

No. 611,888.

W. L. BRITT & A. B. ENNS.

Patented Oct. 4, 1898.

FIRE ESCAPE.

(Application filed Aug. 30, 1897.)

(No Model.)

2 Sheets—Sheet 1.

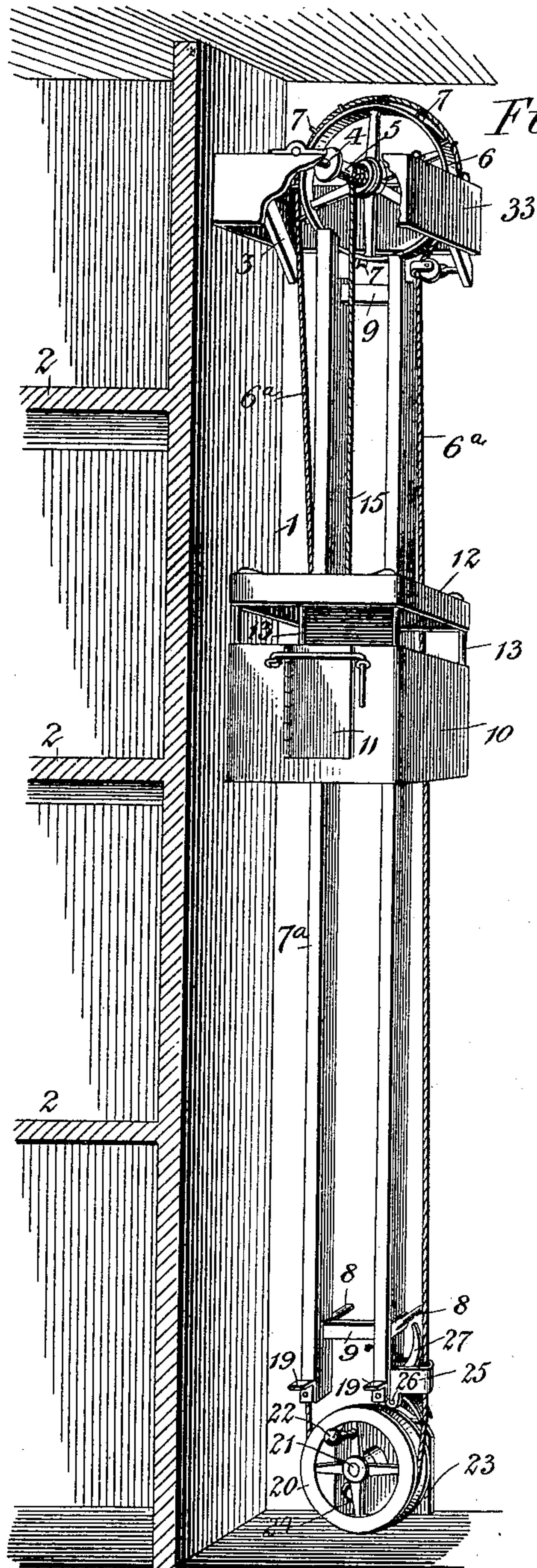


Fig. 1.

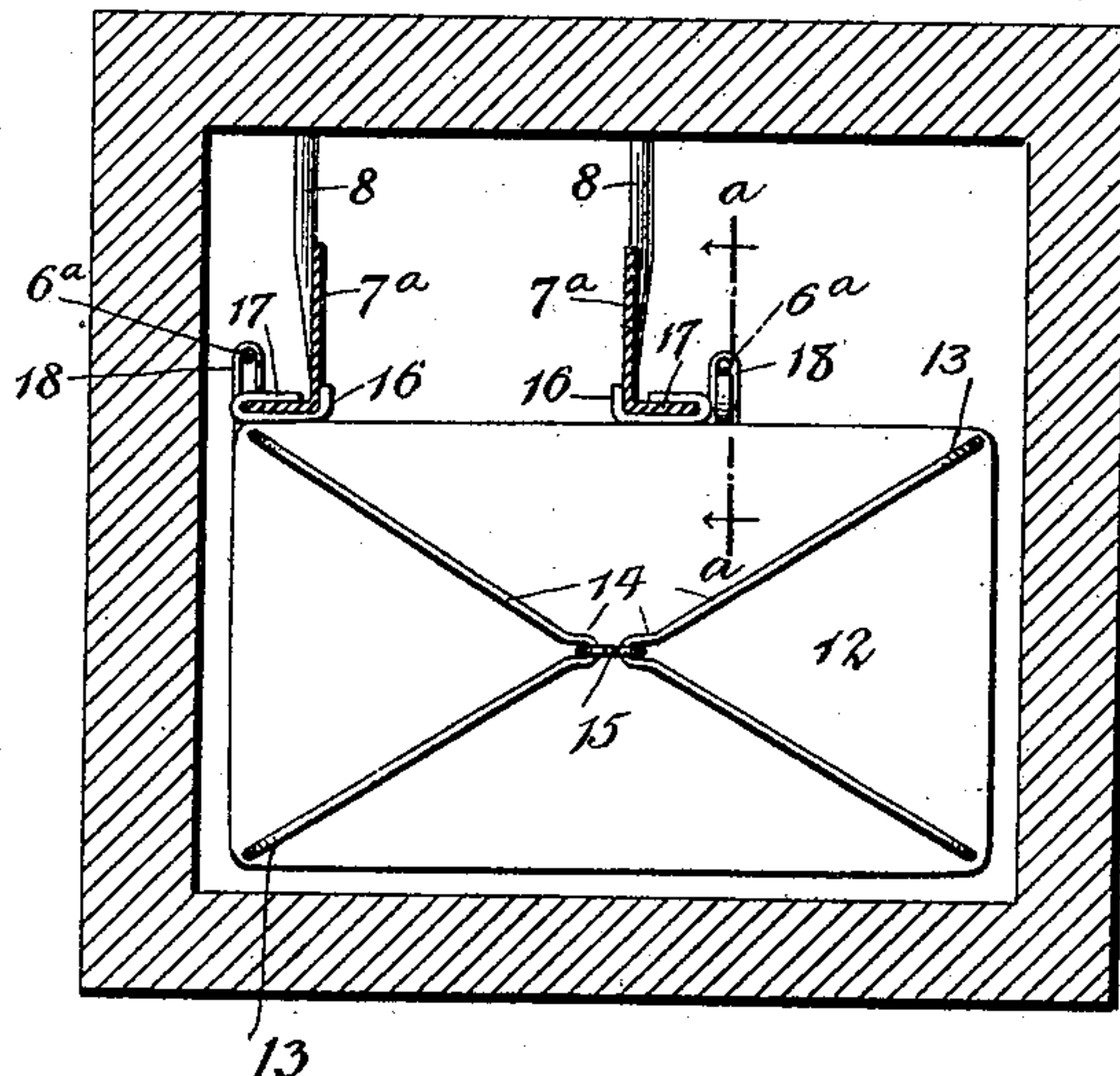


Fig. 2.

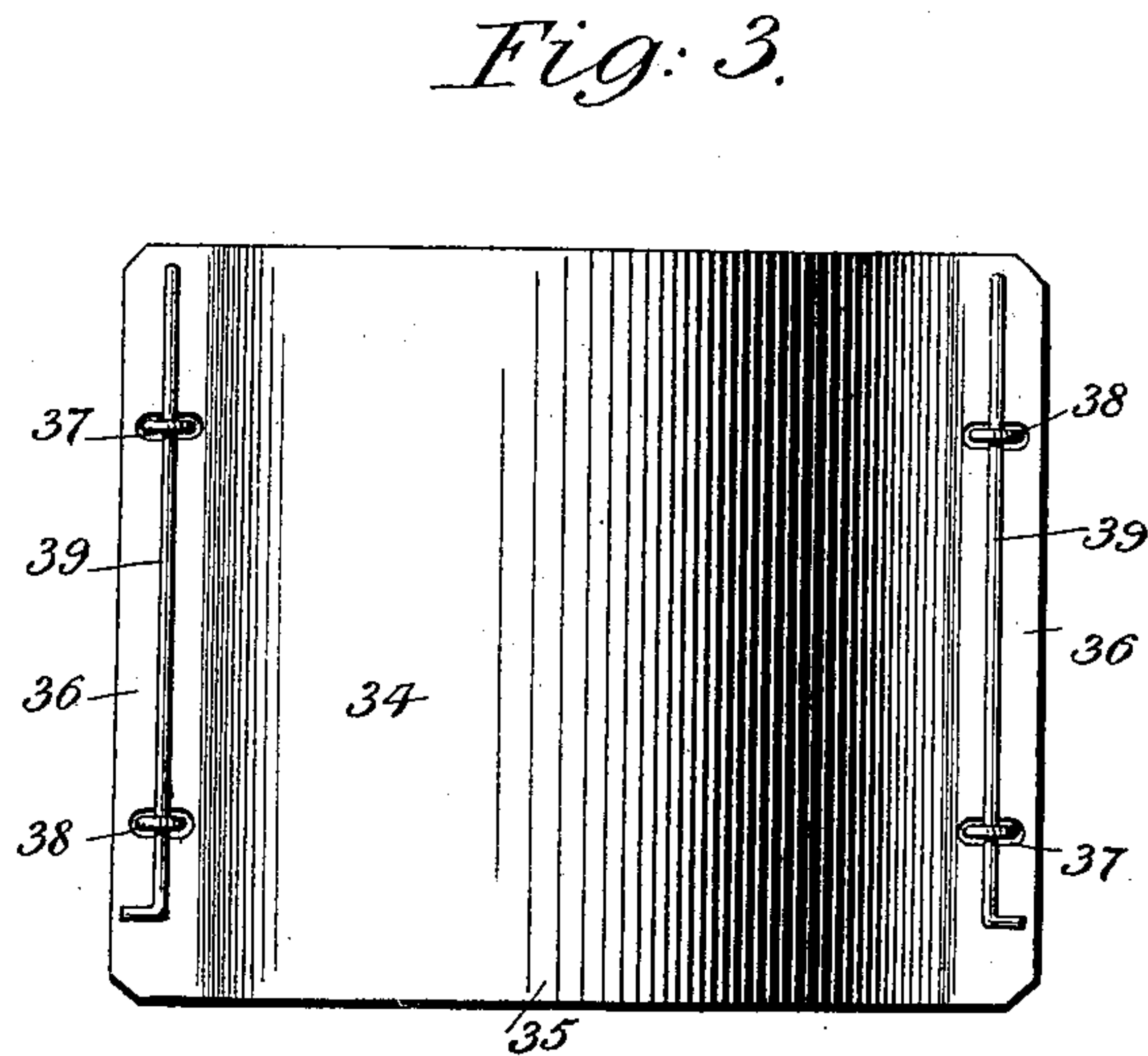


Fig. 3.

Witnesses

John Rennie

A. B. Shepard

By their Attorneys,

C. A. Snow & Co.

Inventors
William L. Britt,
Abraham B. Enns,

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Fig. 4.

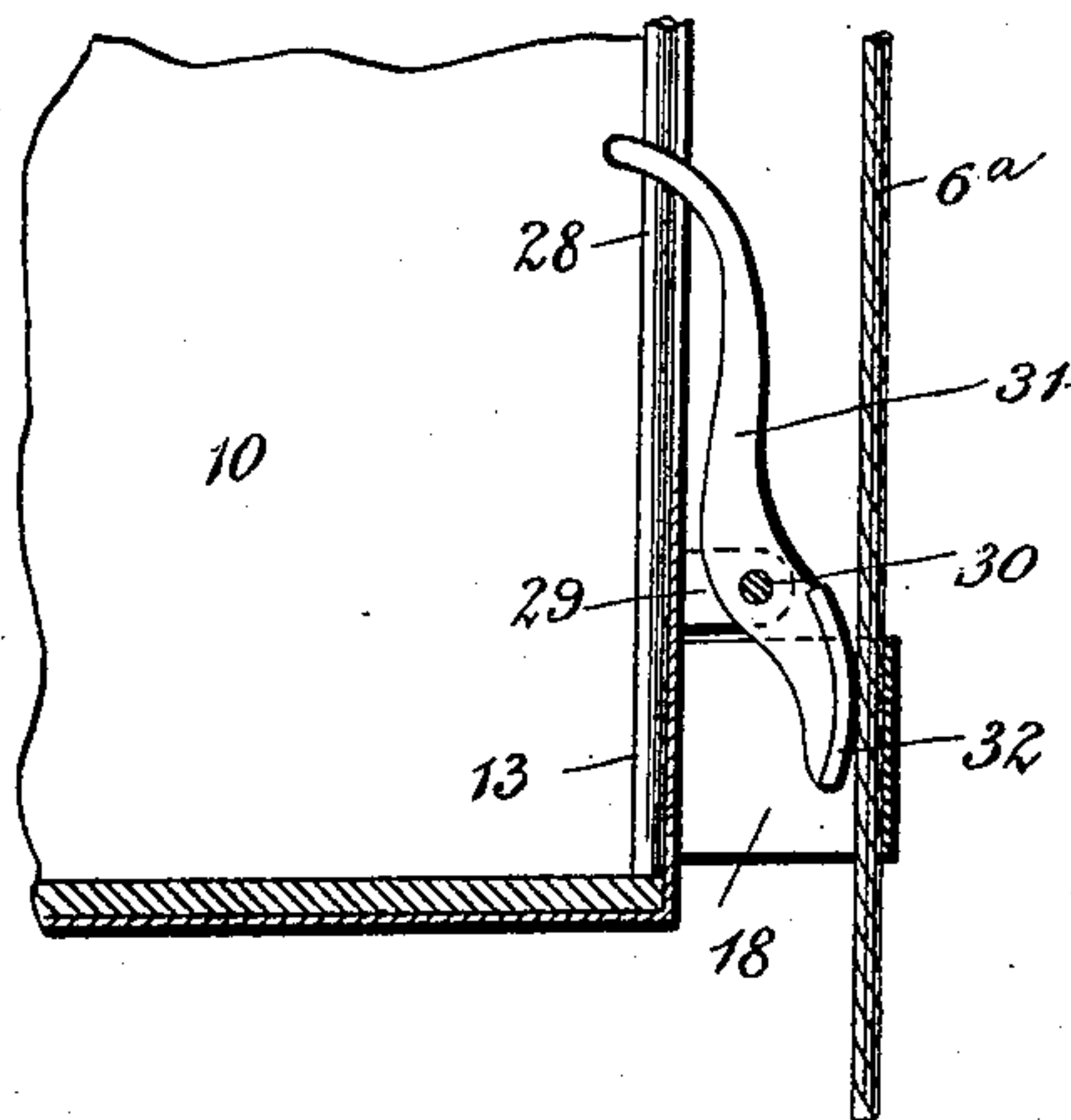


Fig. 5.

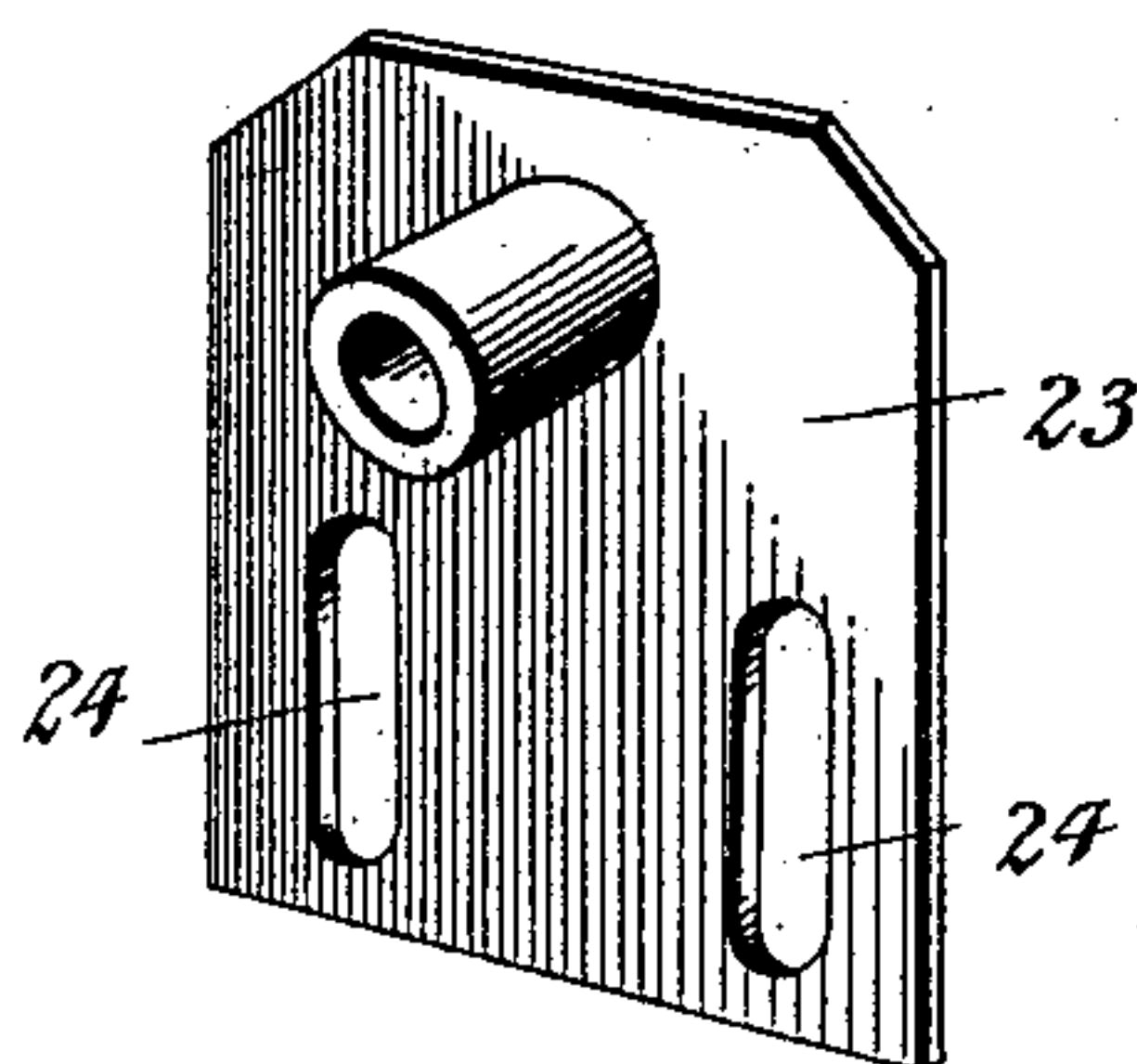
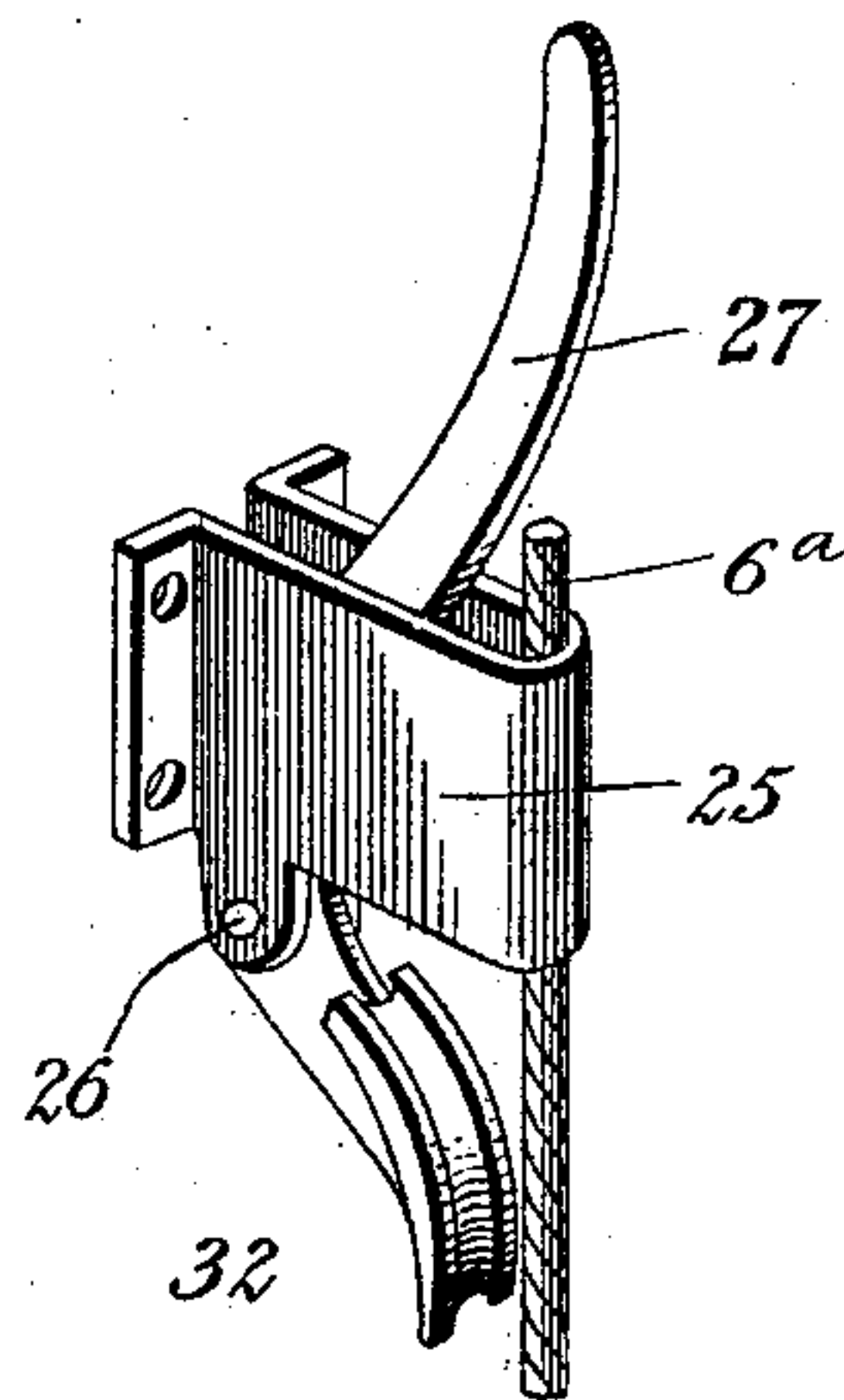


Fig. 6.



Witnesses

John Rennie

A. D. Shepard

By their Attorneys,

Inventors
William L. Britt
Abraham B. Enns,

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

WILLIAM L. BRITT AND ABRAHAM B. ENNS, OF DALLAS, OREGON.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 611,888, dated October 4, 1898.

Application filed August 30, 1897. Serial No. 649,977. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM L. BRITT and ABRAHAM B. ENNS, citizens of the United States, residing at Dallas, in the county of Polk and State of Oregon, have invented a new and useful Fire-Escape, of which the following is a specification.

This invention relates to certain improvements in fire-escapes, and has for its object to provide a device of this character of a simple and inexpensive nature, which while capable of use as a hoisting and lifting device or elevator is to be especially adapted in case of fire for lowering persons from the upper floors of the building wherein the device is located to the ground.

The invention consists in certain novel features of the construction, combination, and arrangement of the improved fire-escape whereby certain important advantages are attained and the device is made simpler, cheaper, and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In order that our improvements may be the better understood, we have shown in the accompanying drawings a fire-escape constructed in accordance with our invention, in which drawings—

Figure 1 is a view showing the improved fire-escape in position in a building; and Fig. 2 is an enlarged sectional view taken transversely through the shaft wherein the fire-escape is arranged, showing the car in plan. Fig. 3 is a plan view showing the removable top of the casing at the upper end of the shaft wherein the operating devices are arranged. Fig. 4 is a sectional view taken in the plane indicated by the line *a a* in Fig. 2, showing the device carried by the car for locking the same in position. Fig. 5 is an enlarged detail view showing the means for adjustably mounting the pulley at the lower end of the shaft wherein the fire-escape is arranged. Fig. 6 is a detail view drawn to an enlarged scale and showing the clamping-lever for locking the endless cable against movement.

In the drawings, 1 indicates the wall of the shaft wherein the improved fire-escape is arranged, and 2 2 indicate the upper floors of

the building, said shaft being provided with a doorway leading from each of the floors in the ordinary way, so that access may be had to the fire-escape from each floor of the building. At the upper end of the shaft 1 is arranged a framing 3, wherein is journaled a shaft 4, extending transversely across the shaft 1 and carrying a drum 5 and a pulley 6, having projecting arms 7, each of which is notched on its outer end, so as to form a channel extending around the pulley and adapted to receive the upper bight of an endless wire cable 6^a of suitable strength.

In the shaft 1 are arranged guides 7^a, each formed of a metal beam of L shape in cross-section, these beams being secured to one of the walls of the shaft by means of brace-rods 8 and being tied together by means of cross-beams 9, which are flanged at their ends and riveted to said beams 7^a on the inner faces thereof. The flanges of the beams 7^a are arranged to project in opposite directions, and on said beams is guided a car 10, preferably formed of a metal framework covered over with sheet metal and provided in one side with a door 11, having a suitable fastening and adapted when the car is opposite one of the door-openings communicating with either of the floors of the building to be opened to give access to the car.

The car 10 is provided, as clearly shown in the drawings, with an imperforate roof 12, supported on vertical rods 13, which form part of the frame of the car, the rods 13 at the corners of the car being extended through the roof 12 and bent over inwardly along the upper surface thereof, as shown in Fig. 2, so that the rods are formed into V-shaped loops, arranged at each side of the roof of the car and having their adjacent angular portions bent up to form eyes, with which is connected the lower end of the hoisting-cable 15, which extends up in the shaft and is secured at its upper extremities to the drum 5 on the transverse shaft 4, on which drum said cable is adapted to be wound when said shaft is rotated, as will be hereinafter explained.

The cage or car 10 is provided on its rear surface with guides 16, arranged to engage the inner sides of the beam 7^a, and also provided with bent end portions 17 to engage over the flanges of said beams, as clearly

shown in Fig. 2, there being, as shown in the drawings, two sets of these guides, one set carried by the body portion or cage of the car and the other set carried by the roof thereof.

5 In this way it will be seen that the car or cage is securely held to the guides 7^a while being moved up and down in the shaft, and said car or cage is also provided on its rear face with projecting loops 18, which embrace the
10 two runs of the endless cable 6^a, which passes over the pulley at the upper end of the shaft.

The guides 7^a are provided at their lower ends with stops 19 to limit the downward movement of the cage, said stops being formed
15 of angle-pieces bolted or riveted to the guides and projecting from the front faces thereof, and the endless cable 6^a passes over a pulley 20, mounted on a shaft 21, extending transversely at the lower end of the shaft or hatchway 1
20 and provided with a crank-handle 22, by means of which the pulley may be turned to move said cable 6^a, as will be readily understood. The shaft 21 is carried on a bearing-plate 23, fitting against one side of the hatch-
25 way and having slots 24 formed in it, through which slots pass bolts or screws for holding the bearing-plate adjustably in position, so that the shaft 21 and the pulley carried thereon may be adjusted vertically in the hatch-
30 way to take up or give slack in the endless cable 6^a.

On one of the guides 7^a, at the lower end thereof, is arranged a bracket 25, which embraces one run of the endless cable 6^a, said
35 bracket being in the form of a loop and having its opposite sides perforated for the passage of a pin or bolt 26, whereon is pivoted a clamping-lever 27, having at one end a shoe arranged to engage one side of the cable 6^a
40 within the loop formed by the bracket, so that said cable may be securely held against movement, the opposite end of the clamping-lever being bent to form a handle by means of which the device may be operated. The
45 construction of these parts is clearly shown in Fig. 6, and it will be seen that the arrangement of the lever and bracket permits the cable to be securely locked at the lower end of the shaft, so that the fire-escape may not
50 be tampered with.

In the wall of the car or cage 10, adjacent to the guides 7^a, is formed an opening 28, along which extends vertically outside of the car or cage the run of the endless cable 6^a,
55 which moves in a direction opposite to the movement of the car or cage, and adjacent to said opening is arranged a bracket 29, projecting from the rear face of the car and inclosing said opening. On the bracket 29 is
60 pivoted, as indicated at 30, a clamping-lever 31, having one end provided with a shoe 32, as clearly shown in Fig. 4, said shoe being arranged in the adjacent loop 18 and being adapted to clamp the run of the cable 6^a be-
65 tween it and the said loop, so as to lock the car and cable together and prevent movement of the car. The upper end 31 of the clamp-

ing-lever extends within the opening 28 in the wall of the car or cage and is provided with a stop to engage one side of said opening to hold the lever against being thrown
70 too far outside the car, so as to prevent the lever from engaging fixed parts of the apparatus and becoming deranged.

The framing 3 at the upper end of the shaft
75 or hatchway is surrounded by a sheet-metal casing 33 of rectangular form, and over the said casing is arranged a removable cover 34, designed to close the top of the hatchway and prevent the formation of a draft through the
80 same. The cover 34 is formed with a semi-circular central portion 35, concentric with the transverse shaft 4 and having oppositely-projecting flanges 36 at its sides, which fit
85 down closely against the upper surface of the casing 33 and are slotted, as shown at 37, to permit the passage of staples 38, through which staples are passed rods 39, extending
90 along the opposite sides of the cover and serving to hold the same in place on the casing.

In practice the improved fire-escape constructed according to our invention will be arranged within a building within a shaft or hatchway, or in some cases, when desired, the fire-escape may be arranged on the outer side
95 of the building, after the fashion of ordinary ladder-escapes, and when it is desired to use the device in case of fire the clamping-lever at the lower end of the device is operated so as to free the endless cable 6^a, after which the
100 person operating the escape enters the car or cage and operates the clamping-lever on the car or cage in such a way as to release the car and allow the same to fall by gravity to the stops at the lower end of the guide-bars.
105 When it is desired to again raise the car or cage, the operator either turns the pulley at the lower end of the shaft or hatchway, so as to wind up the hoisting-cable on the drum at the top of the device, or, if desired, a person
110 standing within the car may draw down on the hoisting-cable through the opening 28 in the wall of the car, so as to raise the car along its guides.

From the above description it will be seen
115 that the improved fire-escape is of an extremely simple and inexpensive nature and is especially well adapted for use, since it is capable of being used not merely as an escape in cases of fire, but also as a device for lift-
120 ing or elevating freight and for other similar purposes, and it will also be obvious from the above description that the invention is capable of some modification without material departure from its principles and spirit, and
125 for this reason we do not wish to be understood as limiting ourselves to the precise construction and arrangement of the parts herein set forth.

Having thus described our invention, we
130 claim—

1. In a fire-escape, the combination with upright guides, an overhead shaft, a guide-sheave, and an endless operating-cable fitted

to said overhead shaft and the guide-sheave, of a vertically-movable cage fitted to said guides and having, adjacent to one strand of the cable, a vertical slot, a guide-bracket attached to the cage adjacent to the slot therein and embracing one strand of said endless cable, and a controlling-lever fulcrumed in the cage-bracket to have one end work in the slot of the cage and provided with a shoe adapted to press against the endless cable, as and for the purposes described.

2. In a fire-escape, the combination with upright guides, and a traveling cage adapted thereto, of an overhead shaft carrying a guide-sheave, a slotted supporting-plate fastened adjustably to said guides at the lower end thereof, a guide-sheave journaled in and adjustable with said supporting-plate, an endless cable fitted to said guide-sheaves, a bracket fixed to one of the guides adjacent to the lower sheave and looped to embrace the cable, and a controlling-lever fulcrumed in said looped bracket and having a shoe to bear against the cable, substantially as described.

3. In a fire-escape, the combination with a shaft, guides therein, and a vertically-movable cage, of a horizontal framing fixed within the upper part of the shaft, a removable hood attached to said framing and fitted within the shaft to close the upper part thereof, and suitable operating mechanism for the cage, substantially as described.

4. In a fire-escape the combination of the frame of the device, a casing surrounding the frame and provided with staples projecting from its opposite sides, a cover removably secured over the casing, said cover being provided with slots for the passage of the staples, and rods passed through said staples over said cover to hold the latter in place, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM L. BRITT.
ABRAHAM B. ENNS.

Witnesses:

HORT C. EAKIN,
J. E. SIBLEY.