(No Model.)

R. V. CAREY.

FIRE HOSE CLEANING MECHANISM.

No. 589,559. Patented Sept. 7, 1897.

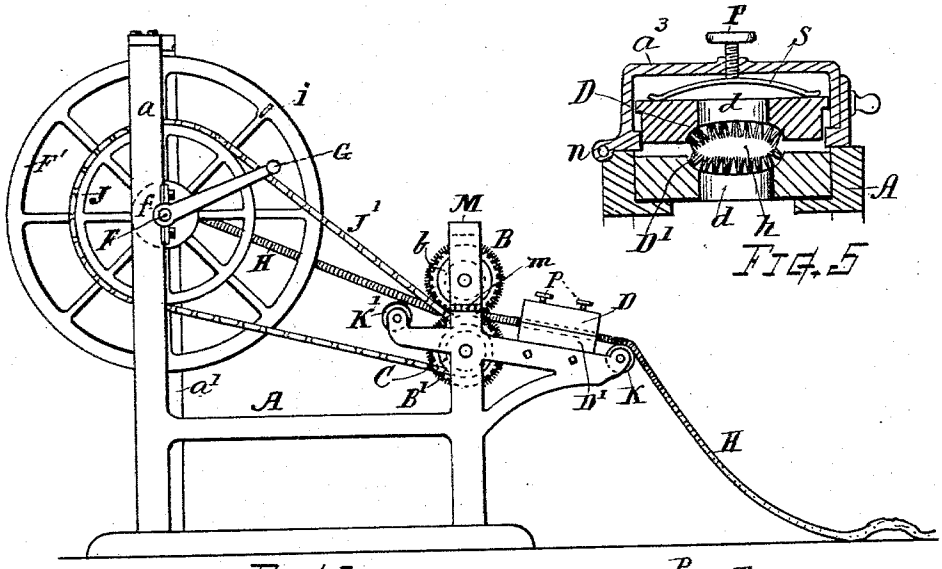


FIG. 1

FIG. 5

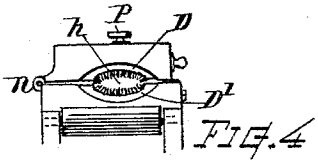


FIG. 4

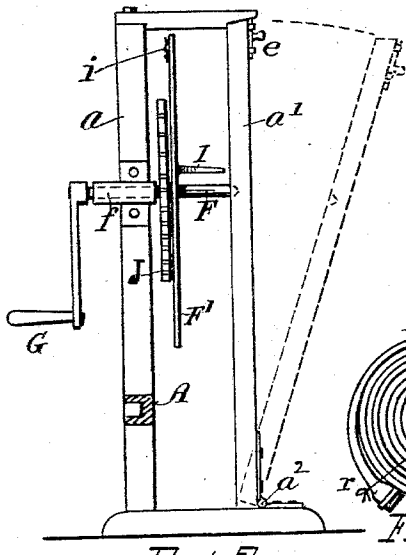


FIG. 2

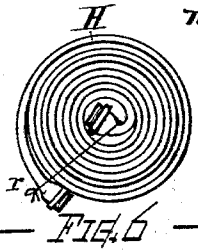


FIG. 6

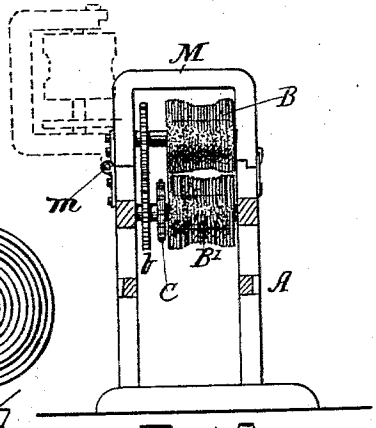


FIG. 3

Witnesses.

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FIRE-HOSE-CLEANING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 589,559, dated September 7, 1897.

Application filed September 25, 1896. Serial No. 606,918. (No model.)

To all whom it may concern:

Be it known that I, RANALDO V. CAREY, a citizen of the United States, residing at Millbury, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Mechanism for Cleaning and Rolling Fire-Hose, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my invention is to provide a simple and efficient mechanism for use in the fire departments of cities and towns for cleaning and rolling up fire-hose after it has been used at fires or in other service, said mechanism is adapted for removing mud or dirt from the outside of the hose after simply drying the same and for putting the hose in condition ready for further use. This object I attain by the mechanism illustrated in the drawings, wherein—

Figure 1 is a side view of my hose cleaning and rolling mechanism. Fig. 2 is an upright sectional view showing the front of the rolling appliances. Fig. 3 is an upright sectional view showing the front of the rotary brushes. Fig. 4 is a front view of the stationary brushes. Fig. 5 is a vertical sectional view of stationary brushes as mounted in connection with a yielding presser, and Fig. 6 indicates the way and manner in which the hose is rolled by the mechanism.

Referring to the parts, A denotes the frame, of suitable form.

B B′ indicate a pair of rotatable brushes mounted in bearings on the frame and having their arbors connected by gears *b*, one arbor being also provided with a pulley or sprocket wheel C for driving the brushes.

D D′ indicate upper and lower stationary brushes mounted on the frame forward of the rotary brushes.

F indicates the winding shaft or spindle, supported for turning in a bearing *f*, fixed on the main upright standard *a* of the frame, and provided on its outer end with a crank G or other suitable means for turning the shaft. Said shaft or spindle is provided with a spider, wheel, or flange F′, that presents a side face approximately perpendicular to the axis and that serves as a guide for the roll of hose. A finger or pin I projects from the side of the wheel F′ parallel with and at a short distance from the spindle, as shown in Fig. 2. A pulley or sprocket wheel J is fixed on the spindle, and a band or drive chain J′ is arranged therefrom to the wheel C on the brush-arbor. The end of the spindle F is supported by a bearing or recess on a movable standard *a′*, which is hinged to the base at a^2 and secured to the cap-frame by a detachable fastening device at *e*, so that said standard can be released and swung outward, as indicated by dotted lines on Fig. 2. One or more spring-clips *i* are arranged on the rim of the wheel F′, suitable for temporarily retaining the end of a cord or string.

K K′ indicate free running, guiding, or supporting rollers arranged for supporting the hose at front and rear of the brushes. The head M of the frame in which the upper rotating brush B is mounted is best hinged at *m*, so as to swing back, as indicated by dotted lines, Fig. 3.

The brushes D D′ are preferably made, as indicated, with concaved bristle faces, which when placed opposite each other form an opening *h* for the passage of the hose, the bristles acting upon the surface of the hose as it is drawn between the two brush-sections. Slots or openings *d* are formed through the brush-blocks for escape of dirt. Said brushes may be confined in a frame or box a^3, with a spring S at the back of one brush, and a screw or screws P provided for regulating the tension of said spring. (See Fig. 5.) The upper stationary brush or its supporting-box is preferably hinged, as at *n*, to facilitate the swinging back or raising of the brush, and a suitable latch or fastening device is provided for retaining it in closed position.

The operation is as follows: The top brushes B are raised, the end of the hose laid in the hollow of the lower brushes, and said top brushes closed upon the same. The end of the hose is then drawn forward, and its neck, just back of the end coupling, is introduced between the pin I and spindle F. A string *r* is laid under the pin I and its end caught in the clip *i*. Then by means

of the crank G the spindle F and wheels F′ and J are rotated, drawing the hose H forward through the brushes and rolling it into a flat coil against the flange or face-wheel F′, while at the same time the brushes B B′ are rotated by the action of the sprocket-wheel J and drive-chain J′. The stationary brushes D D′ serve as scratchers for loosening the dried mud or dirt and the revolving brushes act for dusting off the surface as the hose moves forward between the same, thus effecting the cleaning and rolling operations in a rapid and efficient manner. When the length of hose is rolled up, the end of the string is removed from the clip and the roll is tied up. The standard *a′* is then unlatched and swung outward and the roll of hose slipped off from the end of the spindle in condition and form (see Fig. 6) to be placed in the hose-wagon ready for further use.

The use of my improved mechanism obviates the necessity of washing the exterior of the hose and removes the dirt in dry condition, that would otherwise naturally soak into the fabric by a washing process, especially in double-jacket hose. It accordingly prevents the rotting or deterioration of the fabric that ensues from a continued moist condition of the fiber, thereby rendering the hose more lasting and serviceable, while the work of cleaning and rolling can be performed more expeditiously and with comparatively little labor.

In some instances one set of brushes, either the stationary or the revolving, may be omitted, but the operation would be the same as above described, though giving less efficiency.

I claim and desire to secure by Letters Patent—

1. The hose cleaning and rolling mechanism, comprising in combination as described the supporting-frame, the rotatable winding-spindle carrying the face-wheel provided with the pin or means for retaining the end of a hose, the means for turning said spindle, the sprocket-wheel fixed on said spindle, the rotary brushes having their arbors respectively mounted in bearings, one on the main frame the other in the laterally-tilting head-frame hinged thereto, the sprocket-wheel on the brush-arbor, the drive-chain connecting the sprocket-wheels, and gears connecting the brush-arbors, all substantially as set forth.

2. In a hose-rolling mechanism, the combination, as described, with the main frame, the winding-spindle mounted in a bearing on said main frame, the face-wheel fixed on said spindle, a device for temporarily retaining the end of the hose thereon, and means for rotating said spindle and face-wheel; of the removable front standard, its hinge and fastening devices, substantially as and for the purposes set forth.

Witness my hand this 18th day of September, 1896.

RANALDO V. CAREY.

Witnesses:
CHAS. H. BURLEIGH,
SIMEON E. KING.