S. FINE.

FIRE ESCAPE.

APPLICATION FILED OCT. 28, 1911.

1,035,176.

Patented Aug. 13, 1912.

Fig 1

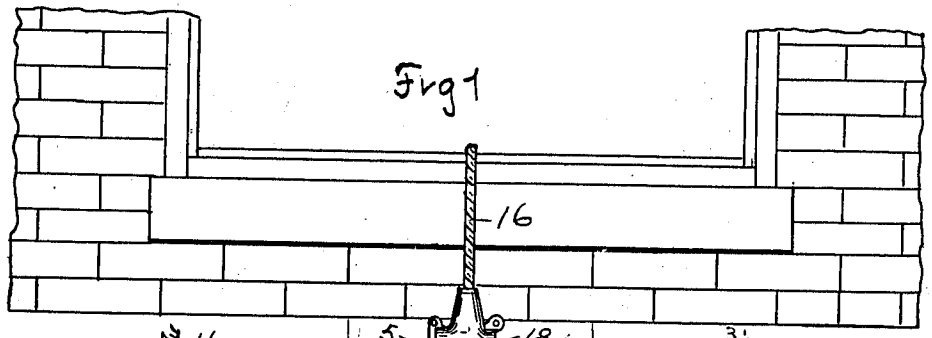
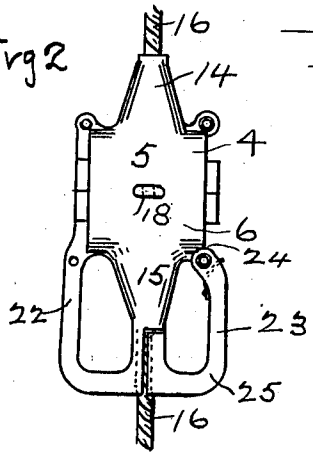


Fig 2



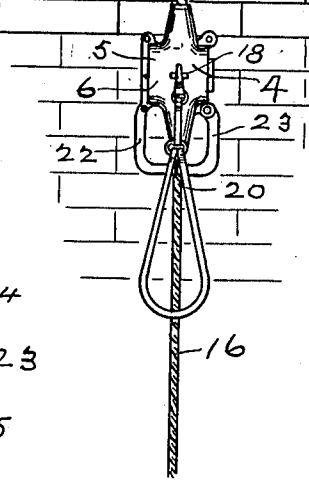


Fig 3

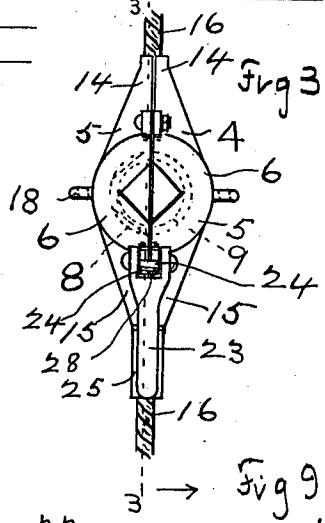
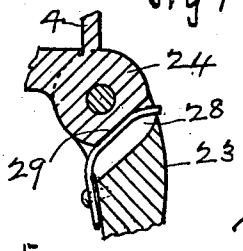


Fig 7



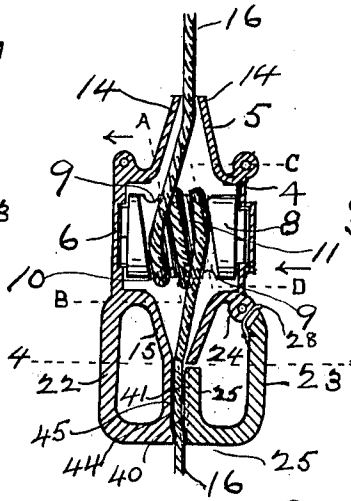


Fig 9

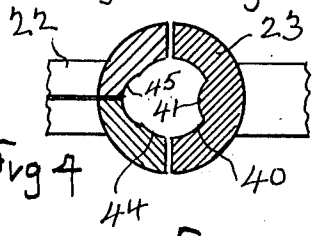


Fig 4

Fig 5

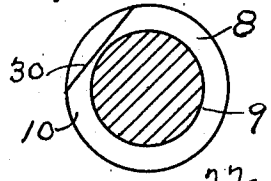


Fig 6

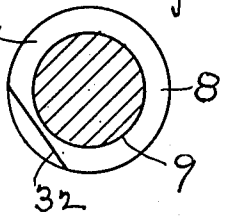
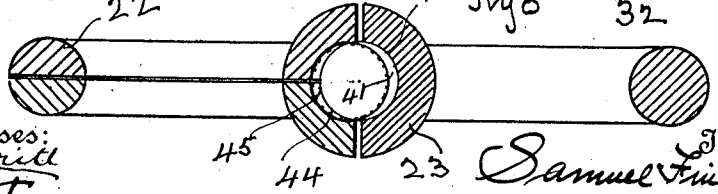


Fig 8



Witnesses:
F. Barrett
Ben Goetz.

Inventor
Samuel Fine.

UNITED STATES PATENT OFFICE.

SAMUEL FINE, OF NEW YORK, N. Y.

FIRE-ESCAPE.

1,035,176. Specification of Letters Patent. Patented Aug. 13, 1912.

Application filed October 28, 1911. Serial No. 657,254.

To all whom it may concern:

Be it known that I, SAMUEL FINE, citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to fire escapes, and it has for its objects to produce a fire escape which is simple in construction, easily adjusted, ready for use, safe in descending, and easily and readily controlled.

My invention consists in a specially constructed grooved drum or roller, and special means for controlling the descent of the fire escape.

Referring to the drawings: Figure 1 is a front view of my fire escape illustrating its use outside a window. Fig. 2 is an enlarged front view of the fire escape. Fig. 3 is an end view of Fig. 2. Fig. 4 is a sectional view on line 3—3 Fig. 3 looking in the direction of the arrow. Fig. 5 is a sectional view of the grooved drum or roller looking in the direction of arrow on line A. B Fig. 4. Fig. 6 is another sectional view of the drum or roller on line C. D Fig. 4. Fig. 7 is a fragmentary sectional view of the hinge. Fig. 8 is a plan sectional view on line 4—4 Fig. 4. Fig. 9 is a similar view to Fig. 8 showing modification of rib.

4 represents the fire escape, comprising the divided casing 5 suitably held together by bolts and nuts or by any other means. The halves of the casing are hollow (see Figs. 4 and 8). The cylindrical portion 6, of the casing 5, supports the stationary drum or roller 8, having its face cut with spiral grooves 9 separated by partition flanges 10 and 11. From the cylindrical portion 6, the casing at each end is contracted (see 14 and 15) and also made hollow. It is also provided with end holes for the passage of the rope 16. Each side of the casing—the cylindrical portion thereof—is provided with an integral lug 18 having a hole for the insertion of a hook, attached to the holding-strap 20 see Fig. 1.

22 is a handle integral with the casing and also divided like the casing. Opposite the handle, 22, is a pivoted presser handle or brake 23, pivoted on a lug 24, (also divided) of the casing. The lower portion 25 of the handle 23 is shaped so as to press against the rope 16 (see Fig. 4). To keep the pivoted handle always against the rope I use the spring 28 secured to the handle 23 and its free end acting against the straight surface 29 of the lug 24 (see Figs. 4 and 7).

The interior wall 40 of the hole in the presser-handle or brake 23 is provided with an inwardly projecting rib 41 either occupying the whole orifice (see Fig. 8) or a part of same—see Fig. 9. Directly opposite the rib 41 is formed in the wall 44 of the casing orifice (see Figs. 4–8 and 9) a corresponding cavity 45. Now when the handle 23 is forcibly pressed against the rope 16 the same will be bent or crimped in passing between the casing and hand-brake 23 (see Fig. 4) thus increasing the friction on the rope, and greatly checking the fall of the fire escape.

To use my fire escape first attach the rope 16 to any convenient place near the window. Then adjust the holding strap 20 to the body, and pass out the window holding fast to the handles 22 and 23. The rope 16 being looped or coiled around the drum 18 (see Fig. 4) will offer sufficient friction to the descent of the fire escape 5, by reason of the rope being directed off of a straight line in entering and leaving the nose of the casing and the pivoted handle pressing automatically on the rope will also add to the friction. But should these causes be insufficient then the user can by his hand bring additional pressure on the rope by pressing inward the pivoted handle 23 which will, as before stated, further crimp or bend the rope by reason of the heretofore mentioned rib 41 on said handle. Should the fire escape be hindered in descending by the handle 23 the user has only to release the pressure of said handle on the rope. In any case the user has perfect control of his descent.

To prevent the rope 16 in entering and leaving the grooves of the drum or roller, from interfering with the coiled portions of the rope, I have cut away at 30 the flanges 10 and at 32 the flange 11 of the grooves (see Figs. 3, 4, 5 and 6).

I do not confine myself to the number of grooves on the drum, as shown, as in some cases more or less number may be used without altering the principle of this invention.

What I claim is:

1. In a fire escape, and in combination, a hollow divided casing, with upwardly extended conical central portion, and a downwardly extending central conical portion, serving as a stationary handle a horizontal

drum, supported fixedly within said divided casing, said drum provided with spiral grooves having flanges, said flanges on one side cut away or reduced in height a rope, said rope adapted to enter the conical central portion of the said casing in passing into the same, said rope adapted to encircle the spiral grooves of said drum, said rope adapted to pass out of said casing through the conical downward portion of the same, said rope adapted to pass over the said cut away portions of the flanges of said drum in order that the said rope may be directed centrally in entering and leaving the said casing, means for uniting the said divided casing.

2. In a fire escape, and in combination a hollow divided casing means for uniting said casing, each half of said casing provided with a hollow centrally and upwardly directed portion and a hollow centrally and downwardly extending portion, said downward portion comprising an integral stationary handle, with concave straight and deflecting surface, a lever handle pivoted to said downward portion, said handle having concave straight and deflecting portion corresponding with the said stationary handle, a horizontal drum with square hubs on each end, said drum adapted to rest in said casing in square offsets in the interior of the same, to prevent the drum from turning, said drum having face grooves divided off with flanges, one of said flanges cut away at the top, one of said flanges cut away at the bottom, both cut-away portions of said flanges on the same side of said drum, a rope, said rope adapted to encircle the spiral grooves of said drum, one end of said rope adapted to pass from said drum over the upper cut away portion of one of said flanges upward through and out of the upward central conical portion of said casing to be secured to a fixed object, the other end of said rope adapted to pass from said drum over the lower cut away portion of one of the said flanges, and downwardly through said downward conical portion of said casing, and between the stationary and hinged handles, through the straight and deflected cavities on the inside of said handles, means for automatically causing the said hinged handle to press itself on said rope.

Signed at New York, in the county of New York and State of New York this 27th day of October A. D. 1911.

SAMUEL FINE.

Witnesses:
F. BARRITT,
BEN. GOETZ.