

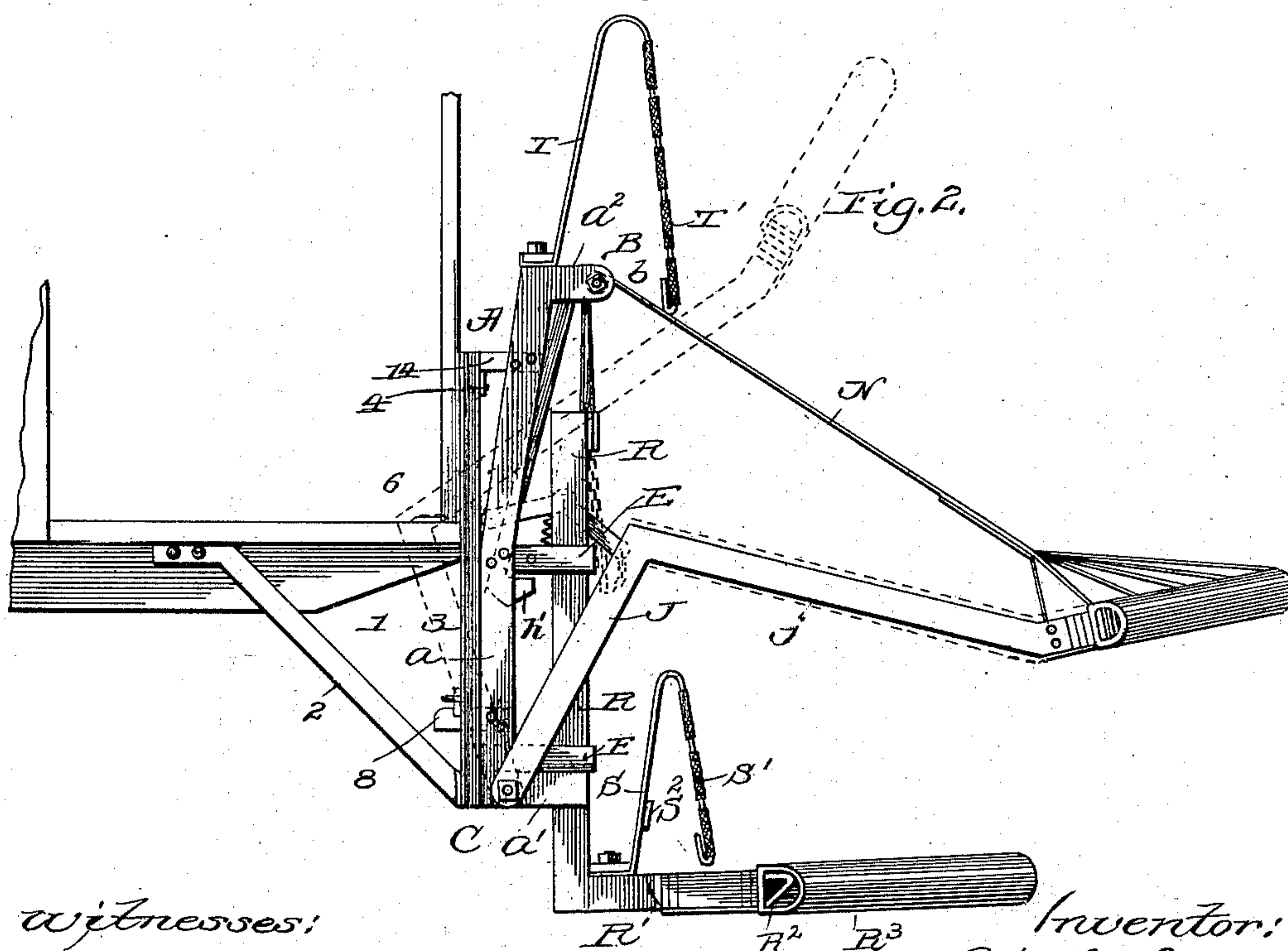
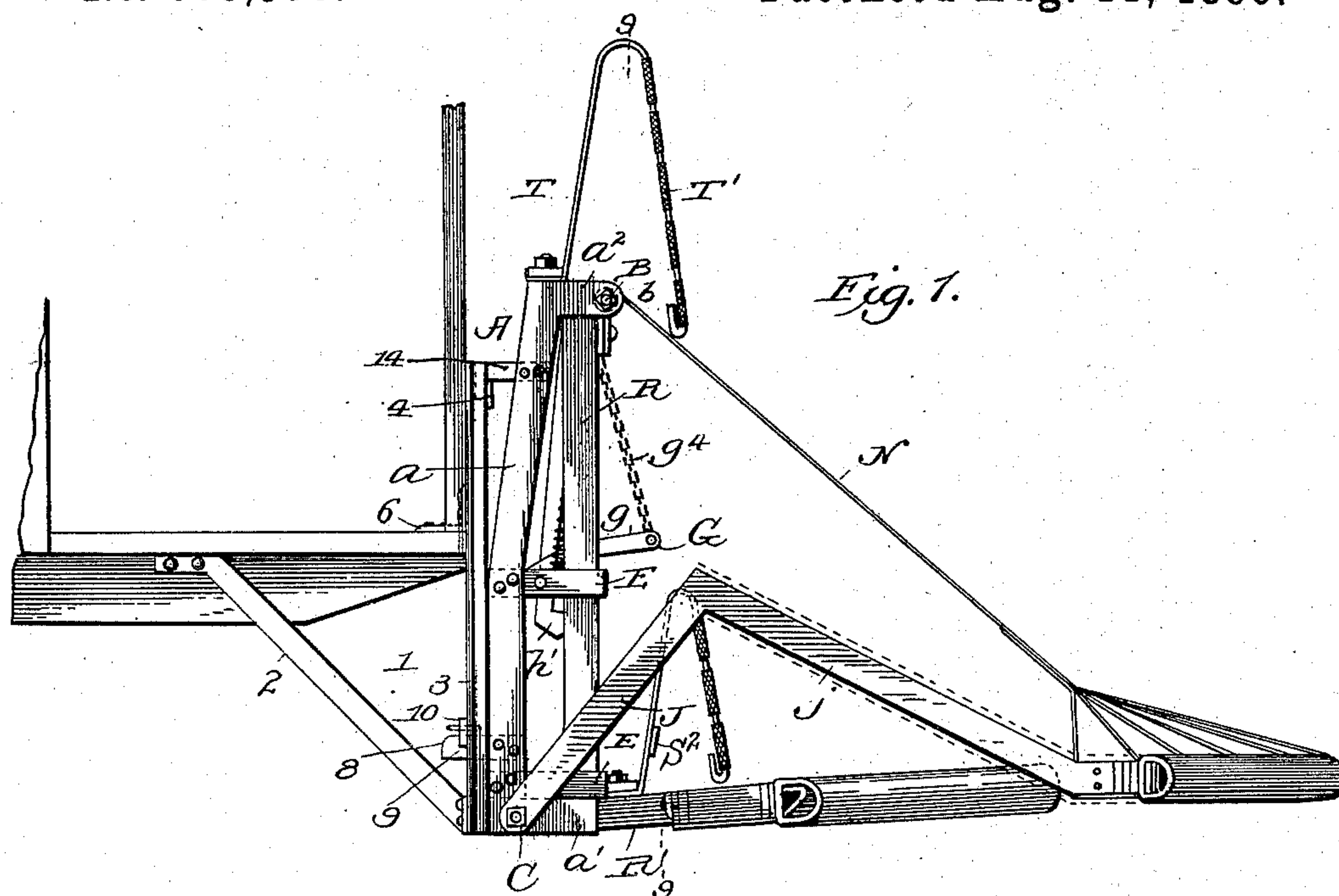
(No Model.)

4 Sheets—Sheet 1.

P. McMENAMIN.
CAR FENDER.

No. 565,558.

Patented Aug. 11, 1896.



witnesses:

Harry S. Rohrer,
W. A. Redmond

Inventor:

Peter McMenamin
J. F. Beale
attorney.

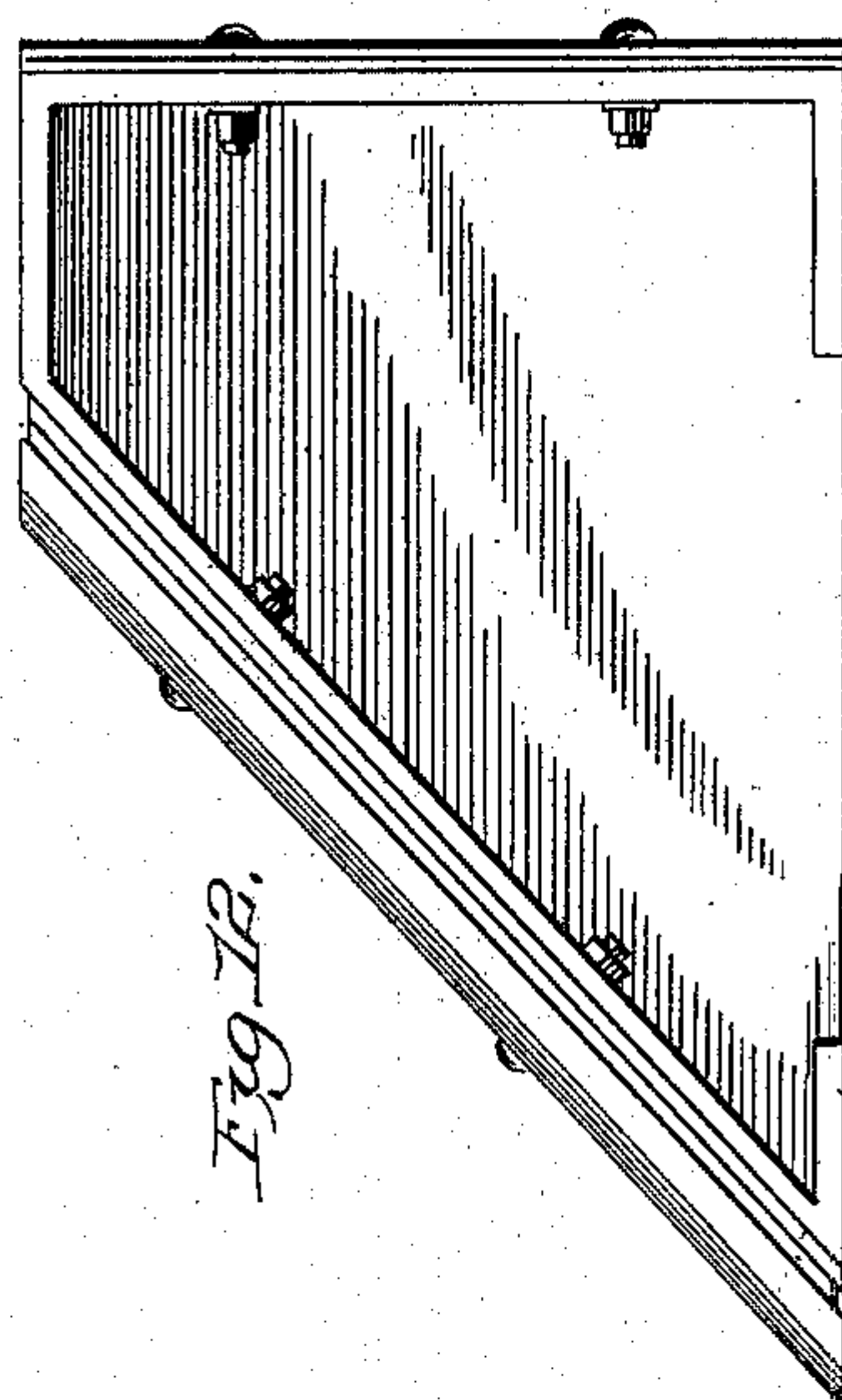
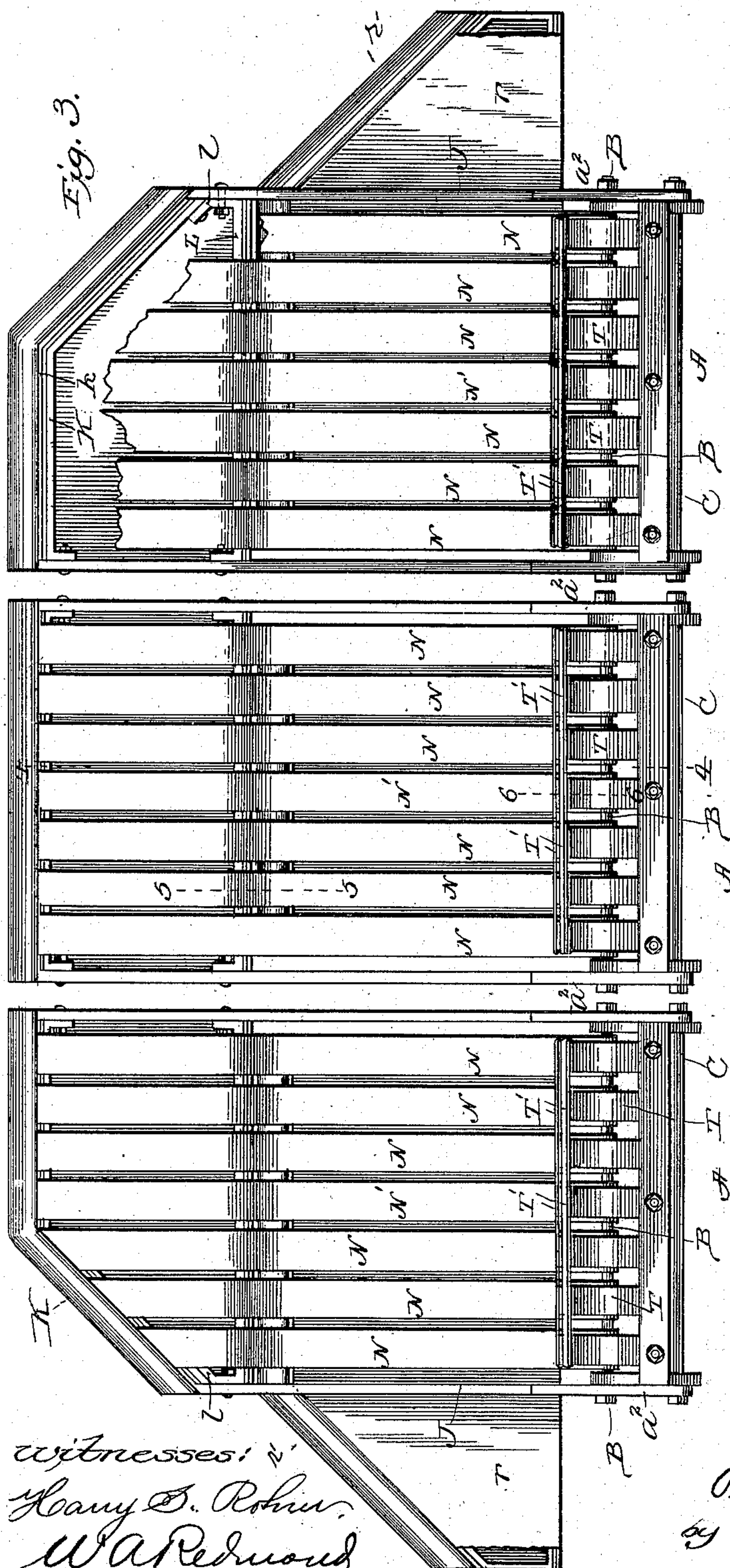
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4 Sheets—Sheet 2.

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Witnesses:
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(No Model.)

4 Sheets—Sheet 3.

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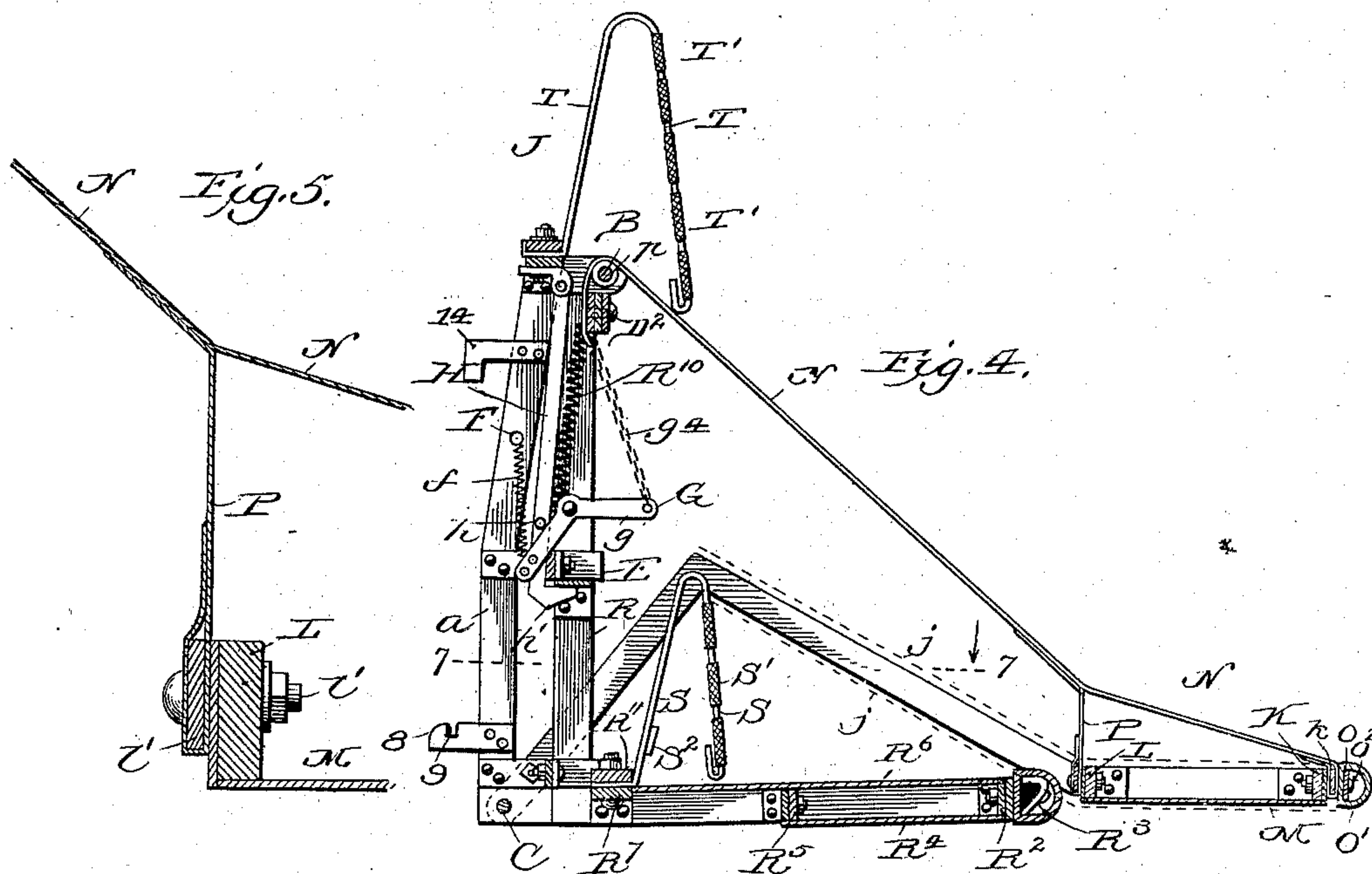


Fig. 6.

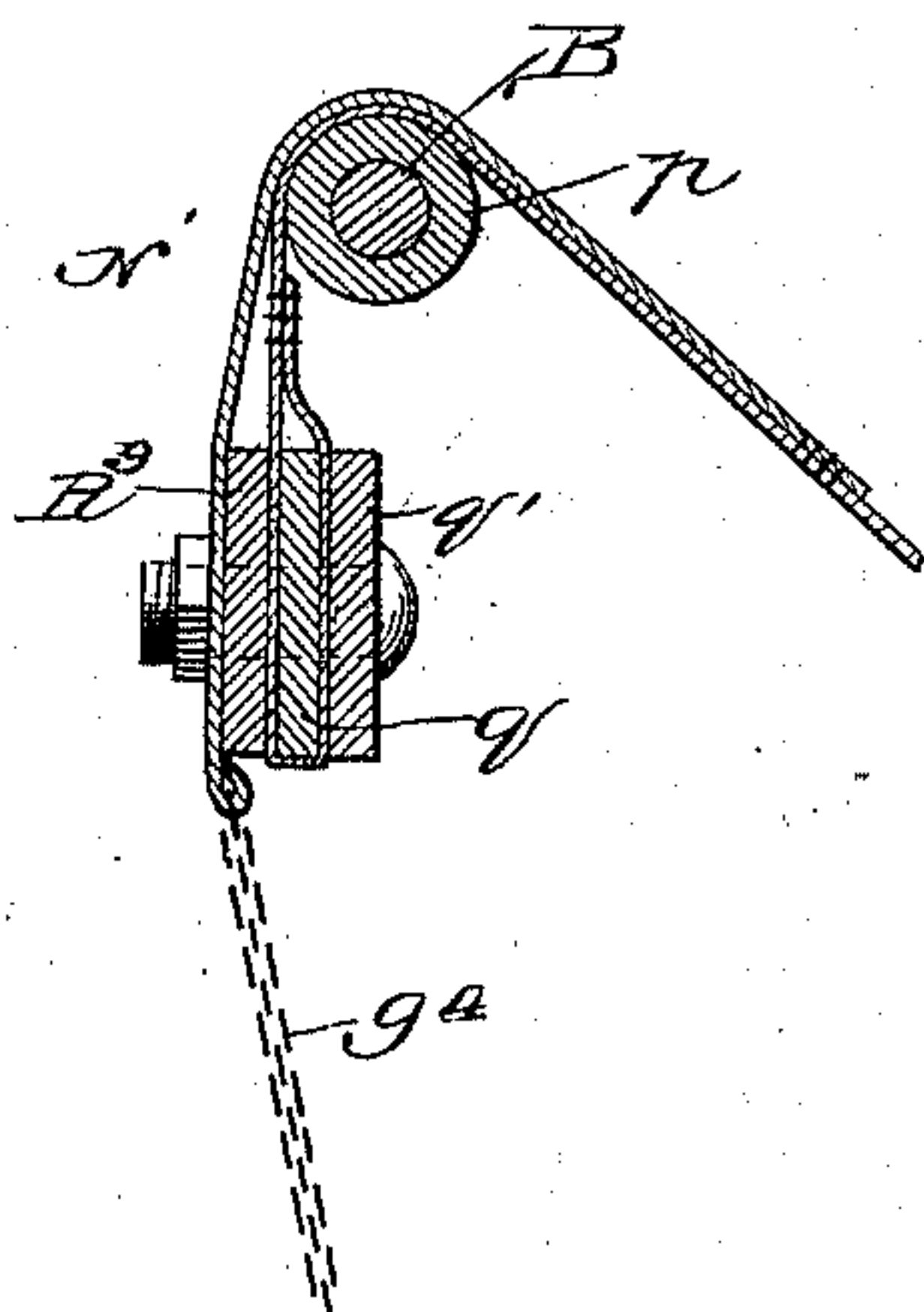


Fig. 7.

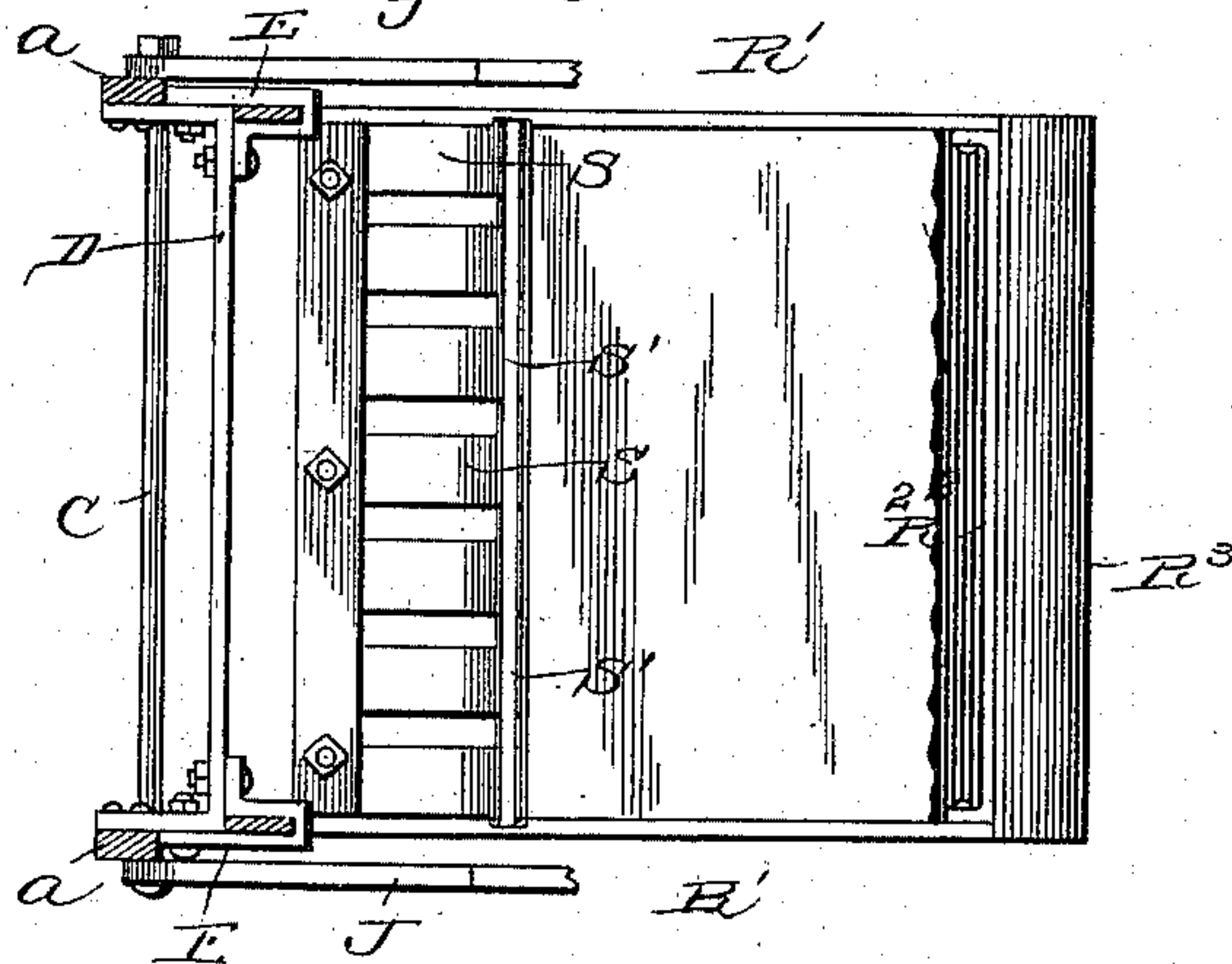
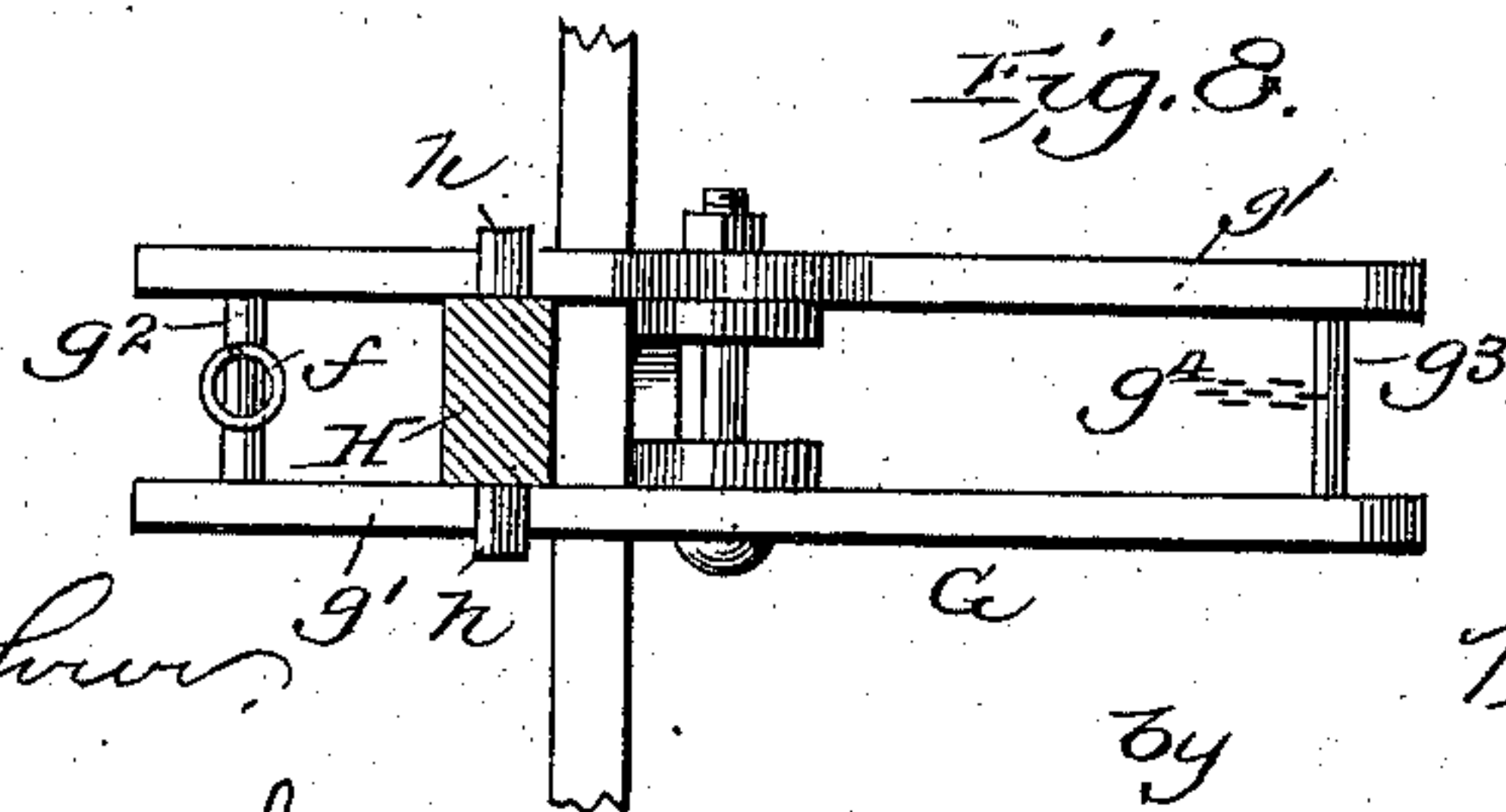


Fig. 8.



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Fig. 9.

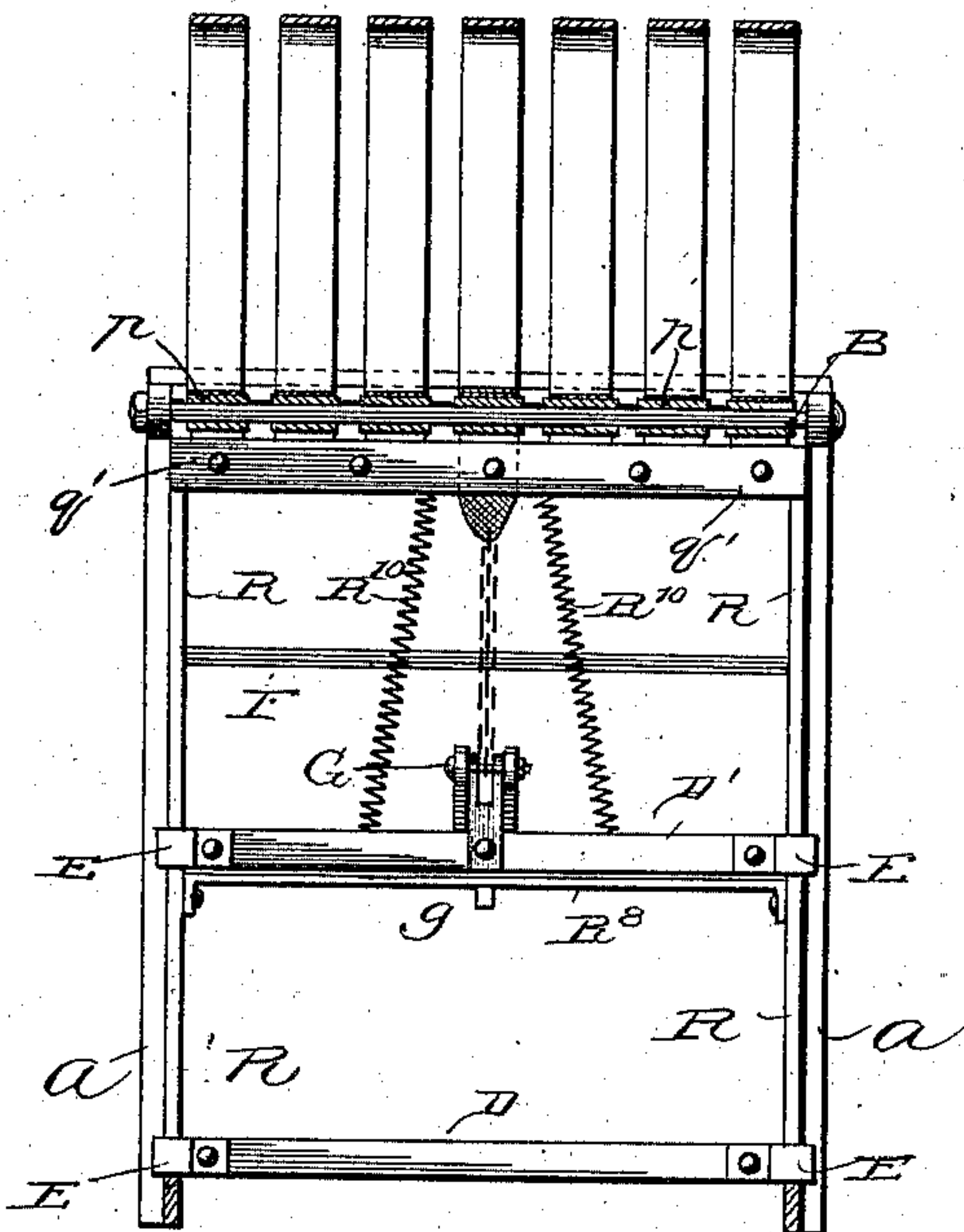


Fig. 10.

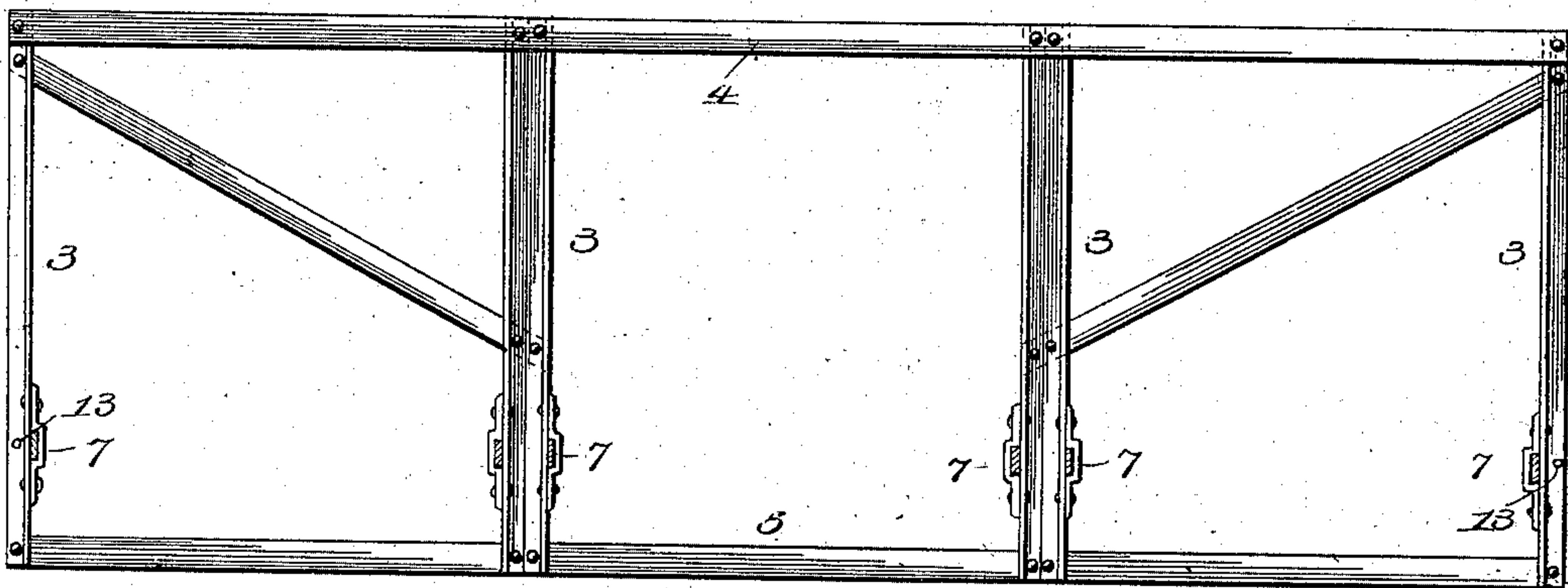
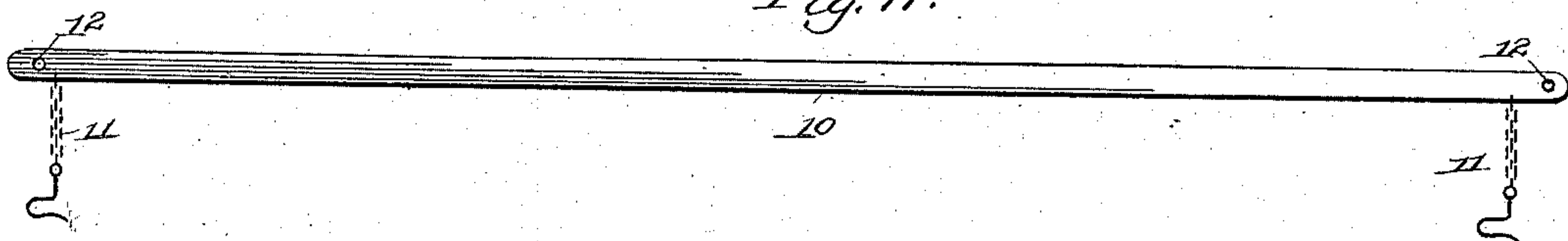


Fig. 11.



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UNITED STATES PATENT OFFICE.

PETER McMENAMIN, OF JERSEY CITY, NEW JERSEY.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 565,558, dated August 11, 1896.

Application filed July 2, 1895. Serial No. 554,690. (No model.)

To all whom it may concern:

Be it known that I, PETER McMENAMIN, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Car-Fenders; 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 relates to car-fenders, and more particularly to a combined tilting and drop fender.

My car-fender is especially designed to project in front of the car body or dashboard, and to be detachably mounted to a frame secured to each end of the car floor or platform.

The object of my invention is to provide a car-fender with improved means for cushioning the same and protecting the person from contact with the dashboard, car-front, or framework of the fender, or from passing under the platform and coming in contact with the wheels; also to relieve the jar incident to the impact of the fender and person from the moving car.

It is also my object to provide a car-fender having an outer tilting frame and an inner lowering or drop frame, the former adapted to catch a person in an erect or partially erect position, or failing to do so will tilt up, pass over the person, and automatically lower the inner frame to the track or street. The inner frame will then pick up the person lying on the track and prevent the body passing under the car.

It is also my object to provide a car-fender made in three longitudinal sections, each section operating independently of the other; also to provide a car-fender made up of detachable parts, any one of which may be readily replaced in case of injury.

It is also my object to provide a fender adapted to protect the car in case of collision with wagons or heavy drays; also to provide a detachable fender adapted for large or eight-wheel cars, and supporting-frames for the same rigidly attached to the car-floor or platform at each end.

In the drawings forming a part of this

specification, Figure 1 is a side elevation showing the normal position of my fender attached to a frame secured to the under and upper side of a car-platform. Fig. 2 is a like view showing the fender with its outer frame tilted up and its inner frame depressed to the track or street. Fig. 3 is a top plan view of the fender detached. Fig. 4 is a section taken on the line 4 4 of Fig. 3. Fig. 5 is an enlarged sectional detail view taken on the line 5 5 of Fig. 3, showing manner of attaching the strips P to the outer fender. Fig. 6 is an enlarged detail view taken on the line 6 6 of Fig. 3, showing that portion of the device which controls the trigger. Fig. 7 is a section taken on the line 7 7 of Fig. 4, looking in the direction of the arrow. Fig. 8 is a plan view of the trigger, showing the latch H in section. Fig. 9 is a section taken on the line 9 9 of Fig. 1. Fig. 10 is a front elevation of the vertical frame which supports the fender. Fig. 11 is a view of the retaining-bar. Fig. 12 is a detail view of the guard r detached.

Referring more particularly to the drawings, 1 denotes a fender-supporting frame permanently attached at each end of the car to the platform or flooring. Said frame consists of supports 2 2 2 2, bolted to the under side of the car-platform and extending downward and outwardly below and in front of the car-dashboard, at which point they are rigidly bolted to a vertical frame which projects in front of and extends part way up the dashboard, as shown in Figs. 1 and 2. A front elevation of said vertical frame is shown in Fig. 10, and is formed of three sections bolted together, consisting of uprights 3 3 3 3, formed of angle-irons, an upper horizontal rail 4, and a lower rail 5. 6 denote four short braces, which serve to secure said uprights 3 to the upper side of the car-platform, as shown in Figs. 1 and 2. 7 denote brackets bolted to said uprights and serve to engage lugs 8, secured to the upright arms *a* of the fender. 9 denote notches formed in said lugs, which serve to engage a horizontal retaining-bar 10. Said bar extends across said three sections upon the inner side and serves to detachably connect the fender to said frame 1. 11 denote hooks hung by chains to said bar, and serve

to lock the same in position when engaged with perforations 12 in said bar and perforations 13 in said uprights 3.

14 denote lugs secured to the upright arms a of the fender and made with bent ends, which are adapted to hook over the top rail 4.

The fender-frame is detached from the supporting frame by disengaging the hooks 11, removing the bar 10, and lifting the fender until the lugs 14 are disengaged from the rail 4.

The car-fender is preferably made in three longitudinal sections, as shown in Fig. 3, which are duplicates of each other in construction, except the outer arm in the middle section is straight instead of having beveled corners, as provided in the side sections. Each of said longitudinal sections is composed of an inner and outer frame, which co-operate but act independently of adjoining longitudinal sections. Therefore any one of said sections may be brought into play without disturbing the normal position of the adjoining sections. Each longitudinal section has an inner drop-fender and an outer tilting fender. In describing one of said sections it will be understood as applied to all.

$A A A$ denote the longitudinal sections of the fender, each comprising an inner drop-frame and an outer tilting frame.

$a a$ denote two upright arms having their lower ends $a' a'$ bent outwardly at right angles and their upper parts inclined forwardly and provided with outwardly-projecting ears $a^2 a^2$, perforated to receive a round metal bar B , having screw-threaded ends, which project through said perforations, and provided with nuts $b b$ for holding it in position. C denotes a similar bar connecting the lower ends of the arms $a a$ and projecting upon each side thereof and forming journals for the pivoted side arms $J J$.

$D D' D^2$ denote transverse braces having their ends bent at right angles and secured by said ends to the arms $a a$ by bolts and nuts, as shown in Figs. 4 and 9, the bolt-heads being countersunk to allow the side arms $J J$ of the fender-frame when raised to clear the arms $a a$.

$E E E E$ denote guides secured to the braces $D D'$ in front and to the bent ends thereof at the side, as shown in Fig. 7.

F denotes a supporting-rod secured to the arms $a a$, and has depending about midway of its length a coiled spring f . (Shown in Fig. 4.)

G denotes a trigger pivoted to a lug g , secured to the bar D' . Said trigger is shown in detail in Fig. 8, and is composed of two parallel arms $g' g'$, obtuse angular in shape, pivoted at the apex of their angles to said lug g , and provided near their ends with cross-rods $g^2 g^3$. The lower end of the coiled spring f is attached to the rod g^2 and its upper end to the rod F . The rod g^3 has attached thereto a chain g^4 , the upper end of which is at-

tached to a rubber or leather strip N' , as shown in Fig. 6.

H denotes a gravity-latch pivoted to a lug secured to the bar D' and hanging between the parallel arms of said trigger on the inner side of the brace D' . Said latch is provided with a short horizontal arm h , which rides upon the upper rear side of said trigger-arms, and its lower end is bent to form a hook h' . The outer frame is supported by two angular side arms $J J$, pivoted to the projecting ends of the bar C , and held in place by nuts secured to said ends. As shown in Figs. 1 and 2, said arms are formed in two obtuse angles and are provided with rubber tubes $j j$, threaded over the arms, as shown. Said arms are joined at their outer ends by an arm K , which in the side sections are angular in shape and in the middle sections straight, as shown in Fig. 3.

L denotes a brace having bent ends $l l$, by which it is bolted to the side arms $J J$, and in the side sections is also bolted to the inner side of the bent arm K , as shown in Fig. 3.

M denotes a sheet-iron shield having its edges bent up in front and rear and secured to the arm K and brace L , as shown in Fig. 4. Said shield extends under the forward end of the fender and serves to protect a person from contact with the braces L , and also to afford a smooth bearing-surface for the passage of a person or obstacle under the forward end of the fender.

N denotes a series of longitudinal strips of rubber, leather, canvas, or other suitable material secured to the arm K , as shown in section in Fig. 4, said strips being doubled around a slat k and sewed or otherwise fastened together. Said strips are arranged about half an inch apart and extend back and upwardly and secured to the frame of the inner fender, as hereinafter described.

O denotes a slat coextensive with and fitted to the outer side of the slat k , and has threaded over it a rubber tube o' .

o^2 denote screw-threaded bolts and nuts which pass through the arms K , the edges of the shield M , and the slat k and o . The rubber tubing is provided with short vertical slits to admit the passage of the bolt-heads, the slits closing over said heads.

P denotes a series of short vertical strips of canvas or other fabric, secured to the brace L by slat l' , around which they are doubled and sewed or otherwise secured, and their upper ends fastened to the strips N , as shown in Fig. 5, holding the latter down taut and forming a shelf or cushioned seat at the forward end of the fender. The slat l , holding the strips P , is coextensive with the brace L , and secured thereto by bolts $l' l'$.

The strips N are carried up and over the bar B , and bear upon friction-sleeves p , mounted upon said bar. The inner ends of said strips are doubled around a slat q , as shown in Fig. 6, and sewed or otherwise se-

cured. Said slat is clamped by bolts passing through an outer slat q' to the upper transverse bar R^9 of the inner fender.

N' denotes a short strip of canvas or like fabric, having one end secured to a chain g^4 , and its other end attached to one of the strips N , preferably the middle one in each section, as shown in Fig. 6.

R R denote the hangers of the inner fender-frame, connected by suitable transverse braces, and R' R' denote the side arms projecting at right angles and formed integral therewith. As shown in Fig. 2, said arms R' R' are inclined slightly upward at their outer ends. R^2 denotes an end brace connecting the outer ends of said side arms, and has bolted thereto upon the outer side a buffer R^3 , having a rubber tube threaded over it and provided with slits to admit the bolt-heads and allow them to pass under said tube, the slits closing again over the heads of said bolts. Said buffer is provided with an under and upper bevel. The former causes it to lift over any obstruction, and the latter to permit the easy access of a person to the floor of inner fender.

R^4 denotes a sheet-metal shield extending under and across the front end of the inner fender and back under a cross-brace R^5 , and serves as a smooth bearing-surface for said fender when in contact with the road-bed.

R^6 denotes the floor of the inner fender, made of sheet metal, and has its edges turned down and secured to the inner side edges of the arms R' R' . R^7 denotes a brace connecting the inner ends of said side arms, as shown in Fig. 4.

R^8 R^9 denote transverse braces secured by their bent ends to the hangers R R .

R^{10} R^{10} denote coiled springs connecting the brace D' and the brace R^9 , as shown in Fig. 9.

r r denote two guard-frames, (shown detached in Fig. 12,) which are bolted to the side arms R' R' of the inner fender, as shown in Fig. 3, and serve to deflect outwardly a body passing close to the sides of the fender and prevent its coming in contact with the steps or passing under the wheels of the car. Said frames are constructed with diagonal end arms r' r' , covered with rubber tubing and beveled upon the under side. They are shod with sheet-metal bottoms and provided with canvas covers or floorings, or I may use strips similar to the strips N .

S denotes a series of upright flat steel springs arranged in a row on the rear end of the inner fender and bent toward the front, their free ends projecting outwardly over the floor of said fender close to the surface thereof, as shown in Figs. 1, 2, and 4. Said springs are secured by their inner ends to the brace R^7 by means of a slat R^{11} , clamped to said brace by bolts and nuts.

S' denote a series of strips of yielding fabric, arranged transversely, and secured to the springs S close together, forming with said springs a continuous cushion and back for

the inner fender. Each section of the inner fender has a like cushioned back, and I connect the back of each section to the back of the adjoining section by steel ties S^2 , (shown in Fig. 4,) uniting the adjoining springs.

T denotes a series of springs similar in construction to the springs S , but with longer sides toward the front and of greater height. The springs T project considerably above the top of the fender-frame attached to the dashboard, and form an upward continuation of the strips N , while their forward ends extend downwardly and impinge upon the same. The free ends of these springs are rounded or bent inwardly to prevent wear on the strips or possible injury to a person.

T' denotes a series of strips of canvas or yielding fabric, arranged transversely, and secured to the springs T in close proximity, and serve to shield the side edges of the springs and form a continuous spring-cushion bearing upon the upper ends of the strips N , projecting above them, and serving to prevent the contact of a person with the fender-frame or dashboard should they be thrown far up on the fender.

The fender being in operative position, as shown in Fig. 1, the bottom of the fender is about five inches from the track. A person in an erect position striking the fender is precipitated upon the yielding strips N , either at the forward end or seat of the fender, or if the car be moving rapidly, higher up on the strips, in which case the forward end of the fender is caused to tilt upward a few inches and prevent the person rolling off of the fender, or at least any farther than the seat. As before stated, should the person be carried far up on the fender, the springs T will prevent contact of the person with the upper part of the dashboard or car-body. Should the fender strike a person lying on the track and not pick up the body, the sheet-iron bottom of the outer fender would pass smoothly over the body and offer very slight resistance thereto, as the outer fender would immediately be elevated and cause the strip N to slack the chain holding the trigger, which would be actuated by the spring f to throw back the gravity-latch and release the inner fender. The coiled springs R^{10} R^{10} would then be brought to bear, which, together with the weight of the inner fender, would cause said fender to fall instantly to the track in front of the dashboard and intercept and pick up a prostrate person.

To again set the fender in operative position, it is only necessary to press down upon its outer end sufficiently to overcome the weight of the inner fender, which is then raised up, and the tension of the springs R^{10} R^{10} , the effect of which will cause the strip N' to raise the chain and forward end of the trigger, thus rocking the same, depressing the rear end of the trigger, and relieving the cross-bar h of the latch H from contact with the inclined sides at the rear of the trigger. Said latch will then

fall under the transverse bar R^8 and support the inner fender in its raised position, as shown in Fig. 1. It is evident that when the person falls on the strips N and the fender is tilted upward the weight of the person is communicated directly through said strips N to the inner fender, which prevents said fender from falling or releasing the gravity-latch. The weight of the inner fender being greater than the outer fender, the action of the springs in lowering the former is accelerated, and it drops immediately to the track the instant the outer fender is slightly raised. As the weight of the inner fender is communicated directly through the strip N to the outer fender, it requires very slight pressure or a light blow to tilt the outer fender. This feature of my invention is important, as the outer fender would yield instantly to the impact of a person lying in its path without striking a hard blow or pushing the prostrate body along the road-bed in front of it.

By constructing the fender in sections I am enabled to make the parts much lighter. I am also enabled to attach the sections of the fender at different elevations to conform to the road-bed, especially in suburban railways, where the road-bed is below the track level. Again, this construction avoids the danger, where a body is lying diagonally across the track, of having the feet and legs pass under both fenders and the trunk or body tilting the outer fender and throwing the entire weight of the inner fender on top of said body. Under these circumstances my fender would allow the feet and legs to pass under both fenders of one section, while the trunk would only tilt one section and lower the inner fender immediately in the rear thereof and catch the trunk, while the feet and legs would be free.

When a person lying flat on the track is touched by the outer fender, the slightest pressure upon its smooth under surface will instantly throw it high up out of possible contact or interference with such person, as shown in Fig. 2. As the lower fender receives said person the springs yield instantly to the impact and cushion the blow, receding gradually, and as their lower ends are free they will not rebound and throw the person off. This is also an important feature of my invention, as heretofore it has been found very difficult to provide a cushioning device which would not have a rebounding action equal, or nearly equal, to the blow it receives.

It is evident that my car-fender forms a double guard, and it is impossible for a person to strike any portion of the car or pass under the same. Again, the outer fender acts as a buffer for the car as against heavy trucks or wagons, and it would not tilt up in such a case, as it requires pressure upon its under side to tilt said outer fender.

To release a person caught upon the inner fender, the outer fender is readily tilted or

pushed back, as shown in dotted lines in Fig. 2.

Having shown and described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a car-fender, the combination of the upright arms a , the outer tilting fender pivoted thereto, the inner drop-fender mounted in guides secured to said arms in rear of the outer fender, and means for connecting the outer end of said tilting fender to the upper end of the drop-fender, substantially as shown and described.

2. In a car-fender, the combination of the outer tilting frame, the inner drop-frame, and the longitudinal strips connecting said frames, substantially as shown and described.

3. In a car-fender, the combination of the inner and outer fender frames, means for connecting the outer end of the latter to the upper end of the former, and means for automatically releasing and forcing down the inner fender when the outer fender is tilted upward by pressure upon its under side, substantially as shown and described.

4. In a car-fender, the combination of the outer tilting frame, the inner drop-frame, the longitudinal strips connecting said frames, and means for suspending the former in front of the latter, whereby when a person is thrown upon said strips the outer fender is partly tilted to prevent the person rolling off, and whereby when a person is struck by the under side of the tilting fender-frame it is thrown back and automatically lowers the inner fender-frame, substantially as shown and described.

5. In a car-fender, the combination of the tilting frame and the inner drop-frame connected thereto by longitudinal strips, a strip N' connecting one of said longitudinal strips with the trigger, and the gravity-latch operated by said trigger to release the inner fender, substantially as shown and described.

6. A car-fender designed to project in front of a car or its dashboard, made in two or more longitudinal sections, each section consisting of an outer tilting frame and an inner drop-frame coöperating with said tilting frame, said sections being adjustable and operating independently of each other, substantially as shown and described.

7. In a car-fender having a flexible material suspended by a framework in front of the car, the combination of an inner slat k having the ends of said material wrapped around the same and sewed or otherwise fastened to the body portion thereof, an outer or clamping slat O , and means for securing said slats and material together and to the fender-frame substantially as shown and described.

8. In a detachable car-fender, the combination of the fender-support consisting of diagonal bars attached to the under side of a car floor or platform, a vertical portion secured to said bars projecting in front of the dash-

board and extending above and below the
car platform or floor, a fender having lugs
adapted to engage the upper and lower part
of said vertical portion, the horizontal retain-
5 ing-bar, and means for locking said fender
in position, substantially as shown and de-
scribed.

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

PETER McMENAMIN.

Witnesses:

JOHN JELLY,
J. D. FRANCIS.