

No. 686,169.

Patented Nov. 5, 1901.

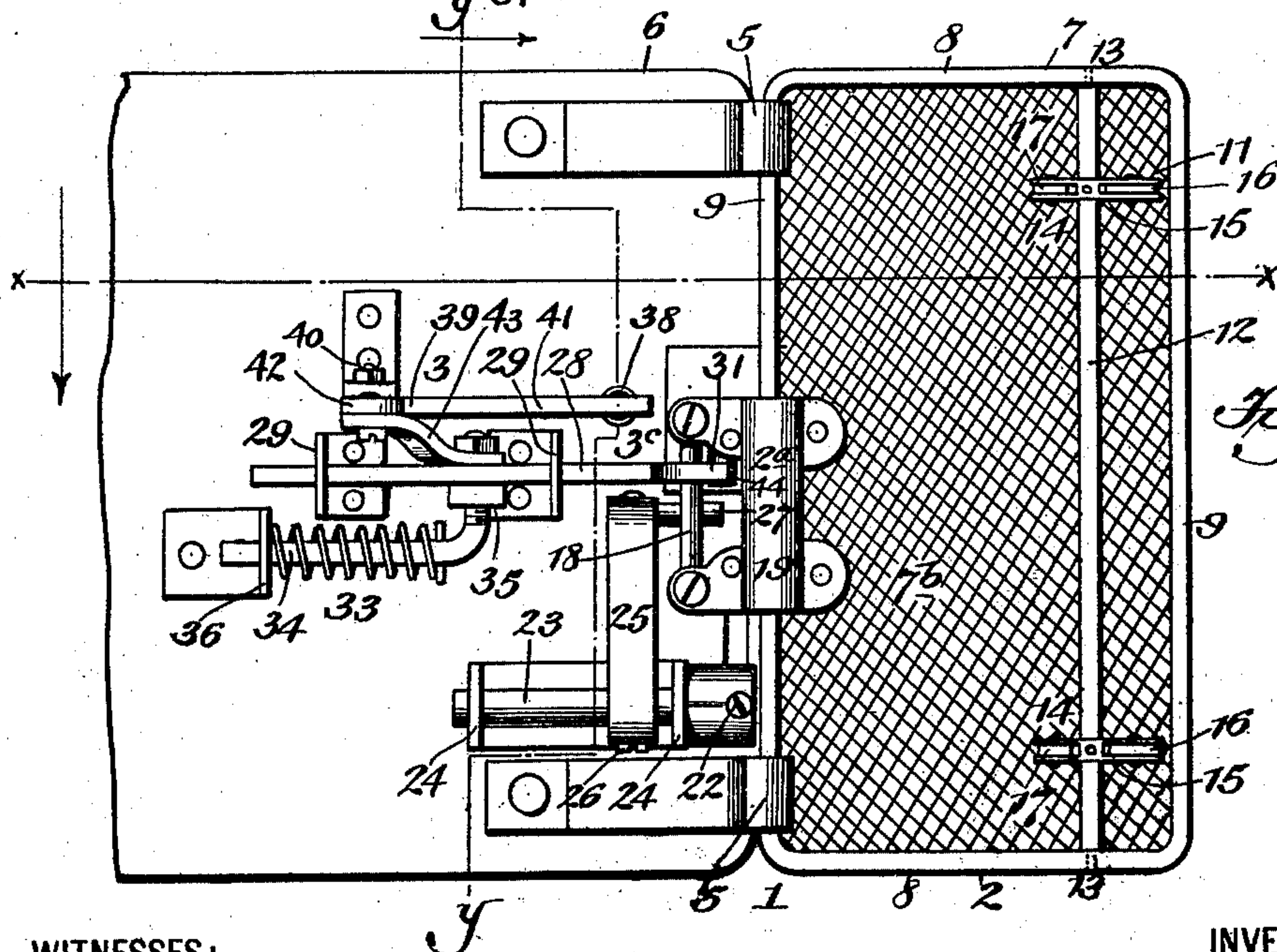
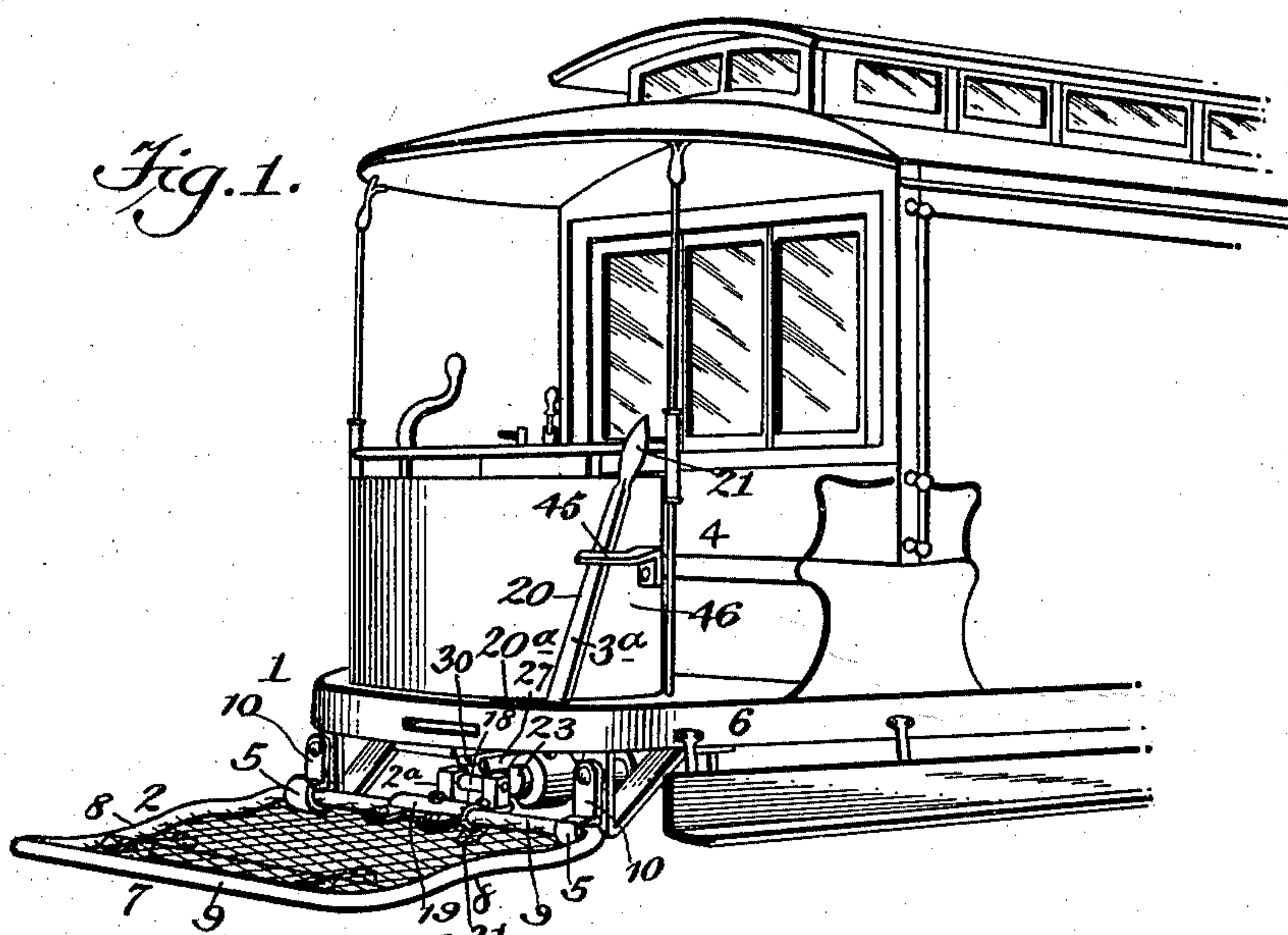
W. P. TUCKER.

CAR FENDER.

(Application filed Jan. 29, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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3 Sheets—Sheet 2.

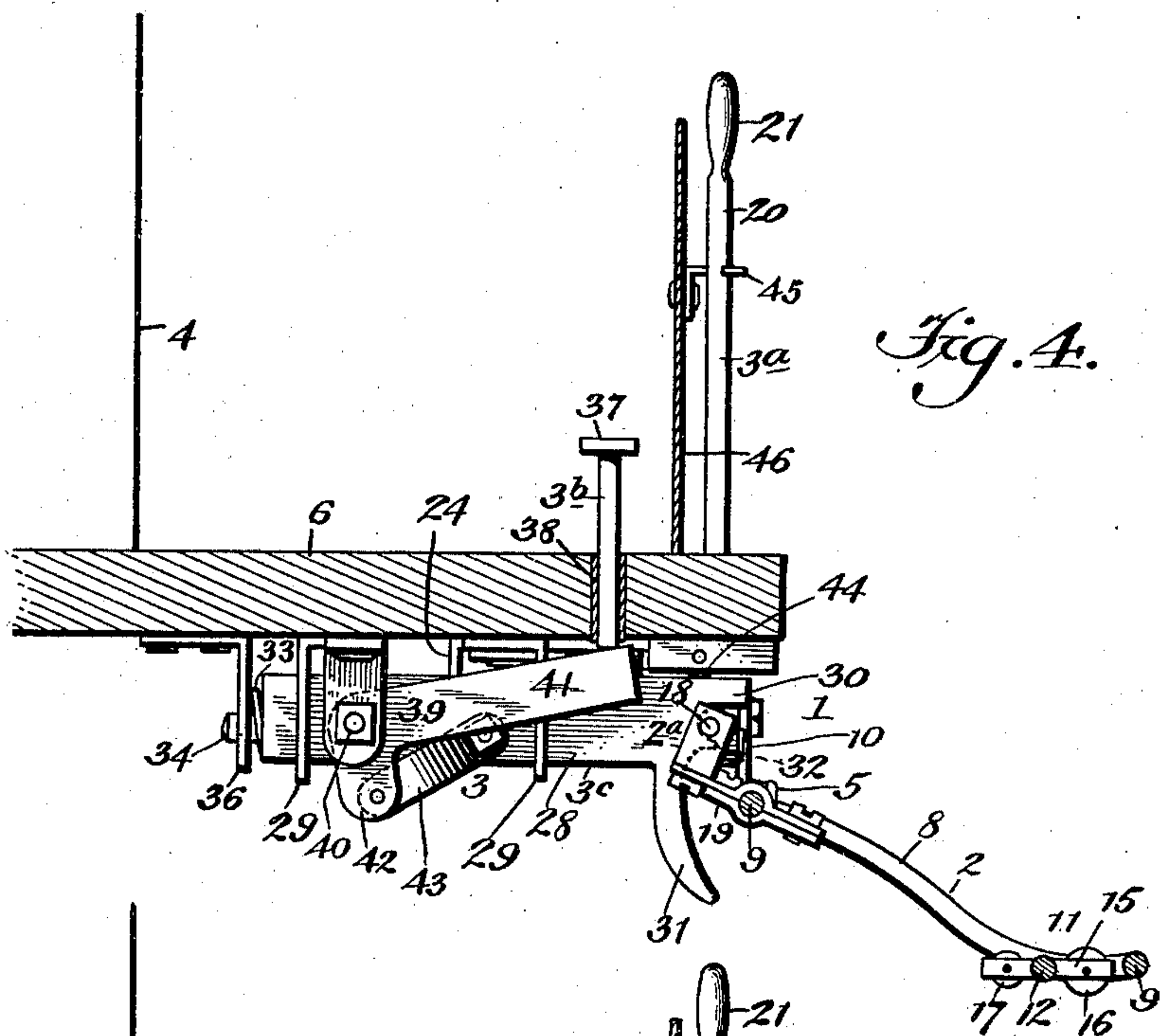


Fig. 4.

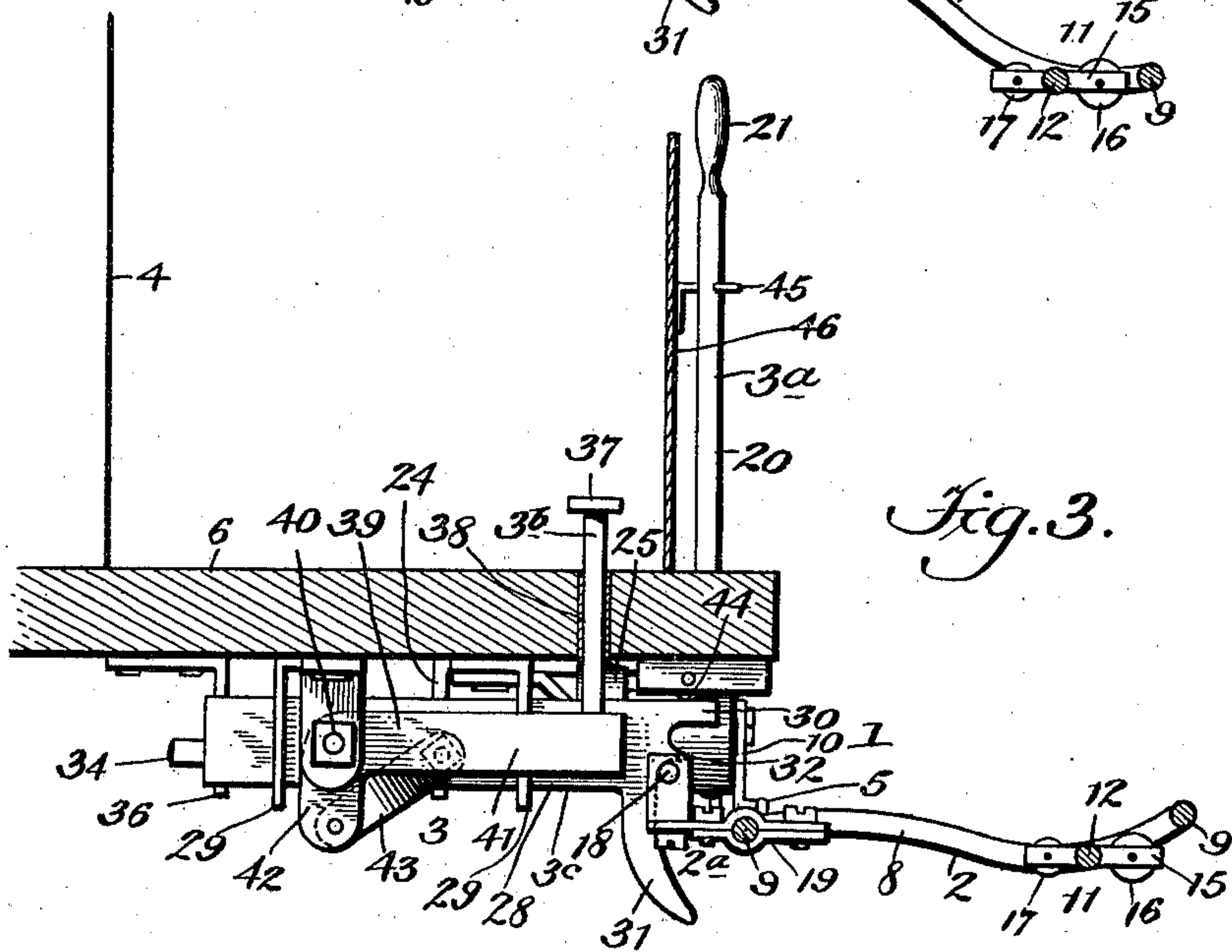


Fig. 3.

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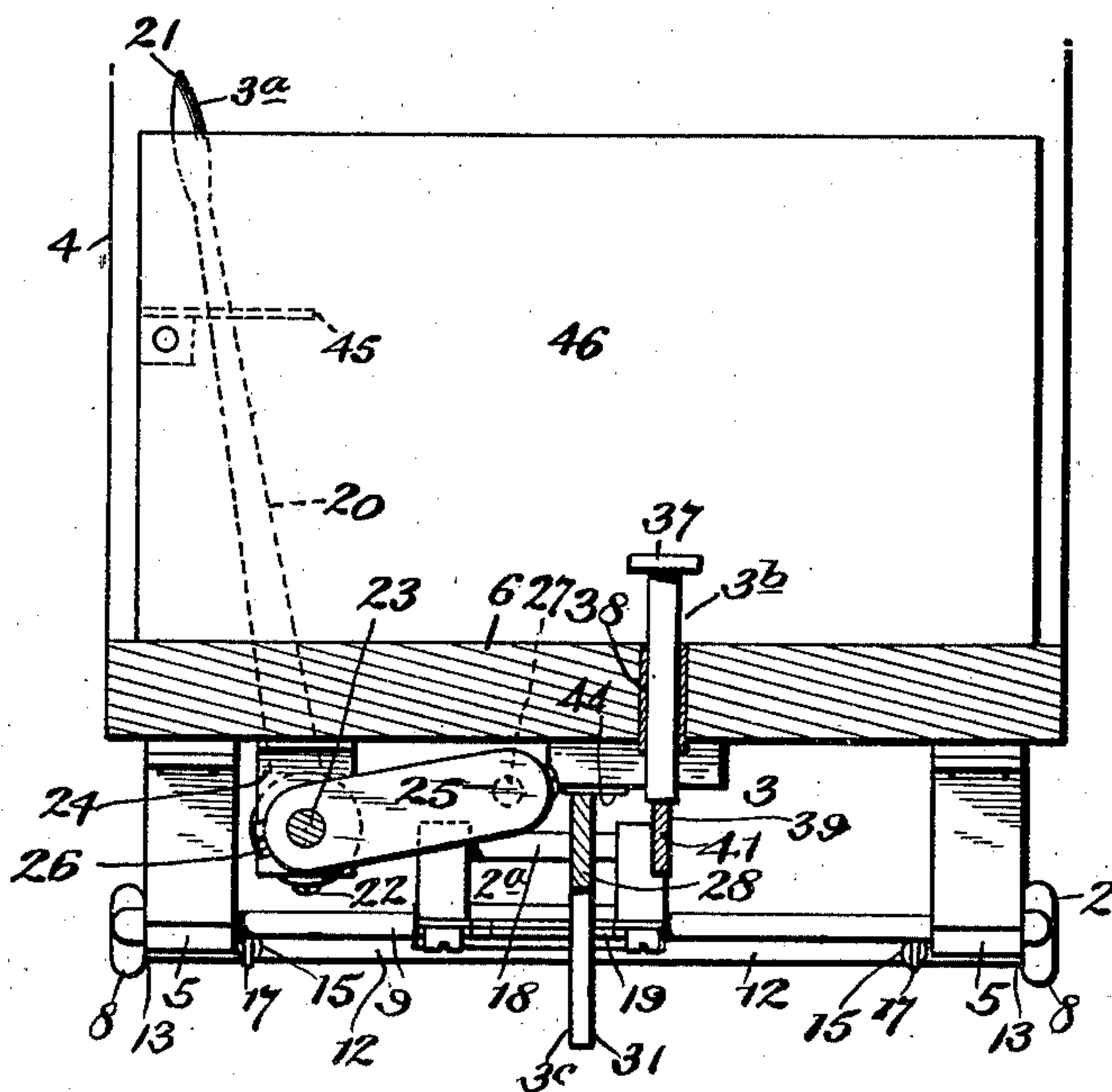
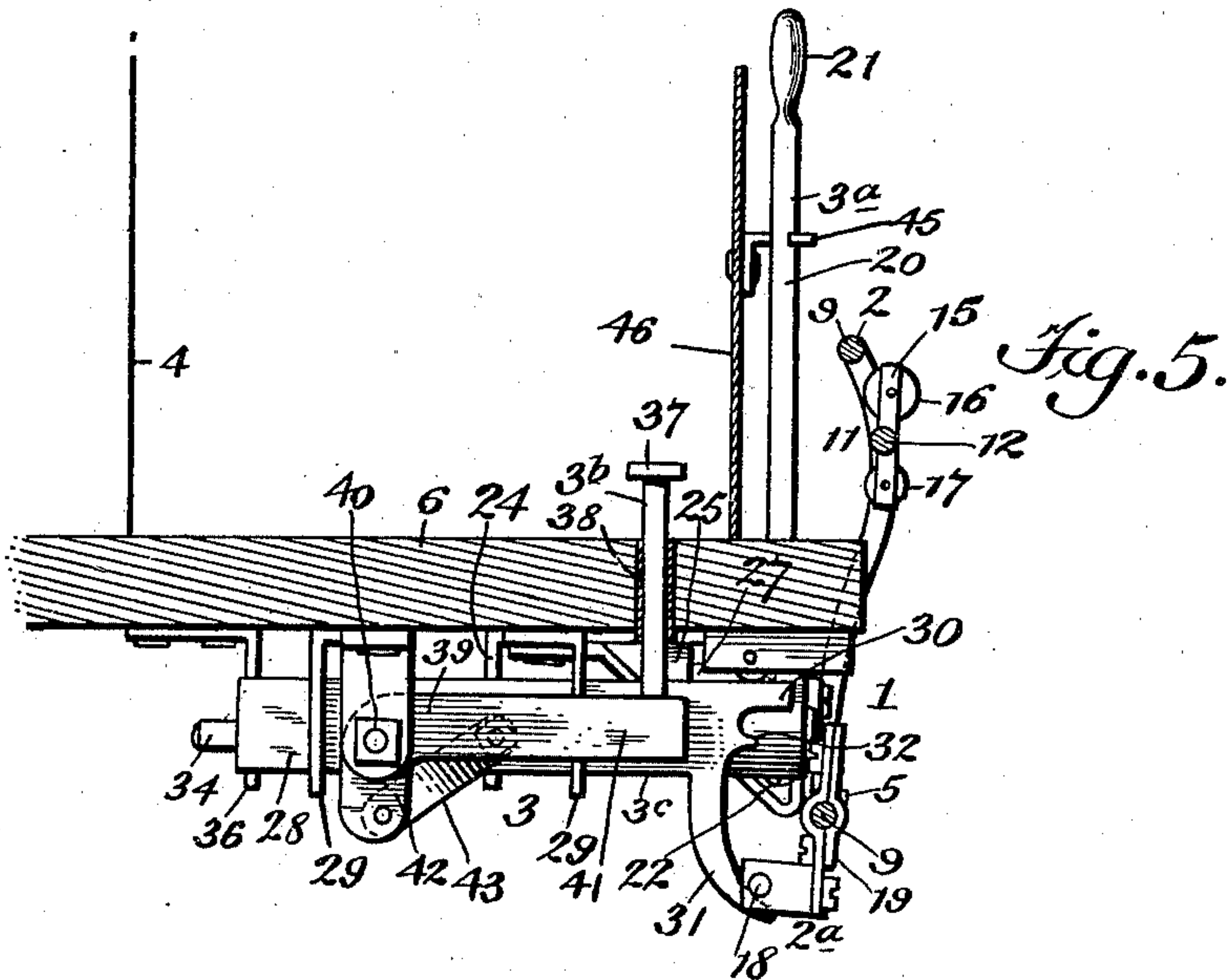
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

WILLIAM P. TUCKER, OF BROOKLYN, NEW YORK.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 686,169, dated November 5, 1901.

Application filed January 29, 1901. Serial No. 45,242. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. TUCKER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to car-fenders; and it has for its object to provide an improved mechanism of this class which will be superior in point of positiveness and convenience and effectiveness of operation and which will at all times be under perfect control of the motorman or operator in control of the car.

A further object of the invention is to provide an improved car-fender which will be capable of ready adjustment to and locking in the several positions incidental to its use and non-use.

In the drawings, Figure 1 is a perspective view illustrating the fender mechanism in normal position during the running of the car. Fig. 2 is an inverted bottom plan view showing the under side of the mechanism.

Fig. 3 is a vertical sectional view, on a longitudinal plane, taken on the line $x x$, Fig. 2, showing the fender in normal position during the running of the car. Fig. 4 is a corresponding view taken on the line $x x$, Fig. 2, showing the fender in operative position.

Fig. 5 is a corresponding view taken on the line $x x$, Fig. 2, showing the fender in the position assumed when out of use. Fig. 6 is a vertical transverse sectional view taken on the line $y y$, Fig. 2, and looking forwardly.

Corresponding parts in all the figures are denoted by the same reference characters.

Referring to the drawings, 1 designates my improved car-fender, which comprises the improved fender proper, 2, and the improved fender-controlling mechanism 3.

The fender proper, 2, is arranged at the end of the car-body 4 in the customary position, being detachably supported by hangers 5, which are secured beneath and at the forward edge of the car-platform 6.

In the preferred form of construction the fender proper comprises a frame-shaped body portion 7, consisting of end bars 8 and side bars 9, one of which latter is fitted into the hangers 5, its connection with the same being

such that the fender proper is capable of the usual swing or pivotal play. Latches 10 are pivoted to the hangers 5 in such position that they may readily be swung downwardly into engagement with the fender proper and prevent its accidental displacement from the hangers.

A suitable guide member 11 is provided for the fender proper, and consists of a longitudinally-arranged rotatable bar 12, which is sustained at its ends, as at 13, by the end members of the fender-body. Arranged upon the bar 12 at points adjacent its ends and spaced apart a distance equivalent to the distance between the tracks upon which the car moves are two track-engaging guide devices 14, each of which consists of a short bar 15, which is connected centrally with the bar 12 and the end portions of which extend at right angles to the bar 12 and are provided each with a wheel 16 and 17, respectively, the wheels 16 being of slightly-greater diameter than the wheels 17. When the fender proper is in extreme lowered or operative position, the guide devices 14 contact with the track groove or flange, the wheels 16 and 17 engaging with the same and preventing lateral wobbling or shifting of the fender proper. The larger wheels 16 are arranged in foremost position and first engage with the tracks, whereas the smaller wheels 17 engage with the tracks if the fender is in operation, forced downwardly to an abnormal extent, the bar 12 turning in its bearings to compensate for such movement of the parts. By means of these wheeled guide devices the direct contact of the fender proper with the road-bed is at all times prevented, and injury to the fender is thus obviated. The fender proper is provided centrally of the side of the same, which is directly connected with the hangers 5, with an outwardly-projecting operating member 2^a, which consists of a short bar 18, which is arranged parallel with and spaced slightly from the side bar of the fender proper, which is directly connected with the hangers 5. This bar 18 is connected with the last-mentioned side bar by a suitable bracket 19. The arrangement of the operating member 2^a with respect to the body portion 7 of the fender proper is such that operative pressure

upon the operating member 2^a will swing the fender proper in an upward or downward path upon the hangers 5.

The fender-controlling mechanism 3 is arranged, in the major part, beneath the platform 6 of the car and embodies two operating members 3^a and 3^b, respectively, which project above the platform in position to be conveniently operated by the motorman. The operating member 3^a operates in connection with the operating member 2^a of the fender proper to regulate the position of elevation or depression of the fender proper. The operating member 3^b operates in connection with the operating member 2^a through the medium of locking devices 3^c to free the fender proper from said locking devices and permit its actuation by the operating member 3^a.

In the preferred form of construction the operating member 3^a consists of a lever-arm 20, which is provided at its upper end with a handle portion 21, which projects into position for convenient manipulation by the motorman. The lever-arm 21 is mounted to oscillate transversely of the front of the platform of the car and is keyed at its lower end, as at 22, to a rock-shaft 23, which extends longitudinally of the car and beneath the same, and the rock-shaft 23 is journaled in suitable brackets 24, which are secured to the bottom of the car-body 4. A laterally-projecting arm 25 is keyed, as at 26, to the rock-shaft 23, and the arm 25 is provided at its outer end with a laterally-projecting finger 27, which may be extended across the path of movement of the operating member 2^a by operatively swinging the lever-arm 20. The finger 27 is arranged above the operating member 2^a, so that its function in connection with the lever-arm 20 and the connecting parts is to depress the operating member 2^a, and consequently elevate the fender proper.

The locking devices 3^c serve two functions—namely, first, to lock the fender proper in its position of complete depression, this being the operative position, and, second, to lock the fender proper in a position of slight elevation and prevent its depression into operative position. This position of slight elevation is the normal position of the fender proper in the running of the car. The operating member 3^b serves to release the fender proper from the locking devices 3^c, and thus permit the fender to assume, respectively, its normal, its operative, and its elevated or inoperative positions.

In the preferred form of construction the locking devices 3^c consist of a horizontal reciprocating bolt 28, which is mounted in suitable brackets 29, arranged beneath the platform of the car. The bolt 28 is provided at its forward end, which is arranged for operative engagement with the operating member 2^a of the fender proper, with an upper forwardly-projecting straight finger 30 and a lower downwardly-projecting curved finger

31. Between the fingers 30 and 31 at the forward end of the bolt 28 is arranged a forwardly-projecting lug 32, which when the operating member 2^a is brought to bear upon the lower side of the same maintains the fender proper in normal or slightly-raised position. With the operating member 2^a in this position the depression of the fender proper into operative position is positively precluded and is only permitted by retraction of the bolt 28 through the agency of the operating member 3^b. When the operating member 2^a is brought into position between the lug 32 and the upper finger 30, (the space between the lug and said upper finger being formed to accurately fit the short bar 18 of the operating member 2^a), the fender proper which is then in operative position is locked against both elevation and depression. In the movement of the fender proper from the position of extreme elevation into normal position, and vice versa, the operating member 2^a rides over the surface of the curved lower finger 31, which serves as a guide. The bolt 28 is normally forced forwardly into engagement with the operating member 2^a by suitable tensional means 33, which in the preferred form of construction consists of a spring-actuated arm 34, one end of which is curved and connected with the bolt 28, as at 35, and the other end of which slides freely through a slotted bracket 36, secured to the bottom of the car-body.

The operating member 3^b serves to retract the bolt 28 against the tension of the tensional means 33, and said operating member 3^b consists in the preferred form of construction of a foot-plunger 37, which operates through a vertical opening 38, formed in the car-platform.

The operative connections between the operating member 3^b and the bolt 28 may consist of a bell-crank lever 39, which is pivotally supported beneath the car-body, as at 40, one arm, 41, of the same projecting beneath the opening 38, through which the foot-plunger 37 operates, and the other arm, 42, being operatively connected with the bolt 28 by a toggle-link 43.

To steady the forward end of the bolt 28 and at the same time permit of easy reciprocation of the same, a guide-roller 44 is arranged beneath the car-platform, and with this roller the bolt 28 contacts during its reciprocation.

The lever-arm 20 works in an elongated slot 20^a, formed in the car-platform and is maintained in retracted or inoperative position by a finger 45, which is secured to the dashboard 46 of the car and projects laterally in front of the same.

The fender proper may be provided with any preferred form of flexible network or operative surface 7^b, and the general type of the fender proper may be varied to meet the conditions of use or preferment.

The operation and advantages of my improved car-fender will be readily understood by those skilled in the art to which it appertains.

5 The operating members 3^a and 3^b project in position for convenient alternate operation by the motorman, who is thus enabled to either raise the fender into vertical inoperative position in front of the dashboard or to
10 lower the fender into normal slightly-elevated position or into completely depressed and operative position. When the fender is in vertical inoperative position, a slight forward pressure upon the upper portion of the same
15 serves to tilt it forwardly, so that it will automatically drop into normal or slightly-elevated position, in which position it is locked against further depression by contact of the operating member 2^a of the fender proper
20 with the lug upon the bolt 28. In order to free the fender proper from this position, the foot-plunger 37 is depressed, and the resultant retraction of the bolt 28 permits the operating member 2^a to rise into contact with the
25 upper forwardly-projecting finger 30 of the bolt 28. The foot-plunger is then allowed to rise, and the bolt is forced forwardly by the tensional means 33, whereby the operating member 2^a is engaged from above and beneath, respectively, by the finger 30 and the
30 lug 32. With the parts in this position the fender proper occupies the position of complete depression, which is the operative position and is firmly maintained in this position. The guide member 11 is now also in
35 operative position with respect to the tracks, the guide devices 14 being in contact with the tracks and preventing lateral movement of the fender. In order to permit the elevation of the fender into normal or into inoperative position, the foot-plunger is operated to retract the bolt 28.

45 It is manifest that by means of the operating members 3^a and 3^b the fender proper may be at all times manipulated by the motorman with respect to its several positions incidental to its use and that the fender is, furthermore, positively locked in normal and in operative position by the bolt 28. The position of the fender, in which the same is
50 slightly elevated above the road-bed, is preferable to a constantly-maintained position of complete depression, as it obviates injury to the fender by contact with the uneven places and obstructions constantly met with upon
55 the road-bed. The facility with which the fender may be "dropped" by my improved mechanism into operative position enables the fender to thus normally occupy a position of slight elevation.

60 It will be understood that the fender-controlling mechanism 3 and hangers 5 may be arranged at both ends of the car, so that the fender proper may, if desired, be shifted from end to end of the car as the latter changes its direction of movement.

I do not desire to be understood as limiting myself to the details of construction and arrangement as herein described and illustrated, as it is manifest that variations and modifications may be made in the features of construction and arrangement in the adaptation of the device to various conditions of use without departing from the spirit and scope of my invention and improvements. I therefore reserve the right to all such variation and modification as properly fall within the scope of my invention and the terms of the following claims.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. An improved car-fender, comprising a pivotally-supported fender proper, means for locking the same in operative or depressed position and in normal or slightly-elevated position, means for releasing the fender proper from locked condition, and devices for positively elevating the fender proper into normal position or into totally raised or inoperative position.

2. An improved car-fender, comprising the pivotally-supported fender proper, means for locking the same in operative position against elevation or depression, means for locking the same in normal or slightly-elevated position against depression, means for releasing the fender proper from locked condition, and devices for positively elevating the fender proper from operative position into normal or into raised or inoperative position.

3. An improved car-fender, comprising the pivotally-supported fender proper which carries a projecting operating member, spring-actuated locking devices arranged to engage said operating member to lock the fender proper against elevation or depression, means for retracting said locking devices to permit of pivotal movement of the fender proper, and separate means for positively elevating the fender proper through the medium of said operating member.

4. In an improved car-fender, a fender proper provided with a guide member comprising a transverse rotatable bar carried by the ends of the fender proper, cross-bars mounted upon said rotatable bar and spaced apart a distance equivalent to the gage of the tracks, and wheels carried by said cross-bars at each end of the same and arranged for engagement with the tracks, said wheels varying in size at opposite ends of the cross-bars.

5. In an improved car-fender, a fender proper provided with a guide member comprising a transverse rotatable bar, cross-bars mounted upon said rotatable bar and spaced apart a distance equivalent to the gage of the tracks, and a wheel carried by each of said cross-bars, said wheels being arranged for engagement with the tracks.

6. The combination, with a car-body; of a fender proper pivotally supported by the

same, and fender - controlling mechanism mounted upon the car-body, said fender-controlling mechanism comprising locking means whereby the fender proper may be locked in predetermined position with respect to elevation and depression, an operating member carried by the fender proper and arranged for direct engagement by said locking means, a foot-plunger whereby said locking means may be retracted to permit of elevation and depression of the fender proper, and a lever-arm for elevating said fender proper, said lever-arm being also arranged for operation in connection with said operating member.

7. The combination, with a car-body provided with an end platform; of a fender proper pivotally supported at the forward edge of the platform, and fender-controlling mechanism mounted in the main beneath the platform, said fender-controlling mechanism comprising locking means whereby the fender proper may be locked in predetermined position with respect to elevation and depression, a foot-plunger operating through the car-platform and arranged to retract said locking means and permit of elevation and depression of the fender proper, and a pivoted lever-arm arranged to swing transversely at the end of the platform and whereby said fender proper may be elevated.

8. An improved car-fender, comprising the pivotally-supported fender proper which carries a projecting operating member, locking devices arranged for operation with respect to said operating member to lock the fender proper against elevation or depression, said locking devices consisting of a spring-actuated reciprocating bolt which is formed at one end to engage with said operating member of the fender proper and to maintain the latter in a plurality of positions with respect to elevation and depression, and means for retracting said bolt.

9. An improved car-fender, comprising the pivotally-supported fender proper which carries a projecting operating member, locking devices arranged for operation with respect to said operating member to lock the fender proper against elevation or depression and consisting of a spring-actuated reciprocating bolt formed at its end to engage with said operating member of the fender proper and maintain the latter in a plurality of positions with respect to elevation and depression, and means for retracting said bolt comprising a foot-plunger and operative connections between the same and said reciprocating bolt.

10. An improved car-fender, comprising the pivotally-supported fender proper provided with a projecting operating member, and means for locking the fender proper in predetermined position with respect to elevation and depression, said locking means comprising a spring-actuated bolt arranged for operative engagement with said operating member of the fender proper, said bolt being provided

with an upper forwardly-projecting straight finger, a lower downwardly-projecting curved finger and a forwardly-projecting lug arranged between said upper and lower fingers, whereby the said operating member of the fender proper may be locked between said upper finger and said lug and beneath said lug.

11. An improved car-fender, comprising the pivotally-supported fender proper, which carries a projecting operating member, and means for locking the fender proper in predetermined position with respect to elevation and depression, said locking means comprising a spring-actuated bolt arranged for operative engagement with said operating member of the fender proper, said bolt being formed at its operative end to lock said operating member of the fender proper simultaneously against elevation and depression and singly against depression.

12. An improved car-fender, comprising the pivotally-supported fender proper, which carries a projecting operating member, means for locking the fender proper in predetermined position with respect to elevation and depression, said locking means comprising a spring-actuated bolt arranged for operative engagement with said operating member of the fender proper, said bolt being formed at its operative end to lock said operating member of the fender proper simultaneously against elevation and depression and singly against depression, means for retracting said spring-actuated bolt, and means for elevating said fender proper.

13. The combination, with a car provided with an end platform; of a fender proper pivoted to the forward edge of the platform, means for locking the fender proper in predetermined position with respect to elevation and depression, means for releasing the fender proper from locked condition, and devices for elevating the fender proper, said latter devices being arranged to operate transversely of the forward end of the platform.

14. The combination, with a car-body provided with an end platform; of a fender proper pivotally supported at the forward edge of the platform, fender-controlling mechanism mounted in the main beneath the platform, said fender-controlling mechanism comprising locking means whereby the fender proper may be locked in predetermined position with respect to elevation and depression, a foot-plunger operating through the car-platform and arranged to retract said locking means to permit of elevation and depression of the fender proper, and means operating transversely of the end of the platform for elevating the fender proper.

15. An improved car-fender, comprising a pivotally-supported fender proper, means for locking the fender proper in predetermined position with respect to elevation and depression, means for releasing the fender proper from locked condition, and means for elevat-

ing the fender proper comprising a lever-arm
arranged to operate transversely of the car
and provided at its lower end with a project-
ing arm which carries a lateral projecting fin-
5 ger arranged to engage with the fender proper
and elevate the same.

In testimony whereof I have signed my

name in the presence of the subscribing wit-
nesses.

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Witnesses:

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GEO. VAIL HUPPERTZ.