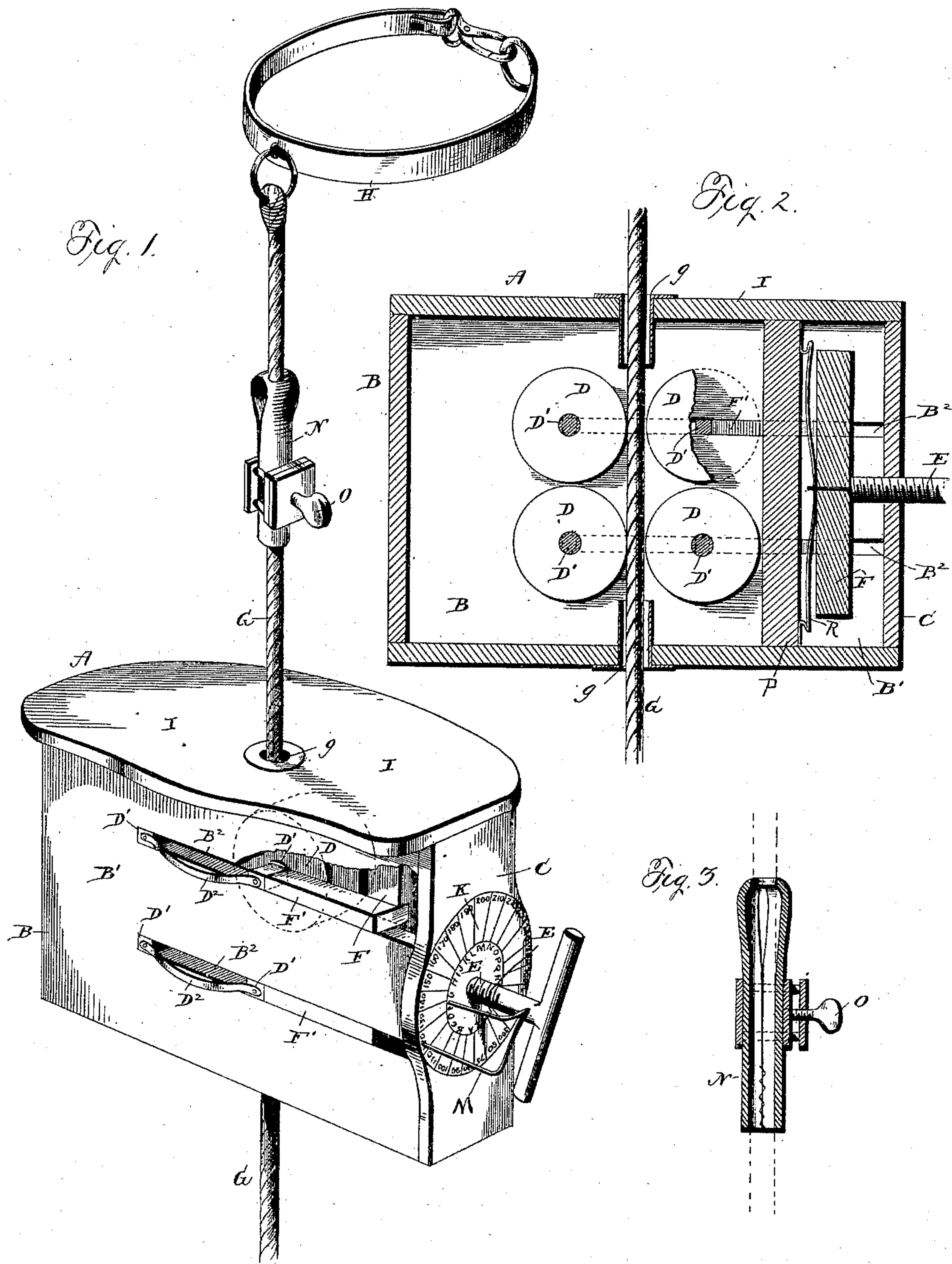


(No Model.)

G. MULLER.
FIRE ESCAPE.

No. 446,001.

Patented Feb. 10, 1891.



Witnesses
Chas. Williamson
Th. L. Swiger

Inventor
Gustave Muller,
by Franklin H. Hong
his attorney

UNITED STATES PATENT OFFICE.

GUSTAVE MULLER, OF MADALIN, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 446,001, dated February 10, 1891.

Application filed November 5, 1890. Serial No. 370,413. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE MULLER, a citizen of the United States, residing at Madalin, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Fire-Escapes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

15 This invention relates to certain new and useful improvements in fire-escapes; and it relates more particularly to that class of fire-escapes in which provision is had whereby an individual may lower himself from the win-
20 dow to the ground, the device being operated by gravity and the speed of the descent being controlled by the operator.

The object of the present invention is to generally improve upon the construction and
25 render more efficient and serviceable in operation this class of appliances.

The invention has for a further and more immediate object to provide, in connection with the device, mechanism for quickly and
30 accurately adjusting the carriage, so as to adapt it to work uniformly in carrying persons of different weights.

To these ends and to such others as the invention may pertain the same consists in the
35 peculiar construction and in the novel combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended
40 claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference
45 indicating the same parts throughout the several views, and in which drawings—

Figure 1 is a perspective view of a fire-escape constructed in accordance with my invention. Fig. 2 is a central vertical longitudinal section through the carriage, the same
50 being shown upon an enlarged scale. Fig. 3

is a sectional view of the hand clamping device.

Reference now being had to the details of the invention by letter of reference, A design- 55
ates the carriage, which consists of a suitable case B, provided within its side walls B' with parallel slits or openings B², which extend from the end C of the case to a point substantially two-thirds of the length of the 60
case. Within these openings B² of the case are placed the rectangular ends of the axles D', and upon these axles are loosely sleeved the rollers D, there being two sets of these rollers, one set having its rollers arranged di- 65
rectly above those of the other set, as shown. It will be observed that the rectangular ends of the axles are fitted loosely within the openings B² in the case, and that the said rollers are thus movable horizontally within the case, 70
the ends of the axles in each set of rollers being connected by means of springs D², said springs serving to force the rollers apart when pressure applied by means of the set-screw E at the end of the case is removed. The set- 75
screw E is passed centrally through an opening formed in the end of the case, and its lower end bears upon the face of the movable block F, which block has attached to its ends the arms F', which bear at their ends against the 80
squared ends of the axles D' of the rollers adjacent to the block, and it will be readily seen that when the set-screw is turned so as to cause the block to be moved inwardly the pressure of the arms against the axles 85
will force the same in the direction of the next adjacent rollers in a horizontal line. A rope or cord G is passed vertically through the openings g, formed in the top and bottom of the case, said cord or rope passing between 90
the rollers, as shown. One end of this rope or cord is provided with a suitable fastening device, as the strap H, whereby it may be secured in any suitable manner within the room or apartment of a building, and when in use 95
the opposite end of the said rope or cord is allowed to fall to the ground. A suitable seat I is provided upon the upper face of the case. The end C of the case is provided with a graduated dial K, and the set-screw E is passed 100
through an opening provided for its reception in the center of said dial. The tension of the

springs D², connecting the roller-axle, as described, should be such with reference to the inclination of the thread of the set-screw, that the set-screw may be at any time readily adjusted so as to cause the rollers to press the rope with such a degree of force as may be necessary to sustain a given weight, said point being indicated by the arms or pointers M, which project from the body of the set-screw directly above the graduated face of the disk.

In order to protect the hands of the operator from contact with the rope, suitable handles N are sleeved upon the rope, and by means of a set-screw O these handles may be caused to bind upon the rope with such a degree of force as may be desired.

The operation of the device is simple and will be readily understood. When it is proposed to use the escape, the operator turns the set-screw at the end of the case until the arms above the dial indicate the point at which the screw should be set in order to cause the carriage to operate with his weight. The rope is then secured within the room, and the free end of the rope is dropped to the ground. The operator then seats himself upon the carriage and grasps the handles upon the rope. Should he find that the carriage moves a little too rapidly, or should he desire to descend with greater speed, he can by simply turning the set-screws upon the movable handles regulate in a measure the speed of descent, though, if he has carefully adjusted the carriage by means of the set-screw at the end of the same, it will rarely be found necessary to use the screws upon the handles.

In cases in which it may be desired to provide a positively-acting brake which will act directly upon the faces of the rollers and will lock the same against rotation, a traveling block P is interposed between the block F and the rollers D, and a spring R is placed between the blocks, as shown in Fig. 2 of the drawings. It will be seen that when the

screw E is forced inward the spring R will be compressed, and if the pressure upon the block F is continued the block P will be forced directly against the face of the rollers, thus serving as a brake.

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

1. In a fire-escape apparatus, the combination of the rope, the case having horizontal rollers in sets journaled therein and having openings whereby the rope may be passed vertically through the case and between the rollers, yielding connections between the rollers of each set, and means, substantially as described, whereby the rope may be compressed between the rollers, substantially as and for the purpose specified.

2. The combination of the case having horizontal slots, the axles movable within the slots and carrying rollers, spring connections between the axles, a block-carrying arms adapted to bear against the axles, the set-screw in the end of the case, adapted to bear against the block, the dial upon the end of the case, graduated as described, and the indicating-pointer carried by the set-screw above the face of the dial, substantially as and for the purpose described.

3. The combination of the slotted case, the rollers mounted upon axles movable within the slots, the block F, the arms F', carried by the said block and adapted to bear against the axles within the slots in the case, the brake-block P, and the spring R, interposed between the said block and the block F, substantially as described, and for the purpose specified.

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

GUSTAVE MULLER.

Witnesses:

JOHN F. SILVER.

JOHN KING.