

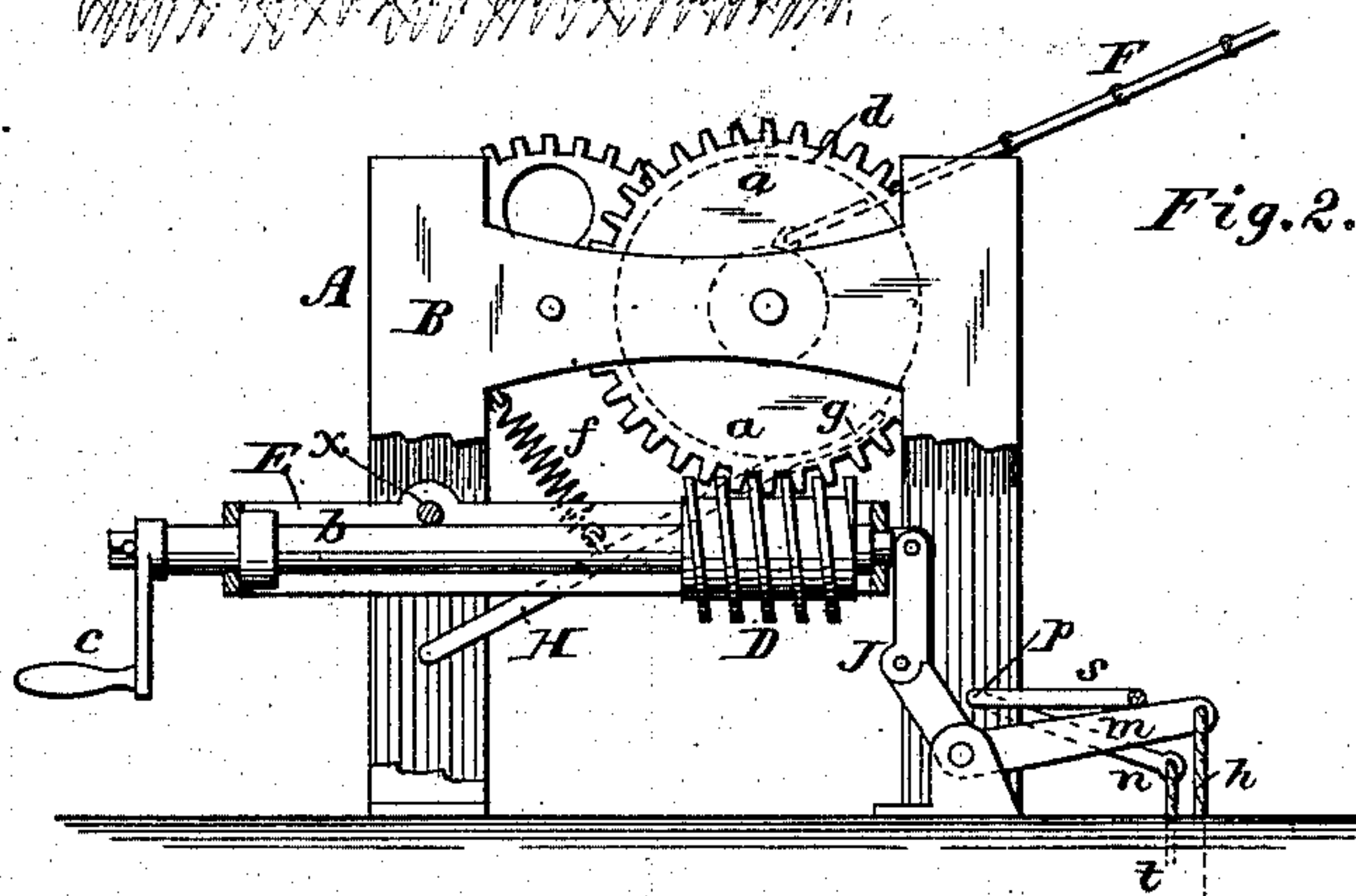
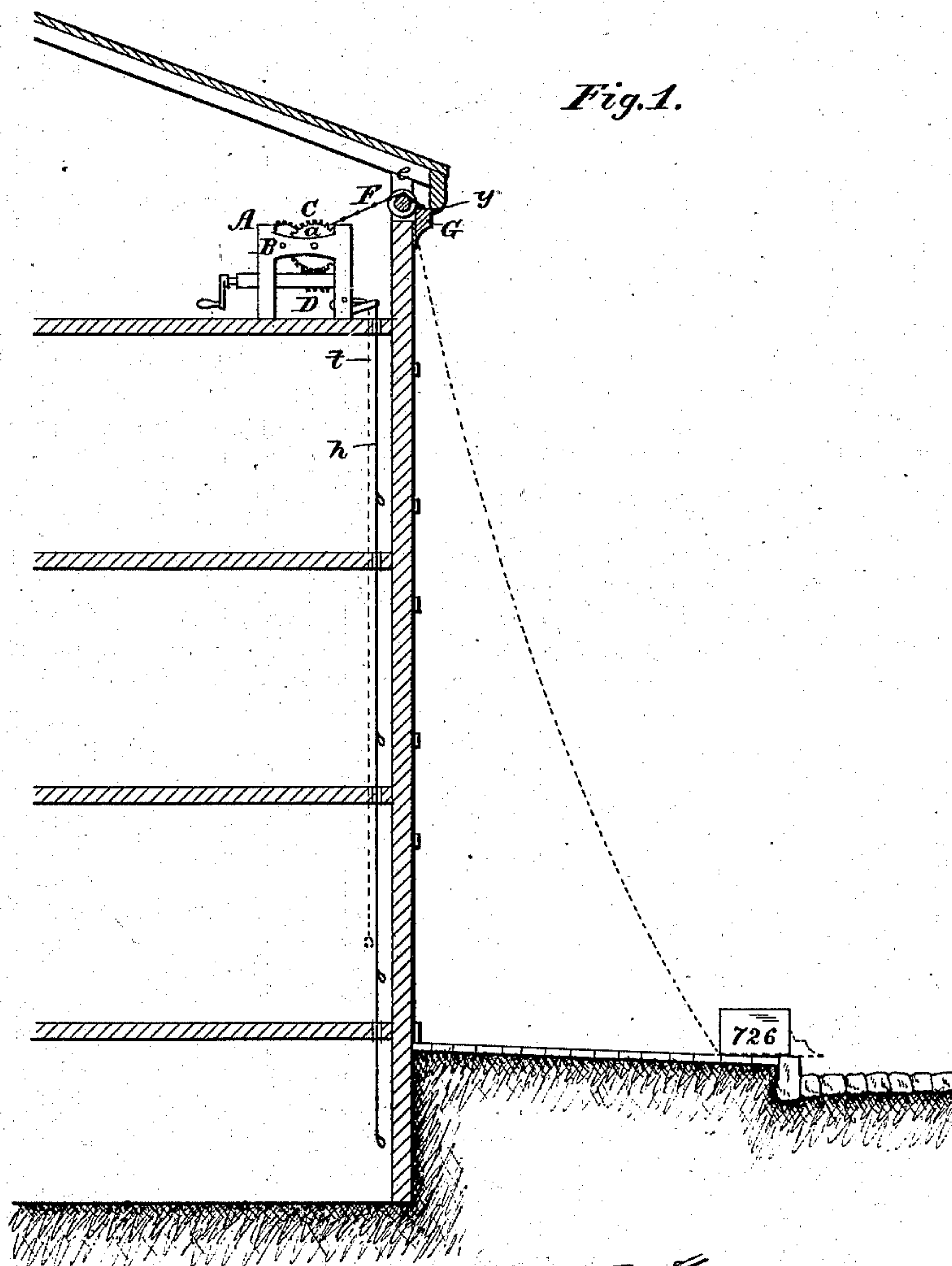
(No Model.)

N. R. BAAR, C. J. & I. R. COE.

FIRE ESCAPE.

No. 293,215.

Patented Feb. 12, 1884.



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# UNITED STATES PATENT OFFICE.

N. ROBERT BAAR, CALVIN J. COE, AND IRA R. COE, OF LOWVILLE, N. Y.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 293,215, dated February 12, 1884.

Application filed May 23, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, N. ROBERT BAAR, CALVIN J. COE, and IRA R. COE, all of Lowville, Lewis county, New York, have invented certain Improvements in Fire-Escapes, of which the following is a specification.

Our invention relates to that class of fire-escapes in which a ladder or rope or other flexible escape appliance is wound upon a reel ready for extension in case of fire; and it consists of means, fully described hereinafter, whereby the ladder may be automatically unwound by manipulations from any of the rooms of a dwelling, whereby the unwinding may be regulated, and whereby, after the ladder is no longer required, it may be readily wound upon the reel.

In the accompanying drawings, Figure 1 is a sectional elevation of a dwelling provided with a fire-escape apparatus illustrating our improvement. Fig. 2 is an enlarged view, in part section, of the reeling apparatus.

The reeling apparatus A consists of a suitable frame, B, a reel, C, turning in bearings therein; and a worm, D, gearing with a toothed wheel, *a*, upon the reel, capable of being carried to and from the latter. This adjustment of the worm may be effected in different ways, as shown. The worm-shaft *b* is mounted in a frame, E, pivoted at *x* to the frame B, and is provided with a handle, *c*, whereby, when the frame E is raised, the worm may be turned to revolve the reel and wind upon it a suitable rope or chain ladder, F, or knotted ropes, or any other flexible escape device. By lowering the frame E the worm is carried away from the reel, which can then rotate freely.

To the end of the ladder F is connected a heavy weight, G, which, when the reel is released, will draw upon the ladder with sufficient force to carry the same over friction-rollers *e* and unwind it from the reel. This weight is preferably fitted to an opening, *y*, in the cornice, and is of such a shape that when in place it will conform to the outline of the cornice, completely filling the said opening.

To prevent the ladder from unreeling too rapidly the reel-shaft is provided with a disk, *d*, (shown in dotted lines, Fig. 2,) against which a shoe, *g*, upon a brake-lever, H, is caused to bear by the action of a spring, *f*.

To enable the occupant of a room to release

the reel whenever the ladder is required, we provide appliances whereby the worm D may be lowered from one or more of the rooms. Such appliances may be electrical or mechanical. As shown, a cord or cable, *h*, extending vertically through the several apartments, or through a partition, so as to be accessible therefrom, serves as a means of drawing down the frame E.

The rope may be attached directly to the frame E, a spring or counter-weight being used to elevate the latter. We prefer, however, to connect the frame to toggle-arms J, a branch, *m*, from one of which extends outward the upper end of the rope *h*, so that upon pulling upon the latter the toggle-arms are brought at an angle to each other, allowing the frame E to fall. When the branch *m* is raised, the toggle-arms are brought with their inner joints slightly back of the center, so as to lock the frame E in its position.

It is advisable to place one of the reel-operating devices above each vertical row of windows, or between two rows of windows, extending the cords or cables *h* through the contiguous vertical series of rooms. It is desirable, however, that all the apparatus should be under the control of the clerk or attendant. We therefore provide a supplemental device, whereby all the worms D may be caused to drop by operating from a single point. As shown, a shaft, *p*, extends adjacent to all the apparatus, and is provided with arms *s*, extending over the branches *m*, and to an arm, *n*, upon said shaft is connected a cord, *t*, which extends to the operator's desk or other point.

The ladder F is made longer than the distance between the reel and the surface of the street, in order that it may be drawn outward and away from the side of the house, so that after a party has taken a position upon the ladder the latter may be carried away from flames or obstructions at a lower point.

It will be seen that the weight G not only serves to automatically unreel the ladder, but is also a means of securing its lower ends fixedly to some object, to insure the degree of steadiness so essential in such cases.

Any weight above the cornice is liable to be caught and the apparatus rendered inoperative. A weight below the cornice is disfigured.



ing. By making an opening in the cornice and fitting the weight thereto both difficulties are avoided. The ladder must extend to the cornice of the building, or parties could not  
5 escape from the roof.

Without limiting ourselves to the precise devices herein set forth, we claim—

1. The combination of the reel, rope ladder, worm D, adapted to a toothed wheel upon the  
10 reel-shaft, frame E, carrying the worm, and appliances for adjusting the frame, substantially as specified.

2. The combination of the worm-frame E, appliances for adjusting the same, operating-  
15 cords extending therefrom to rooms in the building, and a supplemental operating device extending to a point accessible to the clerk or attendant, substantially as described.

3. The combination of the frame B, reel,

pivoted frame E, carrying a worm and shaft, 20 toggle-arms J, and cables h, extending to the different rooms, substantially as specified.

4. The combination, with the series of reeling apparatus A, and appliances for releasing the reel of each apparatus, of a shaft, p, with  
25 arms bearing upon the releasing appliance of each apparatus, and means for operating the said shaft, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of  
30 two subscribing witnesses.

N. ROBERT BAAR.  
CALVIN J. COE.  
IRA R. COE.

Witnesses:

CHARLES M. MOORE,  
JAMES E. BRUCE.