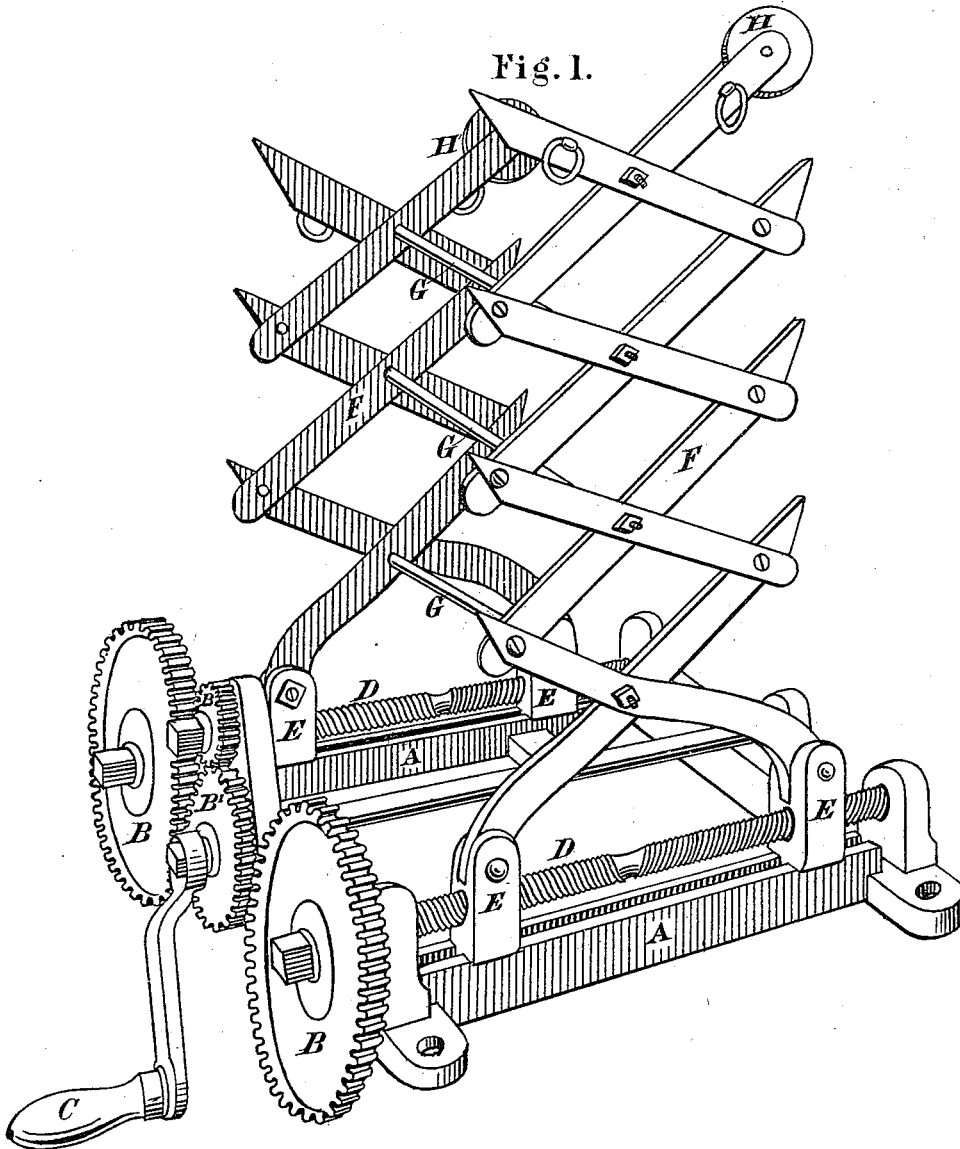


S. KONZ.
Fire-Escape.

No. 167,178.

Patented Aug. 31, 1875.



WITNESSES.

William W Dawson
Frank Pardon

INVENTOR.

Sebastian Konz
By J. B. Hewitt,
attorney

UNITED STATES PATENT OFFICE.

SEBASTIAN KONZ, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF HIS RIGHT TO ALBERT H. STEIN, OF SAME PLACE.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **167,178**, dated August 31, 1875; application filed December 21, 1874.

To all whom it may concern:

Be it known that I, SEBASTIAN KONZ, of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Improvement in Extension-Ladders for the use of Firemen and for other similar purposes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, which is a perspective view, showing the general arrangement of the several parts thereof.

Similar letters of reference indicate corresponding parts of the device.

This my invention relates to extension-ladders for the use of firemen and others, constructed upon the toggle-joint principle, and operated by right and left hand screws arranged in the base-bars of the bed-frame, with motion transmitted to operate them by means of suitable gearing on the outside of the frame, so arranged as to elevate the ladder very quickly, or more slowly, if necessary, but with greater power when required.

The object of this invention is to provide a ladder that will be light, compact, and easily transported, and at the same time be easily and quickly elevated; and it consists in the combination of some of the parts of which it is composed, as will be more fully explained hereinafter.

The invention is illustrated in detail in perspective view in the drawing, in which—

A A is the base-frame of the device, all of which is made of metal, and in form as shown, with lugs at the corners, in order to screw it securely to the frame of the wagon or truck on which it is intended to be transported. B B B¹ B² are gearing-wheels, by means of which motion is given to operate the screws, which wheels are so arranged as to give a slow or rapid motion when necessary in elevating the ladder, which is done by simply changing the crank C from one wheel to the other, the slow motion being sometimes necessary when much weight is to be raised. D D D D are the screws for operating the ladder, which are each provided with a right and left hand

thread, either double or treble, if necessary, to give motion to elevate the ladder more quickly. E E E E are the screw-nuts, which form part of the lower ends of the ladder, and through which the screws are made to work, with the lower ends arranged so as to slide in grooves in the bar of the bed-frame, as shown in the drawing, in order to prevent them from turning with the screws. F F is the ladder, all of which is intended to be made of any suitable material, and in form as shown in the drawing, but may be increased in the same manner to any required length. G G G are the rounds or steps, which will vary in distance apart as the ladder is elevated. H H are rollers, to prevent the points of the ladder from catching in the walls of buildings in elevating it when permitted to rest against them when necessary to fully elevate it, so as to require a support at the top. The inclination of the ladder is caused by making one leg of the ladder slightly longer than the other from the center of the eye in the nut to the first joint above, which will tend to lean it over when fully extended; but by making both legs of the same length, and slightly increasing the length of the bars outside of the joints, so as to overlap each other, the ladder may be elevated in a perpendicular position, and stand firm without supports at the top.

I am well aware that fire-escapes or extension-ladders have been made in form and general structure like mine, and hence I do not desire to claim, broadly, the device herein described; but

Having thus described my invention, what I claim is—

The combination, in a fire-escape or extension-ladder, of the series of gear-wheels B B B¹ B², the right and left hand screws, and a series of bars to be elevated, the wheels being arranged with reference to the screws, as shown and described, whereby a more rapid motion may be given to the screws at one time than at another, or a greater amount of force may be applied at one time than at another, for the purpose set forth.

SEBASTIAN KONZ.

Witnesses:

FRANK PARDON,
WM. W. DAWSON.