

No. 756,512.

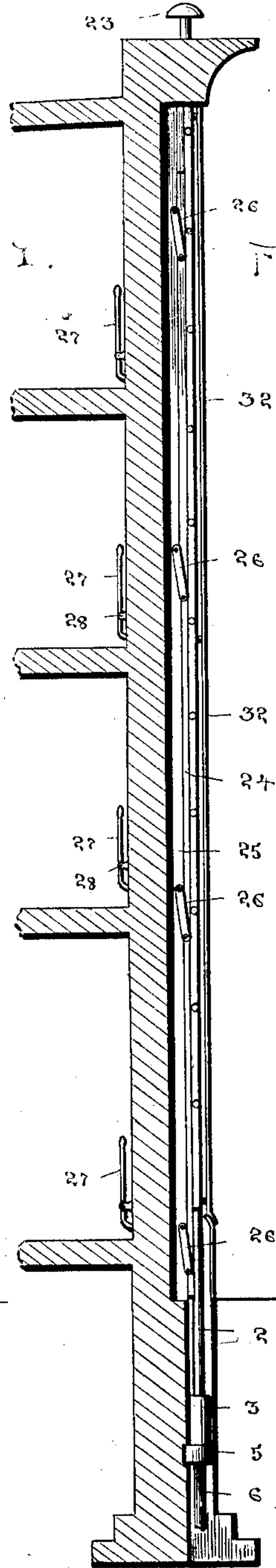
PATENTED APR. 5, 1904.

E. T. MARSH.
FIRE ESCAPE.

APPLICATION FILED JUNE 11, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

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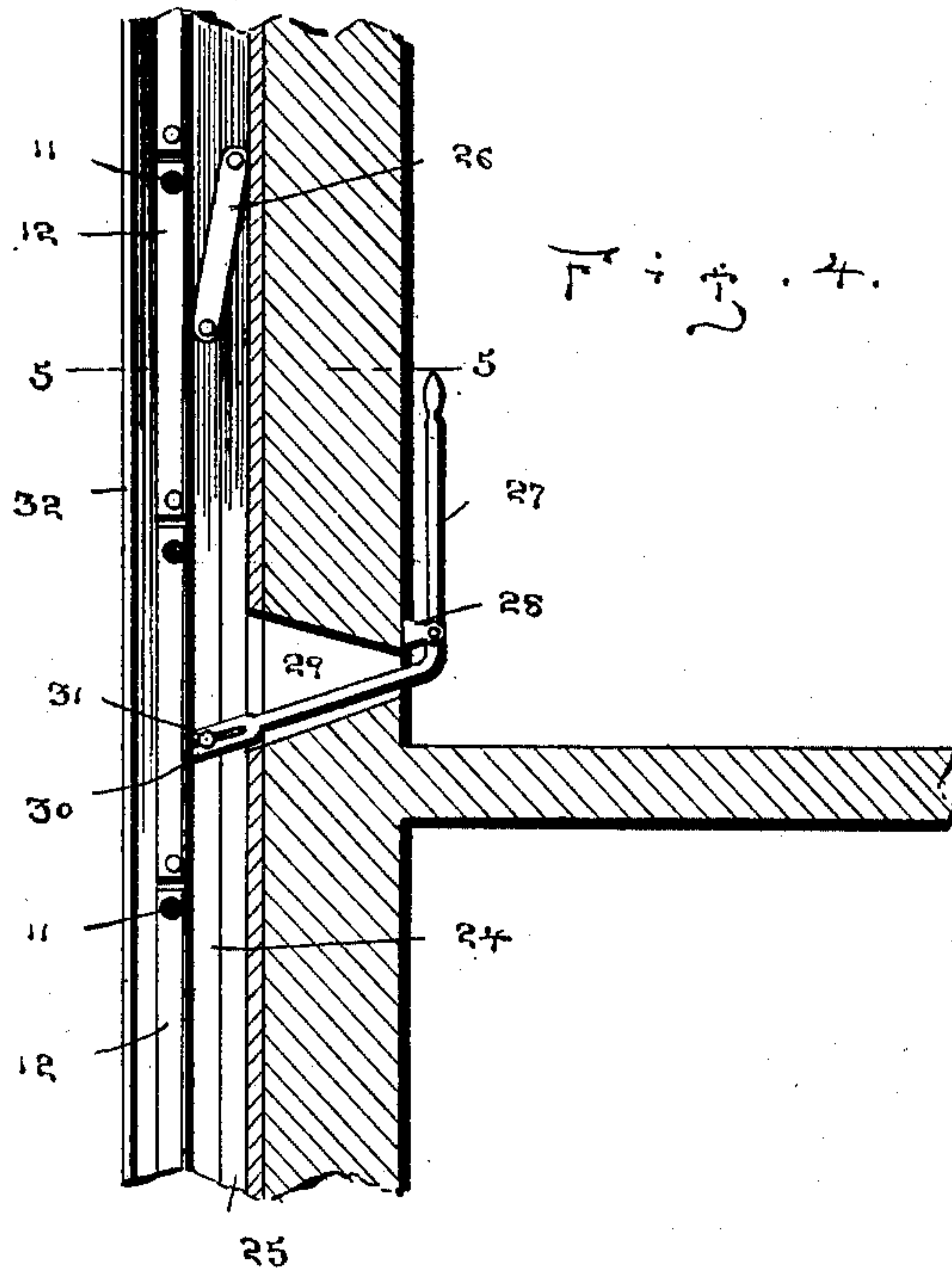
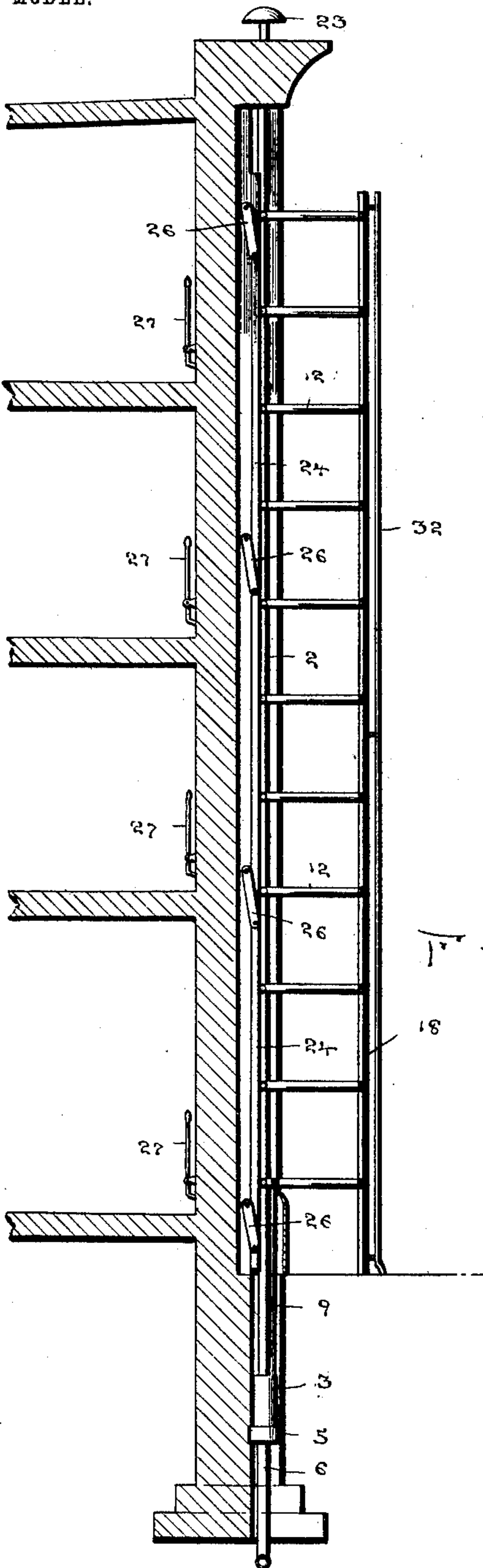
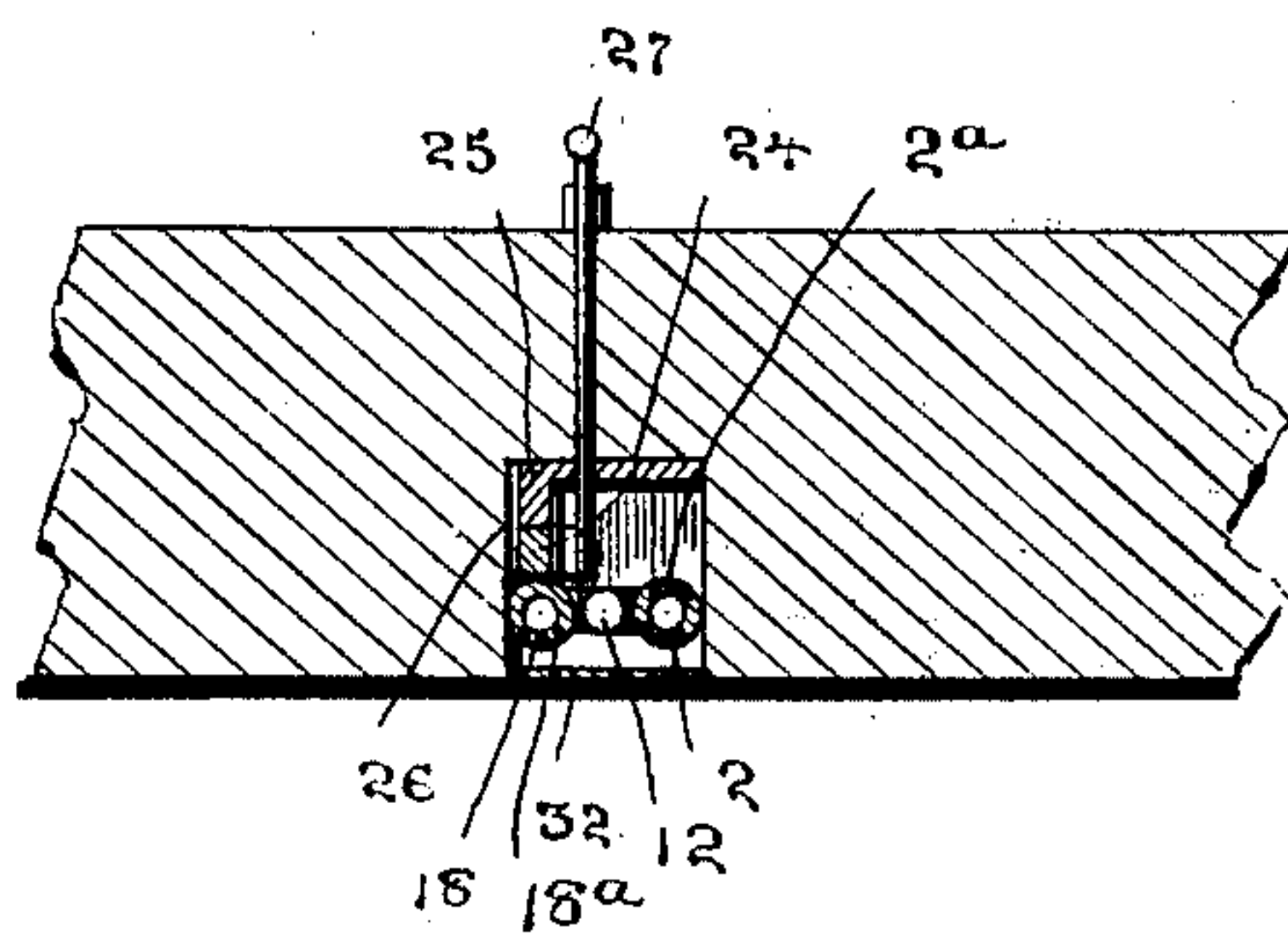


Fig. 3.

Fig. 5.



Witnesses

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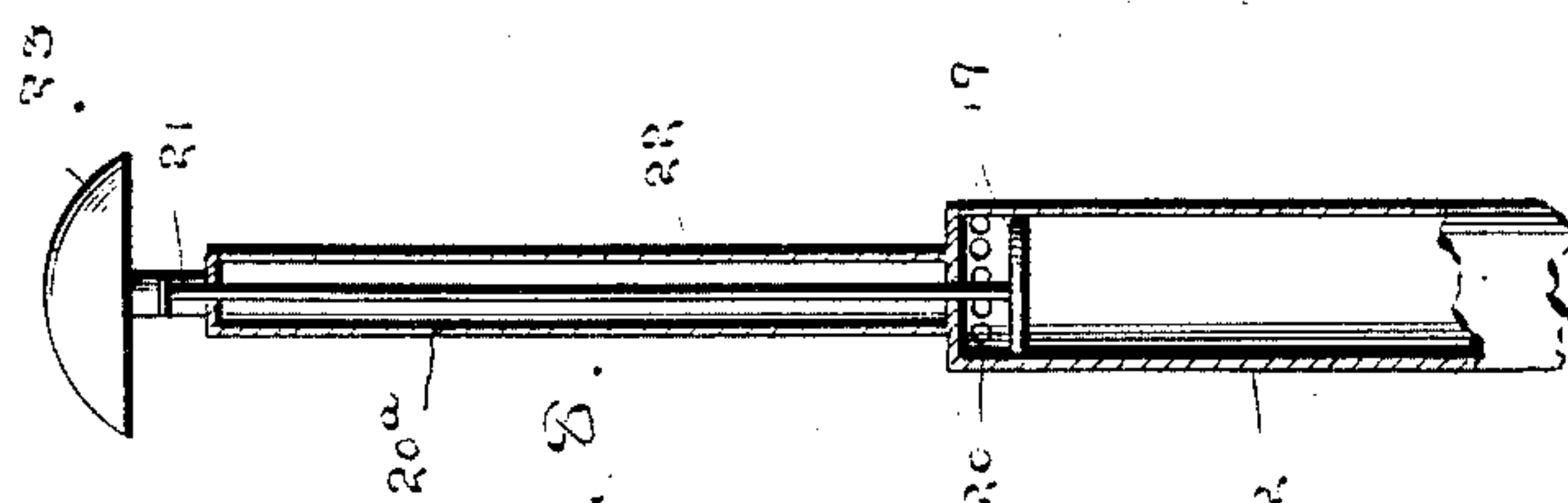
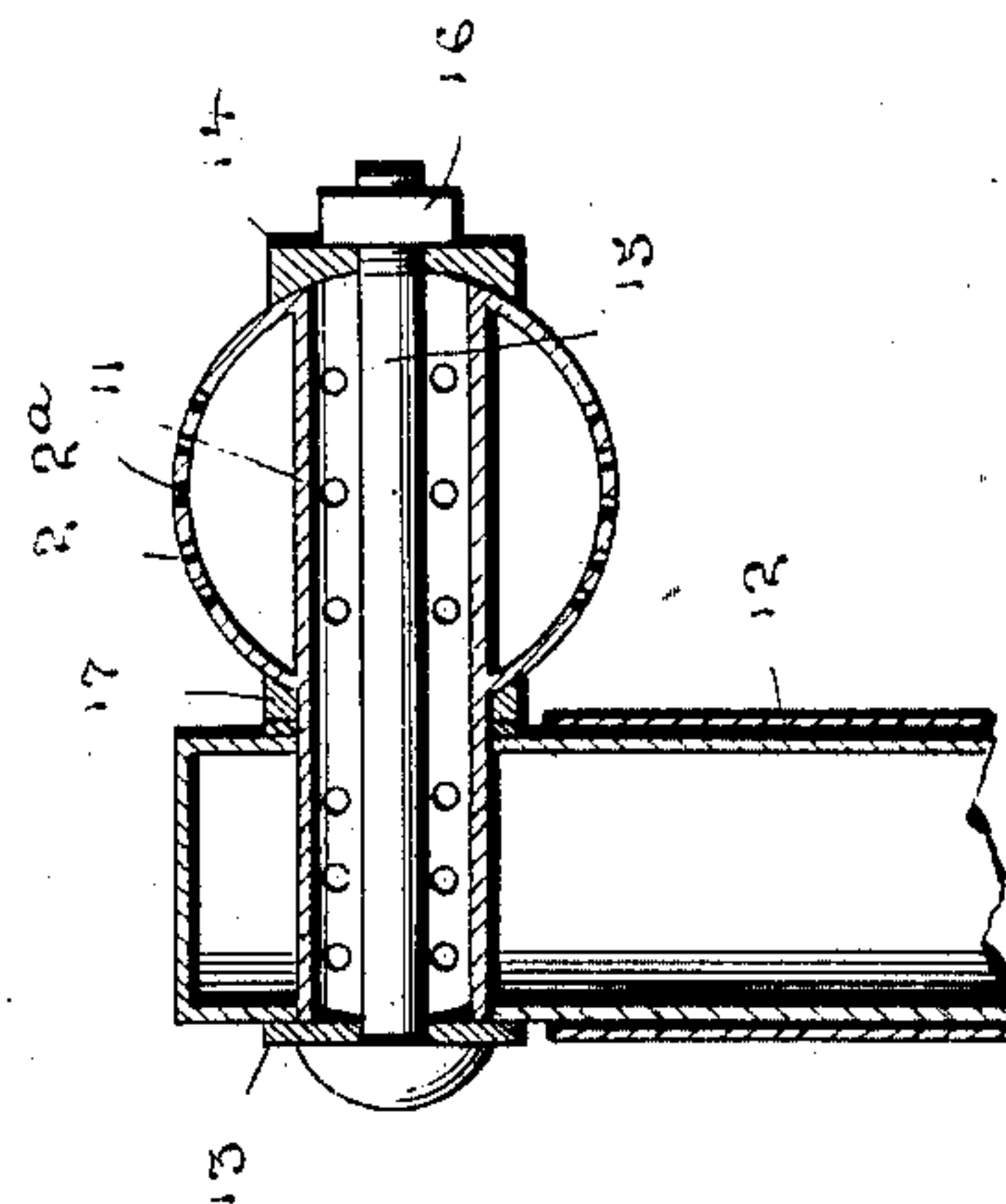
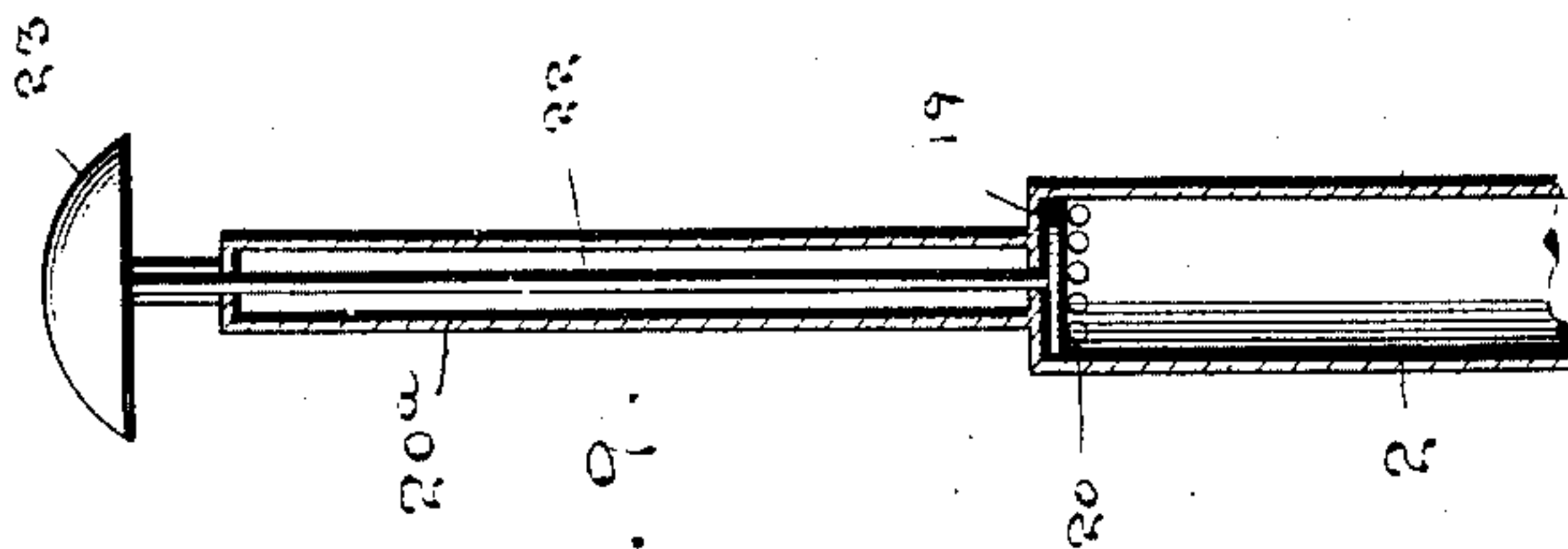
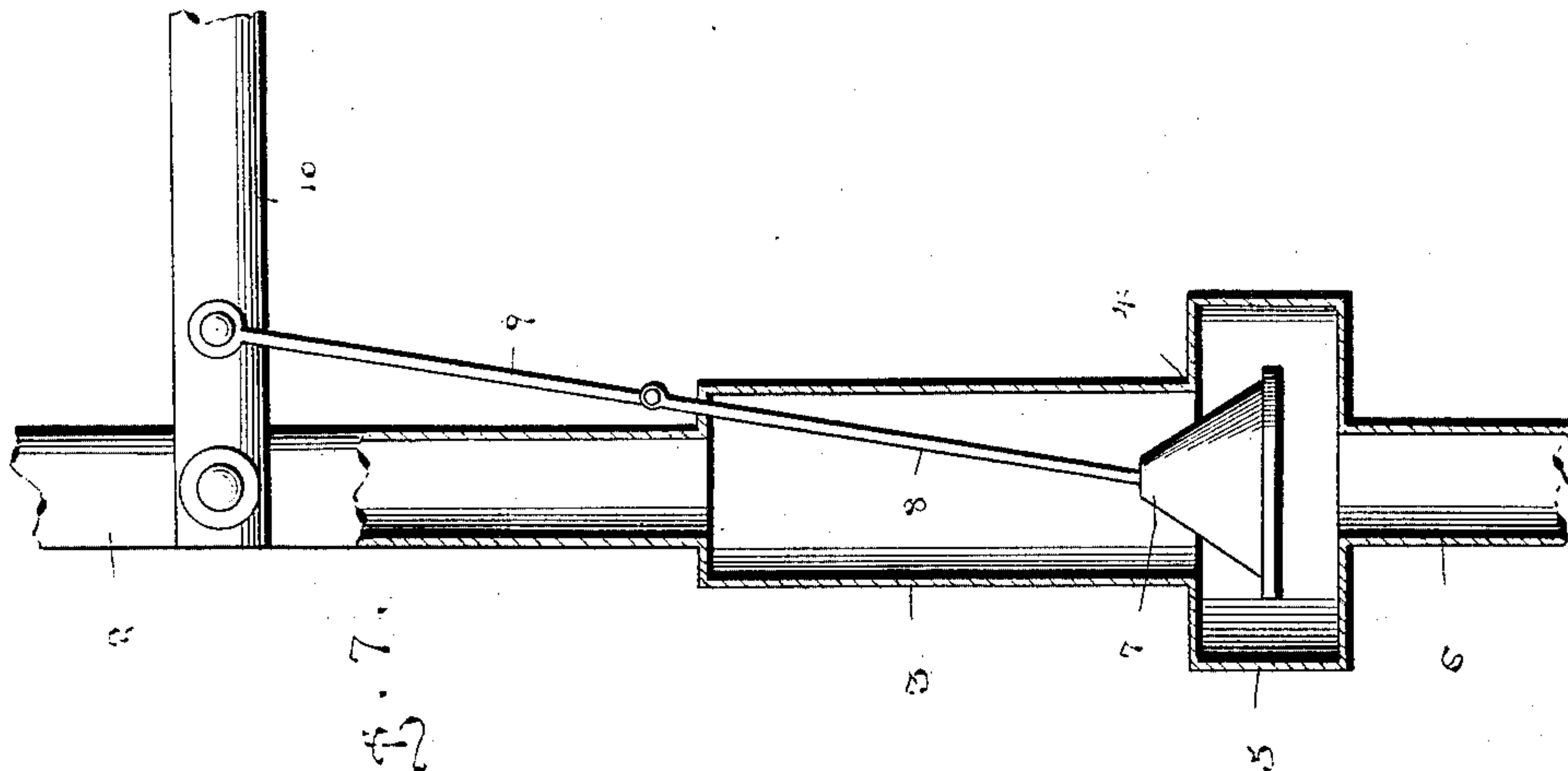
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NO MODEL.

3 SHEETS—SHEET 3.



Witnesses

Frank A. [unclear]
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UNITED STATES PATENT OFFICE.

EDWIN T. MARSH, OF ROCHESTER, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 756,512, dated April 5, 1904.

Application filed June 11, 1903. Serial No. 161,024. (No model.)

To all whom it may concern:

Be it known that I, EDWIN T. MARSH, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to stationary fire-escapes, and has for its object to provide an efficient structure which can be attached to a building and serve as a convenient means for the escape of occupants in case of fire or disaster.

The invention consists in providing a folding ladder, the standards and rounds being formed of tubing, one of the standards being rigidly fastened within a groove and the other standard foldable thereon, the rounds being movably attached to and communicating with the standards, whereby a cooling fluid can be passed through the entire ladder.

The invention further consists in providing means for projecting the movable standard out from the building to set up the ladder in a position to be utilized as a fire-escape.

The invention further consists in providing a novel cut-off whereby the cooling fluid is permitted to pass through the standards and rounds only when the ladder is in position to be used.

The details of construction and peculiar arrangement of parts will be clearly described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a building, showing the relative arrangement of the fire-escape when it is folded and housed. Fig. 2 is a vertical longitudinal sectional view through the building, showing the fire-escape in elevation. Fig. 3 is a similar view showing the ladder set up in position for use. Fig. 4 is a side elevation of the actuating-bar and its lever for throwing the movable standard away from the building. Fig. 5 is a horizontal section on the line 5 5 of Fig. 4. Fig. 6 is a sectional view through one of the standards, a portion of a round, and its coupling. Fig. 7 is a vertical sectional view through the stand-pipe and a portion of the stationary standard, showing the relative position of the cut-off valve

for controlling the cooling fluid. Fig. 8 is a vertical sectional view of the top portion of the stationary standard and an annunciator, showing the piston previous to being operated upon by the fluid. Fig. 9 is a similar view illustrating the position of the piston after it has been acted upon by the fluid.

The structure can be set up to any building; but it is preferred to form a vertical groove or recess 1 in the wall of a building or structure to which the device is to be secured, the upper terminal of the recess coming under the eaves of the roof. Within this recess is arranged a vertical standard 2, which is in the form of a pipe or tube and communicates at its lower end with a conduit, stand-pipe, or reservoir 3, having a valve-seat 4 formed in the top of an enlarged valve-casing 5, supplied from a suitable main through the medium of a pipe 6. A conical valve 7 is positioned within the casing 5 and has its reduced end extending up into the pipe 3, as shown in Fig. 7. A sectional valve-stem 8 leads from the top of the valve 7, projecting through the stand-pipe or reservoir 3, and is hinged to a link rod 9, pivoted to a lower round 10 of standard 2 in any preferred manner.

Fig. 6 illustrates the manner of connecting the lower round and remaining rounds 12 to the stationary standard 2, and it will be observed that a perforate tube 11 is formed rigid with the standard 2 and extends laterally therefrom, projecting transversely through the hollow rounds. The ends of the tube 11 are closed by caps or disks 13 and 14, secured thereto by a longitudinally-arranged bolt 15, extending through the tube and held in secured position by an adjusting-nut 16, a washer 17 being interposed between the standard and the round to form a bearing whereby the round will be pivotally secured to the tube 11. A similar connection is made between the rounds and a movable standard 18, which is pivoted to the outer ends of the several rounds, so that the standard 18 can readily be folded against the standard 2, as shown in Fig. 5.

When the standards are in their folded position, the link 9 and valve-stem 8 will cause the valve 7 to be seated against the seat 4, so

as to cut off the supply of water or other fluid. This is due to the fact that the act of folding the standard 18 against the standard 2 will swing the round 10 in an approximately vertical plane, and thus exert an upward pull on the valve 7, and the latter will remain closed as long as the standards are positioned as shown in Fig. 2. As soon as the standard 18 is thrown out, however, the valve 7 will be depressed or unseated, thereby allowing the water to pass up through the stand-pipe into the standard 2 through perforations in the tube 11 and into the rounds 10 and 12, and a thorough circulation will be established in the standards and rounds to cool the ladder as an entirety. When the standards and rounds become filled with water, the latter contacts with a piston 19 in the upper extremity of the standard 2, said piston being below perforations 20 in the upper end of said standard. A piston-rod 22 projects upwardly from the piston 19 through a tubular extension 20^a, secured on the upper end of the standard 2, and mounted on the upper extremity of the said standard is a clapper or annunciator-contact 21, which is designed to strike against a superimposed alarm 23 or annunciator-contact, so as to indicate that the standards and rounds have been fully opened and ready for use. The standard 2 is formed with a series of small holes 2^a on the inner portion thereof adjacent to the side wall of the building against which the escape is erected, and through these openings water is forced against the adjacent wall of the building and then dashed back and around the adjacent parts of the ladder, forming a spray which will prevent persons on the escape from being burned. The outer portion of the standard 18 is also formed with a series of small openings 18^a, through which water is dashed against the shield 32 and thrown back over the ladder to cool the same, all of which is clearly shown by Fig. 5. The excess of water passing through the standards and rounds will escape through the perforations 20 and run down over the standard 2 and will in a measure assist in cooling said standard.

An actuating-bar 24 is located in the recess 1 and has sliding movement, said bar being secured to a portion of the wall of said recess or a lining 25 therefor by links 26, arranged at determined distances apart. In order to operate the said actuating-bar from any floor of a building, convenient means are provided, preferably in the form of bell-crank levers 27, pivoted to brackets 28 on the inner sides of the walls of rooms or hallways, the lower arms of the said levers projecting through openings 29 in the wall of a building and having elongated slots 30 in their terminals, said slots being engaged by pins 31, carried by the bar 24. By pulling the upper arm of any one of the levers 27 outwardly or away from the part of the building supporting the same the actuat-

ing-bar 24 will be forced outwardly or toward the entrance of the recess 1, and thereby throw the movable standard 18 outwardly and downwardly into open position, and the weight of said standard will cause the same to gravitate until the lower end rests upon the ground-surface. The folding standard 18 and the rounds connected thereto may by the same means be returned to closed position after the improved device has been used.

The movable standard 18 has a shield 32 secured thereto and operates to close and open the recess 1 when the said standard is respectively moved inward or outward, thereby providing means for readily housing all the parts of the improved device when not in use and protecting it from deterioration by atmospheric changes.

It will be apparent that a fire-escape constructed in accordance with the foregoing disclosure will possess all the advantages of the usual form of escapes without the unsightly appearance usually produced by applying the common form of escape-ladders and analogous devices to buildings. When the improved fire-escape is not in use and folded, the shield 32 will completely hide all the parts of the same.

Changes in the form, proportions, and minor details may be resorted to without departing from the spirit of the invention.

Having thus fully described the invention, what is claimed as new is—

1. In a fire-escape, the combination of a stationary and a movable hollow standard, hollow rounds, tubes rigid with each standard and forming communication between the same and the rounds, said rounds having the ends thereof pivoted to corresponding tubes, and means for supplying the structure with a cooling fluid.

2. In a fire-escape, the combination of a stationary and a movable hollow standard, hollow rounds pivotally secured to and communicating therewith, and means for supplying the structure with a cooling medium on carrying the movable standard to a determinate position, and for cutting off such supply on restoring said standard to its original position.

3. In a fire-escape, a pair of tubular standards movably connected so that one may be folded against the other, tubular rounds connected to and forming passages with the said standards, and means automatically controlled by the movement of one of the rounds whereby a passage-way is opened into the standards and rounds for permitting a cooling medium to pass into the latter.

4. In a fire-escape, the combination of a stationary and a movable hollow standard, hollow rounds, tubes rigid with each standard, and forming communication between the same and the rounds, said rounds having the ends thereof pivoted to corresponding tubes, and means for supplying the structure with a cooling medium on carrying the movable stand-

ard to a determinate position, and for cutting off such supply on restoring said standard to its original position.

5 In a fire-escape, the combination of a stationary and a movable hollow standard, hollow rounds, tubes rigid with each standard, and forming communication between the same and the rounds, said rounds having the ends thereof pivoted to corresponding ones of the tubes, and means controlled by one of the rounds for supplying the structure with a cooling medium, on carrying the movable structure to a determinate position, and for cutting off such supply on restoring said standard to its original position.

20 6. In a fire-escape, the combination of a stationary and a movable hollow standard, connecting hollow rounds having pivotal relation with the standards, and also communicating therewith, whereby a cooling medium may be provided throughout the structure, a reservoir at the bottom of one of the standards, having a valve-seat and a valve, and means for holding said valve to its seat in one position of the movable standard, and for unseat-

ing the same on carrying said standard to another position.

7. In a fire-escape, the combination of a pair of ladder-standards, rounds pivotally connected to said standards whereby they may be 30 folded one upon the other, said rounds and standards being hollow and provided with communicating openings, means for introducing a fluid into the rounds and standards, and an alarm device at the top of one of the standards operative by the rising fluid. 35

8. The combination of a pair of hollow standards and a plurality of connecting rounds pivotally secured thereto, the pivotal connections each comprising a tube projecting from 40 the standards into the rounds and provided with perforations, and means for securing the tubes to the standards and rounds.

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

EDWIN T. MARSH.

Witnesses:

MARTIN W. HAIGHT,
RUTH E. MARSH.