No. 847,268. PATENTED MAR. 12, 1907.

R. D. WIRT.

AUTOMATIC HOSE VALVE.

APPLICATION FILED AUG. 28, 1905.

Fig. 1.

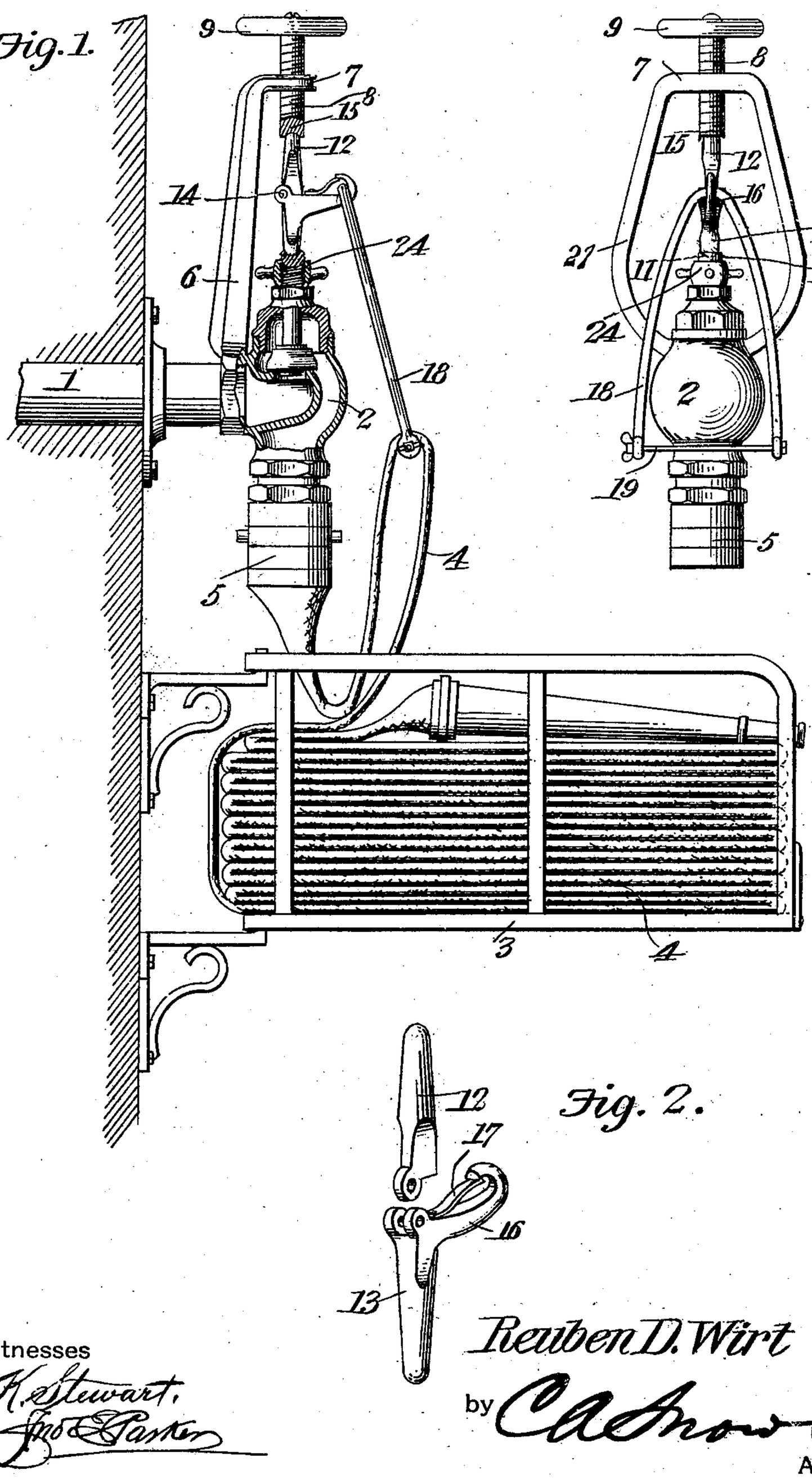

Fig. 3.

Fig. 2.

Witnesses

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AUTOMATIC HOSE-VALVE.

No. 847,268. Specification of Letters Patent. Patented March 12, 1907.

Application filed August 28, 1905. Serial No. 276,144.

To all whom it may concern:

Be it known that I, REUBEN D. WIRT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Automatic Hose-Valve, of which the following is a specification.

This invention relates to the hose-valves of stand-pipe systems as now commonly employed for protection against fire in large buildings, and has for its object to provide improved means for normally maintaining the valve closed and to effect automatic opening of the valve by the running out or unreeling of the hose.

It is furthermore designed to have the valve unaffected by the initial unreeling of the hose, so as to avoid a premature discharge of the water and to effect opening of the valve by a pull upon the hose after it has been completely unreeled or removed from its support.

A still further object of the invention is to enable the attachment of the present invention to the ordinary valves without requiring any material change or alteration therein and to insure the prompt and effective controlling of the valve through the medium of the hose.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawing, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawing, Figure 1 is a side elevation of a stand-pipe valve and an adjacent hose-rack equipped with the valve-controlling means of the present invention. Fig. 2 is a detail view of the valve-locking device. Fig. 3 is a front view of a modification.

Like characters of reference designate corresponding parts in each and every figure of the drawing.

To illustrate the application and operation of the present invention, there has been shown in the accompanying drawing a portion of a water-pipe 1 forming a part of the stand-pipe extinguishing system of a building, said pipe being provided with a controlling-valve 2. Adjacent this valve and preferably beneath the same is a suitable hose-support of any style, preferably in the form of a rack 3, having any ordinary or preferred form of hose 4 stored thereon and provided with the usual coupling connection 5 with the lower outlet side of the valve.

In carrying out the present invention an upstanding arm or bracket 6 is suitably mounted upon the back of the valve-case and is provided at its upper end with a lateral arm or extension 7, overhanging the top of the valve-case and pierced by an open-ended vertically-disposed threaded seat or opening in which is adjustably fitted a threaded stem 8, provided at its upper end with a suitable handle 9 for rotating the same to shift the stem endwise through its seat. The usual hand-wheel upon the upper end of the valve-stem 10 is omitted, and the upper end of said stem is provided with a concavity or dished seat 11.

Disposed between the valve-stem and the adjusting-stem 8 is a valve-locking device made up of upper and lower post members 12 and 13, which are connected by a hinge-joint 14, located at the back of the post, so as to form a pivotal connection or knuckle which is locked against being broken inwardly and capable of being broken outwardly. The lower end of the post member 13 is received within the seat in the top of the valve-stem 10, while the top of the member 12 is received within a seat 15 in the lower end of the threaded stem 8. At the top of the post member 13 there is a substantially horizontal outwardly-directed hooked knuckle or projection 16, upon the top of which is a leaf-spring 17, having its outer free end bearing against the under side of the bill of the hooked terminal of the member 16, so as to form a snap-hook. Hung from the knuckle 16 is an inverted substantially U-shaped link 18, provided at its lower end with a removable bolt 19.

In practice the parts are assembled, as shown in Fig. 1 of the drawing, with that portion of the hose which is adjacent the valve-casing locped through the link and hanging upon the bolt 19. In the event of a fire the hose is unreeled in the usual manner, and when it is desired to open the valve a strong pull is given to the hose, which draws downwardly upon the link 18 and breaks outwardly the joint of the locking device, whereby the latter is pulled out and entirely displaced from between the valve-stem 10

and the adjustable stem 8, whereupon the pressure of the water unseats the valve and the water is thereby automatically supplied to the hose.

In lieu of the single-bar standard 6 (shown in Fig. 1 of the drawing) an inverted-U-shaped standard 21 may be employed, as shown in Fig. 3. The advantage of a single-bar standard is that the member 16 has an adjustment throughout practically a complete rotation about the post as an axis, while in the form shown in Fig. 3 it can be adjusted throughout only about one hundred and eighty degrees, or a half-circle.

From the foregoing description it will be understood that the device of the present invention may be readily applied to the ordinary forms of valves without any material alteration therein beyond removing the hand-wheel and providing the seat or recess 11 in the top of the valve-stem.

A very important advantage of the present invention resides in the fact that springs are dispensed with and the valve-locking means is positively and bodily displaced by a pull upon the hose while the valve is unseated by the water-pressure, thereby insuring the prompt and effective supplying of the water to the hose precisely at the time the water is required. It will here be explained that the stem 8 should be set down with sufficient tightness to prevent accidental displacement of the locking device by whatever slight movement may be imparted to that portion of the hose which engages the link 18 during the unreeling of the hose, so as to prevent premature opening of the valve, it being necessary to give a sharp positive pull upon the hose to displace the locking device.

In some cases the valves are liable to stick or cling to the seat from corrosion, and in order to provide for the release of the valve the stem thereof is provided with a thread at a point outside the stuffing-box and is arranged to receive a nut 24, by turning which the valve may be positively drawn away from the seat to start the opening operation, the opening movement being completed by the pressure of the water.

Having fully described the invention, what is claimed is—

1. The combination with an automatic-opening valve having a slidable valve-stem, of a support having a seat in alinement with the valve-stem, a locking device interposed between the seat and the valve-stem, and freely detachable from both to permit opening movement of the valve, and a hose-receiving link carried by said locking device, the link being free to slide on the hose after release and serving then as a carrier for the locking device.

2. The combination with an automatic-opening valve having a slidable valve-stem, of a support having a seat in alinement with the valve-stem, a sectional locking device including hinged members, respectively, engaging the outer end of the stem and the seat of a support, and freely detachable from both to allow opening movement of the valve, one of said members having a laterally-directed hooked arm, and a hose-receiving link supported by said hooked arm, the link being free to slide on the hose after release and serving then as a carrier for the locking device.

3. The combination with an automatic-opening valve having a slidable valve-stem projecting externally of the case with its projecting portions threaded, of a nut upon the threaded portion of the stem for forcibly unseating the valve and a support extending from the case and having a seat in alinement with the valve-stem, a pair of hinged locking members respectively engaging the seat and the valve-stem to hold the valve closed, and a hose-receiving link carried by one of the locking members.

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

REUBEN D. WIRT.

Witnesses:

GEO. M. BLITHE, Jr.,

JOSEPH THOMASSON.