L. ARDENGO.

SUPPORT FOR FLEXIBLE FIRE ESCAPES.

APPLICATION FILED OCT. 28, 1907.

899,371. Patented Sept. 22, 1908.

2 SHEETS—SHEET 1.

FIG. 1

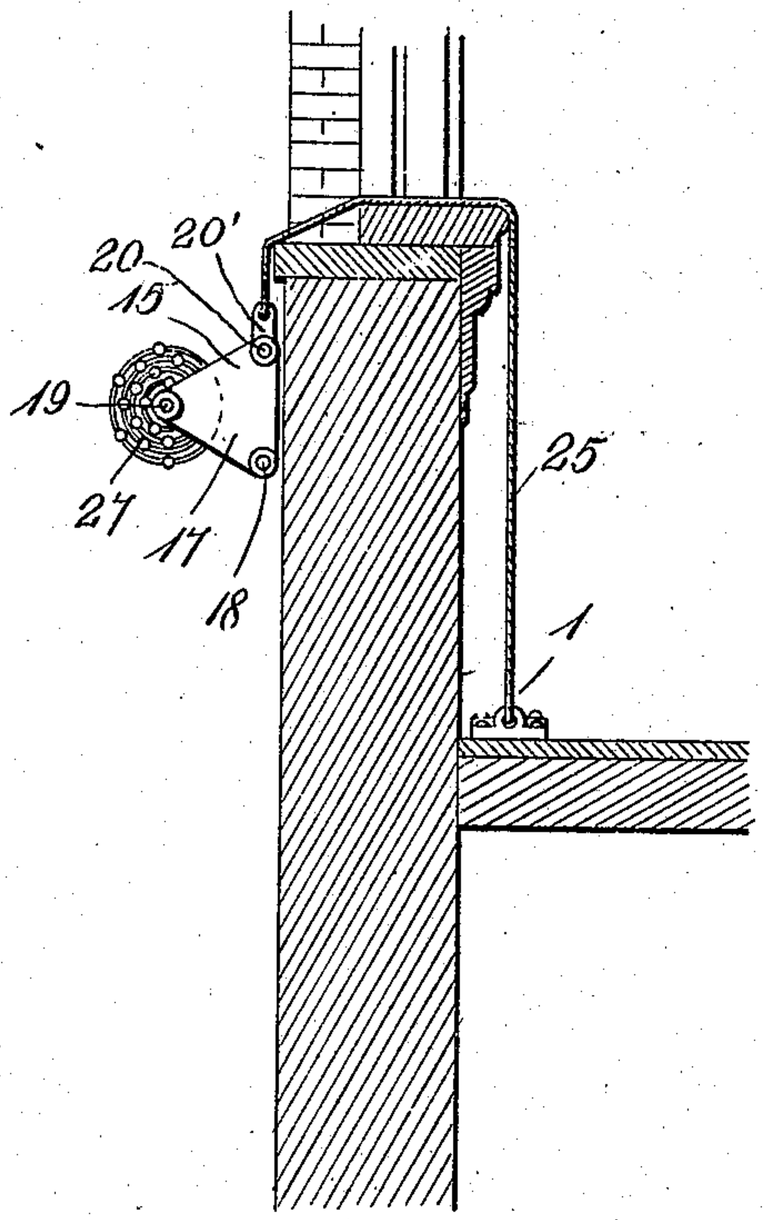


FIG. 2

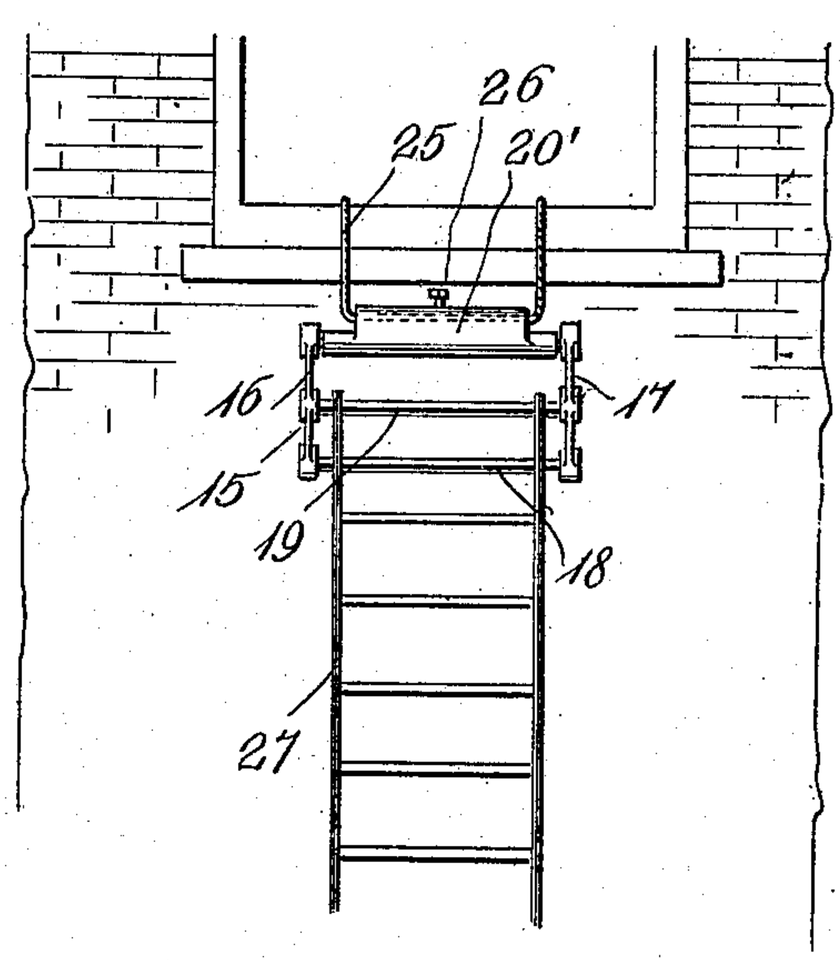
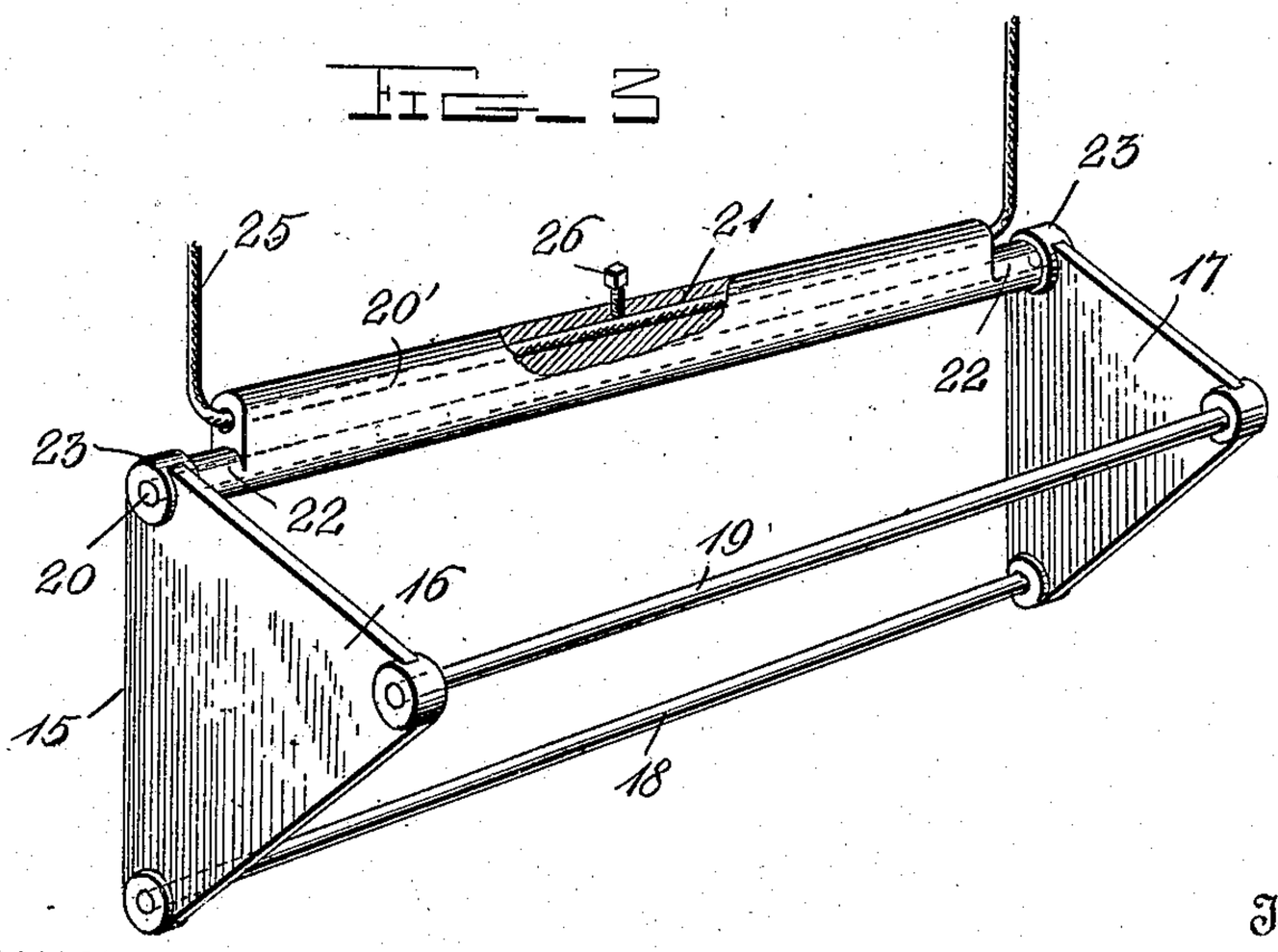


FIG. 3



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4

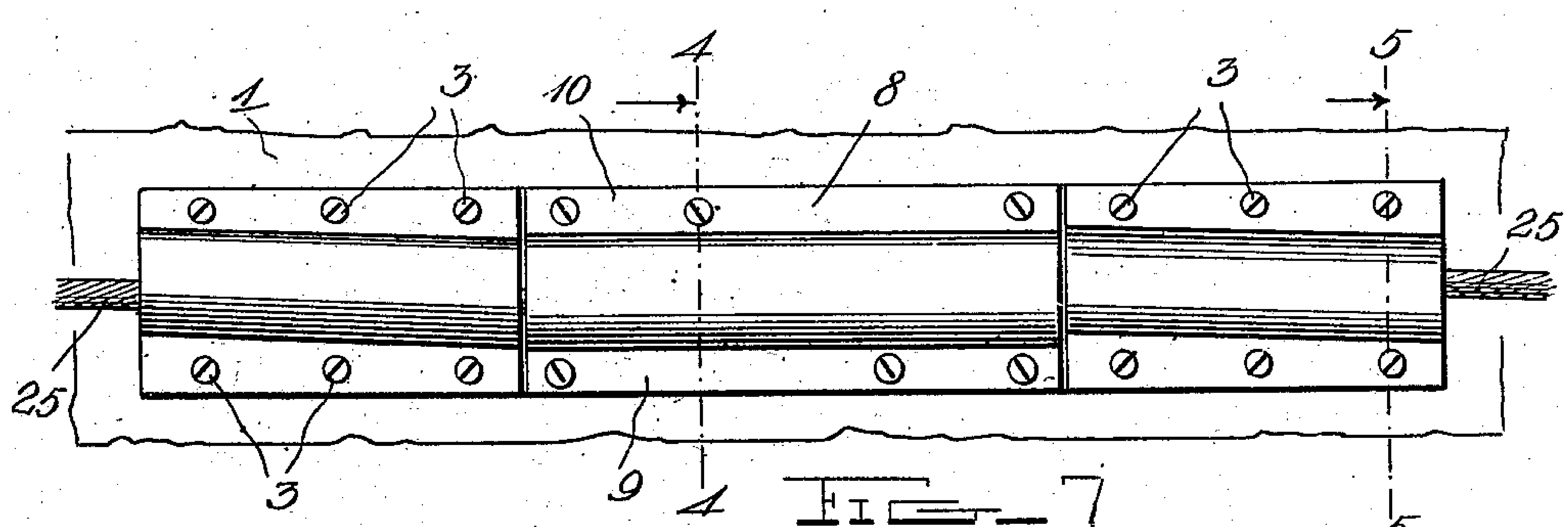


Fig. 7

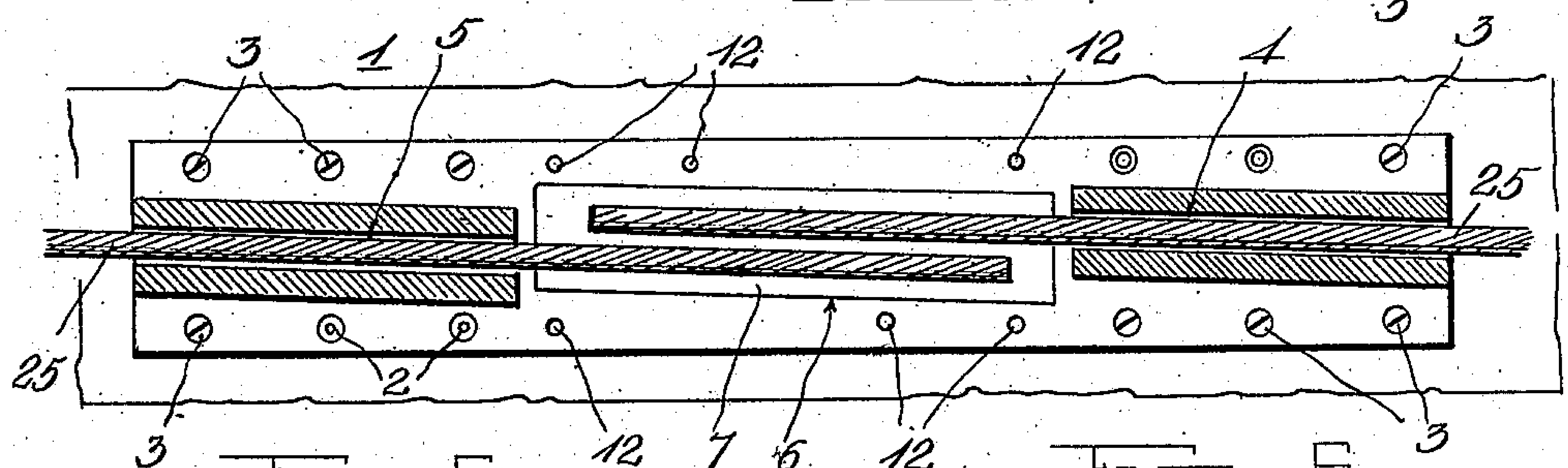


Fig. 5

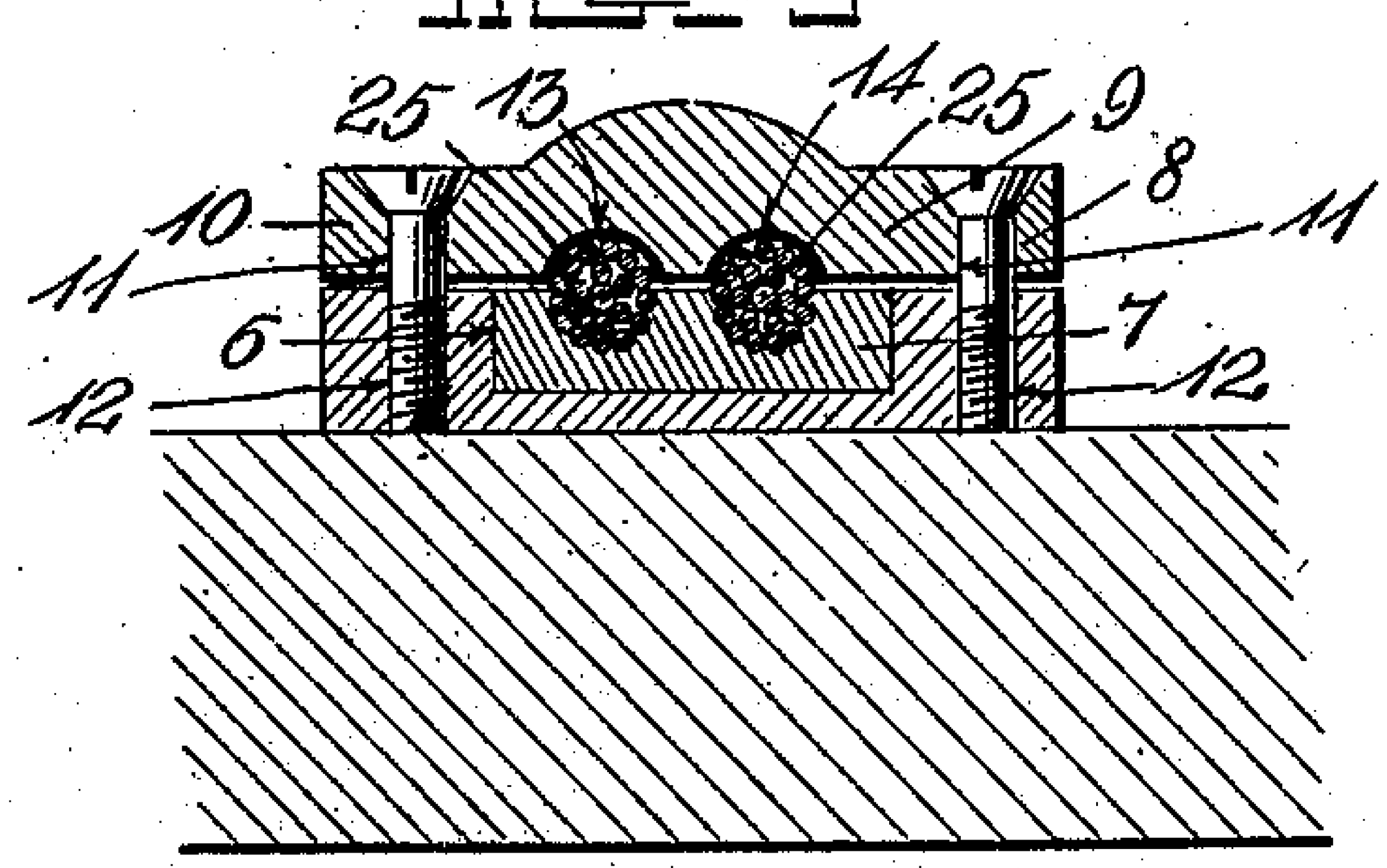


Fig. 6

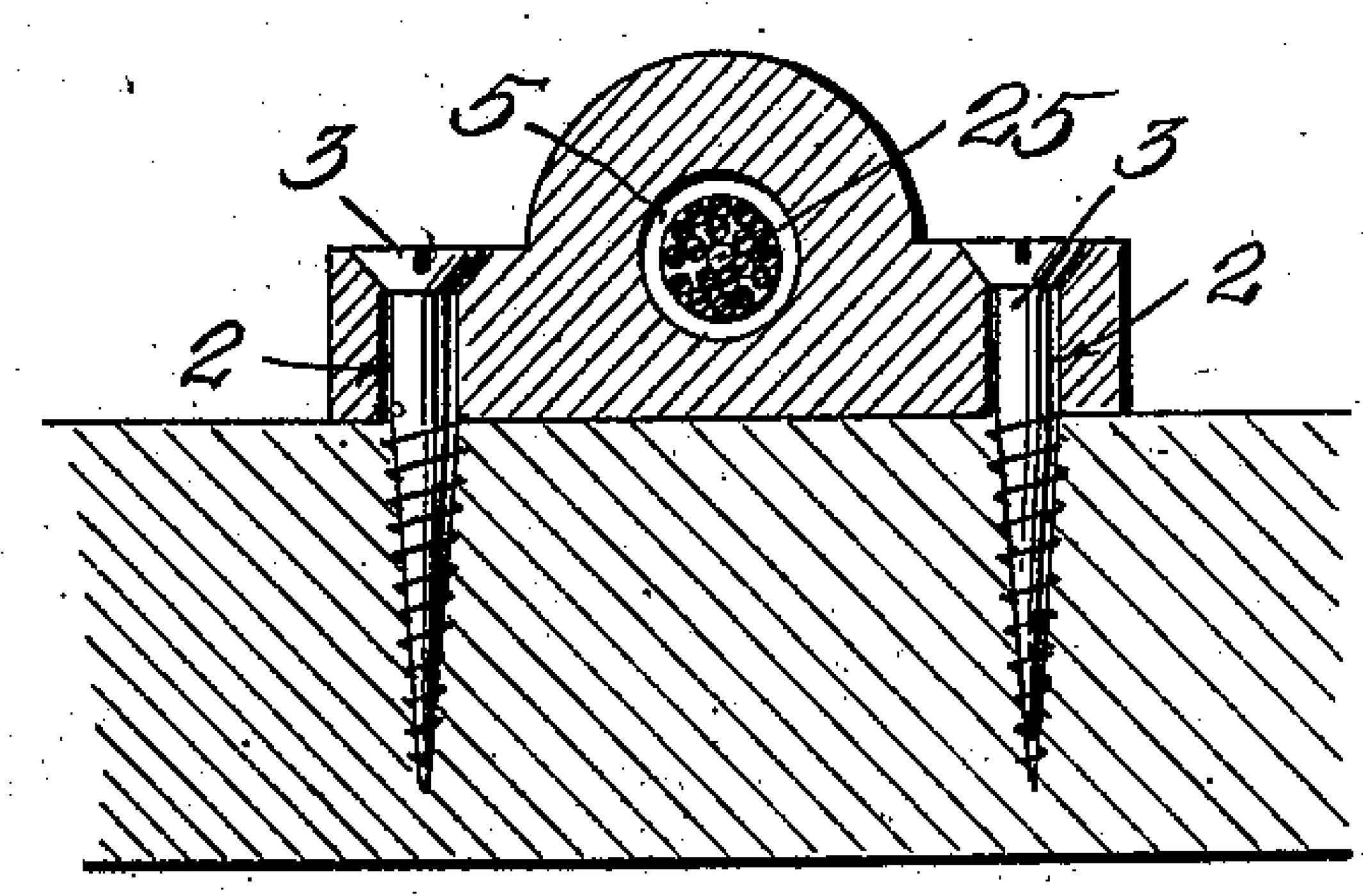
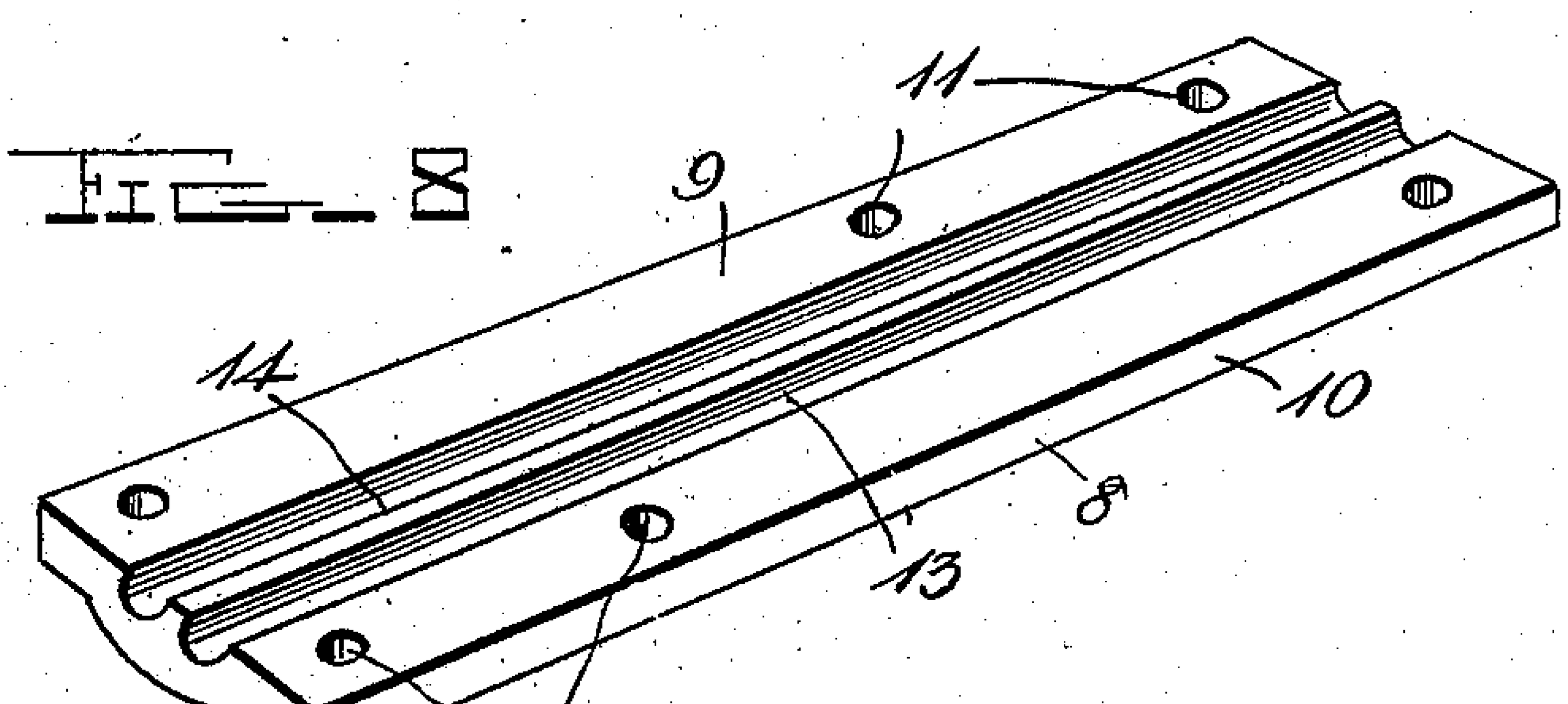


Fig. 8



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS ARDENGO, OF NEW YORK, N. Y., ASSIGNOR TO HUGO A. THOMSEN, OF MADISON, NEW JERSEY.

SUPPORT FOR FLEXIBLE FIRE-ESCAPES.

No. 899,371. Specification of Letters Patent. Patented Sept. 22, 1908.

Application filed October 28, 1907. Serial No. 399,523.

To all whom it may concern:

Be it known that I, LOUIS ARDENGO, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Supports for Flexible 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 appertains to make and use the same.

This invention relates to an improved portable fire escape support especially adapted for use in connection with a flexible ladder or other flexible fire escape.

The object of the invention is to provide simple and efficient means for anchoring one end of a ladder to a suitable support and providing means adjustably connected therewith to be placed outside a window for holding a ladder and spacing it outward from the wall of the building to facilitate the ascent or descent of persons using it.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 represents a transverse section taken through the lower portion of a window showing this improved ladder supporting device applied and with the ladder in inoperative position thereon. Fig. 2 is a front elevation of a portion of a building showing the ladder-carrying member in operative position with a portion of a ladder suspended therefrom. Fig. 3 is a perspective view of the ladder carrying and spacing member with parts broken out to show the connection of the cable therewith. Fig. 4 is a top plan view of the anchoring device showing the ends of the connecting cable broken off. Fig. 5 is a transverse section thereof taken on the line 5—5 of Fig. 4. Fig. 6 is a similar view taken on the line 6—6 of Fig. 4. Fig. 7 is a horizontal section through the anchor member. Fig. 8 is a perspective view of the cable securing cap or clamp detached.

In the embodiment illustrated is shown an anchoring device, 1, and a ladder carrying and spacing member, 15, adjustably and detachably connected by a flexible element 25, preferably in the form of a steel cable.

The anchoring device comprises a base plate of any desired size composed of any suitable material, preferably of iron. This plate is provided along its opposite edges with a plurality of longitudinally spaced screw holes as, 2, to receive fastening screws as, 3, for securing it to the floor, baseboard or any other suitable support. Formed on one face of this plate are two longitudinally extending tubular members forming bores 4 and 5 arranged diagonally of the plate at opposite ends thereof in parallel planes and through which the ends of the cable 25 are designed to pass. Each of these members, 4 and 5, extend preferably about one third of the length of the plate and between the inner ends thereof in the body of the plate is formed a recess, 6, preferably of a width equal to the width of the two members 4 and 5. This recess 6, is filled with a suitable soft metal, 7, such as lead or solder, and the upper surface thereof extends flush with the face of the plate and the ends of the cable, 25, are adapted to be embedded therein when the parts are assembled.

A detachable cap member, 8, is adapted to fit between the inner ends of the tubular members 4 and 5 and is provided with laterally projecting longitudinally extending flanges 9 and 10 having spaced screw holes as 11 for connection with the plate by means of screws which engage screw threaded openings as 12, in the plate body. This cap or clamp 8 is provided on its inner face with two parallel longitudinally extending grooves 13 and 14 arranged to register with the cable bores 4 and 5 and adapted to fit over the overlapping ends of the cable, 25, when the parts are assembled and force them into the soft metal, 7, by means of which they are firmly clamped and held in adjusted position. When it is desired to lengthen or shorten the cable this clamping plate is removed and the ends placed in the desired position, relatively to each other and the cap clamp again screwed into position thereover for holding said ends firmly thereon.

The ladder carrying member or bracket, 15, comprises two heads 16 and 17 preferably in the form of triangular plates connected at the three corners thereof by rods 18 and 19 and 20, and a rotatable cable engaging member 20′, is mounted on the rod 20. This member 20′ is preferably made in the form of a bar having a lateral extension with a bore

21 extending longitudinally therethrough. A set screw 26 extends through one wall of the bore 21 and is designed to engage the cable 25 which extends through said bore and clamp it in adjusted position.

In the use of this fire escape or ladder support the anchor 1 is secured by the screws as 3, to the floor or other suitable support and the cable, 25, is passed through the bore 21 in the rotatable member 20′ of the bracket 15 and the ends of said cable are then passed inward from opposite ends of the anchor plate, 1, through the bores 4 and 5 and are secured to said plate by means of the clamping cap, 8, as hereinbefore described. A ladder 27 is secured in any desired manner to the rod 19, of the bracket 15, and is suspended therefrom in operative position, the triangular shape of the heads serving to hold said rod 19, spaced from the wall of the building, as clearly shown in the drawings, and the rotatable member 20′ provides for the adjustment of the ladder-carrying member to permit it to lie flat against the wall of the support. The bracket 15 is placed outside of the window and is held suspended by the cable 25, the length of which may be adjusted to bring said bracket against the window sill just outside of the window.

I claim as my invention:

1. In a flexible ladder support the combination of a ladder carrying member, an anchor member, a flexible element connecting said members and means carried by said anchor member for engaging and clamping the ends of said flexible member longitudinally and adjustably securing said ends for varying the length of said element and the space between said anchor and ladder carrying members.

2. In a flexible ladder support, the combination of a ladder carrying member, an anchor member, a flexible element connecting said members, means carried by said anchor member for adjustably securing the ends of said flexible element, for varying the length of said element and the space between said anchor and ladder carrying members, and means carried by said ladder carrying member for adjustably connecting said flexible element therewith.

3. The combination of an anchor member having longitudinally spaced bores arranged in parallel planes and extending longitudinally of said member, a ladder carrying member, a flexible element connected with said last mentioned member and having its ends extended through the bores in said anchor and means for clamping said ends to said member.

4. The combination of an anchor member having longitudinally spaced bores arranged in parallel planes and extending longitudinally of said member, a ladder carrying member, a flexible element connected with said last mentioned member and having its ends extended through the bores in said anchor and a clamping member arranged between said bores, and provided with means for engaging said cable ends.

5. The combination of an anchor member having longitudinally spaced bores arranged in parallel planes and extending longitudinally of said member, a ladder carrying member, a flexible element connected with said last mentioned member and having its ends extended through the bores in said anchor and a clamping member arranged between said bores and provided with longitudinally extending parallel grooves to fit over said cable ends and means for securing said clamping member in position.

6. The combination of an anchor plate having longitudinally spaced bores arranged in parallel planes and extending longitudinally of said plate, said plate having a recess therein between said bores a soft metal filling disposed in said recess, a ladder carrying member, a flexible element connected with said last mentioned member and having its ends extended through the bores in said anchor plate and a cap plate for clamping said cable ends between it and said soft metal.

7. In a flexible ladder support, the combination of a ladder carrying member, an anchor member, a flexible element connecting said members, and clamping means carried by said anchor member for longitudinally engaging and adjustably securing the ends of said flexible element to said anchor member.

8. A ladder anchor member comprising a base plate having longitudinally extending spaced tubular portions at its opposite ends and a grooved cap plate removably mounted on said plate between said tubular portions.

9. A ladder anchor member comprising a base plate having longitudinally extending spaced tubular portions at its opposite ends arranged in parallel planes and a clamping cap plate adjustably mounted on said base plate between the inner ends of said tubular portions and having parallel grooves on its inner face to register with said tubular portions.

10. A flexible ladder support comprising an anchor member, a ladder carrying member adjustably connected therewith and comprising spaced triangular heads, members connecting the corner of said heads, one of said members being movably connected with said heads to permit said ladder-carrying member to swing, to adapt it to fit flat against a support and having a longitudinally extending bore therein to receive an element for connecting the ladder-carrying member with the anchor.

11. A flexible ladder support comprising an anchor member, a ladder carrying member adjustably connected therewith and comprising spaced triangular heads, members

connecting the corners of said heads, one of said members being movably connected with said heads and having a longitudinally extending bore therein, and a flexible element extending through said bore and connected with said anchor.

12. A flexible ladder support comprising an anchor member, a ladder carrying member adjustably connected therewith and comprising spaced triangular heads, members connecting the corner of said heads, one of said members being movably connected with said heads and having a longitudinally extending bore therein, a flexible element extending through said bore and adjustably connected with said anchor.

13. A flexible ladder support comprising an anchor member, a ladder carrying member adjustably connected therewith and comprising spaced triangular heads, members connecting the corners of said heads, one of said members being movably connected with said heads and having a longitudinally extending bore therein, and a flexible element extending through said bore and connected with said anchor, and means for securely holding said flexible element in the bore of said ladder carrying member.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LOUIS ARDENGO.

Witnesses:
HENRY ASHMEAD,
HUGO A. MUNSEN.