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Patented July 24, 1900.

F. B. POWERS.

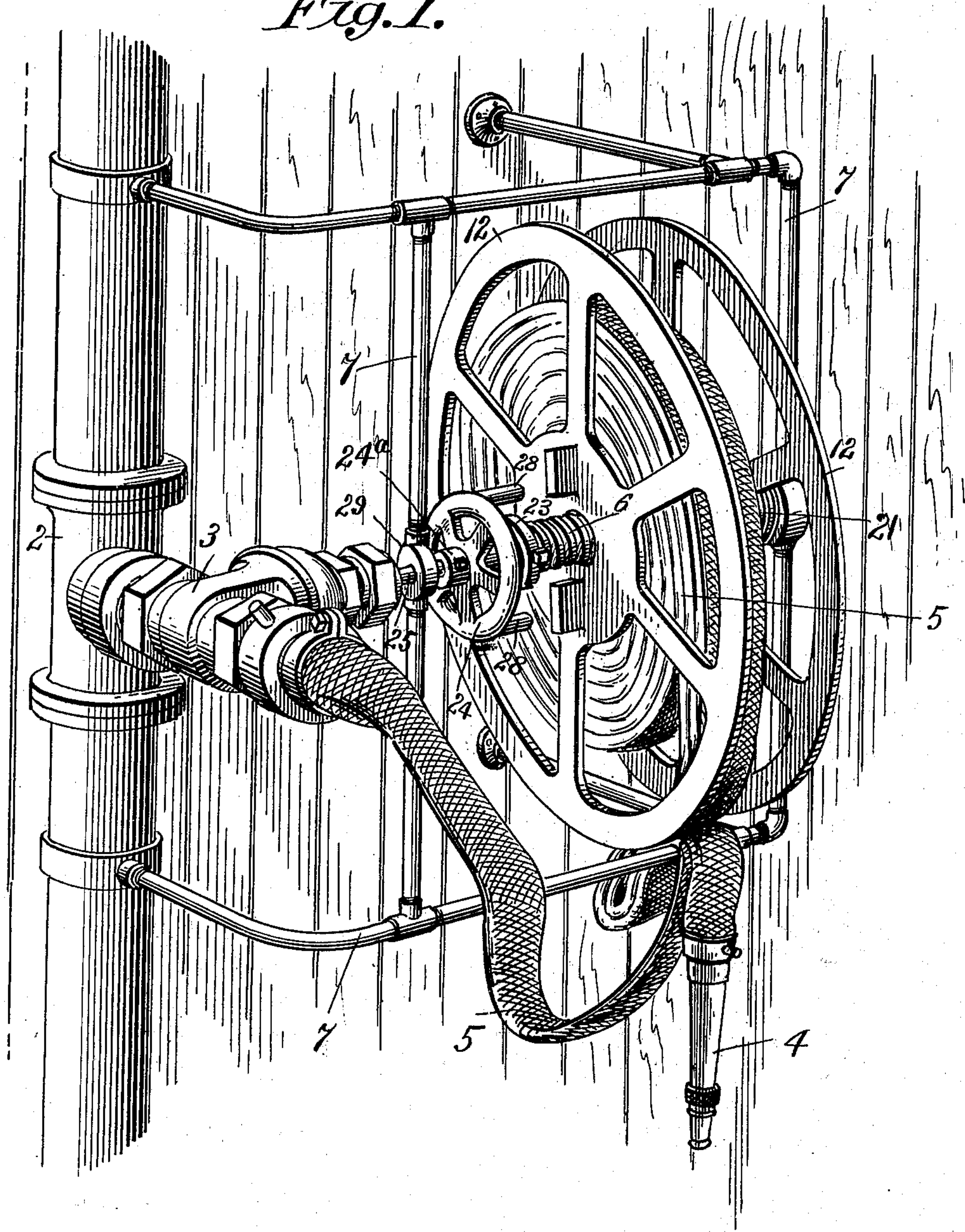
MEANS FOR AUTOMATICALLY SUPPLYING WATER TO FIRE HOSE FROM
SUITABLE SOURCES.

(No Model.)

(Application filed Aug. 18, 1899.)

2 Sheets—Sheet 1.

Fig. 1.



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UNITED STATES PATENT OFFICE.

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MEANS FOR AUTOMATICALLY SUPPLYING WATER TO FIRE-HOSE FROM SUITABLE SOURCES.

SPECIFICATION forming part of Letters Patent No. 654,413, dated July 24, 1900.

Application filed August 18, 1899. Serial No. 727,661. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. POWERS, a citizen of the United States, residing at Chicopee Falls, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Means for Automatically Supplying Water to Fire-Hose from a Suitable Source, of which the following is a specification.

10 This invention relates to improved means for opening a valve connected with a source of water-supply actuated by drawing a line of hose from a reel or other movable supporting element on which it is placed for use in
15 case of a fire, whereby water is caused to run into and fill the hose during the time in which a person is carrying the discharge-nozzle of the hose to a point where it can be directed onto a fire, the object being to provide means
20 whereby there shall be no waiting for a water-supply after the hose-pipe shall reach a fire location, but that the water shall be turned into the hose while the latter is being run off or laid through the agency of devices acting
25 to open the water-supply valve between the water-supply and the hose, actuated by so running off the hose; and the invention consists in the peculiar construction and arrangement of the above-referred-to devices and
30 means whereby said object is attained, all as hereinafter fully described, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view illustrating the stand-pipe of a water-supply and a discharge-valve connected therein and of a hose-reel having hose thereon and supporting devices for the reel having connection with said valve constructed according to my
35 invention. Fig. 2 is a sectional view of the hose-reel and of hose thereon and of structural parts intermediate of the reel and its supporting-shaft, the latter being shown in side elevation and with detail parts connected
40 therewith, which are hereinafter fully described. Fig. 3 is a detail side elevation of the reel-shaft and reel and portions of the supporting-frame and of detail parts, which

are fully described below. Fig. 4 is a sectional view of the said shaft and parts thereon
50 on line 4 4, Fig. 2, showing also portions of the hose-reel.

Referring to the drawings, 2 indicates a part of a vertical water-supply pipe of a mill or other location from which water may be
55 drawn for extinguishing fires, and 3 is a valve connected by one end to a branch from said pipe and having a line of fire-hose 5 connected thereto, on which is the usual nozzle 4. Said valve 3 has its stem 25 passing through a
60 bearing 29 in a part of a frame 7, on which the hose-reel 12 is supported contiguous to said supply-pipe. A sleeve 24^a is secured on said valve-stem 25 by a set-screw, as shown, and the usual hand-wheel 24 of the valve-
65 spindle is located on said sleeve, and on the latter are two arms 28, projecting toward one side of the said hose-reel 12, on which are two lugs 27 for engagement with said arms
70 28, as below described. The said sleeve 24^a has a socket in the end thereof opposite said reel to receive one end of the reel-supporting shaft 8, and a concentric groove is formed
75 around said end, in which a screw 26 in said sleeve engages and holds the sleeve and the shaft in operative relations, but permits said sleeve to revolve on the end of the shaft. The opposite end of said shaft 8 is squared and supported in a bearing 9 in a part of said
80 frame 7 non-rotatably, and in said shaft near said end is a catch-socket z. A screw-threaded sleeve 6, having a slot x through one side thereof, is located on said shaft 8, and a pin
85 30 is driven through said slot into the shaft, holding said sleeve against rotary movement on said shaft. A reel-stopping collar 23 is fixed on the end of said sleeve 6 adjoining the end of said sleeve 24^a. Said hose-reel 12 consists of two side sections, as shown, united by a
90 suitable tubular barrel or shaft, and is adapted to rotate freely on the face portions of the screw-thread on said sleeve 6. A lug or bar 22, fixed on the side of the reel, has its lower extremity engaging the said screw-thread, and thus effecting the movement of the bar-
95 rel longitudinally when it is rotated by draw-

ing hose therefrom. A catch-carrying block 17 is secured on sleeve 6 near one of said slot α therein, by a set-screw, as shown, and in said block is a vertically-sliding catch-pin 18, having its upper end inclined toward the adjoining side of said hose-reel and its lower end adapted to engage in said socket z in the shaft 8. A spring 19 draws said pin downward and causes its lower end to engage in the socket z in the shaft 8 when brought over said socket, as below set forth. A beveled circular protuberance 20 is provided on the side of said reel adjoining said block 17, and the movement of said protuberance against the upper end of said catch-pin causes the latter to be lifted and held out of engagement with said socket z , as illustrated in Fig. 1. A coil-spring 21, between the bearing 9 and said block 17, acts to slide the sleeve 6 and the parts carried thereon toward the sleeve 24^a at a certain point in the operation of the device, as below described. The method of winding the line of hose 5 onto said reel is necessarily peculiar in this construction, for the reason that one end of the hose is normally in connection with the water-supply, as shown, so that it may be ready at all times for use, while the end to which the hose-pipe is connected is free to be used and generally hangs as shown in Fig. 1. Therefore the line of hose is doubled one-half upon the other and the part thereof midway between the ends is applied and wound upon the barrel of the reel, with the section thereof to which the nozzle 4 is attached outermost, and thus when the free end of the hose is grasped and the hose drawn off from the reel the latter is free, as shown in Fig. 3.

The operation of the herein-described devices is as follows, it being understood that Figs. 1 and 2 illustrate the positions thereof when ready for instant use: When the hose-pipe is seized and the hose drawn from the reel, the latter is rotated, and is thereby moved along upon said threaded sleeve 6, and the lugs 27 on the reel become engaged with the arms 28 on the hand-wheel 24 and cause the valve-stem 25 to be rotated and the valve to be opened, letting water flow from the pipe 2 into the hose. The lengths of the said lugs 27 and the arms 28 are such as to insure the full opening of the valve during the time of their mutual engagement while the hose is being drawn from the reel, and therefore the water then becomes fully turned on, ready to be applied to a fire when the person carrying the hose-pipe shall reach the same. After using the hose as above it is wound again onto the reel, and the parts are returned to the positions illustrated in Figs. 1 and 2, as follows: First, the reel and its carrying-sleeve 6 are slid against the coil-spring 21 on the shaft 8 to the right until the catch-pin 18 engages the socket z in said shaft, and thus disengaging said lugs 27 from the arms 28 on the wheel 24

and allowing the water to be shut off. The reel and sleeve 6 maintain their relative positions, and the hose is then rewound onto the reel, as aforesaid, and said rewinding through the rotation of the reel upon the threaded sleeve carries the reel and the protuberance 20 thereon against the catch-carrying block 17 and lifts the catch-pin 18 out of engagement with the shaft 8. This leaves the sleeve 6 and reel thereon free to be returned to the positions shown in Figs. 1 and 2 by the action of the said spring 21, ready again for use.

The valve shown in the drawings is of the class known as a "gate-valve," in which the gate is drawn onto the stem to open it, this action leaving the shaft 8 without endwise movement; but if an ordinary globe-valve be used in which the valve-stem moves out and in the shaft 8 is free to accommodate such movement, owing to its elongated squared end, which is supported in the bearing 9.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In devices for automatically opening water communication between a source of water-supply, and hose connected therewith, while said hose is being laid for extinguishing a fire, comprising a valve connected with said source and with said hose, a hose-containing reel, a support for said reel, means intermediate of said reel and support whereby the rotation of the reel results in the movement of the same toward said valve, and means for temporarily interengaging said reel and the stem of said valve, when hose is drawn from the reel, substantially as set forth.

2. In a device of the class described, a non-rotatable shaft supported by one end on a suitable frame, a hose-reel supported on said shaft, a water-supply conduit, a discharge-valve connected in said conduit, a hand-wheel for the stem of said valve having arms thereon extending toward said reel, and a central sleeve rigidly connected by one end to said stem and rotatably connected to one end of said shaft, lugs on said reel for engagement with said arms, and means intermediate of said reel and shaft whereby the rotation of the reel effects the interengagement of said lugs and arms, substantially as described.

3. In a device of the class described, a centrally-located supporting-shaft having a catch-pin socket therein, a frame in which said shaft is supported in a fixed position, an outwardly-screw-threaded sleeve on said shaft for limited longitudinal movement thereon having a slot in its upper side extending over said catch-socket, and means for maintaining said relative positions of slot and socket, a spring-actuated catch-pin for engagement of its lower end with said socket, the hose-reel having a protuberance on one side supported

movably on said sleeve, and engaged by the screw-thread thereon, a spring-actuated catch-pin for the engagement of its lower end with said socket, and of its upper end with said
5 reel protuberance suitably supported on said sleeve, and a spring acting to move said sleeve toward the valve-wheel of the device,

combined and operating substantially as set forth.

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