

(No Model.)

A. A. FRENCH.  
ELEVATOR.

No. 544,352.

Patented Aug. 13, 1895.

Fig. 1.

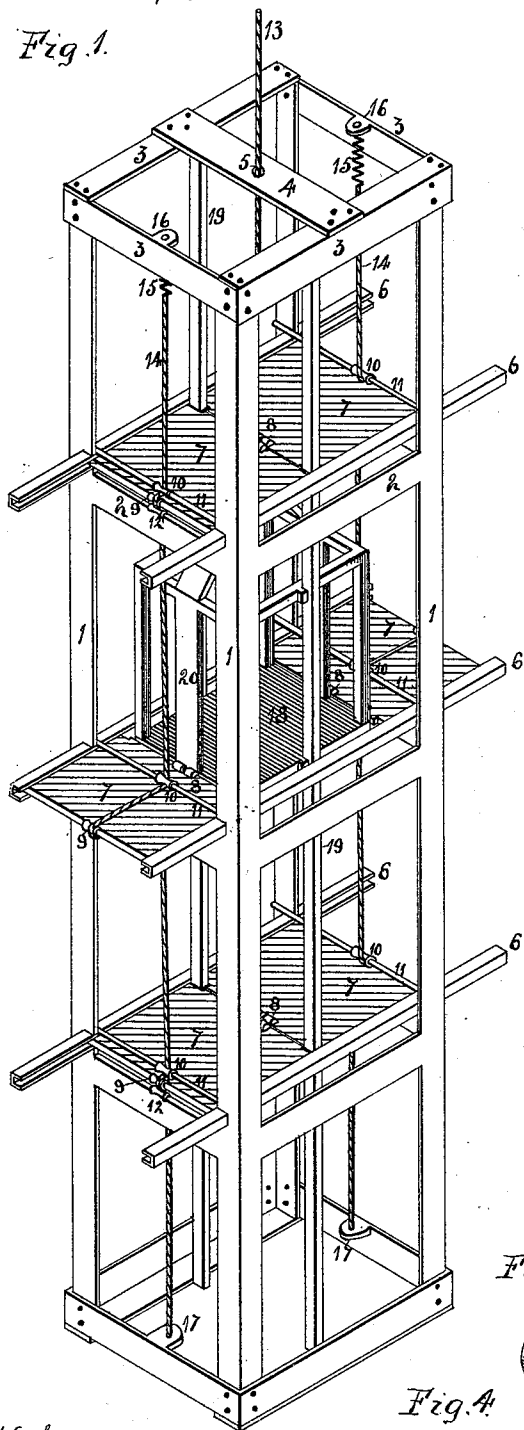


Fig. 2.

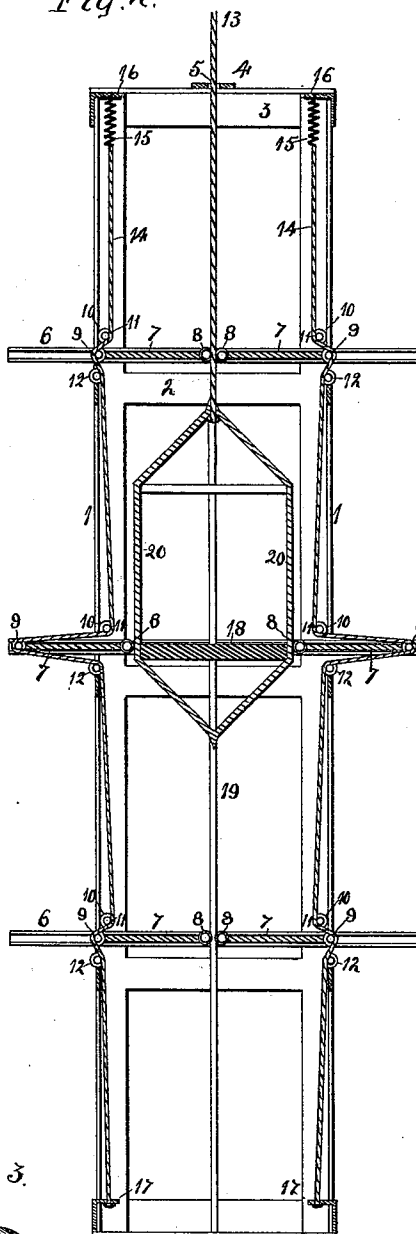
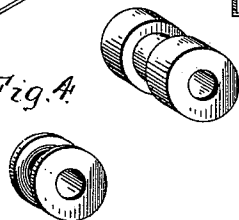


Fig. 3.

Fig. 4.



Witnesses:

B. Blinn.  
E. Bechel.

Inventor:  
Albert A. French  
By A. O. Bechel  
Att'y.

# UNITED STATES PATENT OFFICE.

ALBERT A. FRENCH, OF BAILEYVILLE, ILLINOIS, ASSIGNOR OF ONE-HALF TO  
JOHN W. KAMPEN, OF SAME PLACE.

## ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 544,352, dated August 13, 1895.

Application filed March 1, 1895. Serial No. 540,261. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT A. FRENCH, a citizen of the United States, residing at Baileyville, in the county of Ogle and State of Illinois, have invented certain new and useful Improvements in Elevators, of which the following is a specification.

The object of this invention is to construct an elevator in which sliding platforms are operated by the movement of the car in such a manner that the platform above the car will be moved aside by the ascent of the car, and the platform next below will be closed—that is, the car opens the platform in its advance and closes the one after it in either direction the car may be moving.

In the accompanying drawings, Figure 1 is an isometrical representation of my improved elevator. Fig. 2 is a vertical section of the same. Figs. 3 and 4 are isometrical representations of the rollers employed.

In the drawings I have shown a construction of framework, in order to support the operative parts of the elevator, while in actual use it is evident that the framework may differ somewhat in construction. The framework herein shown consists of the lengthwise corner bars 1, connected by cross-bars 2, and bars 3 connecting the ends. A center strip 4 is located across the top of the frame, having a central hole 5.

To the corner bars 1 are connected grooved guideways 6, located in pairs and facing each other, each pair representing the level of a floor. Within the guideways is located a platform, composed of sections 7, fitted to slide therein, supporting grooved-faced rollers 8 at their meeting faces and grooved-faced rollers 9 at their outer ends. Rollers 10 are supported by cross-rods 11 above the face of the sections near their outer ends, but slightly inward therefrom, and rollers 12 are supported by the cross-bars 2 under the rollers 10. The rollers 9, 10, and 12 are of the construction shown at Fig. 4, and the inner rollers 8 are like that shown at Fig. 3, having the central depression which forms a passage-way for the car-sustaining cable 13.

Cables 14, connected at their upper ends to coiled springs 15, the springs being connected to ears 16, extending from the cross-bars 3,

pass downward and on the inner and lower faces of the rollers 10 over the upper and outer faces of the rollers 9, and over the upper and inner faces of rollers 12; thence downward to the next floor, when the same order is observed, and so on with each floor, the lower ends of the cables being attached to ears 17. There is sufficient slack in the cables, so that the sections forming a single platform may be opened and the others closed, as shown in the drawings. A car having a platform 18 is located within the center of the framework, and is guided by ways 19, extending inside of the horizontal grooved ways 6, and the length of the framework, and is composed of suitable braces and supports. Vertical bars 20 are located in the center of the ends of the car, and slant toward the top and bottom of the car, where they are joined, forming tapered ends, and have their extreme ends sharpened. The cable 13 is connected with the upper end of this frame, which passes upward and forms the support for the car. The width of the face of the bars 20 is equal to the length of the rollers 8, secured to the inner ends of the sections of the sliding platforms. It will be noticed that the length of the vertical bars 20 of the car is less than the distance between floors. As the car is elevated from the position shown in the drawings, the upper pointed end of the frame will enter between the rollers 8 of the section of the platform of the upper floor, thereby separating them, causing them to move outward. This outward movement will carry the cables with it, and as the lower end of the car is above the center floor the pushing out of the sections of the upper floor and platform will draw the sections of the center floor platform, which will move them inward until they are closed, at which point the sections of the upper floor platform will be open, allowing the passage of the car. The reverse of these movements will occur when the car descends, it matters not how many floors. Should a sudden jar be given the sections, the spiral springs 15 will prevent damage being done. By this arrangement it will be seen that the car opens the sections of the platform in its advance, and closes them after it has passed through.

I claim as my invention—

1. In an elevator, the combination of a car  
capable of a vertical movement, a horizontally  
slidable platform for each of the different  
floors, cable connections between the plat-  
forms having their ends connected to station-  
ary portions of the framework so that the  
movement of the car will open the platform in  
its advance and close the platform after it.

2. In an elevator, the combination of a car  
capable of a vertical movement, a series of  
platforms each composed of two sections capa-  
ble of a horizontal sliding movement, cables  
each connected with stationary supports at  
each end and each cable passing outside of  
one of the sections of each platform and guides  
above and below each of the sections in-  
side of which guides the cables pass, sufficient  
slack being allowed in order that one plat-  
form may be open and the others closed.

3. In an elevator, the combination of a car  
capable of a vertical movement, two vertical  
series of platform sections capable of a hori-  
zontal sliding movement, cables for each se-  
ries, each cable passing outside of one of the

sections of each platform and guides above  
and below the sections, inside of which the  
cables pass, the car forcing open the sections  
of the platform in its advance and closing  
those after it.

4. In an elevator, the combination of a car  
capable of vertical movement, a vertical se-  
ries of platform sections in pairs and capable  
of a horizontal sliding movement, and each  
section being provided with a roller at its  
outer edge, and each pair of sections being  
also provided with rollers at the meeting edges  
of the pair, and rollers, one above and one  
below each section, said last named rollers and  
those on the outer edges of the sections form-  
ing guides for the cables, the car in its move-  
ment coming between the rollers on the meet-  
ing edges of the sections and forcing open the  
sections of the platform in its advance and  
closing those after it.

ALBERT A. FRENCH.

Witnesses:

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EMMA FRENCH.