

(No Model.)

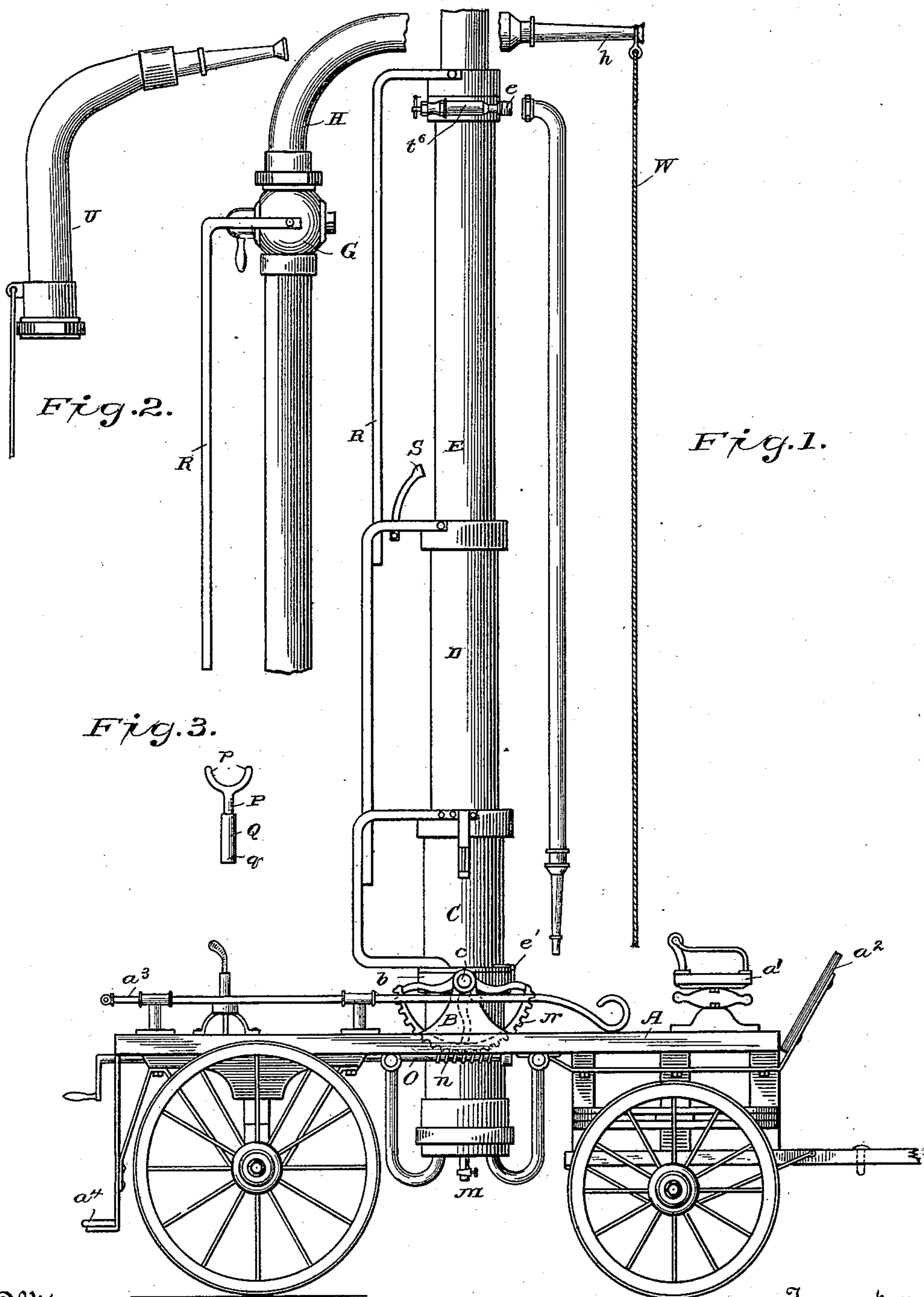
3 Sheets—Sheet 1.

T. BROCK.

COMBINED PORTABLE WATER TOWER AND FIRE ESCAPE.

No. 463,327.

Patented Nov. 17, 1891.



Witnesses

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(No Model.)

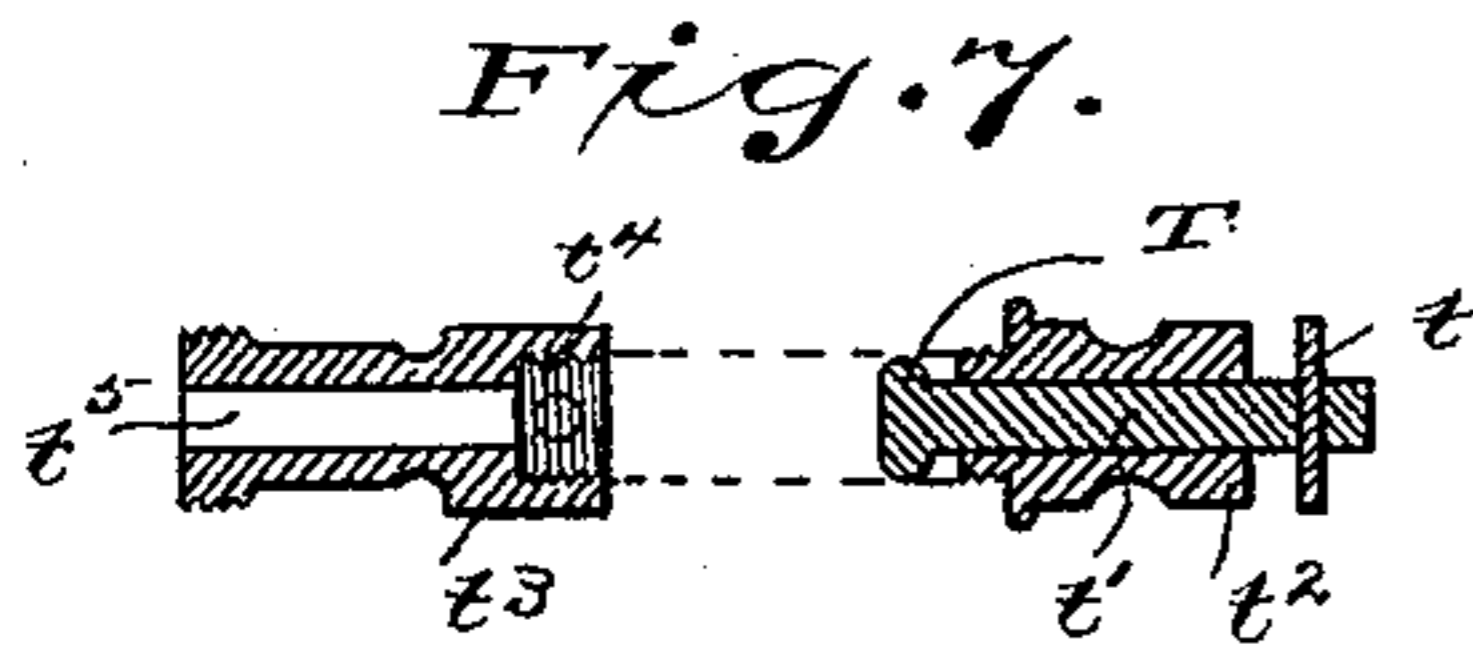
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T. BROCK.

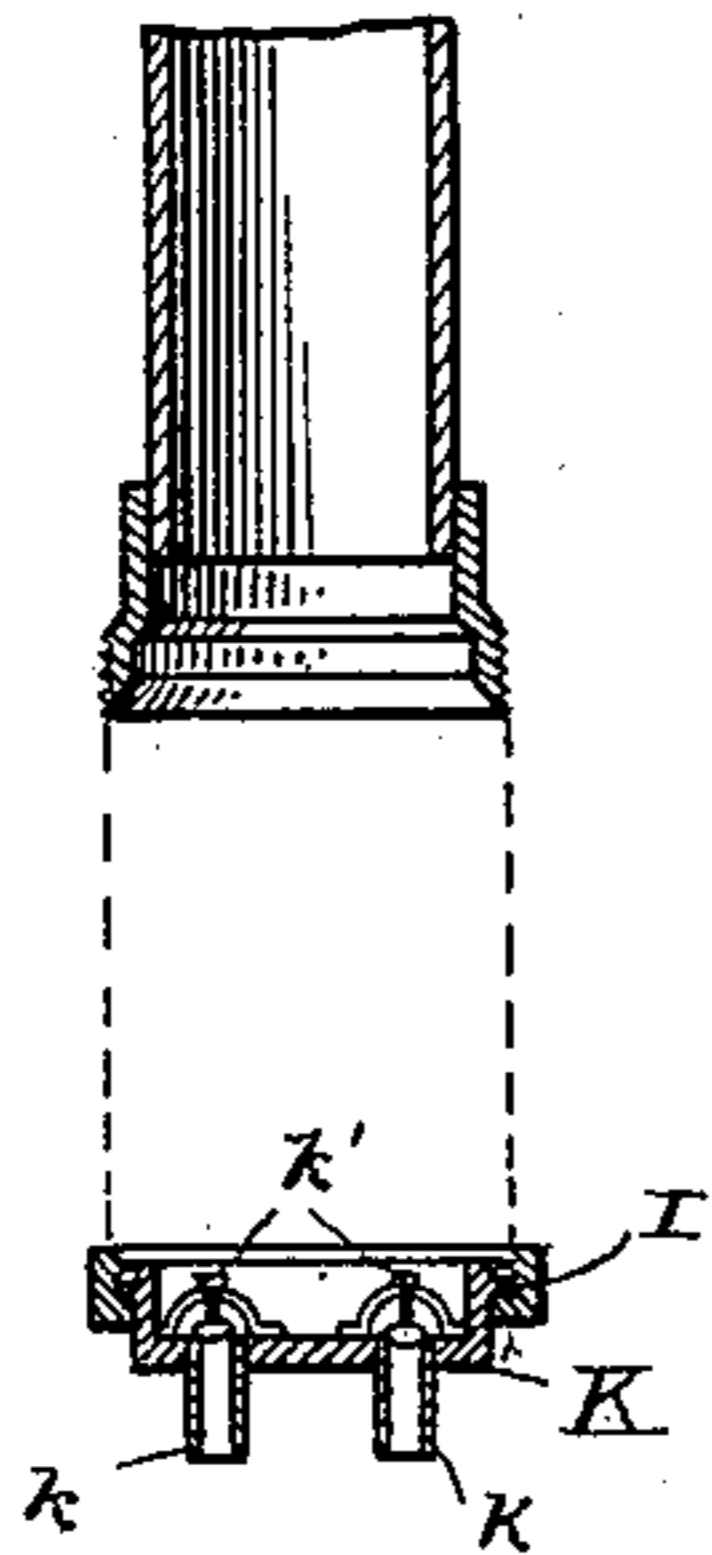
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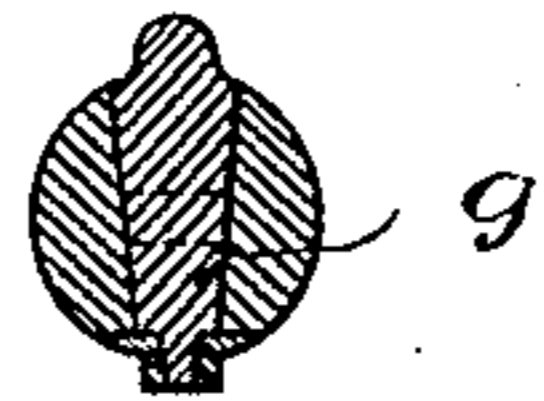
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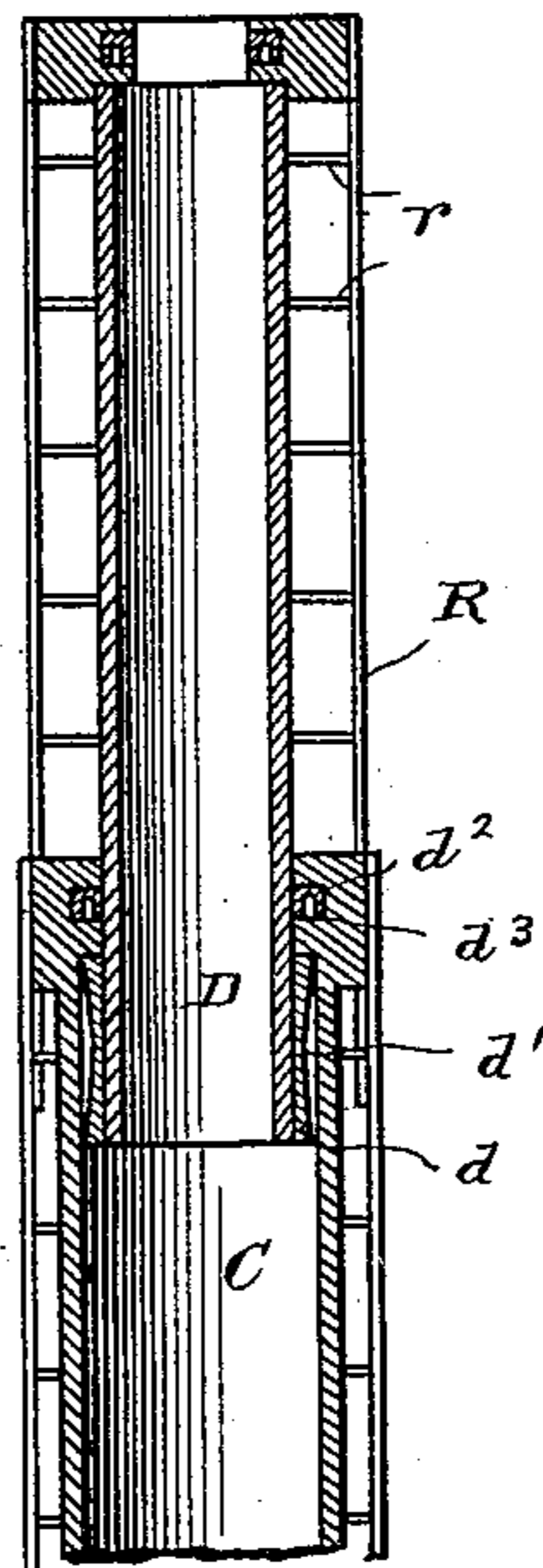
*Fig. 6.*



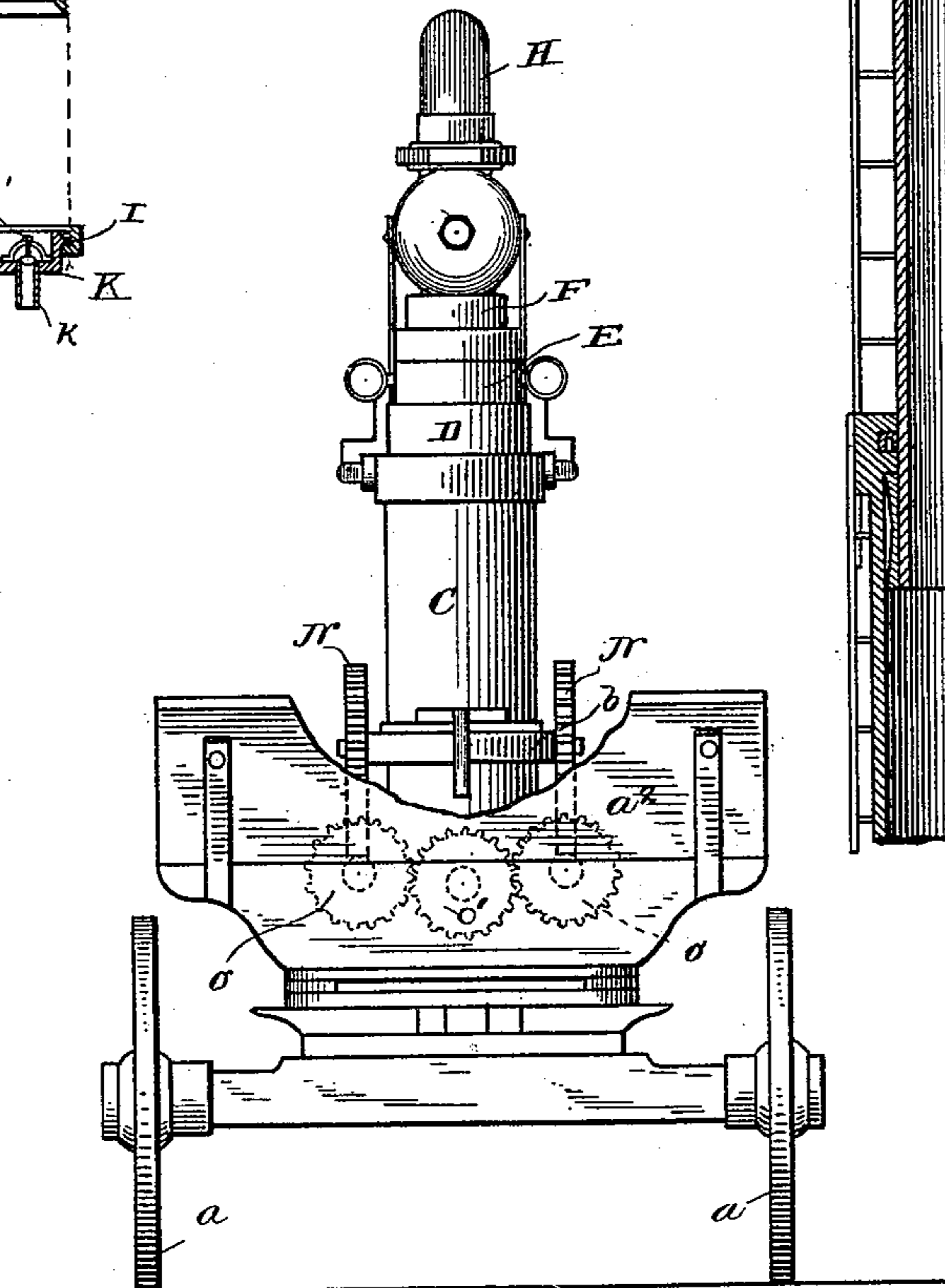
*Fig. 8.*



*Fig. 5.*



*Fig. 4.*



Witnesses

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# UNITED STATES PATENT OFFICE.

THOMAS BROCK, OF KANSAS CITY, MISSOURI, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO CHARLES L. SNYDER, OF SAME PLACE, AND AUGUSTUS COE VAN DUYN, OF LEAVENWORTH, KANSAS.

## COMBINED PORTABLE WATER-TOWER AND FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 463,327, dated November 17, 1891.

Application filed June 11, 1889. Serial No. 313,946. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS BROCK, of Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Combined Portable Water-Tower and Fire-Escape; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in combined portable water-towers and fire-escapes.

The object is to provide a combined water-tower and fire-escape which may be extended and contracted with great facility by means of the water within it.

A further object is to provide means for directing from the ground the stream issuing from the upper portion of the tower.

A further object is to provide simple and convenient means for throwing streams from an intermediate section of the tower and for manipulating the tower.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the combined water-tower and fire-escape in side elevation, showing the sections in position for use, the upper section being broken off and placed at the side of an intermediate section. Fig. 2 is a detached view of a non-flexible tip and nozzle. Fig. 3 is a detached view of a rest for the tower. Fig. 4 is a front end elevation, the foot-board being partially broken away, the sections of the tower being in contracted or closed adjustment. Fig. 5 is a vertical section of two of the telescoping tower-sections through their interlocking ends. Fig. 6 is a view in vertical section in detail of the base of the tower. Fig. 7 is a sectional view in detail of one of the balanced valves. Fig. 8 is a sectional view of a stop-cock; and Fig. 9 is a view in side elevation of the combined water-tower and fire-escape, showing the sections closed and tilted back as in transportation.

A represents the body of a wagon or truck

supported upon ground-wheels *a* and made as light as is consistent with the necessary strength. The body is conveniently provided with a driver's seat *a'*, a foot-board *a''*, hand-rails *a'''*, and a step *a''''* at the rear for the attendants to stand upon. About centrally thereof the body is provided with a pair of standards or brackets *B*, in which is journaled a tower-supporting ring *b*. At a point preferably about midway of its length the lower section *C* of the tower is provided with an annular collar *c* fixed thereto, which rests upon the ring *b*, through which the section *C* extends. The section *C* and the several sections resting upon the section *C* are thus free to be rotated upon the supporting-ring *b*, while the journals of the ring *b* admit of the tilting of the section *C* and the sections supported thereon.

A second tower-section *D* is telescoped within the section *C*. To steady the section *D* when it is extended out of the section *C*, a guide-collar or rim *d* is provided fixed to its end within the section *C*, and thinned at its central portion *d'* to reduce friction. The joint between the interlocking ends of the sections *C* and *D* is rendered water-tight by means of a yielding packing-ring *d''*, inserted in a groove *d'''* on the inner face of the upper end of the section *C*. A third tower-section *E* may in a similar manner be connected with and arranged to telescope within the section *D*, and a fourth tower-section *F* similarly arranged to telescope within the section *E* until the tower is of the desired height.

A valve-section *G* is fixed to the upper end of the upper section—in the present instance to the section *F*—and a stop-cock *g* is seated within the section *G* to control the flow of water from the nozzle at the top.

A tip or pipe *H*, constructed preferably by winding a flat strip of spring metal spirally around the pipe between two of the flexible plies which form its walls, thus rendering it a flexible spring-tip, having at all times a tendency to assume an upright position, is coupled at its base to the section *G* and provided at its opposite end with a nozzle *h*.

The base-section *C* has secured to its lower end, preferably by means of a coupling-ring

l, a head-plate K, provided with a pair of nipples *k* projecting downwardly therefrom for the attachment thereto of the flexible water-admission hose or pipes L. The openings of the nipples *k*, on the inside of the head, are provided with check-valves *k'*, which prevent the exit of water from the tower when the pressure is cut off at the hydrant. A cock M, for the purpose of regulating the exit of the water from the tower, is also conveniently attached to the head-plate K.

For tilting the tower and holding it in its vertical or slightly-inclined adjustments the journals on the supporting-ring *b* have fixed thereon worm-segments N, one on each, which engage worms *n* on horizontal shafts O journaled in the body A. The rear ends of the worm-shafts O are provided with spur-wheels *o* fixed thereon, and an intermediate spur-wheel *o'* is adapted to intermesh with the spur-wheels *o*. The shaft of the spur-wheel *o'* is provided with a crank *o''*, by which the intermediate wheel *o'* may be rotated and thereby the wheels *o*, which, because of the reverse pitch of the worms on the two shafts O, will cause the segment worm-wheels N to be simultaneously rocked and the tower thereby tilted.

As a rest for the tower when in its closed and tilted adjustment, a plunger P, provided with a forked head *p*, is seated in a socket Q secured to the body A, and a yielding cushion *q* is inserted in the bottom of the socket beneath the end of the plunger to ease the jar of the tower as the wagon or truck is drawn along the road.

The fire-escape ladder is formed in sections corresponding to the sections of the tower, and consists of a pair of side rails R, which have their upper ends fixed to the opposite sides of the upper ends of the tower-sections and project a short distance outwardly from the sections and thence downwardly along the sections. The rails R are connected at suitable intervals by rounds *r*. The rails of each section are spread slightly less than those of the section next below, so that they will slide between them as the sections are closed. The ladders thus serve to keep the several sections in the proper rotary adjustment relatively to one another. The collar *c* is provided with a handle *c'*, preferably hinged thereto, which may be swung up into horizontal position and serve as a lever for rotating the tower.

S represents one of the hooks employed to hold a section in closed adjustment. For the purpose of attaching hose at a point intermediate of the height of the tower, an intermediate section E, for example, is provided with one or more nipples *e*, which have communication with the interior of the tower through valve-chambers, in which are seated

balanced valves T, which may be opened or closed by means of the handles *t*. The valve consists, preferably, of an oval disk, as shown, (see Fig. 7,) having a stem *t'* seated in a male gland *t''* and free to slide longitudinally therein. The female gland *t'''* is provided with a chamber to receive the oval disk T, and openings *t''''* and *t'''''* communicate, respectively, between the chamber and the section E and the chamber and the nipple. A casing *t''''''*, Fig. 1, covers the adjacent ends of the glands. An interchangeable tip and nozzle U is also provided, of fixed bent form, for use in places where it is desirable to insert the nozzle into a flame through a window or the like.

The flexible spring tip or pipe hereinbefore referred to may be manipulated from the ground by means of a rope W attached to its nozzle. By drawing down on the rope the nozzle will be made to assume various degrees of inclination to throw the stream higher or lower, and by walking around the tower the nozzle may be swung to the right and left, as desired.

The fixed bent nozzle, as well as the spring-nozzle, may be moved toward and away from the building or swung to the right or left by the movement of the wagon or truck by tilting the tower and by revolving the tower on its support.

The tower when connected with the hydrant and rocked into the proper position may be extended by the pressure of the water from the hydrant, and when the pressure from the hydrant is cut off the water within the tower held there by the check-valves at the base may be gradually drawn off and the sections thereby gradually lowered into closed adjustment.

The construction is so simple that the apparatus can be furnished at a low cost and can be readily operated without requiring a trained force kept constantly under orders.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a tower composed of telescoping sections, the end of the male section being provided with a hollow-faced guide, substantially as set forth.

2. In combination, a tower composed of telescoping sections, the end of the male section being provided with a hollow-faced guide and the end of the female section with a packing-ring, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS BROCK.

Witnesses:

DELOS T. BREESE,  
JAMES G. SMITH.