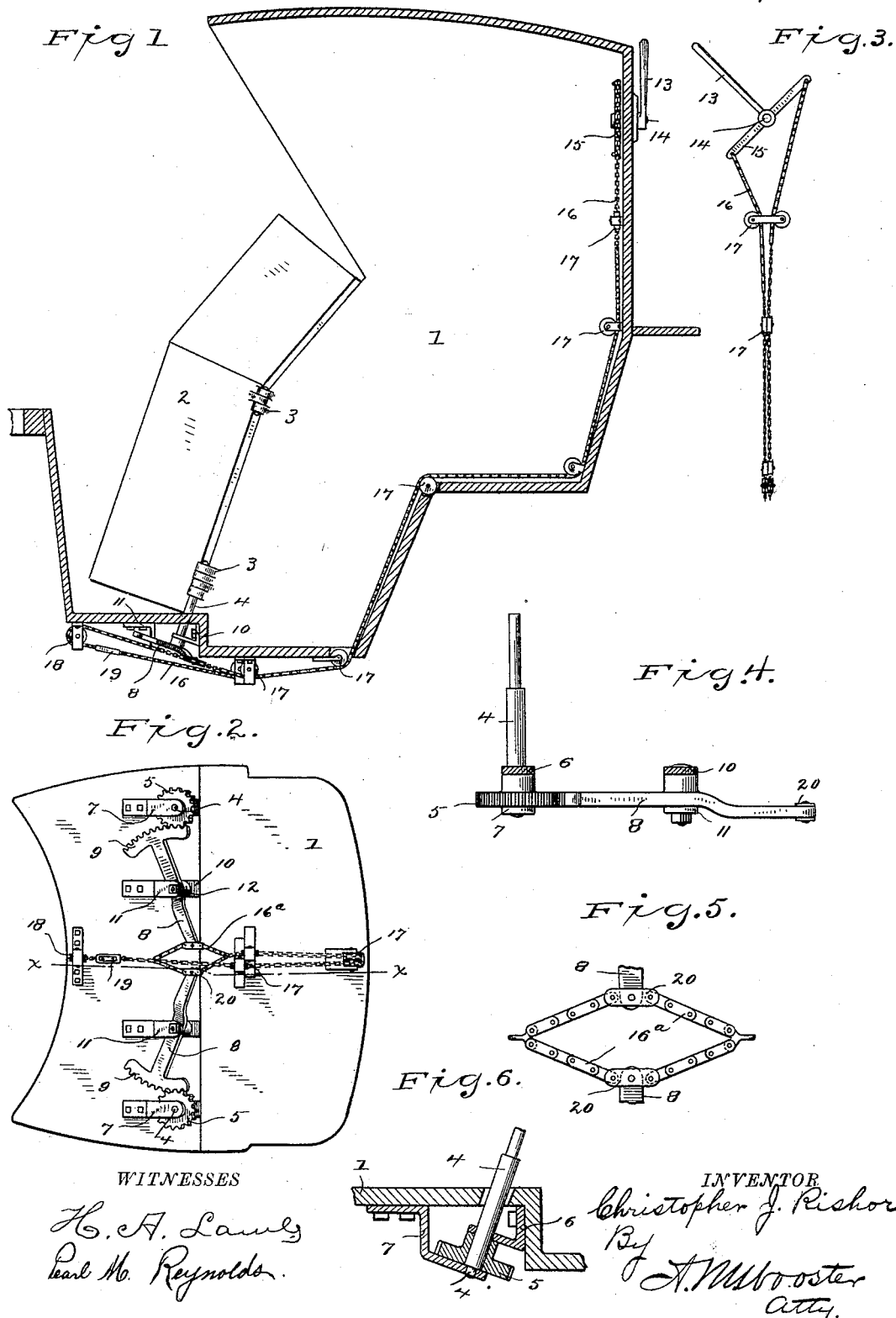


(No Model.)

C. J. RISHOR.
DEVICE FOR OPENING DOORS OF HANSOMS.

No. 493,520.

Patented Mar. 14, 1893.



UNITED STATES PATENT OFFICE.

CHRISTOPHER J. RISHOR, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO
HINCKS & JOHNSON, OF SAME PLACE.

DEVICE FOR OPENING DOORS OF HANSOMS.

SPECIFICATION forming part of Letters Patent No. 493,520, dated March 14, 1893.

Application filed September 9, 1892. Serial No. 445,461. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER J. RISHOR, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Devices for Opening Doors of Hansoms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide simple, strong and durable mechanism for opening doors of hansom cabs, which shall enable said doors to be conveniently manipulated by the driver from his seat at the back of the vehicle.

With these ends in view I have devised the simple and novel construction which I will now describe referring by numbers to the accompanying drawings forming part of this specification in which:

Figure 1 is a section of the body of a hansom cab illustrating my novel door operating mechanism the line of the section being indicated by $x x$ in Fig. 2. Fig. 2 an inverted plan view of the body illustrating the opening levers and parts operating in connection therewith. Fig. 3 a detail view of the operating handle and cross piece to which the ends of the chain are attached. Fig. 4 an enlarged detail view of one of the opening levers and the shaft and pinion operating in connection therewith. Fig. 5 a detail view illustrating the connection of the opening levers to the chain, and Fig. 6 is a detail sectional view illustrating the manner in which the shafts and pinions are supported.

1 denotes the body, and 2 a door hinged to the body as at 3. The knuckles of the lower hinges which are attached to the doors, one only being shown, are rigidly attached to shafts 4. These shafts pass through the other knuckles of the hinge of which they form the pintle, that is to say the shafts turn in the knuckles of the lower hinges which are attached to the body. As the two doors are operated in the same manner and their construction is perfectly well known to the trade I have not deemed it necessary to make a special view to illustrate the other door and

hinges, although for convenience in description I use the plural form. Shafts 4 pass through the bottom of the body and are provided with pinions 5 which are rigidly secured thereto, and lie between upper and lower brackets 6 and 7.

8 denotes the opening levers which are provided at their outer ends with toothed segments 9 which engage pinions 5. These levers are pivoted between upper and lower brackets 10 and 11, each lever being provided with a hub 12 lying between the brackets by which it is held in place.

13 denotes the operating handle secured to a shaft 14 which passes through the back of the body and is provided on the inner side with a cross piece 15, to the ends of which the ends of a chain 16 are attached. The two sides of the chain pass over pulleys 17 suitably placed to avoid friction, the central portion of the chain passing around a pulley 18 and then backward to the cross piece as clearly shown in Fig. 1.

19 denotes a tightening yoke by which slack in the chain may be taken up should it stretch in use. At the inner ends of the opening levers are pivoted blocks 20. One side of the chain, the side extending forward from cross piece 15, is bifurcated as clearly shown in Figs. 2 and 5, and the two branches, which I have indicated by 16^a, are connected to the blocks.

The operation is as follows: The driver while occupying the usual seat at the back of the body, not shown in the drawings, opens or closes the doors by swinging operating handle 13 in one direction or the other as may be required. As shown in the drawings the operating handle is swung toward the left as presented to the driver, to open the doors and backward again toward the right to close them. This movement of the operating handle draws the bifurcated portion of the chain and swings the inner ends of the opening levers toward the back of the body, the effect of which is to throw the segments to the position shown in Fig. 2 and to oscillate the pinions and shafts thereby throwing the doors to the open position as shown in Fig. 1. Movement of the operating handle toward the right moves the bifurcated portion of the chain forward car-

rying the inner ends of the operating levers forward also the effect of which is to oscillate the pinions and shafts and to throw the doors to the closed position.

5 Having thus described my invention, I claim—

The combination with the doors, shafts 4 secured thereto, and pinions on said shafts, of
10 levers 8 having segments engaging said pinions and blocks 20 at their inner ends, and an operating chain one side of which is bifur-

cated, the branches being attached to the blocks on the levers, so that movement of the bifurcated portion of the chain will oscillate the levers to open or close the doors. 15

In testimony whereof I affix my signature in presence of two witnesses.

CHRISTOPHER J. RISHOR.

Witnesses:

M. B. BUTLER,
A. M. WOOSTER.