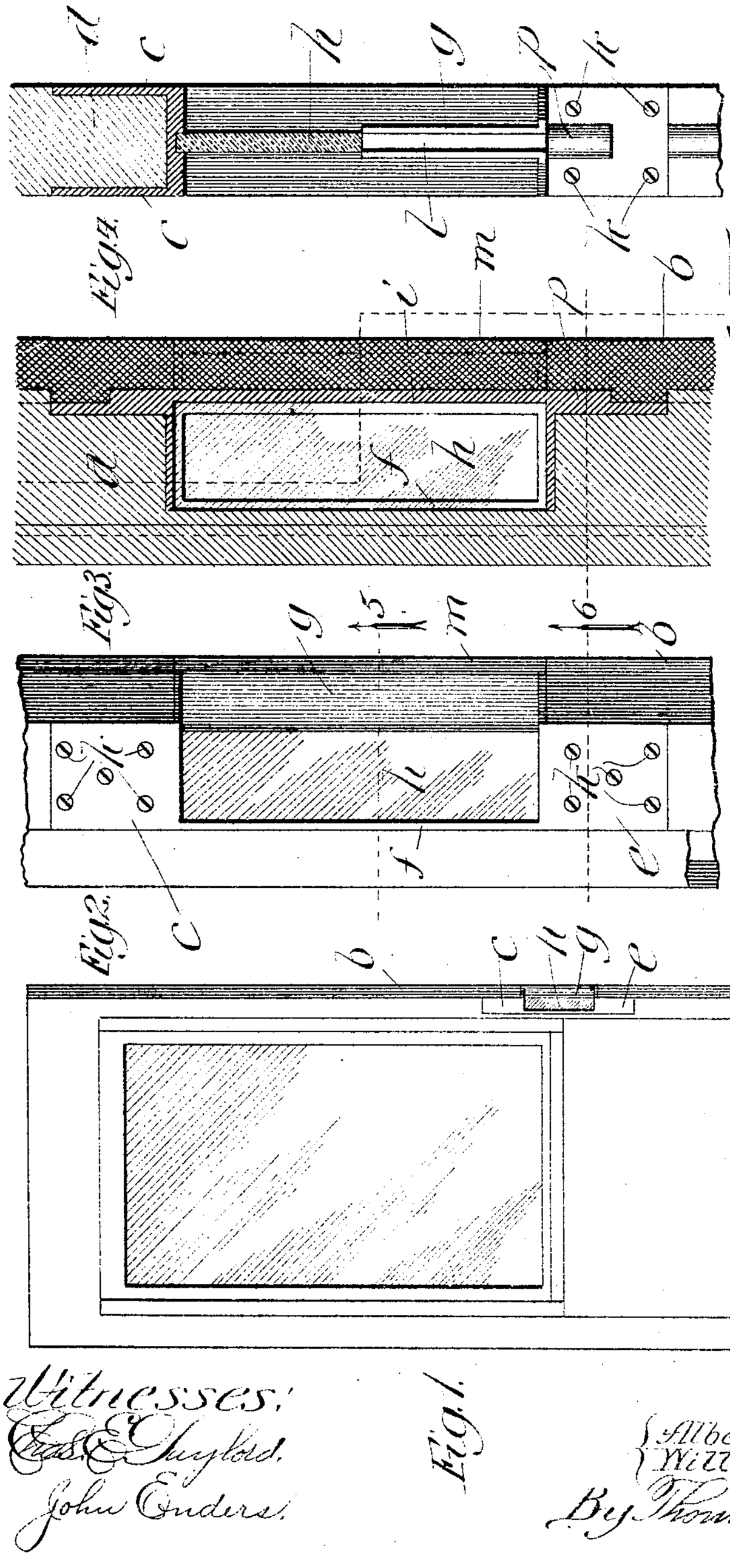
No. 764,691. PATENTED JULY 12, 1904.

A. W. SULLIVAN & W. RENSHAW.

SLIDING CAR DOOR.

APPLICATION FILED APR. 4, 1904.

NO MODEL.



Witnesses:
Chas. E. Gaylord.
John Enders.

Inventors:
Albert W. Sullivan, &
William Renshaw,
By Thomas F. Sheridan.
Atty.

No. 764,691. Patented July 12, 1904.

UNITED STATES PATENT OFFICE.

ALBERT W. SULLIVAN AND WILLIAM RENSHAW, OF CHICAGO, ILLINOIS.

SLIDING CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 764,691, dated July 12, 1904.

Application filed April 4, 1904. Serial No. 201,553. (No model.)

To all whom it may concern:

Be it known that we, ALBERT W. SULLIVAN and WILLIAM RENSHAW, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sliding Car-Doors, of which the following is a specification.

This invention relates to that class of sliding car-doors which are used in connection with side-door-opening cars, such as shown and described in Letters Patent of the United States No. 686,959, granted to us the 19th day of November, 1901, and particularly to the construction and arrangement of the handhold therefor, as will more fully hereinafter appear.

The principal object of the invention is to provide a simple, economical, and efficient handhold for sliding car-doors.

Other and further objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists principally in the combination of a car-door, a handhold therefor formed of a recessed portion at or near one side thereof, and a piece of transparent material forming the bottom of such recess.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the sliding car-doors fitted with these improvements; Fig. 2, an enlarged detail of the handhold portion; Fig. 3, an enlarged sectional elevation taken on line 3 of Fig. 5; Fig. 4, a parti-sectional elevation taken on line 4 of Fig. 3; Fig. 5, a cross-sectional detail taken on line 5 of Fig. 2, and Fig. 6 a cross-sectional detail taken on line 6 of Fig. 3.

In the art to which this invention relates it is well known that on a sliding door which has to pass wholly within the narrow space of hollow walls it is not practicable to use projecting handles. Such handles, if used, limit the range of movement of the door, thereby preventing the full use of the opening of the doorway and involve risk of personal injury by reason of the liability of the hand of the operator being caught between the projecting handle and the jamb of the door or the edge of the wall in making the movement necessary to the opening of the door. In order, therefore, to obtain the safe use of the full space of the doorway of a car—an important consideration in providing for the rapid entrance and exit of passengers—it is necessary for the door to slide wholly within the walls, a condition enforcing the use of a recessed handhold or door-pull on both sides of the door. Such recessed handholds as ordinarily made are more or less obscure and not readily noticeable by passengers in the hurry incident to entering and leaving the cars of a train at way-stations, particularly at night, the result being that much time is lost in the confusion incident to groping for the recessed handle. To obviate this difficulty and provide in a simple, economical, and efficient manner for passengers either inside or outside of the cars instantly discovering the location of the recessed handholds during any time of the day or night is the principal object of this invention, there being utilized for the purpose the bright exterior light in the day-time and at night the light from the interior illumination of the car, which passing through the transparent panel that forms the partition between the interior and exterior handholds attracts the attention of the passenger, who is enabled at once to locate the handhold and to quickly open the door, all of which will more fully hereinafter appear.

The principal object, therefore, of this invention is to provide a simple, economical, and efficient handhold for sliding car-doors of such construction and arrangement that it can always be seen from the outside of the car during dark or cloudy times or from the inside of the car on a bright day by reason of the light passing therethrough.

In constructing these improvements we provide a sliding car-door *a* of any desired size and shape to meet the desired conditions, preferring to use therefor a car-door having one beveled edge, which may be formed by means of a substantially V-shaped cushion portion *b*. This beveled-edge portion is arranged to

enter and abut against the walls of a V-shaped recess; but as these elements do not form any material object of this invention it is not thought advisable to illustrate them further than is necessary to disclose the invention to others.

To form a recessed handhold for this type of car-door, an apertured metallic frame portion is provided having upwardly-extending flanged portions *c*, adapted to grasp the wooden portion *d* of the door-frame, and downwardly-extending flanges *e*, similar to those shown at *c* in Fig. 4, also intended to grasp the wooden portion of the door-frame. These flange portions are connected together at their inner edges by means of integral metal portions *f*, which form an inner wall at right angles to the flange portion, and an outer bridge portion *g*.

There is an open space or aperture formed between the inner wall *f* and the outer bridge portion *g*, which space is divided with a piece of transparent material, such as glass, *h*, which is inserted therein and engages a notch or groove *i* in the bridge portion, so as to form a transparent bottom portion for a double recess, as shown in the drawings. The inner right-angular wall *f* is split longitudinally, so that the glass may be inserted in position before the handhold is placed in engagement with the frame of the car-door. The handhold is secured in position by means of a multiplicity of wooden screws *k*, which are passed through perforations in the flanged portions and into the wooden part of the door-frame. The bridge portion of the handhold is grooved, as at *l*, and into this is inserted a cushion portion *m*, which practically forms a continuation of the cushion portion *b* along one entire lateral edge of the car-door.

It will be noticed in looking at the cross-sectional view of Fig. 6 that the flange portions *e* are connected together, so that they form a substantially U-shaped member, the connecting portion of which is provided with a raised rib *p*, adapted to engage with a recess on the inner side of the cushion portion *b* to assist in holding such cushion in position.

From an examination of the foregoing description of construction, arrangement, and operation of parts it will be seen that a simple and economical handhold is provided and so arranged that a passenger may grasp the same from the outside or inside and open the door, the transparent member *h* of which permits light to pass from one side to the other of the car-door to guide the passenger in locating the position of the handhold, a very great advantage, in that it can be securely grasped and opened in a short space of time, all of which obviates or minimizes the danger of accidents which are likely to happen with the use of the ordinary handholds.

We claim—

1. In combination with a car-door, a recessed handhold therefor formed of a recessed portion at or near one side thereof, and a piece of transparent material located in the bottom of such recess, substantially as described.

2. In combination with a sliding car-door, a recessed handhold therefor formed of a metallic frame portion therefor provided with bottom web of transparent material to permit the light to pass therethrough, substantially as described.

3. In combination with a sliding car-door, a recessed handhold therefor formed of an apertured metallic frame portion secured thereto having upwardly and downwardly extending flanged portions, an inner wall, an outer bridge portion, and a dividing-web of transparent material inserted in the handhold between the inner wall and the outer bridge portion forming the bottom of a double recess, substantially as described.

ALBERT W. SULLIVAN.
WILLIAM RENSHAW.

Witnesses:
THOMAS F. SHERIDAN,
ANNIE C. COURTENAY.