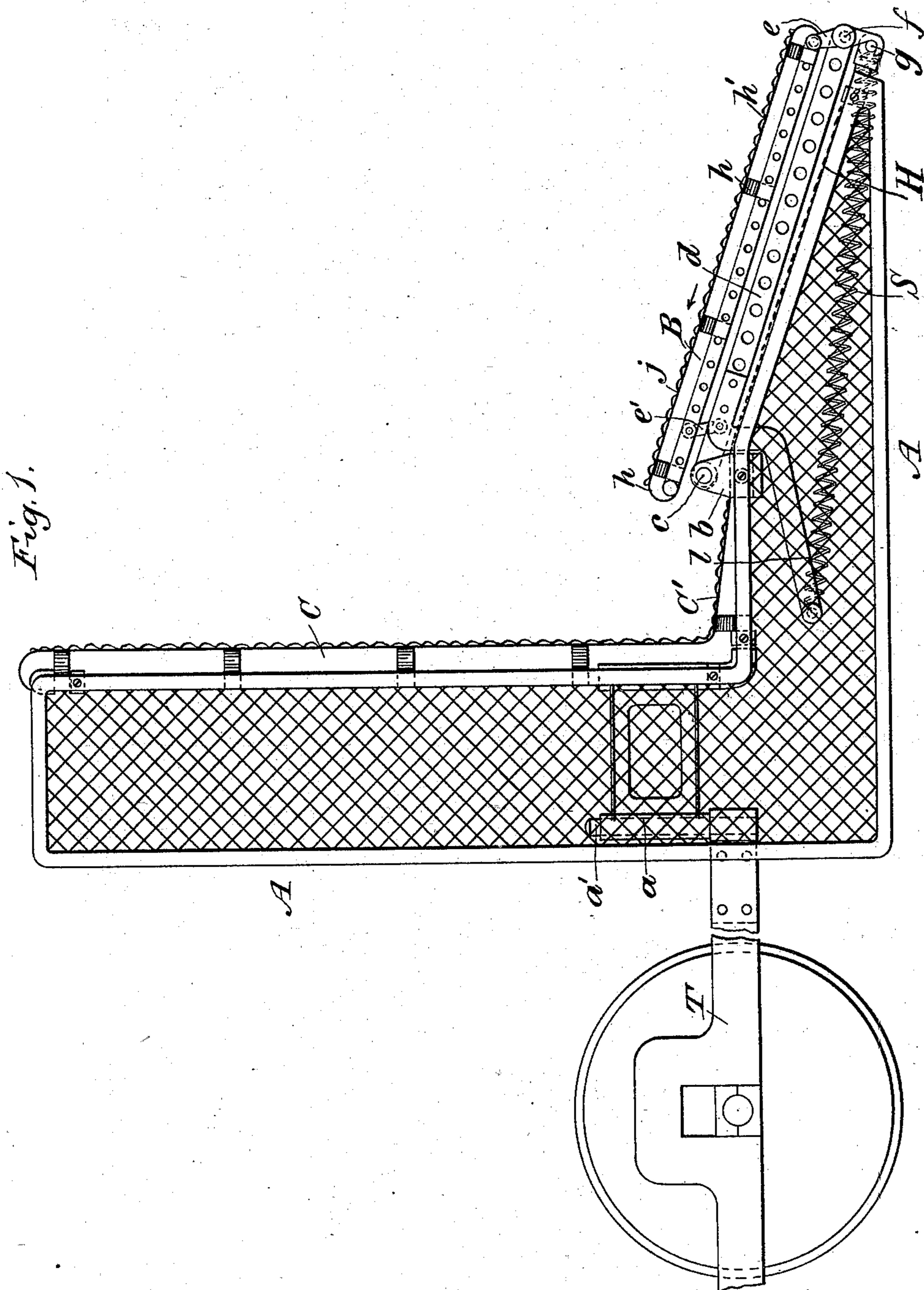


3 Sheets—Sheet 1.

No. 560,902.

Patented May 26, 1896.



Albert B. Blackwood.

Gales R. Moore

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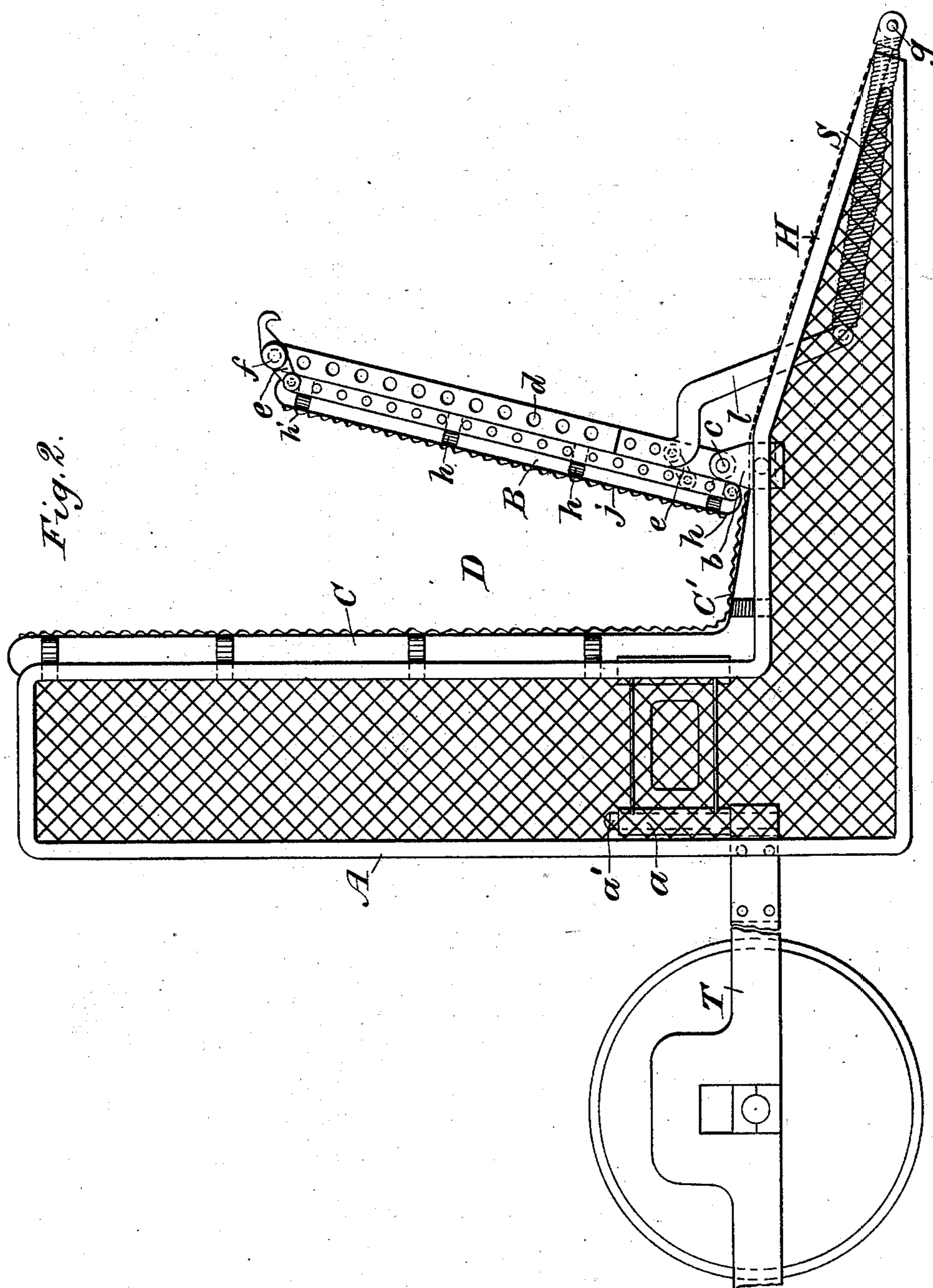
(No Model.)

3 Sheets—Sheet 2.

F. J. HOPKINS & G. H. MILLER.
CAR FENDER.

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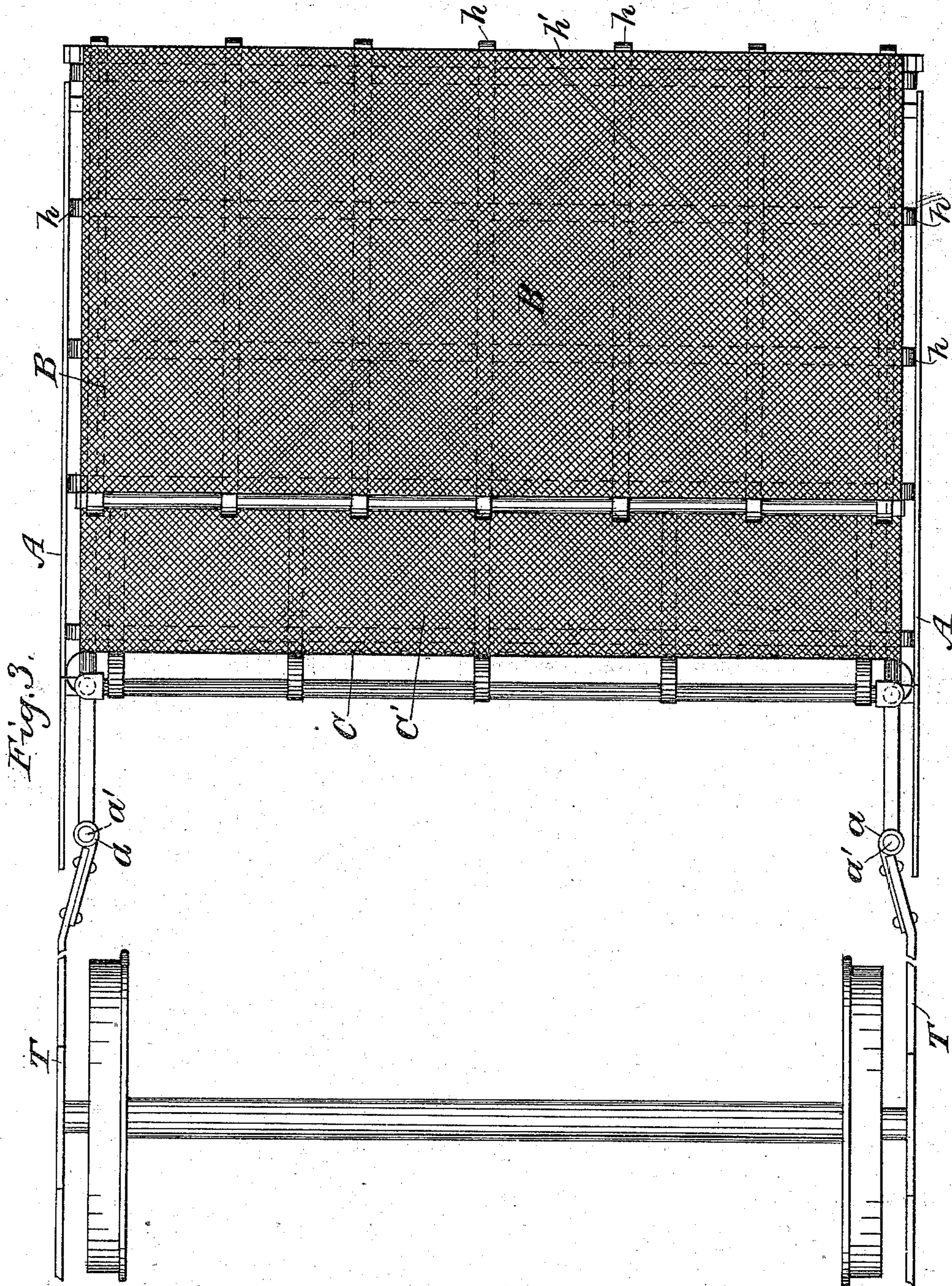
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UNITED STATES PATENT OFFICE.

FRANK J. HOPKINS AND GEORGE H. MILLER, OF NEWARK, NEW JERSEY.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 560,902, dated May 26, 1896.

Application filed November 16, 1895. Serial No. 569,161. (No model.)

To all whom it may concern:

Be it known that we, FRANK J. HOPKINS and GEORGE H. MILLER, citizens of the United States of America, and residents of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

Our invention has reference to a fender for street-cars and other vehicles, and has for its object to effectually avoid injury or loss of life by preventing the person who may be struck by the fender from falling in front of the latter and under the car. To this end we so construct the fender that the person is caused to fall toward the car and upon the fender, whereupon a movable platform forming part of the latter lifts the person upon the body of the fender and retains him within and upon the latter, such action being automatic and in no wise dependent upon the attendant.

Our invention therefore consists, essentially, in a fender comprising in its structure a frame adapted to be connected to the car, a platform mounted to swing on said frame and normally held downwardly, means for turning said platform upwardly, and a lock connecting the frame and platform and adapted to be disengaged to release the platform when the latter encounters an obstacle.

The nature of our said invention will best be understood when described in connection with the accompanying drawings, in which—

Figure 1 represents a side elevation of a fender constructed according to our invention. Fig. 2 is a similar view showing the swinging platform turned upwardly to its full extent. Fig. 3 is a plan view of Fig. 1.

Similar letters of reference designate corresponding parts throughout the several views of the drawings.

Referring now to the drawings, the letters A A designate two oppositely-placed side frames provided with suitable cross-braces to form a strong connected frame. This frame, which we shall term the "main" frame, may be attached to the body of the car, the platform, or to the truck-frame T in any suitable manner. In the present instance we have shown it provided with perforated lugs a a, which are mounted on pivot-pins a' a',

having their supporting members bolted or riveted directly to the truck-frame. With this mode of attachment the fender can be readily removed and transferred when necessary, while at the same time the vibrations of the car-body do not affect the same. The main frame is made substantially L-shaped, and the greater portion of the upper face of the horizontal member is inclined downwardly. To said horizontal member are secured on opposite sides two lugs or bearings b b, supporting a horizontal shaft c, to which is hinged a lever-frame d, adapted to swing in a vertical plane about said shaft c as an axis. This frame is supported upon the inclined portion of the main frame and carries at its outer end two latch-levers e e, mounted to turn about suitable pivot-pins f and adapted to engage with pins or projections g g, extending horizontally from the opposite sides of the said main frame. Above this lever-frame d is located a platform B, connected with said frame by links e' e' at one end and to the latch-levers e e at its opposite end. This platform is covered with a soft material, or, as here shown, an elastic or yielding surface is formed by flat springs h, distributed at proper intervals and covered with a wire or chain cloth h', of usual construction. From the lever-frame d arms l are carried downwardly and inwardly, and to the outer ends of said arms are attached retractile springs S, secured at their opposite ends to the main frame of the fender. The action of these springs is, therefore, to turn the lever-frame d and the attached platform B upwardly about the shaft c when the latch-levers e e are disconnected from the pins or projections g g to release the said lever-frame. This disconnection is effected by the sliding or downward and rearward motion of the platform relative to the lever-frame when the person falls upon or against the former. From Fig. 1 it will be seen that the latch-levers e e and the links e' e' are inclined rearwardly. Consequently a force applied to the platform will depress and move the same backward, thereby turning the latch-levers about their pivots sufficiently to disengage them from the pins or projections g g on the main frame.

The vertical member of the main frame is covered with a cushion C, constructed like

the cushion of the platform B, said cushion being extended over a portion of the horizontal member of the frame, as at C', to close the gap between the members. This extension
 5 C' reaches to a point below or somewhat past the inner end of the platform B, so that when the platform is swung to the position shown in Fig. 2 by the action of the springs a cushioned receptacle or space, closed at the front,
 10 back, and bottom, is formed. This receptacle or space I have marked by reference-letter D in Fig. 2 of the drawings.

In the event of a person being struck by the fender he is caused to fall upon the same and
 15 the platform B is moved backward and released. The platform is immediately drawn to its elevated position, Fig. 2, carrying the person with it and into the space marked D, wherein he is confined and prevented from
 20 falling out. All the parts being properly cushioned, little or no shock is experienced. To provide for, in case the person should not be lifted with the platform, we cover the inclined portion of the main frame located be-
 25 neath the platform with wire or chain cloth E, which will receive and retain the person and thus prevent him from falling beneath the fender.

We do not wish to confine ourselves to the
 30 details of construction herein shown and described for the frame and swinging platform, nor to the use of springs as a motive power for actuating the latter, since it is evident that other constructions may be employed and that
 35 the actuating force may be supplied by a weight or other motor.

What we claim as new is—

1. A fender for vehicles comprising in its structure a frame, a hinged retractile plat-
 40 form, means for turning the same upwardly, and a separable, restraining connection between the frame and platform released by the retractile movement of the platform, when en-
 45 counterer an obstacle, to permit the upward movement of said platform under the influence of the actuating means, substantially as described.

2. A fender for vehicles comprising in its structure a main frame, a lever-frame hinged
 50 to the main frame, means for turning the lever-frame upwardly, a separable connection between the lever-frame and the main frame, and a platform connected with the lever-
 55 frame and adapted to break the connection between the two frames, substantially as described.

3. A fender for vehicles comprising in its structure a main frame provided with a hori-
 60 zontal and a vertical member, a lever-frame mounted on the horizontal member and having a separable connection with the same, springs acting on said lever-frame to turn the

same upwardly, a platform linked to the lever-frame and acting on the separable connection, and cushions for the platform and
 65 the main frame, substantially as described.

4. A fender for vehicles comprising in its structure a main frame, a lever-frame hinged to the main frame, a retractile spring connected with the lever-frame for turning the
 70 same upwardly, a latch-lever on the swinging frame engaging with the main frame to hold the former against the action of the spring, and a platform linked to the lever-frame and engaging the latch-lever, substantially as de-
 75 scribed.

5. The combination with a car, or like vehicle, consisting of an L-shape frame attached to the truck-frame and provided with cushioned surfaces, as described, a hinged re-
 80 tractile platform, means for turning the same upwardly, and a separable, restraining connection between the frame and platform released by the retractile movement of the platform, when encountering an obstacle, to per-
 85 mit the upward movement of said platform under the influence of the actuating means, substantially as described.

6. A fender for vehicles comprising in its structure a main frame having a vertical and
 90 a horizontal member, a swinging platform, means for turning the same upwardly, a separable restraining connection between the frame and platform, and an auxiliary or receiving platform below the swinging plat-
 95 form, substantially as described.

7. A fender for vehicles comprising in its structure a main frame, a swinging platform, means for turning the same upwardly, a sepa-
 100 rable restraining connection between the frame and platform, and an auxiliary receiving platform below the swinging platform, substantially as described.

8. A fender for vehicles comprising in its structure a main frame, a lever-frame hinged
 105 to the main frame, means for turning the lever-frame upwardly, a separable connection between the lever-frame and the main frame, a platform above the lever-frame, and inclined links connecting said platform with the lever-
 110 frame, whereby the connection between the lever-frame and the main frame is automatically broken to effect the upward movement of the lever-frame and platform, substantially
 115 as and for the purpose specified.

In testimony that we claim the foregoing as our invention we have signed our names, in presence of two witnesses, this 12th day of November, 1895.

FRANK J. HOPKINS.
 GEORGE H. MILLER.

Witnesses:

CASPAR MILLER,
 A. FABER DU FAUR, Jr.