

1,023,506.

This technical drawing illustrates a mechanical assembly, possibly a pump or engine component, shown in a cross-sectional view. The central part of the device features a circular component (11) with a central shaft (16) and a surrounding housing (10). A large gear (5) is mounted on the shaft, and a smaller gear (17) is positioned below it. The entire assembly is supported by a frame (1) and a base (2). Various other components are labeled with numbers: 3, 4, 6, 7, 8, 9, 12, 13, 14, 15, 18, 19, 20, and 21. A detailed view of a component, likely a valve or piston, is shown on the right side of the drawing.

Fig. 1.

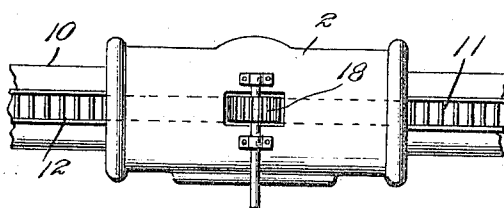


Fig. 3.

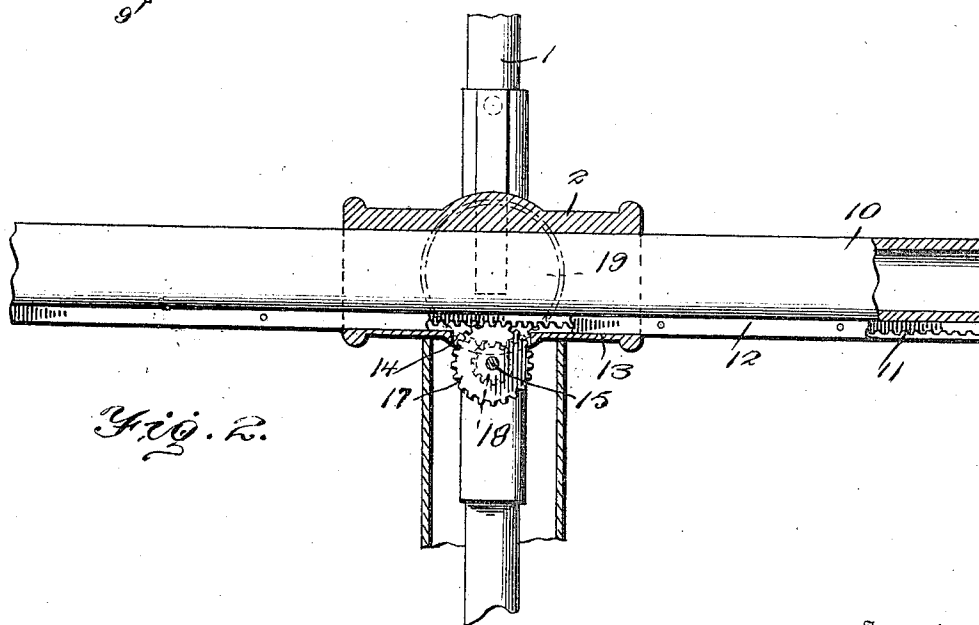


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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FIRE-EXTINGUISHING APPARATUS.

1,023,506.

Specification of Letters Patent.

Patented Apr. 16, 1911

Application filed September 1, 1911. Serial No. 647,218.

To all whom it may concern:

Be it known that I, GEORGE J. COUTU, subject of the King of Great Britain, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Fire-Extinguishing Apparatus, of which the following is a specification.

This invention relates to fire extinguishing apparatus and is designed more particularly as an improvement on the fire extinguishing apparatus shown in my co-pending application for Letters Patent of the United States, filed June 14, 1911, Serial No. 633,159. In the apparatus disclosed in the said co-pending application there is a water supply pipe which is vertically adjustable between spaced uprights, means being provided for advancing and retracting the said water supply pipe so that one end thereof may be projected through the window of a burning building for the purpose of discharging a stream or streams of water into the building. The said means for advancing and retracting the pipe, consists essentially of cables connected at their ends to opposite ends of the pipe and trained over pulleys upon the head, one or the others of these cables being designed to be wound upon a drum so as to slide the pipe in one direction or the other. The use of the cables for this purpose, however, presents certain disadvantages, the principal objection being that they are liable to be weakened or damaged by the flames within the building.

The present invention therefore contemplates the provision of a means for advancing and retracting the water supply pipe, which means will be more efficient in its operation and will not be as liable to become damaged or disarranged while the apparatus is in use.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a front elevation, of parts in section, of so much of the apparatus as is necessary to illustrate the application of the embodiment of the improvement therein. Fig. 2 is a vertical sectional view from front to rear. Fig. 3 is a bottom plan view of the water supply pipe and the head through which it is mounted.

Corresponding and like parts are referred

to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

In the drawing, the numeral 1 indicates spaced uprights which correspond to the uprights of the structure of the co-pending application heretofore mentioned and 2 indicates the head which supports the water-supply pipe. As in the original apparatus, this head is supported for tilting movement by trunnions 3 which project laterally therefrom and are journaled in suitable bearing brackets 4 upon the uprights 1. Also, the head carries a gear 5 which meshes with a pinion 6 upon a stub-shaft 7 carrying a pulley 8, around which are trained cables 9 designed to be taken in or let out to rotate the shaft 7 in one direction or the other, and thus angularly adjust the head 2.

The water-supply pipe is indicated by the numeral 10 and is slidably fitted through the head 2 as in the instance of the original structure. However, as heretofore stated, instead of the cables provided for advancing and retracting the pipe, there is provided in the present invention a means which will now be described.

Secured to the under side of the pipe 10 is a rack 11 and this rack extends substantially the entire length of the pipe and has secured to it, upon opposite sides, strips 12 which project beyond the toothed under side of the rack as shown in Fig. 1 of the drawing, and form guide-flanges. In order to accommodate the rack, the head 2 is formed longitudinally with a groove 13 which extends along the bottom of the wall of the bore in the head through which the water supply pipe is slidably fitted and the head is further formed with a slot 14 which opens into this groove.

The shaft 15 is journaled in bearing brackets 16 upon the under side of the head 2 and a pinion 17 is fixed upon the shaft 15 and meshes with the rack 11, the upper side of the pinion projecting into the slot 14. It will be observed from inspection of Fig. 2 of the drawing, that the strips 12 rest at their projecting lower edges on the bottom of the groove 13 so that the teeth of the rack are supported clear of this wall of the groove and free sliding of the water supply pipe when the shaft 15 is rotated, is thus provided for. There is also fixed upon the shaft 15 a pinion 18 with which meshes a gear 19 rotatably mounted on one of the

trunnions 3 which supports the head 2 and fixed for rotation with this gear 19 is a double grooved pulley 20, over which are trained cables 21. These cables 21 are designed to be connected with a winding drum as are the corresponding cables of the structure of the co-pending application, or some other means may be provided for taking up or letting out the cables to impart rotary movement to the gear 19 in one direction or the other and thereby advance or retract the water supply pipe 10. However, inasmuch as such movement of the cables may be accomplished in a number of different conventional ways, it is not deemed necessary to here illustrate such means.

From the foregoing and from inspection of the drawings it will be readily understood that some means other than the gear 19, pulley 20 and cable 21 may be employed for rotating the shaft 15, and it will also be understood that the pinion 17 may mesh with a gear element upon the water supply pipe of other than rack form.

It will further be understood that the head 2 may be angularly adjusted without in any way interfering with the operation of the mechanism provided for advancing and retracting the water supply pipe.

Having thus described the invention what is claimed as new is:—

1. In apparatus of the class described, a support comprising a head formed with a bore and a groove extending longitudinally of the wall of the bore, and a slot opening into the groove, a water-supply pipe slidably fitted through the bore, a rack upon the pipe slidable in the groove, a shaft journaled

upon the head, a pinion carried by the shaft and projecting through the slot and meshing with the rack, and means for rotating the shaft.

2. In apparatus of the class described, a support comprising a head having a bore and a groove extending longitudinally of the wall of the bore and a slot opening into the groove, a water supply pipe slidably fitted through the bore, a rack upon the pipe extending longitudinally thereof and in the groove, a strip carried by the rack and resting upon one wall of the groove and spacing the teeth of the rack from said wall, a shaft journaled upon the head, a pinion carried by the shaft and meshing with the rack, the pinion projecting through the slot, and means for rotating the shaft.

3. In apparatus of the class described, a support comprising a head arranged for angular adjustment about a horizontal axis and formed with a bore and a groove extending longitudinally of the wall of the bore, and with a slot opening into the groove, a water supply pipe slidably fitted through the bore, a rack upon the pipe projecting into the groove, a shaft journaled upon the head, a pinion carried by the shaft and projecting through the slot and meshing with the rack, and means for rotating the shaft.

In testimony whereof, I affix my signature in presence of two witnesses.

GEORGE J. COUTU. [L.S.]

Witnesses:

EDMUND DAVID,
JAMES H. CHASE.