

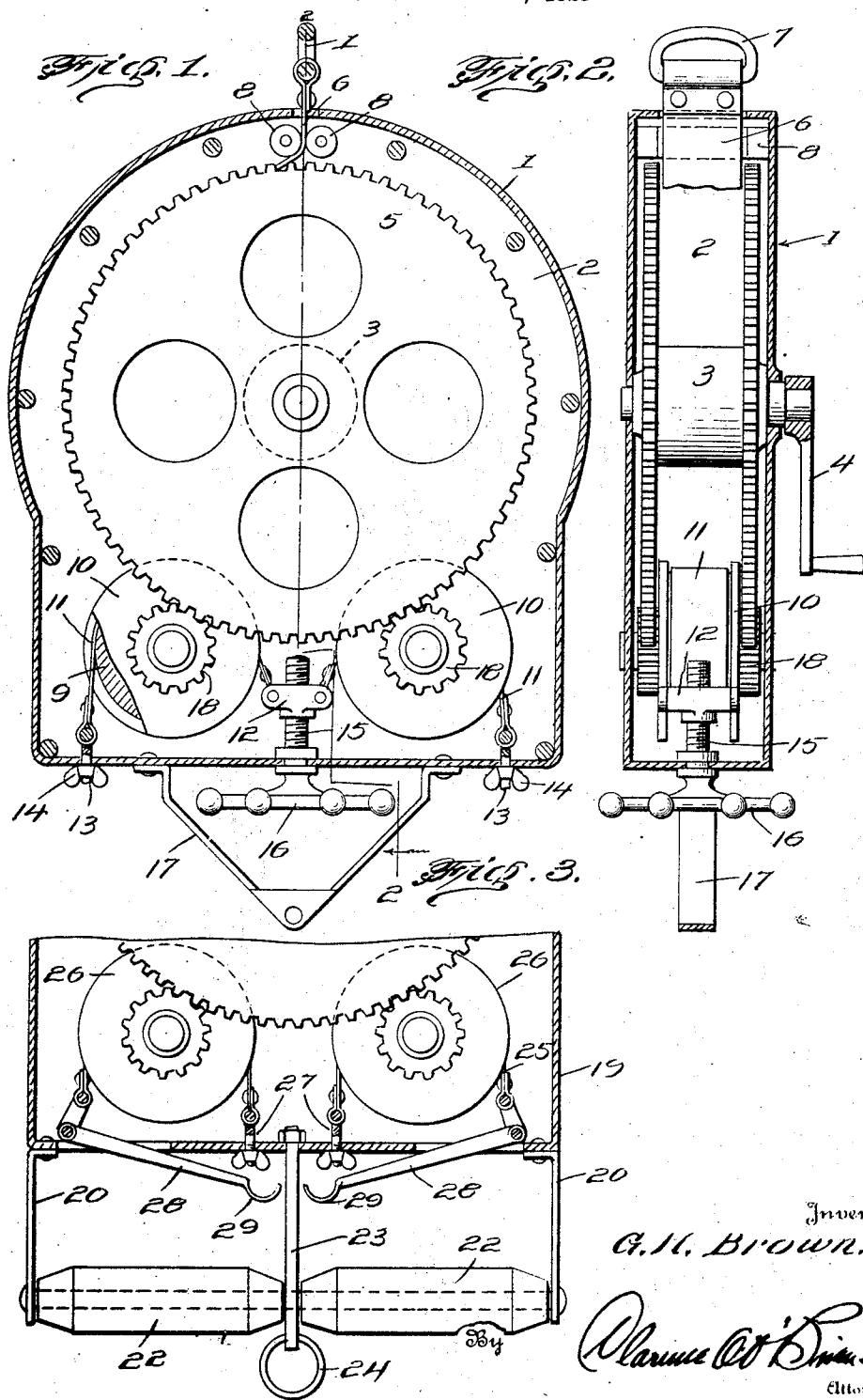
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G. H. BROWN

FIRE ESCAPE

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UNITED STATES PATENT OFFICE.

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FIRE ESCAPE.

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To all whom it may concern:

Be it known that I, GEORGE H. BROWN, a citizen of the United States, residing at Fort Bayard, in the county of Grant and State of New Mexico, have invented certain new and useful Improvements in Fire Escapes, of which the following is a specification.

This invention relates to an improved fire escape of the type employed for enabling persons to escape from burning buildings.

The invention has particular reference to a device of this class which is adapted to be suspended from a window or other relatively stationary part, the structure embodying a drum, upon which a flexible element is wound and adapted to be unwound slowly while the device descends toward the ground.

A particular advantage is derived from the use of a belt or the like, which is wound upon a relatively wide drum, this drum being provided with gears and these gears being mesh with pinions on a pair of brakes under the control of the individual using the device, whereby to permit the drum to be rotated freely or its rotation retarded, to govern the speed of descent.

The particular details employed for carrying the invention into effect will become clear, after carefully considering the following description in connection with the accompanying drawing.

In the accompanying drawing, forming a part of this application, and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a side view, in elevation and section, showing a fire escape constructed in accordance with the present invention.

Figure 2 is a central vertical section, taken approximately upon the plane of the line 2-2 of Figure 1, with one of the brake bands removed, and with certain parts shown in elevation.

Figure 3 is a detail sectional and elevational view, showing a slightly different embodiment of the invention.

Attention is first confined to Figures 1 and 2, wherein it will be seen that the reference character 1 designates, as a whole, a casing of appropriate configuration. In the present showing, the greater portion of the top of the casing is of substantially discular formation, while the bottom portion is substantially rectangular. Mounted for rotation in the casing is a rotor 2, including a central

hub 3, having journals mounted for rotation in opposed faces of the casing, and one journal being extended to accommodate a hand crank 4. The rotor also embodies discular side plates 5 having toothed peripheries converting them into gears. If desired, the plates may be provided with an appropriate number of holes to reduce the weight considerably. As seen from the drawing, a belt or its equivalent 6, has its upper end extending through a slot, in the top of the casing, the opposite end thereof being adapted to be wound upon the hub 3. An anchoring ring or the like 7 is attached to the free end of the belt and is intended, in practice, to be anchored upon a relatively stationary part of the building. It will be noted, particular from Figure 1, that the upper portion of the belt passes between guide rollers 8 mounted for rotation in any desirable fashion. It will be noted also from Figure 1 that the rotor occupies the major portion of the casing, but that two relatively small brake drums 9 are mounted for rotation in the lower portion of the casing between the bottom and lower part of the rotor. These drums are provided with confining flanges 10 for the brake band 11. It will be noted, also, that the inner adjacent ends of the two brake bands 11 are attached to a nut 12, while the opposite outer ends are fastened to eyebolts 13. Thumb nuts 14 are threaded upon the screw threaded shanks of the bolts 13 to provide adjusting and anchoring means for these ends of the band. The nut 12 co-operates with a swivelled bolt 15, with which a hand wheel 16 is associated. This hand wheel is located in a hanger frame or yoke 17, fastened to the bottom of the casing. It is yet to be observed that the shafts of the brake drums carry small pinions 18 meshing with the gears 5. It is obvious from this construction that the brake band 11 may be partially adjusted to increase friction through the means of thumb nuts and bolts 13 and 14. A further adjustment may be made by a rotation of the hand wheel 16. This hand wheel may be operated during the descent of the device.

In practice, the ring 7 is secured upon a window sill or the like, and the user attaches himself to the casing, through the means of a saddle, harness or the like (not shown), which is intended to be connected to the yoke 17. Under the action of the weight of the person, the device will descend slowly to-

ward the ground, and its speed may be controlled through the means of the brake band and drum provided.

Directing attention now to Figure 3, it will be seen that the reference character 19 designates a casing, the bottom of which has brackets 20 secured thereto. A bolt 21 passes through the lower end bracket and hand grips 22 are carried by this bolt. In addition, a plate 23 is interposed between and connected to the bottom of the casing and the intermediate portion of the bolt 21, this plate carrying a ring 24, with which a saddle (not shown) may be connected. This form of the invention is adapted to permit the person to grasp the hand grip and to hang from the device, while it is descending. In this form of the invention, the brake bands 25, which are trained over the drums 26 are controlled in a different way. As shown, adjustable eye bolts 27 are associated with the inner ends of the band, while finger operated levers 28 having finger grips 29 are connected with the opposite ends of the band for tightening the same. The method of operation of this embodiment of the invention is substantially the same as that already described.

It is thought that the foregoing description, taken in connection with the accompanying drawing will enable persons familiar with devices of this class to obtain a clear understanding of the invention. Therefore, a more lengthy description is thought unnecessary.

Although the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the filed of invention claimed may be resorted to, if desired.

I claim:

1. A fire escape of the class described comprising, in combination, a casing, a rotor mounted for rotation in the casing, said rotor embodying a gear, a pair of oppositely disposed brake drums mounted for rotation in the casing beneath said rotor, said brake drums being provided with pinions in mesh with said gear, a belt wound upon said rotor and adapted to have its free end connected with a relatively stationary part of a supporting structure, brake bands adjustably connected at one end with said casing, and variable means under the control of the user for regulating the tension of the brake bands simultaneously upon said brake drums during the period of descent.

2. A fire escape of the class described comprising, in combination, a casing, a rotor mounted for rotation in the casing, said rotor embodying a gear, a pair of oppositely disposed brake drums mounted for rotation in the casing beneath said rotor, said brake drums being provided with pinions in mesh with said gear, a belt wound upon said rotor and adapted to have its free end connected with a relatively stationary part of a supporting structure, brake bands adjustably connected at one end with said casing, and variable means under the control of the user for regulating the tension of the brake bands simultaneously upon said brake drums during the period of descent, said means comprising a pair of pivotally mounted levers having finger pieces at their inner ends, said finger pieces being arranged in close proximity to permit them to be conveniently grasped by the operator.

In testimony whereof I affix my signature.
GEORGE H. BROWN.