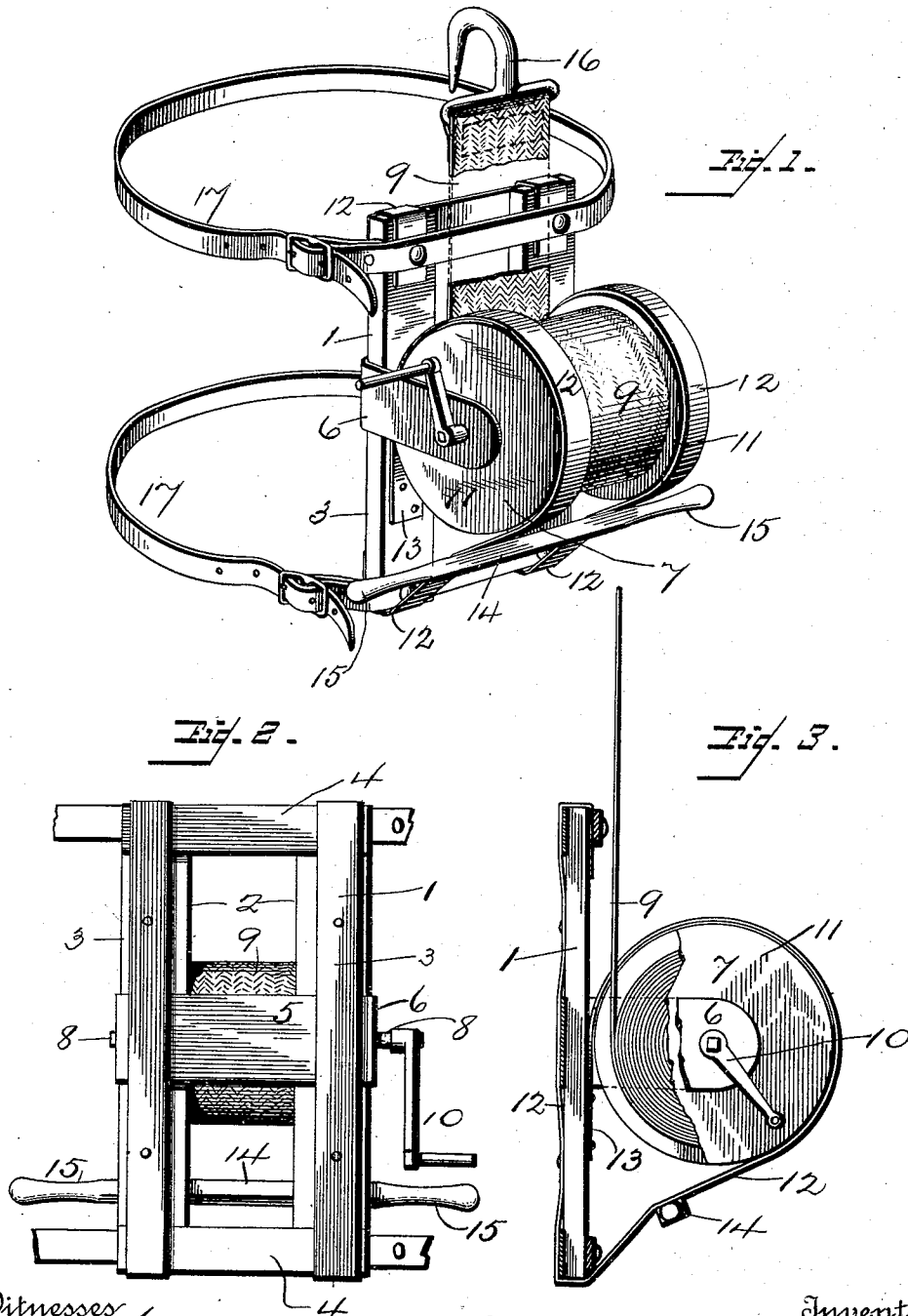


(No Model.)

J. MURPHY & F. M. RANKIN.
FIRE ESCAPE.

No. 484,042.

Patented Oct. 11, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH MURPHY AND FRANCIS M. RANKIN, OF COVINGTON, OHIO.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 484,042, dated October 11, 1892.

Application filed April 23, 1892. Serial No. 430,378. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH MURPHY and FRANCIS M. RANKIN, citizens of the United States, residing at Covington, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Fire-Escapes; and we do hereby 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 appertains to make and use the same.

This invention relates, as hereinafter described and claimed, to improvements in portable frictional fire-escapes adapted to be attached to the body of the user.

In the accompanying drawings, Figure 1 represents a perspective view of our improved fire-escape; Fig. 2, a rear elevation thereof; Fig. 3, a side elevation partly broken away.

Our improved fire-escape is designed to be strapped to the breast of the user, and consists of a light yet strong frame 1, which may either be constructed entirely of sheet metal of the minimum lightness consistent with ease of portability and use without fatigue, or, as represented in the drawings, partly of wood and partly of light sheet metal—as, for instance, thin sheet brass or steel. This frame 1 consists of a breast-plate 2, formed of two vertical strips 3, which may be of wood, stayed or braced at top and bottom by metal cross-pieces or strips 4, and at the center by a metal strip 5, whose ends 6 extend forwardly at right angles to serve as bearings, within which the spool or reel 7 is journaled. The journal or shaft 8 of the spool or reel 7, around which is coiled the lowering-band 9 of either textile fabric, as webbing, leather, rope, a strip of metal, or other analogous material, and by which the user is supported and may descend, projects at one end a sufficient distance outward beyond the adjacent end 6 of the strip 5 to admit of the attachment thereto of a crank 10, by means of which the reel 7 may be rotated to rewind the descending-band upon the reel.

The reel 7 has at each end a friction disk or wheel 11, partly around which extends, as shown, a yielding metal strap or band 12, secured at each end 13 to the breast-plate or frame. These straps or bands 12 serve as brakes whereby by the frictional and grip-

ping contact thereof with the disks or wheels 11 the rotation of the reel may either be regulated or entirely prevented, according to requirement. These straps or bands 12 are arranged to rest loosely upon the, for the time being, upper and front portions of the circumference of the friction-disks 11 and at their lower ends extend unimpeded from the front of said disks to the breast-plate. To the lower portion of said bands 12 is secured a cross-piece 14, having hand-grasps 15 at its ends. On the user exerting an inward pressure upon the said handle 14 15 the lower portions of said bands 12 will be drawn inward and said bands brought into frictionally-gripping contact with the friction-disks 11 on the spool, with the result of either retarding or entirely stopping the revolution of said spool, depending upon the degree of pressure exerted upon said bands, and consequently correspondingly regulating the paying out of the lowering-band.

16 represents a hook or clasp secured to the free end of the lowering-band 9, by which the same may be secured to a window-frame or other suitable object when the escape is to be used.

17 represents straps secured to the upper and lower portions of the frame or breast-plate and provided with holes and buckles or other connecting means whereby said straps may be passed around and secured to the user to strap the escape to his breast.

In use the escape is strapped to the body of the person desiring to descend a building with the breast-plate against his breast and the reel extending outwardly therefrom. The hook or clasp 16 is then secured to some suitable object. The user then grasps the handle and frame with his thumbs under the bottom of said frame and his fingers resting on the hand-grasps. He then swings himself out of the window. Then by regulating the degree of pressure exerted by him upon the hand-grasps the degree of frictional contact between the friction-bands 12 and the friction-disks 11 will be correspondingly regulated, and he can thereby at any moment either entirely stop the rotation of the spool or reel or regulate the speed of its rotation. In this simple manner the user can readily and easily stop in his descent at any story of

a building and allow of others desiring to descend clinging to him. In actual practice it has been found that several persons can by grasping the person to whom the escape is attached safely and expeditiously descend from considerable heights at different degrees of speed and without difficulty, danger, or fatigue stop at different portions of the descent.

The practicability of an escape constructed according to the invention herein set forth has been successfully demonstrated. Such an escape can be readily constructed at trifling cost and is always ready for immediate use, there being no expensive or complicated parts to get out of order by either use or dis-

use.

What we claim as our invention is—

1. A fire-escape consisting of a breast-plate having outwardly-extending reel-bearing strips, straps secured at the top and bottom, respectively, of said breast-plate and adapted to pass around the body of the user and secure said breast-plate thereto; a reel having journal-bearings within said bearing-strips, disks mounted on the respective ends of said reel, friction-bands secured at their respective ends to said breast-plate and extending over said disks, a hand-grasp extending transversely across and secured to said friction-bands, and a supporting-band, all substantially as and for the purpose set forth.

2. A fire-escape consisting of a breast-plate, straps secured thereto and adapted to pass around and secure said breast-plate to the body of the user, journal-bearings extending

forwardly from said breast-plate, a reel having friction-disks on its ends, friction-bands secured at their upper ends to said breast-plate and thence passing over and around the upper and front portions of said disks and thence across the space intervening between the reel and the bottom of the breast-plate, whereby flexibility of movement is permitted said bands at that point, a hand-grasp extending transversely across and secured to said friction-bands at their flexible portion, and a supporting-band, substantially as and for the purpose set forth.

3. The fire-escape herein described, consisting of a frame or breast-plate, attaching-straps secured to said frame, journal-bearings extending forwardly from said frame, a band-carrying reel journaled in said bearings, a crank secured to the reel-journal, friction-disks on the respective ends of said reel, brake-bands secured at their respective ends to said frame and embracing said friction-disks, and a hand-grasp secured to said brake-bands for the purpose of regulating the frictional contact between said disks and brake-bands, substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH MURPHY.
FRANCIS M. RANKIN.

Witnesses:

WM. FRESHOUR,
S. C. SISSON.