

No. 865,478.

PATENTED SEPT. 10, 1907.

L. COCKERILL.  
SAFETY STORM FRONT.  
APPLICATION FILED MAY 6, 1907.

2 SHEETS—SHEET 1.

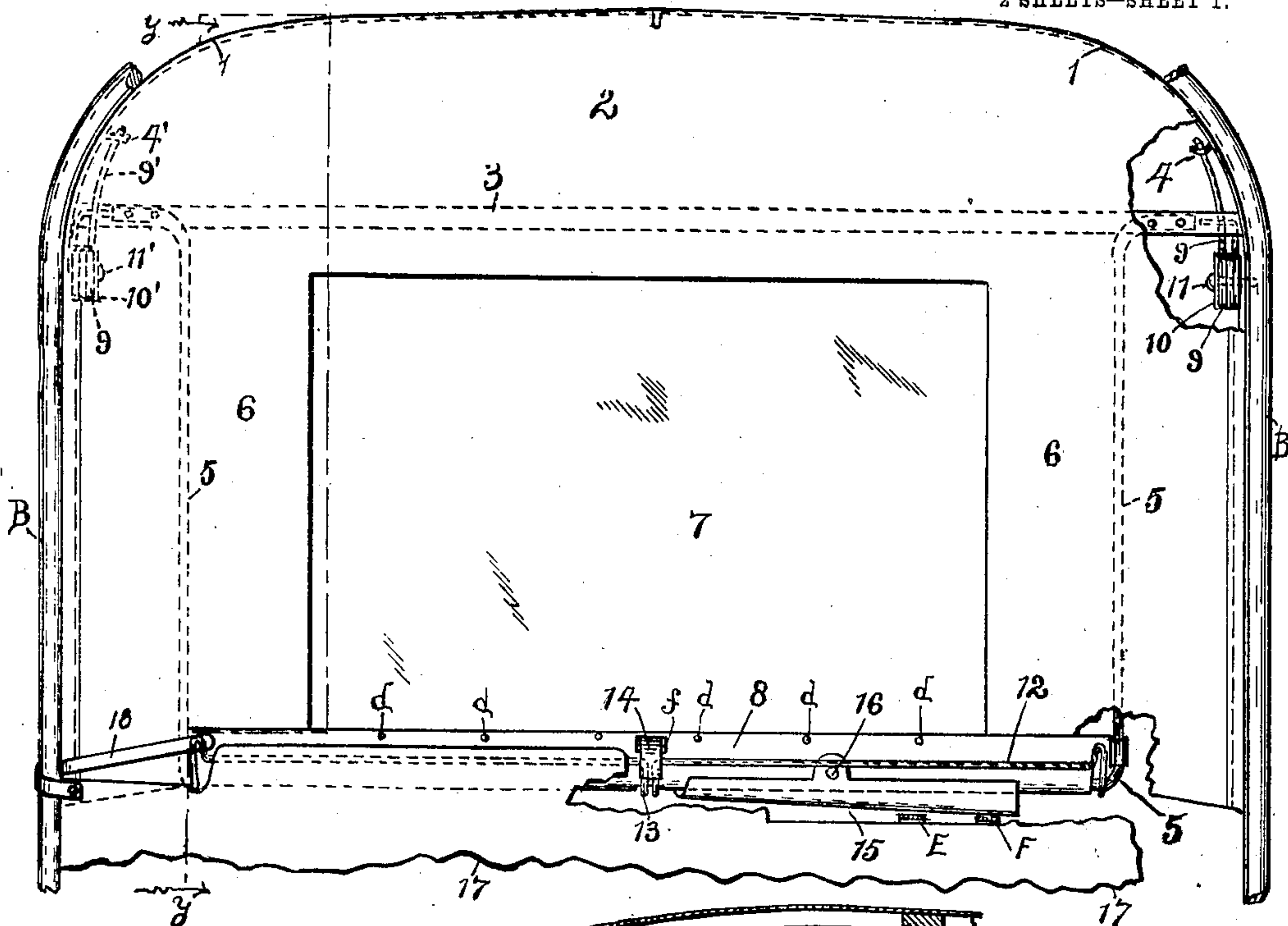


Fig. 1.

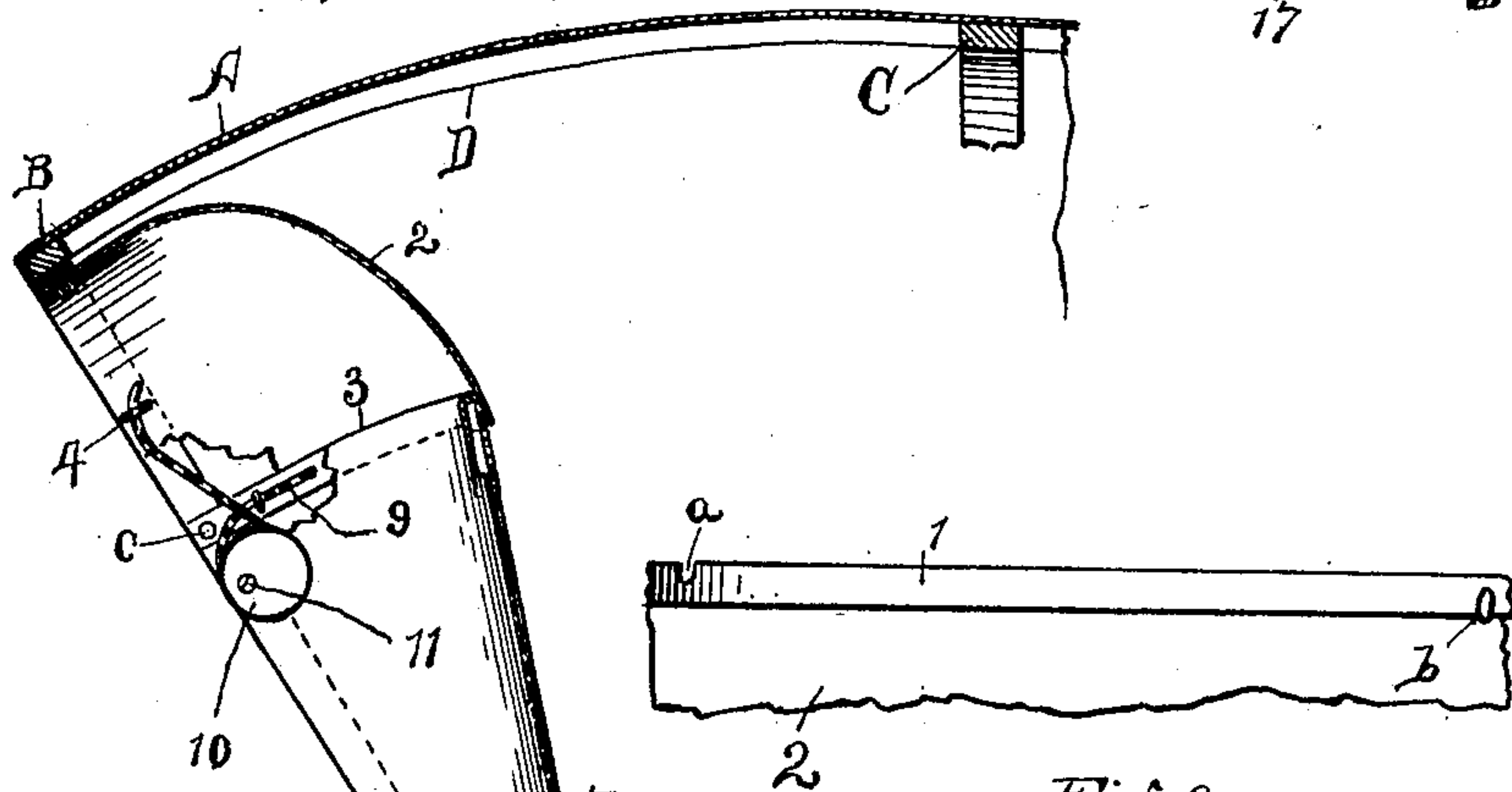


Fig. 2.

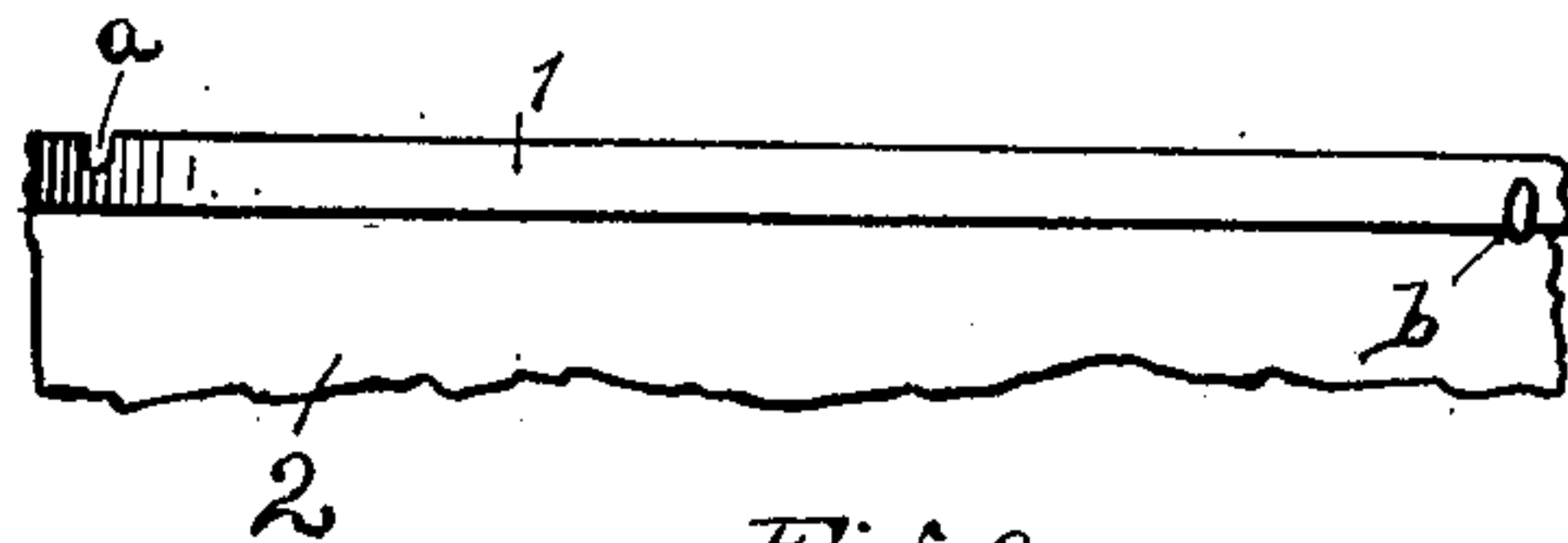


Fig. 3.

Witnesses:  
Adelaide Kearns  
M. E. Randall

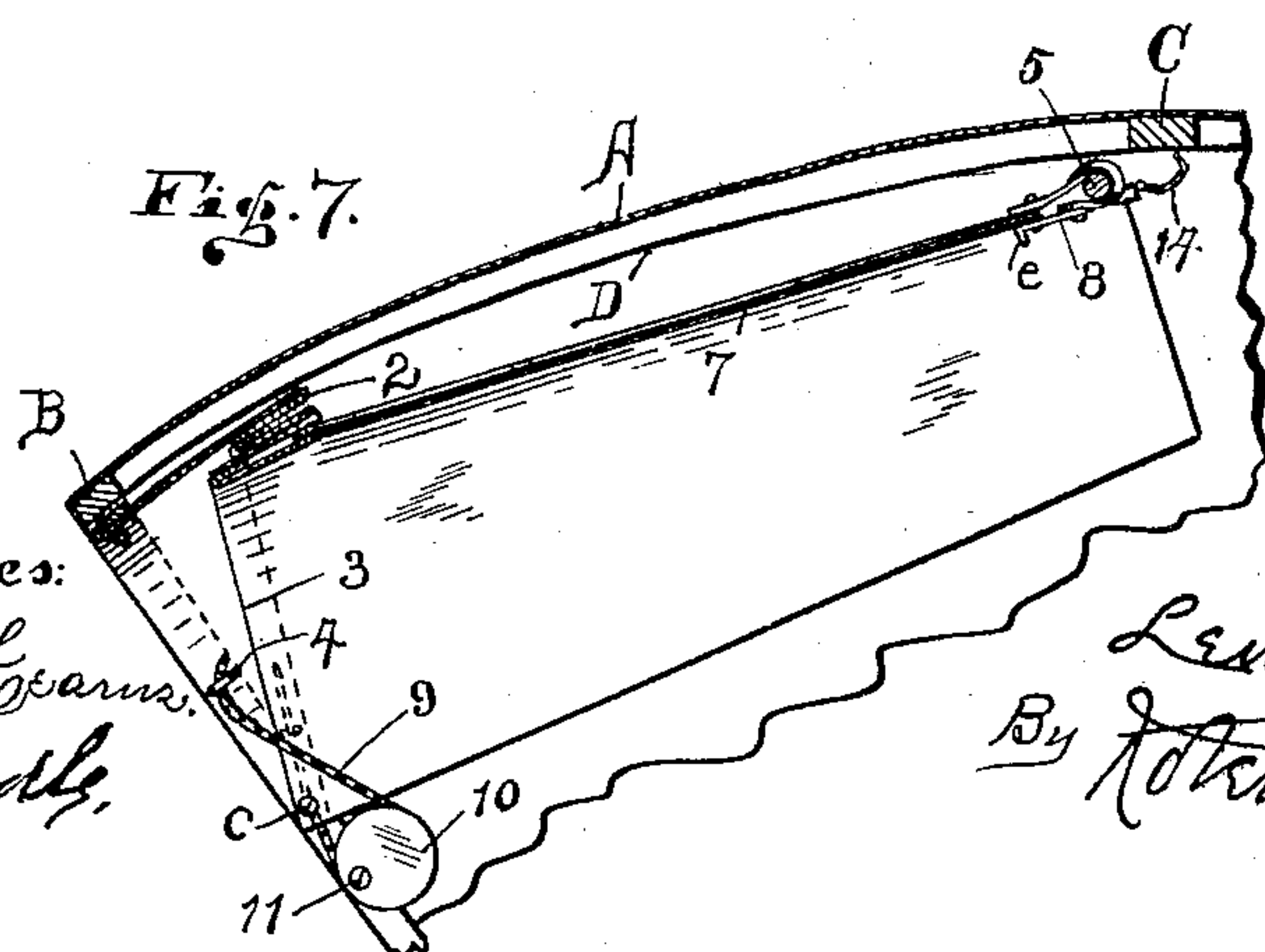
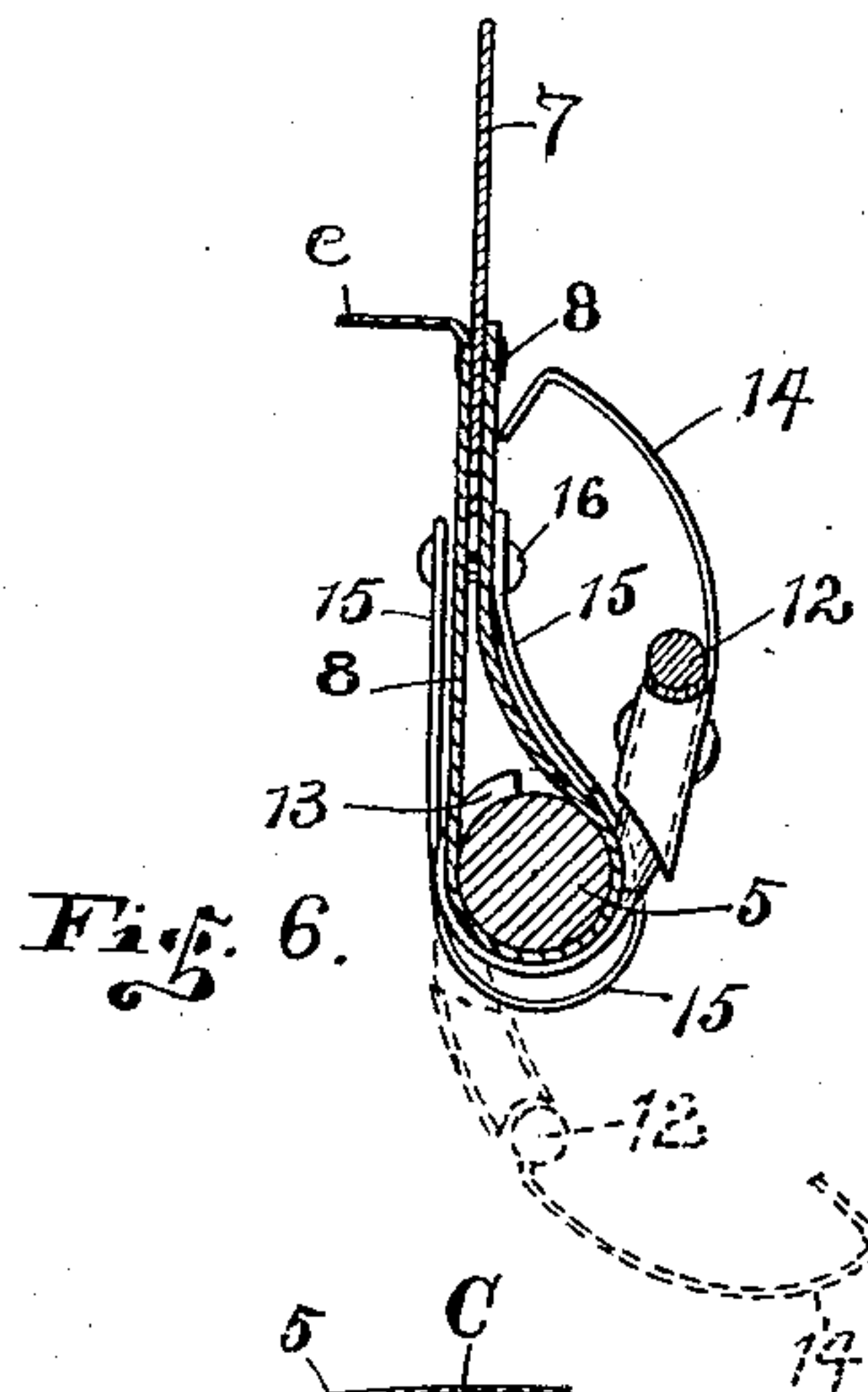
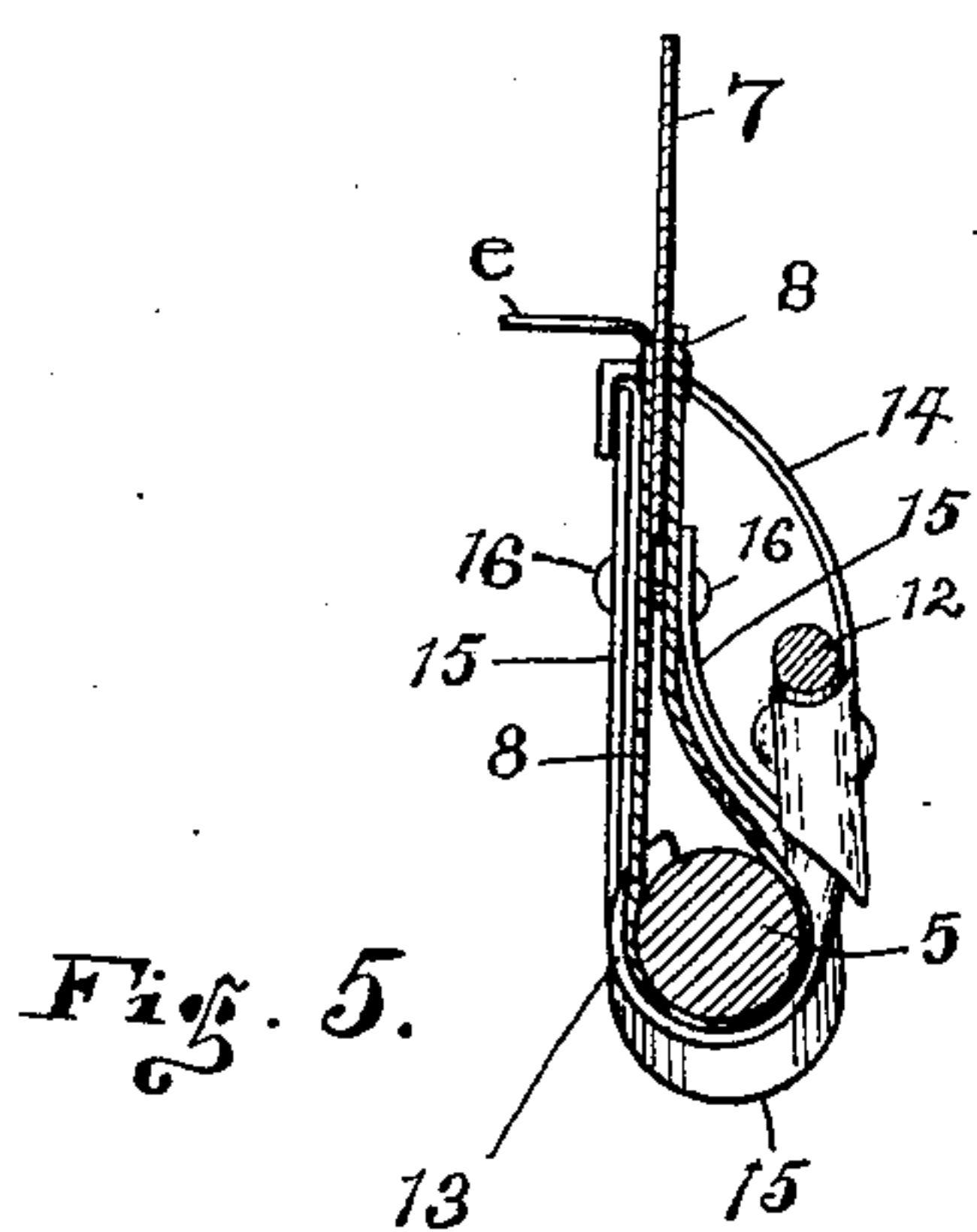
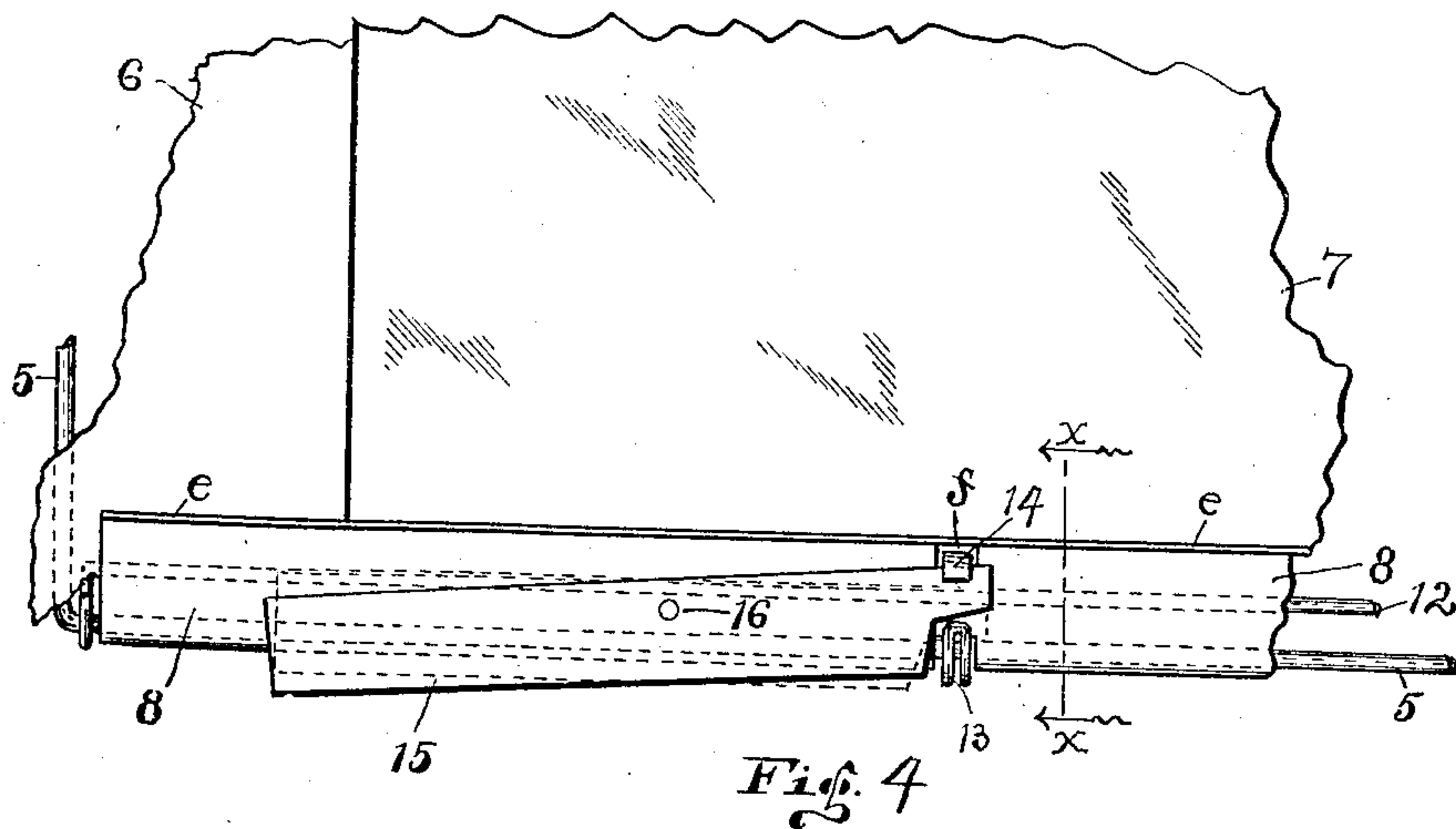
Inventor,  
Lewis Cockerill;  
By Robert W. Tangle,  
Attorney.

No. 865,478.

PATENTED SEPT. 10, 1907.

L. COCKERILL.  
SAFETY STORM FRONT.  
APPLICATION FILED MAY 6, 1907.

2 SHEETS—SHEET 2.



Witnesses:  
Adelaide Evans.  
H. E. Gandy.

Inventor  
Lewis Cockerill  
By Robert W. Kaulle,  
Attorney.



# UNITED STATES PATENT OFFICE.

LEWIS COCKERILL, OF RICHMOND, INDIANA.

## SAFETY STORM-FRONT.

No. 865,478.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed May 6, 1907. Serial No. 372,026.

*To all whom it may concern:*

Be it known that I, LEWIS COCKERILL, a citizen of the United States, residing in the city of Richmond, in the county of Wayne and State of Indiana, have invented a  
5 a new and useful Safety Storm-Front for Vehicles, of which the following is a complete and accurate specification and exposition.

The object of my present invention, broadly speaking, is the provision of a safety storm-front particularly  
10 applicable to vehicles having a top, such for instance as buggies and automobiles; to provide a construction which will be strong and durable in construction, easily operated and controlled, efficient and practically automatic in operation, light and compact in its assembled  
15 condition, and which can be manufactured and sold at a comparatively low price.

More specifically stated, my object is to provide a storm-front which will automatically fold up within the vehicle-top, the operation being initiative simply by a  
20 vertical pressure upon the lines when they are taught, and not, necessarily, requiring the driver to release his hands from the lines.

Other specific objects and particular advantages will be brought out in the course of the ensuing specification.  
25 tion.

One manner of carrying out the objects of my invention, and that which has been found to be the most desirable and practical, is shown in the accompanying drawings, in which—

30 Figure 1 is an inside elevation of my invention, looking forward, showing the invention assembled and in operative position; Fig. 2 is a sectional view of the same, taken on the line Y—Y of Fig. 1; Fig. 3 is a detail view showing the means for securing the invention  
35 detachably to a vehicle bow; Fig. 4 is a detail outside elevation, looking backward, of a portion of my invention; Fig. 5 is a detail sectional view taken on the line X—X of Fig. 4, showing the parts secured in operative position; Fig. 6 is a detail section taken on the line  
40 X—X of Fig. 4, and showing the device detached; and Fig. 7 shows the device turned back in the vehicle top and out of operative position.

Similar indices denote like parts throughout the several views of the two sheets of drawings.

45 With the above designated views in mind I will now take up the description of the invention in concrete detail.

In the drawings the letter A denotes a vehicle top having a front bow B and the center bow C, and having  
50 the lining D, all of which are common.

The numeral 1 denotes a flat metal-rim fitting the interior curvature of the top A (or bow B) and having secured thereto the upper edge of the fabric hood 2. In the forward edge of the rim 1, located near each end

thereof, is a notch, as the notch *a* in Fig. 3; and in the  
55 rear edge of the center of said rim is a notch or slot *b*, as shown also in Fig. 3; and the hood 2 is secured to said rim whereby said rim is inclosed thereby. There is a headed pin for each of the two notches *a* and *b*, and also  
60 for the notch or slot *b*, which pins are inserted in the underside of the bow to engage said notches, whereby said rim will be held detachably and securely in place as shown in Fig. 1.

The numeral 3 denotes a flat metal auxiliary rim which is of substantially the same curvature as is the  
65 rim 1 with which it is adapted to rest, and the ends of said rim are pivotally connected together, as by rivet *c* shown in Fig. 2.

Secured towards each end of the rim 1 and projecting downward are the forwardly facing hooks 4 and 4'  
70 shown in Fig. 1, the purposes of which will presently be explained.

The numeral 5 designates a yoke, its central portion being parallel with the rim 3 and located considerably  
75 therebelow, as shown in Fig. 1, with its side portions extending upwards, and its ends being secured by rivets to the end portions of the rim 3 as shown in said view.

The numeral 6 denotes the front composed of double thicknesses of fabric having its upper edge secured  
80 around the rim 3, extending from end to end thereof, and projecting downward to approximately even with the center portion of the yoke 5. The central portion of said front 6 is cut out and a transparent light 7, such as celluloid is inserted to form a window, its edges being secured between the two thicknesses forming the  
85 front 6.

The numeral 8 denotes a sheet-metal member doubled over and inclosing the central portion of the yoke 5 with its edges projecting upwards and secured together by  
90 rivets, as the rivets *d* in Fig. 1, with the lower edge of the window-light secured between its edges. Said member 8 is stiffened by means of an outward turned lip or flange *e*.

The indices 9 and 9' denote each a helical spring, each having two extending arms as shown, one arm of  
95 each of said springs is rigidly secured near the ends of the rim 3 as shown in Fig. 2, and the other arms of said springs are detachably connected in said hooks 4 and 4' as indicated in Figs. 1 and 2, the tension of said springs being such as to normally retain the front in the position  
100 shown in Fig. 7. Said springs are prevented from buckling by being partly inclosed each by a case 10 and 10', respectively, which cases are secured to the buggy-bow by the respective screws or the like indicated by the indices 11 and 11'.  
105

The numeral 12 designates an eccentrically mounted shaft, having downwardly projecting lugs on either end connected around the horizontal portion of the yoke 5,



as shown in Fig. 1, whereby said shaft 12 may be moved to and from the inner face of the member 8, as indicated in Figs. 5-6.

The numeral 13 designates a hook formed of the central portion of the shaft 12, the central portion of said shaft being doubled upon itself and this doubled portion is formed into said hook 13, which hook encircles the center of the middle portion of the yoke 5. Secured to said hook 13 and extending out oppositely thereto is the catch 14 having a hook on its free end as shown in Figs. 5 and 6. An aperture *f* is formed through the center of the sheet metal member 8 through which the hook of said catch 14 may pass, as in the position shown in Fig. 5.

The numeral 15 denotes the trip which consists of a relatively long sheet-metal strip folded together about and loosely inclosing a portion of the lower edge of the sheet-metal member 8 substantially as shown in Figs. 1 and 4. The trip 15 is secured and pivotally mounted in place by the pivot 16 which passes through both sides of the trip and both sides of the member 8, as indicated in Figs. 5 and 6, by which it is evident that the trip may have a limited vertical movement on each side of its pivot. The inner point of the trip 15 is arranged to pass over the outer face of the aperture *f*, as indicated in Fig. 4, and when the hook of the catch 14 is inserted in the aperture *f* and the outer end of the trip 15 is moved down, as in Fig. 4, it is apparent that the point of the trip will engage said hook and retain it in the position shown in Figs. 4 and 5 until the outer end of the trip is moved up, which latter movement will release the catch 14 allowing the catch to move back to the position in which it is shown in Fig. 6.

The numeral 17 denotes the lap curtain having its forward edge connected to the vehicle dash in any preferred well known manner. The said lap-curtain is adapted to extend back and upward and having its rear edge hemmed or doubled in order to make it thicker at this edge, and a notch is formed in the center of said rear edge in order that it will not interfere with the catch 14. Said rear edge of the curtain 17 is adapted to be brought over the shaft 12 from the rear and inserted down between said shaft and the inner face of the member 8, as indicated in Fig. 2, at which time the catch 14 is pressed through the aperture *f* and locked therein by the point of the trip 15 engaging therewith as shown in Fig. 4.

The letters E and F designate driving-lines which extend into the vehicle by passing under the trip 15 and through a notch in the rear edge of the curtain 17 as shown.

It is apparent that the springs 9 and 9' are adapted to normally retain the front in the position shown in Fig. 7, and when desired for use the front may be turned down against the resiliency of said springs to the position shown in Figs. 1 and 2, the curtain 17 is then attached as above described which will hold the device in operative position. When it is desired to dispense with the use of the device the driver has only to give the lines an upward movement, to move the trip 15, which will cause the point of the trip to release the catch 14 and then the weight of the curtain 17 will cause the shaft 12 to swing back, as in Fig. 6, which evidently will allow the curtain 17 to fall, and at the same time the

springs 9 and 9' will automatically return the front to the position shown in Fig. 7.

It is apparent that the device may, if desired, be attached to the bow C of the vehicle and its position reversed whereby when released the front will swing forward and upward, in place of rearward and upward as shown in the drawings.

The numeral 18 denotes a strap secured at one end to an upper corner of the curtain 17, and when the device is in operative position this strap may be passed around the bow B and the free end thereof is then passed down between the member 8 and the lug formed on the end of the shaft 12, as shown in Fig. 1, the extreme end of said strap being thickened to prevent its pulling through or out of position until the trip is released; and it is of course evident that the opposite upper corner of said curtain is provided with a like strap to be secured in like manner around the bow on the opposite side of the vehicle.

Attention is called to the fact that the trip may be thrown by hand, if desired, as, of course, when the device is used in connection with an automobile, in which instance the lines shown are dispensed with.

Having now fully shown and described my invention and the best means for its construction and operation to me known at this time, what I claim and desire to secure by Letters Patent of the United States, is—

1. A safety front for vehicles comprising a frame covered by fabric, means for eccentrically mounting the frame to the vehicle bow, springs for normally retaining the front out of position and located in the vehicle top, a lap curtain attached to the vehicle dash, and having its rear edge doubled upon itself, a shaft eccentrically mounted near the lower edge of the inner face of the front to provide means for detachably connecting the rear portion of the lap curtain to the front after the front has been turned to position against the resiliency of the springs, a catch for holding the front and the curtain connected, and a trip for releasing said catch to allow the front to be raised by said springs and to allow the curtain to drop, all substantially as shown and described.

2. In a storm front, the combination with a vehicle top, a rim detachably connected to the underside of the vehicle bow, an auxiliary rim pivoted at its ends to the first named rim, a flexible hood connecting said rims, a yoke extending from the second named rim, a fabric covering the frame formed by the second rim and said yoke, a shaft eccentrically mounted to the lower portion of said frame, a member surrounding the lower horizontal portion of said frame and having an aperture therethrough near its center, a catch secured to the center of said shaft, a hook projecting from said catch and adapted to enter said aperture, a trip pivoted around the lower edge of said frame and having a point to engage said hook, springs for normally raising said frame out of operative position, a lap curtain, means for attaching the lap curtain to said shaft whereby it will be released when said catch is released, all substantially as shown and described and for the purposes set forth.

3. A storm front detachably secured to a vehicle bow and adapted to be turned back substantially parallel with the top or to be turned down substantially parallel with the dash, springs for normally retaining the front back out of operative position, a lap curtain having its upper edge thickened, a shaft carried on the lower edge of the front and adapted to receive thereover said upper edge of the lap curtain thereby providing means for connecting the upper edge of said curtain to the lower edge of the front, and means whereby the connection of the front and of said curtain may be released to allow the parts to assume their normal positions, all substantially as shown and described.

4. In a storm front for vehicles, the combination with the vehicle-top, an eccentrically mounted front adapted to turn up within the vehicle top, a pair of helical springs normally retaining the front in the last named position, 5 a lap-curtain extending up from the vehicle-dash with its upper edge adapted to be connected to the lower edge of the front when the front is in operative position, means for detachably connecting the curtain and the front, and a trip for releasing said connection by the movement of

the lines upward in contact with the trip, all substantially as shown and described. 10

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

LEWIS COCKERILL.

Witnesses:

R. W. RANDLE,  
R. E. RANDLE.