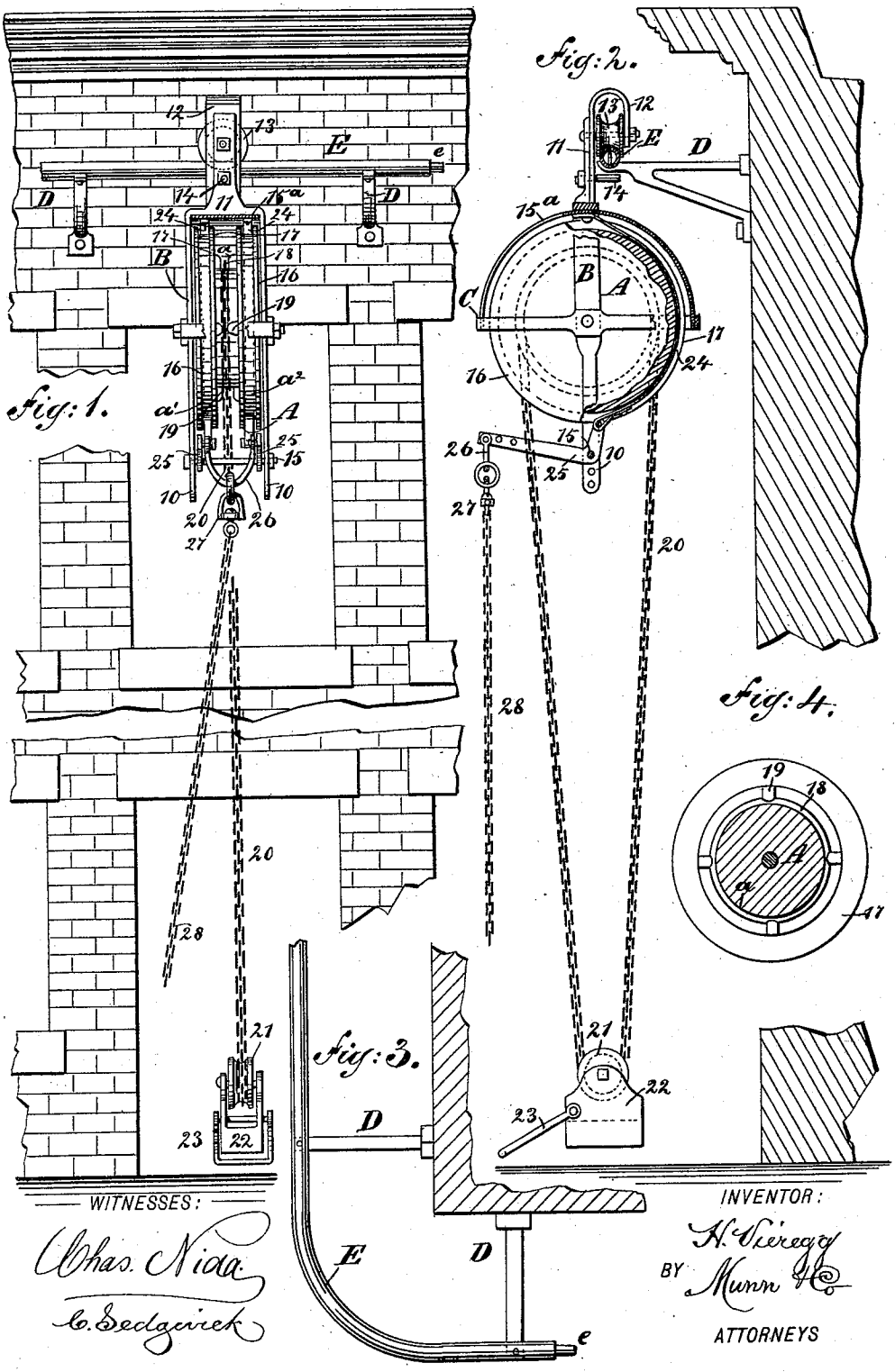
(No Model.)

H. VIEREGG.

FIRE ESCAPE.

No. 456,388. Patented July 21, 1891.



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UNITED STATES PATENT OFFICE.

HENRY VIEREGG, OF GRAND ISLAND, NEBRASKA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 456,388, dated July 21, 1891.

Application filed March 13, 1891. Serial No. 384,904. (No model.)

To all whom it may concern:

Be it known that I, HENRY VIEREGG, of Grand Island, in the county of Hall and State of Nebraska, have invented a new and useful Improvement in Fire-Escapes, of which the following is a full, clear, and exact description.

My invention relates to an improvement in fire-escapes, and especially to an improvement upon the escape for which I secured Letters Patent of the United States No. 450,899, dated April 21, 1891; and the object of the invention is to provide a device capable of being expeditiously manipulated and so constructed that persons may be lowered in safety from high buildings to the ground.

The invention consists in a novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters and figures of reference indicate corresponding parts in all the views.

Figure 1 is a partial front elevation of a building illustrating the application thereto of the improved escape. Fig. 2 is a side elevation, partly in section. Fig. 3 is a horizonal section through the building beneath the cornice, looking down; and Fig. 4 is a central vertical section through the drum of the escape.

The body of the escape consists of a drum A, which is mounted to turn in a frame B. The frame consists, preferably, of two side members 10, which are united at their upper ends over the drum and carried upward in the form of a single member 11. A hook or loop extension 12 is formed integral with or attached to the member 11, and within the hook or loop a peripherally-grooved pulley 13 is pivoted, and immediately below the pulley a pin 14 is projected from the single member of the frame, for a purpose to be hereinafter described. The lower ends of the sides 10 of the frame are united by a bar 15, and to the frame B a guide-frame C is horizontally secured, the said frame being essentially rectangular, and the journal of the drum is located at the intersection of the guide-frame C with the side pieces of the main frame.

The drum A is provided with marginal peripheral flanges 16 and two spaced central flanges 17, preferably of equal height, and between the inner flanges the drum is of much less diameter than between the inner and the marginal flanges, whereby the drum is divided into a central section a and outer sections a' and a^2. In the surface of the smaller central section a an annular channel 18 is formed, and at predetermined intervals oppositely-aligning cleats or studs 19 are produced upon the opposite faces of the central flanges 17. An endless chain 20 is passed over the central section a of the drum, and every other link of the chain enters the channel 18, and sundry of the horizontally-disposed links engage with the cleats or studs 19, which serve to prevent the chain from slipping upon the drum. The endless chain 20 is adapted to reach nearly to the ground and passes over a vertical pulley 21, journaled in a heavy block 22, provided with an attached handle 23, the object of this device being to enable parties upon the pavement or ground to draw the chain outward, and thus prevent those descending from being brought in contact with the window-sills or other projections upon the face of the building, and if the house is constructed with an area to carry the chain beyond the same. The descending party may simply grip the chain, or the person may be provided with any approved form of harness, which, when employed, is hooked to the links of the chain. The block 22, being heavy, serves to hold the chain steady and enable an operator upon the sidewalk to readily control the direction of the descent.

In connection with the drum brakes are employed. These brakes consist of straps 24, ordinarily of strong metal, which are secured at one of their ends to a cover 15^a, attached to a frame C or the upper portion of the main frame B. The straps are adapted to engage with the larger sections a' and a^2 of the drum between the inner and marginal flanges thereof, and the lower ends of the straps are connected with the inner extremities of levers 25, preferably of an angular type, said levers being fulcrumed upon the rod 15. The outer sections of the levers are ordinarily connected by an adjustable bail 26, provided with a ring or its equivalent, and the ring is connected with a

swivel 27, and to the swivel the upper end of a chain or cable 28 is firmly secured. By means of this chain the brakes may be applied by a descending party or one upon the sidewalk, the application being made by forcing the straps to a frictional contact more or less positive with the side peripheral sections of the drum.

Brackets D are horizontally secured to the building near the cornice, but below the same, which brackets are practically V-shaped and are secured to the building in any approved manner through the medium of their members. Upon the outer or reduced ends of the brackets D, which are concaved, a track E is bolted or otherwise secured, the said track being preferably circular in cross-section, tubular, and made up of a series of sections. The track is adapted to extend around the building, ordinarily around three sides if located upon a corner, or across the front only if the house be one of the intermediate houses of a row, for instance. The sections of the track are usually connected by placing a stud or dowel-pin *e* in one section, adapted to enter a socket in an opposing section.

The grooved pulley 13 of the body-frame travels upon the track E of the escape and is prevented from leaving the track by the pin 14, which extends immediately beneath the latter, and the groove of the pulley 13 is made sufficiently deep to enable the side flanges to extend downward essentially to an engagement with the tops of the brackets, as illustrated in Fig. 2.

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

1. In a fire-escape, the combination, with a frame adapted to be suspended from a building, a drum journaled in said frame, provided with three separated peripheral surfaces, and an endless chain passed over the central surface, of levers pivoted in the frame beneath the drum, strap-brakes attached to the frame, adapted for engagement with the drum and attached to said levers, and means for manipulating the levers, substantially as shown and described.

2. In a fire-escape, the combination, with a frame adapted to be suspended from a building and a drum held to revolve in said frame, provided with three independent peripheral surfaces, the central surface whereof is of the least diameter and is provided with a central annular channel and oppositely-opposed stops or lugs, of angle-levers pivoted in the frame beneath the drum, strap-brakes having one of their ends secured to the frame, which straps are passed over the outer sections of the drum, their opposite ends being secured to the vertical members of the levers, an endless chain passed over the central drum-surface, and a tension device attached to said chain, as and for the purpose specified.

3. In a fire-escape, the combination, with a track adapted to be secured to and project outward from the face of a building, a frame provided with a friction-roller adapted to travel upon the track, and a drum journaled in said frame, having three independent peripheral surfaces, the central one whereof is provided with a central annular channel and opposed side lugs or stops, of an endless chain held to travel over the central surface of the drum, levers journaled in said frame, and brake-straps attached to the levers and passed over the outer peripheral surfaces of the drum, substantially as and for the purposes specified.

4. In a fire-escape, the combination, with a track adapted to be attached to and project from the face of the building, a frame provided with a friction-pulley adapted to travel upon the track, a pin located in the frame and extending beneath the track, and a drum journaled in the frame, provided with three independent peripheral surfaces, the central one whereof has an annular groove produced therein and is provided with diametrically-aligning stops or lugs, of an endless chain held to travel over the central surface of the drum and over a lower weighted friction-pulley provided with a handle, angular levers pivoted in the frame beneath the drum, and brake-straps secured at one end to the frame, passed over the outer peripheral surfaces of the drum, and having their opposite ends attached to the vertical members of the levers, as and for the purpose specified.

HENRY VIEREGG.

Witnesses:
H. C. HELD,
W. H. THOMPSON.