

(No Model.)

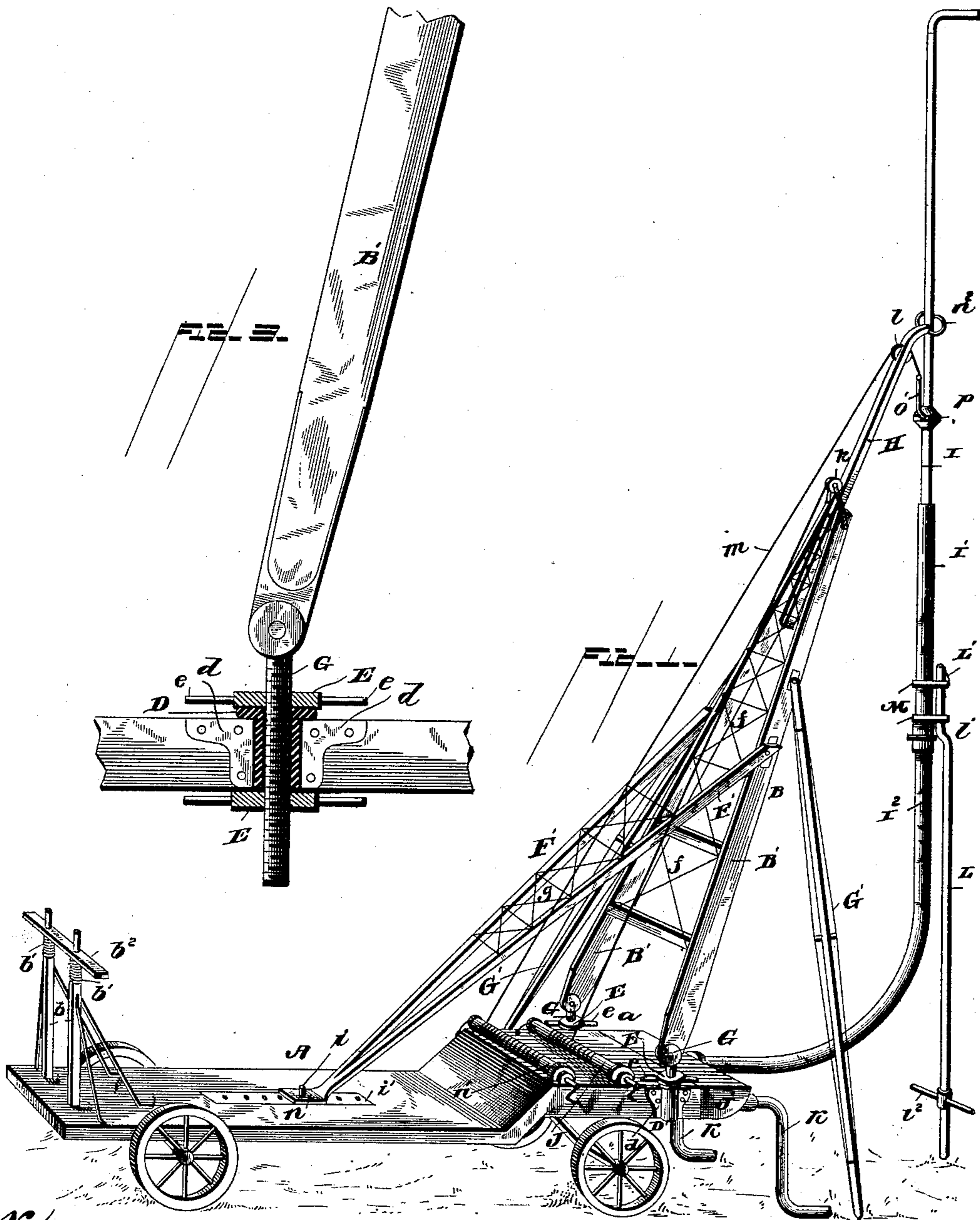
2 Sheets—Sheet 1.

G. C. HALE.

WATER TOWER.

No. 353,132.

Patented Nov. 23, 1886.



Witnesses:

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S. C. Edmond

Inventor:

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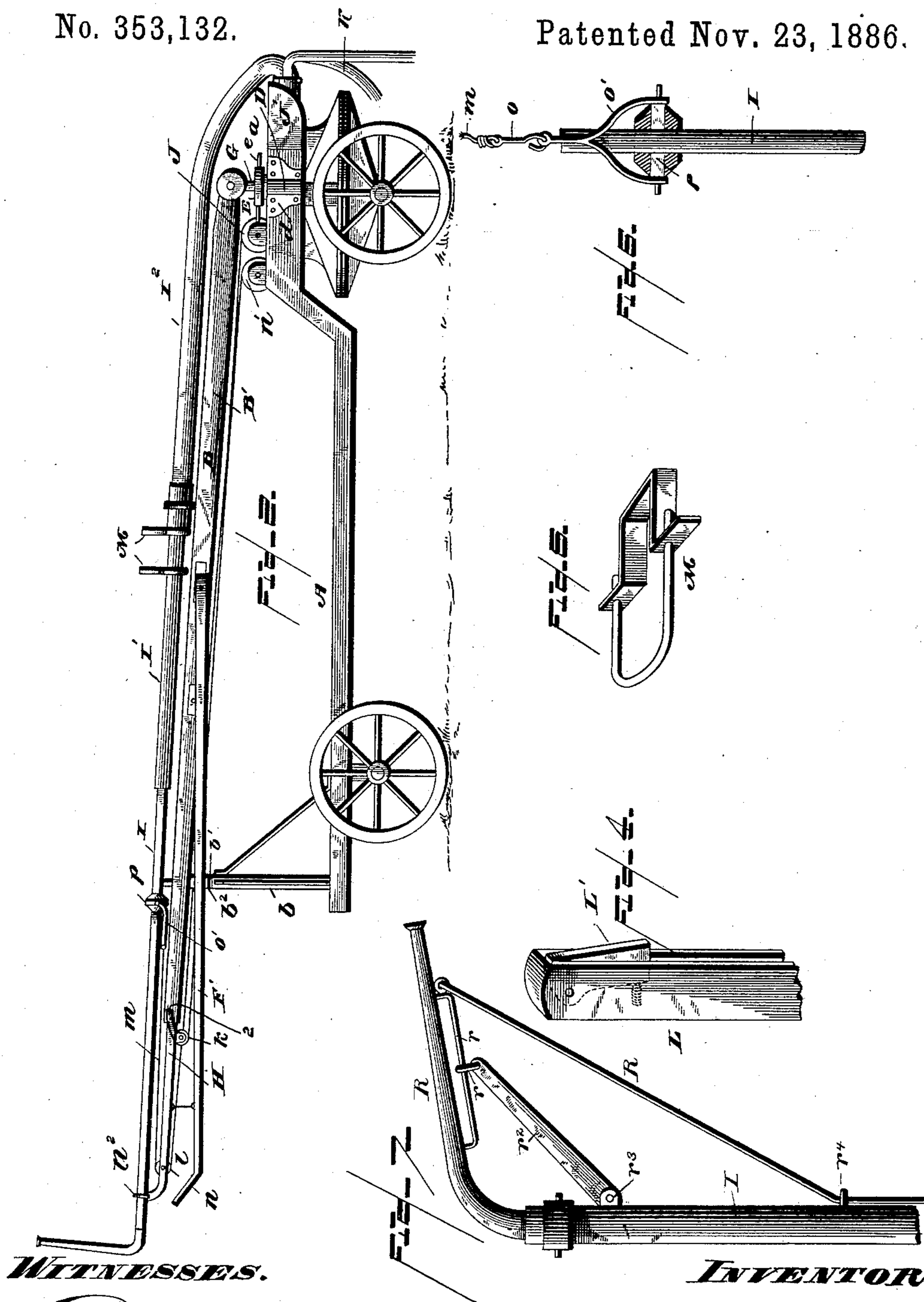
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UNITED STATES PATENT OFFICE.

GEORGE C. HALE, OF KANSAS CITY, MISSOURI.

WATER-TOWER.

SPECIFICATION forming part of Letters Patent No. 353,132, dated November 23, 1886.

Application filed August 4, 1886. Serial No. 209,980. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. HALE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Water-Towers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to improvements in fire-hose towers, the same having for its object to provide for facility and convenience in handling fire-hose in playing upon a fire; and the invention consists of a contrivance adapted to meet these ends, substantially as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my invention ready for use. Fig. 2 is a side view thereof, the parts of the tower proper being lowered into a horizontal position upon the truck, as practiced in transporting the same. Figs. 3, 4, 5, and 6 are detail views thereof. Fig. 7 is a modification of the nozzle and a portion of the hose.

In the embodiment of my invention I employ a suitable truck, A, preferably constructed as shown most fully in Fig. 1, wherein the one end portion, *a*, is elevated above the general plane of the other portion thereof, while at the opposite end of the same are two standards, *b*, suitably braced in position. Upon the upper portions of these standards *b b* are disposed springs *b' b'*, as is also a cross-piece or bar, *b²*, which rests upon said springs, the latter thus forming an elastic cushion for the bar or cross-piece and preventing the transmission of the jarring motion received by the wheels traveling over the rough surface of the street or road to the tower and its appurtenances, which, when transported, rest at one end upon said cross-piece or bar, as shown in Fig. 2.

B is the tower proper, which consists of two side pieces, *B'*, united by a number of cross-pieces or bars near their lower ends in an approximately A shape. The lower divergent ends of the side pieces, *B'*, are pivoted to the upper ends of screws *C*, working in sleeves or bushings *D*, partially let into the sides of the elevated end portion, *a*, of the truck A. Said bushings or sleeves are cast with lateral wings or flanges *d*, which are bolted to the sides of

the elevated end portion of the truck, as shown in the three first views or figures. Fitted upon the screws *C*, above and below the ends of said sleeves or bushings, are nuts *E*, having arms *e*, for their convenient manipulation by hand, the purpose of which arrangement is to permit of the elevating of the tower in case the truck should be standing upon an incline or irregularity of the surface. The side pieces, *B' B'*, of the tower may be braced and strengthened by applying thereto throughout short brace-rods *f*, each two rods crossing each other after the fashion of the letter X.

F' F' are the two arms or limbs of a holding-brace, *F*, which may also be strengthened by applying thereto, similar as in bracing the side pieces of the tower, short crossing brace-rods *g*. The upper divergent ends of said arms or limbs are pivoted to the side pieces, *B'*, of the tower, a little above the middle of said side pieces, while the convergent and merged lower ends of the arms or limbs are formed with a flat relatively - horizontal extension-plate, *n*, having an aperture in it, through which is inserted a pin, *i*, entering any one of a series of apertures made in a plate, *i'*, embedded in the floor of the truck, the same having for its object to permit of varying the angle of inclination of the tower, as may be required. Pivoted at their upper ends, one to each side piece, *B'*, of the tower B, intermediately of the upper ends of the limbs or arms *F'* of the brace *F*, and the same ends of the said side pieces, *B'*, are additional braces or props, *G G*, the lower ends of which rest upon the ground and which props themselves may be strengthened or braced by truss-rods, as shown.

H is a mast telescopically held between the extreme upper ends of the side pieces, *B'*, of the tower B, and manipulated or raised and lowered by means of a windlass, *j*, arranged upon the elevated front end portion, *a*, of the truck A, the same having a cable reaching up around a pulley, *k*, supported at the upper ends of the side pieces, *B'*, of the tower, and then passing down and connecting with the lower end of the mast *H*. In the upper portion of this mast is hung a pulley, *l*, over which passes a cable, *m*, connecting at one end with a windlass, *n*, arranged upon the elevated end

portion, *a*, of the truck A. The opposite end of said cable *m* is connected by a hook, *o*, and pivoted bail *o'* to a swiveled support or block, *p*, through which passes the nozzle-pipe I, having nozzle *I*², said pipe also passing through a yoke, *n*², at the extreme upper end of the mast H, which retains the said pipe in position, and within which swivel and yoke the pipe is capable of manipulation or adjustment in changing the direction of the presentation of its nozzle end to the fire, according to the direction it is desired to give to the stream of water playing upon the fire. I can use a flexible nozzle, preferably made of rubber or other elastic material, having a coil-spring to permit its being bent, as shown in Fig. 7. Referring to said figure, I is the nozzle-pipe, and R the nozzle, on one side of which is a bail, *r*, which is loosely connected by means of a ring, *r'*, to the bar *r*², the opposite end of said bar being pivoted to a lug, *r*³. A cord, *R'*, is connected to the nozzle, thence passes through a ring, *r*⁴, and thence to the ground. By means of this cord the position of the nozzle can be readily changed, whereby the water can be directed to any desired point. This manipulation or adjustment of the pipe I is effected by means of a contrivance hereinafter described.

The pipe I is connected at its lower end to an enlarged pipe-section, *I'*, the lower end of which latter is connected by a section of hose, *I*², of suitable capacity, to a water-chest, J, mounted upon the truck A at its elevated front end, which water-chest is supplied with water by means of elbow-pipes K, with their upper ends connected to said chest and their other ends connected in any suitable way to the source or head of water or fire plug.

L is a pole, with its upper end, from which the main or body portion is offset, as at *l'*, clipped to the lower end of the enlarged pipe-section *I'* by means of the clips M, consisting of the combined staple-like keepers and U-shaped bolts, an enlarged view in perspective of one of which clips is seen in Fig. 5. The said end of the pole L is provided with a spring catch or snap, *L'*, as more fully shown in Fig. 4, which as the end of the pole is passed upward between the clips M and the pipe-section *I'* will spring outward and form a beak or projection above the upper clip, and thus secure the pole to the pipe section, as desired.

Upon the pole L, near its lower end, is secured a cross-bar or rod, *l*², forming handles, which are grasped by the firemen, and which pole, with its said handles, constitutes the contrivance above referred to for manipulating or adjusting the nozzle-pipe in directing the stream of water upon the fire.

The tower may be elevated either by hand, through the assistance of the several pivoted braces applied thereto, or by means of my improved chemical engine, the same being adapted to that end, which engine is covered

by Letters Patent. Also, the forcing-pipes of two or more engines may be connected to the water-chest, whereby the streams of water from the same may be concentrated and directed upon the fire from a single nozzle.

It will be understood that the foregoing are susceptible of changes or modifications as to details of construction and arrangement of the parts without departing from the spirit of my invention or abridging the rights conveyed to me under these Letters Patent.

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

1. A fire-hose tower comprising a truck, a tower proper, a mast having at its upper end a yoke, and a suspended swiveled support or block, in combination with a nozzle-pipe, substantially as and for the purpose set forth.

2. The combination, with the truck and tower side pieces, of the screws working in sleeves or bushings connected to the truck and the nuts applied to said screws, said tower side pieces being pivoted to said screws, substantially as and for the purpose set forth.

3. The combination, with the upheld pipe connected to a nozzle-pipe and to a water-hose, of the pole having in its upper end a spring catch or snap and slips applied to said pipe, and between which and the pipe said end of the pole is inserted, its spring-catch snapping past and standing above said clips, substantially as and for the purpose specified.

4. The combination, with the truck and its tower, of the two-armed brace with their divergent ends pivoted to the side pieces of the tower, and their convergent or merged ends provided with an apertured extension-plate receiving a pin entering any one of a series of apertures of a plate applied to the floor of the truck, substantially as and for the purpose set forth.

5. The combination, with a truck, of a pivoted braced tower, a windlass arranged upon the truck, the mast held between the upper ends of the side pieces of the tower and carrying a yoke and a pulley in its upper portion, and a cable connecting with said windlass and passed over the pulley in the mast and connected to a swiveled block or support, substantially as and for the purpose indicated.

6. The combination, with the truck and the tower supported upon the truck and conveying a pulley at its upper end, of a windlass arranged upon the truck, the mast having a yoke at its upper end, and a cable connected to said windlass and passed over said pulley and connected to said mast, substantially as and for the purpose designated.

7. The combination, with the truck, of the windlasses arranged upon the truck, the tower having a pulley at its upper end supported and braced in position upon the truck, the mast telescopically held between the upper ends of the side pieces of the tower and car-

rying a yoke and pulley at its upper end, and
the cables connected to said windlasses, one
passing over the pulley at the upper end of
the tower and connected to the lower end of
5 the mast, and the other cable passing over the
pulley in the upper portion of the mast and
suspending a swiveled block or support, sub-
stantially as and for the purpose described.

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

GEORGE C. HALE.

Witnesses:

HENSALL KEEFER,
LOUIE T. BRAND.