T. L. BENNETT.
Fire-Escape.

No. 203,527. Patented May 14, 1878.

Fig. 2.

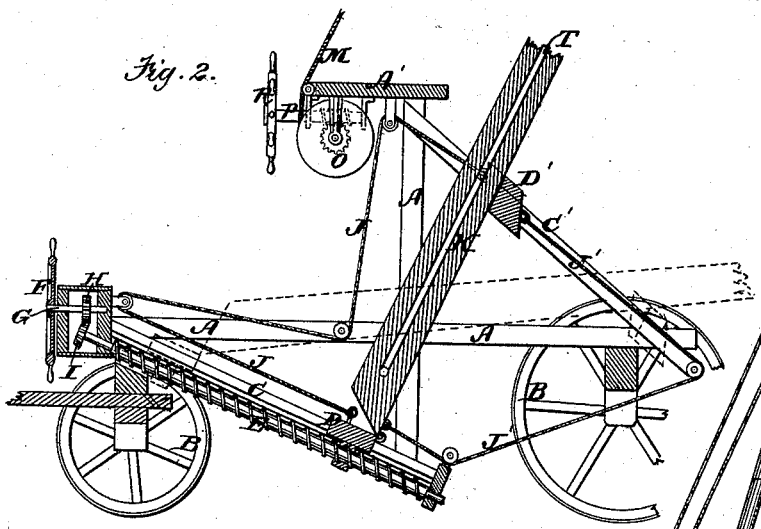
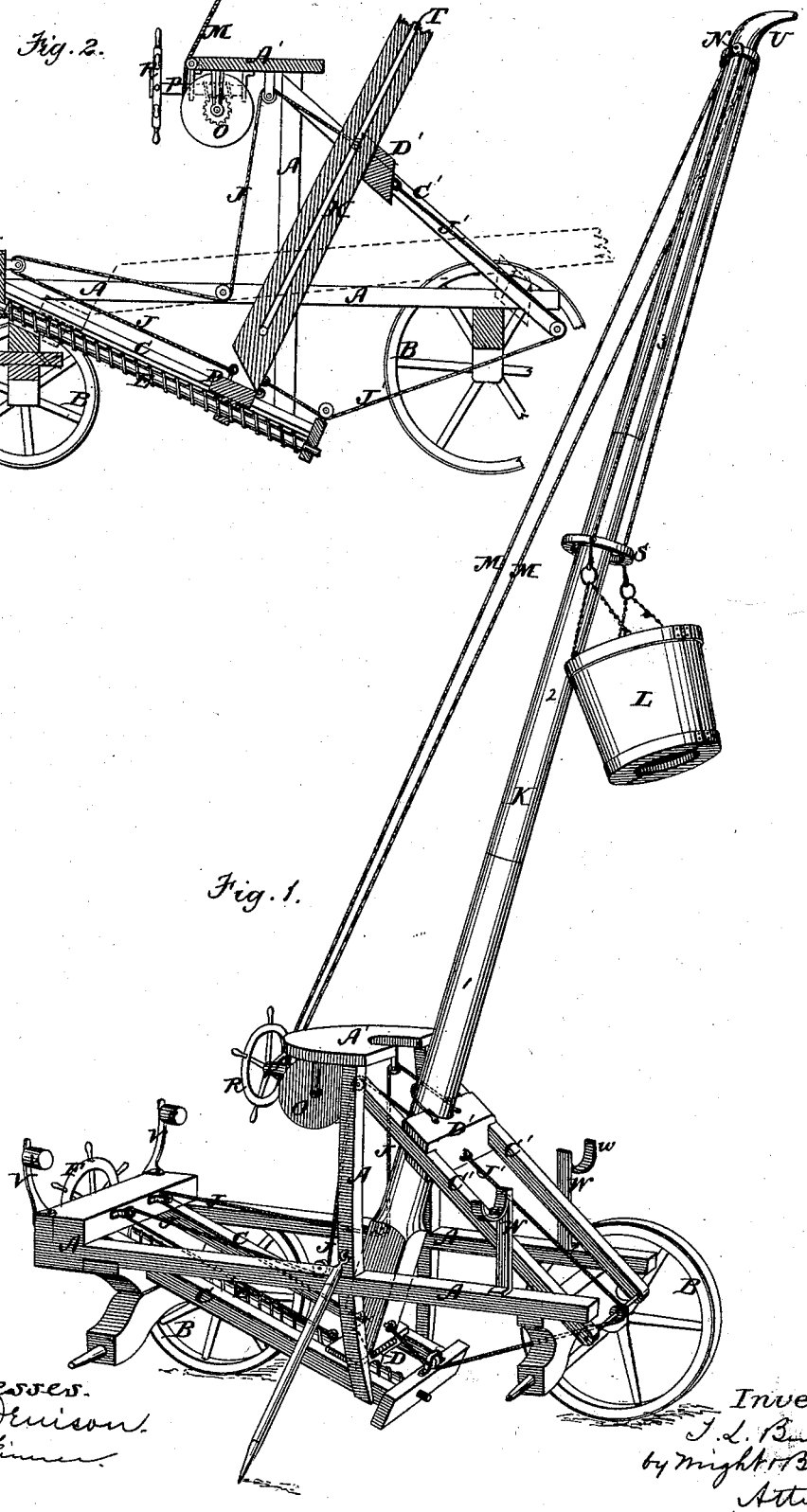


Fig. 1.



Witnesses.
A. G. Dennison.
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UNITED STATES PATENT OFFICE.

TOWNSEND L. BENNETT, OF EAST TEMPLETON, MASSACHUSETTS.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **203,527**, dated May 14, 1878; application filed September 18, 1877.

To all whom it may concern:

Be it known that I, TOWNSEND L. BENNETT, of East Templeton, in the county of Worcester and State of Massachusetts, have invented certain Improvements in Fire-Escapes, of which the following is a specification:

In the accompanying drawings, forming a part of this specification, Figure 1 represents a perspective view of an apparatus embodying my invention, two of the wheels on which it rests being removed to show the parts more clearly. Fig. 2 represents a longitudinal vertical central section of the same.

Similar letters of reference in the different figures refer to like parts.

This invention has for its object to provide a simple and easily-operated apparatus, whereby persons can be lowered with safety from various heights on a burning building.

To these ends my invention consists in the improvements in the construction of fire-escapes which I will now proceed to describe and point out in my claims.

In the drawings, A represents the general frame-work of a truck or vehicle designed for the support and conveyance of the apparatus embodying my invention, and B the wheels thereof. Rigidly attached to the frame-work A are two pairs of guides, C C and C′ C′, these guides being inclined, and constituting ways or tracks for two sliding cross-heads or fulcrums, D D′. The cross-head D is connected with an inclined screw-shaft, E, in such manner that when the latter is revolved it will move the cross-head D up or down on the guides C C, the shaft E being journaled in bearings in the frame A, and rotated by means of a tiller-wheel, F, located on a shaft, G, having a pinion, H, which meshes with a bevel-pinion, I, on the shaft E. The cross-head D is connected to the cross-head D′ by ropes J J J′, said ropes passing over friction-pulleys located at suitable points on the frame A, and being so arranged that when the cross-head D is moved along the guides C by the screw-shaft E the cross-head D′ will be moved in the opposite direction along the guides C′.

K represents the arm, which constitutes the means for lowering persons and for conducting water. This arm is hinged or pivoted at its inner end to the cross-head D, and bears against the cross-head D′ at a point between the cross-head D and its outer end, as shown, the cross-head D′ being preferably provided with a recess, to receive the side of the arm K and steady the same laterally. The arm K is of any desired length, and is made in sections 1 2 3, the outer sections being detachable from each other and from the section 1, any suitable couplings or joints being provided for connecting the sections. The material of the arm K is preferably wood.

It will be seen that by moving the cross-head D upwardly the cross-head D′ will be moved downwardly, and vice versa, the result of these motions of the cross-heads being the vertical swinging of the arm K upon an imaginary pivot located between the cross-heads, the power being therefore applied simultaneously on both sides of such imaginary pivot. Hence the arm can be operated with a small expenditure of power, and can be caused to assume a vertical, horizontal, or any intermediate position, the friction of the mechanism for moving the cross-head D holding the arm in any position it is capable of assuming.

L represents a bucket, which is suspended by ropes M M from the outer end of the arm K, said ropes passing over pulleys N on the arm K, and extending to a drum, O, which is journaled in bearings on an elevated portion of the frame A. The shaft of the drum O is provided with a pinion, which meshes with a screw-shaft, P, which is also journaled on bearings on the frame A, and is provided with a tiller-wheel, R, by the rotation of which the drum O is rotated and caused to wind or unwind the ropes M M, thus raising or lowering the bucket L, as will be readily seen. The ropes M are attached to a hoop or ring, S, near their point of attachment to the bucket, this ring surrounding the arm K and keeping the bucket in close proximity to said arm. I prefer to divide the bucket vertically into two sections, these being hinged together, and the bottom of the bucket being provided with a hole larger than the arm K. The bucket is thus adapted to inclose the arm K and move up and down thereon. This is done when the arm is in a vertical position. The arm K is provided with a water pipe or conduit, T, adapted to convey water from the inner to the outer end of the arm. I prefer to make said

pipe of metal, and incase it in the arm K, as shown in Fig. 2, although it may be attached in any desired manner to the outside of the arm. The pipe T is adapted to be connected at the inner end of the arm with a fire-engine or other water-supply, and is provided at the outer end of the arm with a suitable nozzle.

In the present case I provide the outer end of the arm with a curved nozzle, U, adapted to deflect a stream of water passing through the pipe T, and direct it laterally from the arm toward a building beside which the apparatus is located.

If desired, the pipe T may be flexible, or may have a flexible end, with a suitable nozzle beyond the outer end of the arm K.

From the foregoing description it will be seen that the arm K is adapted to guide the bucket L upwardly and downwardly, and to any height within the length of its radius, and is also adapted to conduct water to various heights, and discharge it in close proximity to the flames, thus acting both as a fire-escape and as an extinguisher.

The bucket can be readily raised and lowered by means of the ropes, the drum, and the devices for rotating the same, said devices also holding the drum at any point, so that there is no danger of the bucket falling when the operator removes his hands from the wheel R. The bucket may be used to elevate firemen to the upper end of the arm, from which point they can direct the stream of water passing through the pipe T in any direction, the pipe having a flexible end.

When the arm K is in a vertical position it is prevented from tipping backward by a platform or stop, A′, on the frame A, said platform being recessed to receive one side of the arm. When the arm K is disjointed the outer sections are placed on supports V W located on the frame A, the supports V having lugs *v*, which enter the ends of the sections, while the supports W have curved arms *w*, on which the opposite ends of the sections rest.

I claim as my invention—

1. The frame A, provided with guides C C′, sliding cross-heads D D′, and means, substantially as described, for moving said cross-heads simultaneously in different directions, combined with the arm K, which is pivoted to the cross-head D, and rests against the cross-head D′, substantially as set forth.

2. The arm K, supported on a portable frame, and arranged to be swung vertically and held at any desired angle, combined with the bucket L, and means, substantially as described, for moving said bucket along the arm K in either direction, and holding it at any desired point, as set forth.

3. The bucket L, made in two sections, hinged together, and adapted to inclose the arm K, as set forth.

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

TOWNSEND L. BENNETT.

Witnesses:

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