod 26 so that the member 21 itself may pass freely along the bar but being engaged by the threaded member 24 can be moved only in accordance with the movement of the latter. In order to prevent the rotation of the member 21 with respect to the rod 26, it is provided with a rounded surface 30 substantially conforming to the curvature of the pump casing 10 (see Fig. 2) so that by properly spacing the threaded rod 26 from the pump casing 10, the rounded surface 30 permits the member 21 to move longitudinally upon the rod but prevents its rotation. It will be evident that by rotating the member 24 upon the rod 26, the longitudinal position of the member 21 may be accurately determined. In order to lock the adjusting member 24 in any desired position, the detent member 21 is provided with perforations through which a pin 33 extends which is adapted to engage in one of the notches 25 of the member 24. Before the member 24 can be rotated the pin 33 must

be withdrawn and when the pin is inserted the member is locked against rotation and the member 21 is locked against longitudinal movement with respect to the rod 26.

Pivotally mounted in the recess 22 of the member 21 by means of a pin 34 is a detent 35 having a projection 36 to engage the member 21 and prevent the rotation of the detent in one direction, a straight edge 37, and a projecting finger 38 by means of which the detent may be moved. When this detent 35 is rotated it will be in position to engage the projection 15 of the rack 14. The member 21 is also provided with a projecting finger or pointer 39 and the rod 26 is so disposed with respect to the cylinder 10 that the finger 39 will be in proximity to the outer surface of the cylinder. The shell of the cylinder is provided with a series of perforations which are adapted to receive transparent windows 40 secured in place by a frame or casing 41. The fingers 39 preferably extend to a position over the frame and transparent window 40 to indicate the height to which the liquid must rise in the cylinder when a certain predetermined amount is to be pumped.

It is evident that the detent may be so positioned that the rack 14 will be stopped at a point indicated by the pointer 39 of the member 21. There is, therefore, a coöperative function and relation between the pointer and the detent portion of the member.

The present invention relates to the form and construction of the combined pointer and stop and although particularly described as employed in connection with a pump of this class, it is obvious that it may have a more general application to apparatus of the same or a different class.

What I claim is:

1. In a device of the class described, the combination with a rod, of a recessed member freely movable along the rod having a lateral recess intermediate the ends, a ring-shaped member internally threaded and disposed within the recess of said member and adjustable in position upon the rod, and means to engage and prevent the rotation of the ring-shaped member upon the rod.

2. In a device of the class described, the combination with a rod, of a recessed member freely movable along the rod having a laterally opening recess, a ring-shaped member internally threaded and disposed within the recess of said member and adjustably in position upon the rod, and means to releasably engage and lock the threaded member against rotation.

3. In a device of the class described, the combination with a threaded rod of a laterally recessed member having an opening through which the rod extends at right angles to the recess, a ring-shaped member disposed within the recess having interior threads adapted to engage the threads of said rod and having a notched periphery, and a pin adapted to be inserted through the sides of the recessed member to engage one of the notches in the periphery of said ring-shaped member.

4. In a pump having a cylinder and a reciprocable piston, the combination of a stop for the pump and a pointer in connection with the stop to point to the position on the outside of the cylinder at which the pump piston is stopped within the cylinder.

5. The combination with a fluid pump having a reciprocable piston, of a combined stop and pointer for the pump, the stop being effective to limit the movement of the pump, and the pointer indicating on the cylinder the position of the pump piston within the cylinder when stopped by the said stop.

6. An adjustable stop comprising a recessed member with transverse alined openings, a threaded rod upon which the member is movable, an internally threaded ring-shaped member disposed within the recess, and a pivotally mounted member with the pivoted portion thereof disposed within the recess.

7. In a device of the class described, the combination with a threaded rod, of a member having portions spaced apart and openings at right angles to said portions to receive the rod and permit the free passage of the member along the rod, a ring-shaped internally threaded member disposed upon the rod between said portions of the first named member, and a detent device pivotally secured to said portions and movable into and out of an engaging or stop position.

8. In a device of the class described, the combination with a recessed member, of an internally threaded adjusting member disposed in said recess, a rod on which the recessed member is freely movable and the other member is threaded, and a detent device pivotally mounted in said recess having a projection to engage the recessed member to prevent the rotation of the detent device in one direction, a straight edged portion, and a projecting portion comprising means for rotating the detent.

9. A stop device of the class described comprising a threaded rod, a recessed member having openings at right angles to the recess to receive the rod, and a ring-shaped internally threaded member adjustable upon the rod and disposed in the recess, and a detent device pivotally mounted in said recess having a projection and adapted to be rotated into and out of engaging position.

10. A combined pointer and stop comprising a threaded rod a recessed member formed with a finger at one end and having alined

openings extending transversely with respect to the recess, an internally threaded member having an opening less in diameter than the openings in said recessed member and with a notched periphery, a detent device pivotally mounted at one end in the recess of said recessed member having an engaging edge and a projecting portion to move the device into and out of engaging position, and means to prevent the rotation of the threaded member with respect to the recessed member, the recessed and threaded member being adapted to be disposed upon the threaded rod along which they may be adjustably positioned by rotating the threaded member.

11. In a pump, the combination with a cylinder and a reciprocable operating member, of a rod disposed adjacent the cylinder, and a stop movable and adjustable on the rod having a surface conforming to the adjacent surface of the cylinder to prevent the rotation of the stop.

12. In a pump having a pump cylinder and a reciprocable operating member, a threaded rod disposed adjacent the pump cylinder, a stop member freely movable on the rod having a portion conforming to the adjacent surface of the cylinder to prevent the rotation of the member upon the rod, and a threaded member in connection with the stop member to adjust the position of the stop member on the rod.

13. A pump comprising a cylinder and a reciprocable operating member, a threaded rod secured adjacent the cylinder but spaced therefrom, a recessed stop member freely movable on the rod and having a face conforming to the adjacent surface of the cylinder for preventing the rotation of the stop member with respect to the rod, and an adjusting member threaded upon the rod and located in the recess of the stop member for varying the position of the latter along the rod.

14. A pump comprising a cylinder and a reciprocable operating member, a threaded rod secured adjacent the cylinder but spaced therefrom, a recessed stop member freely movable on the rod and having a face conforming to the adjacent surface of the cylinder for preventing the rotation of the stop member with respect to the rod, an adjusting member threaded upon the rod and located in the recess of the stop member for varying the position of the latter along the rod, and means to lock the threaded member against rotation with respect to the stop member.

15. In a pump, the combination with a pump cylinder having windowed apertures alined longitudinally thereof and a reciprocable operating member, a threaded rod disposed parallel with the cylinder at a distance therefrom and adjacent the said apertures, a combined pointer and stop member apertured to pass freely upon the rod and having a surface conforming to the adjacent surface of the cylinder to prevent the rotation thereof and with the pointer in the line of the apertures to indicate the proper stopping position of the operating member for a set position of the stop member, and a member threaded upon the rod adapted, when rotated, to change the longitudinal position of the other member for varying the place at which the operating member will be stopped.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 18th day of November A. D. 1912.

SYLVANUS F. BOWSER.

Witnesses:
J. R. MATLACK,
L. W. THOMAS.