

(No Model.)

2 Sheets—Sheet 1.

L. Q. C. LAMAR.
CAR FENDER.

No. 522,905.

Patented July 10, 1894.

Fig. 1.

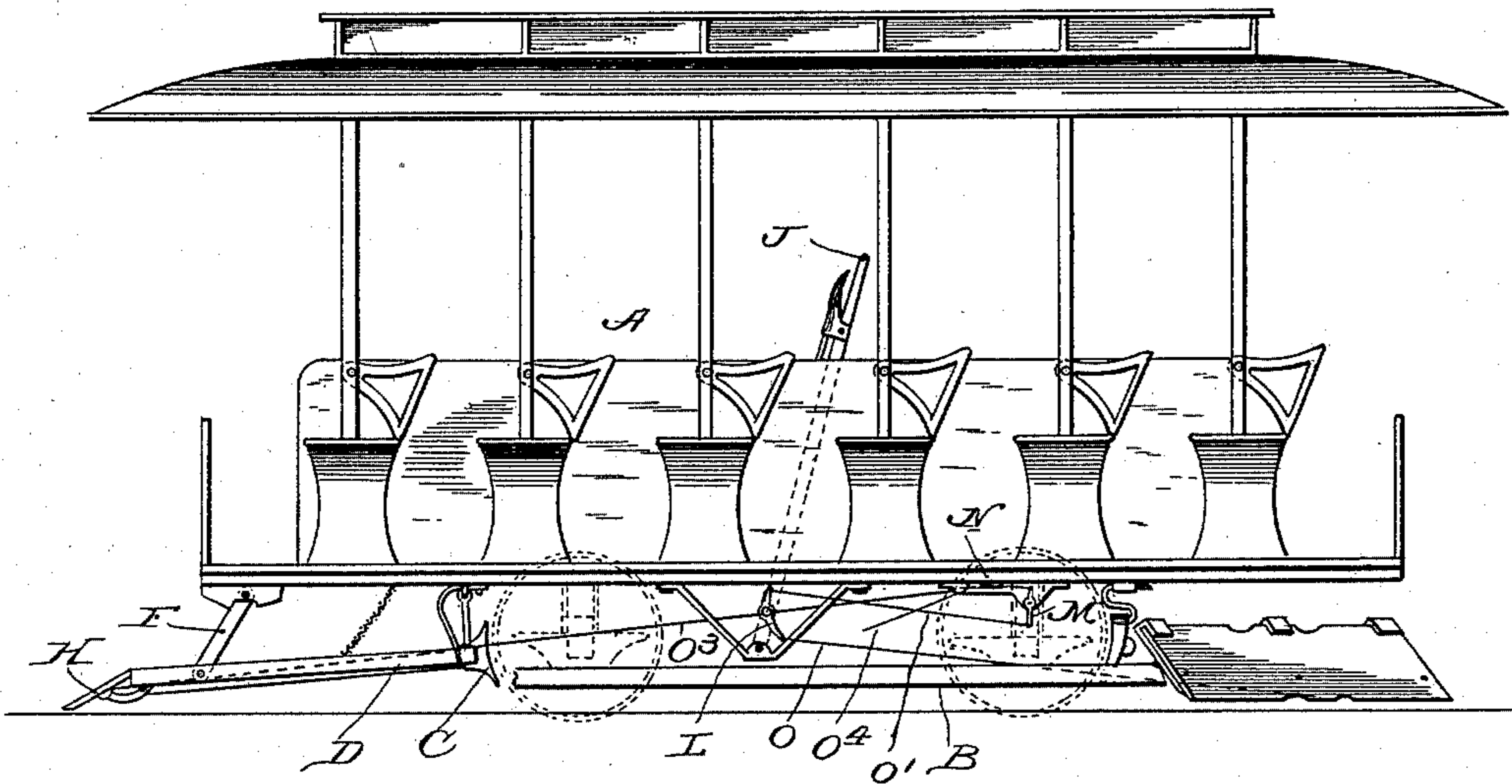


Fig. 2.

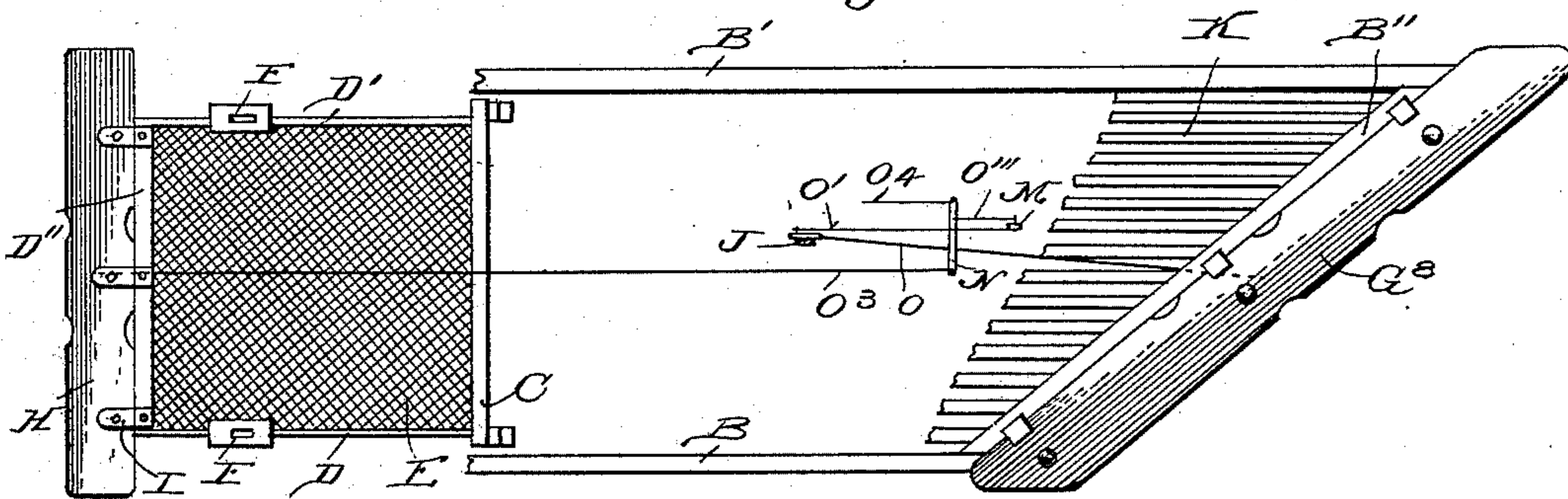
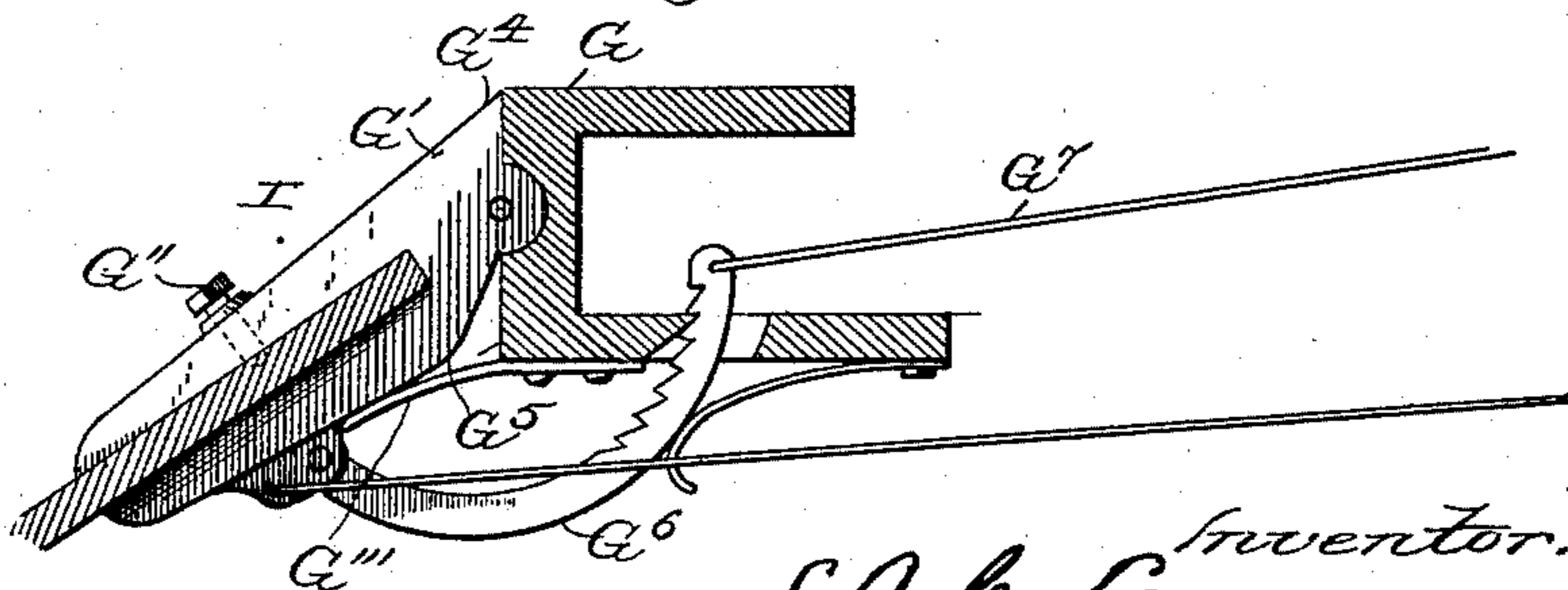


Fig. 3.



Witnesses:

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Inventor:
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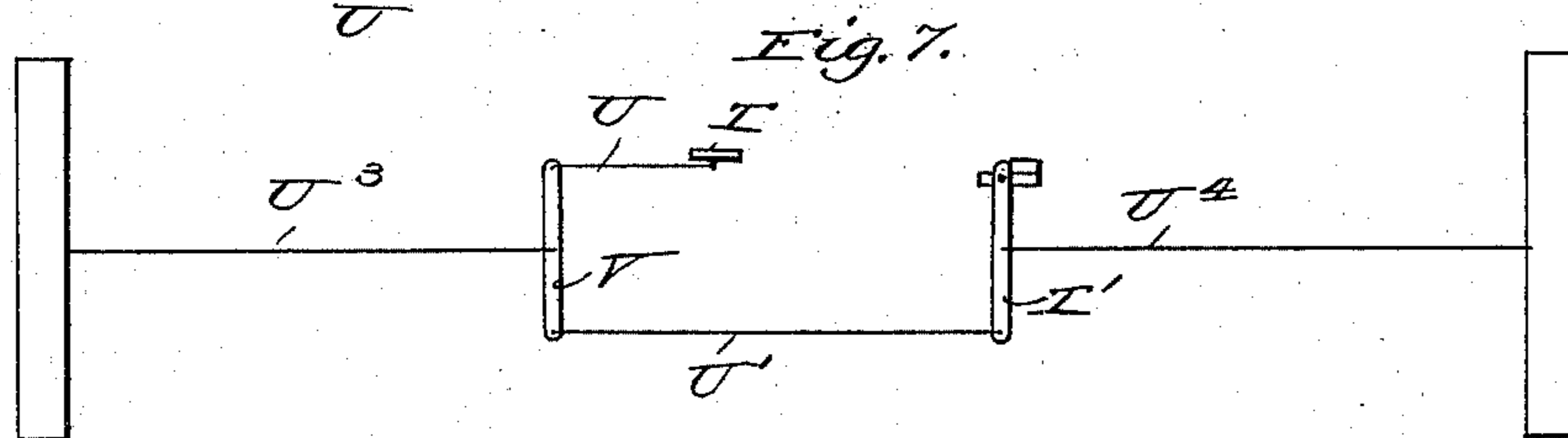
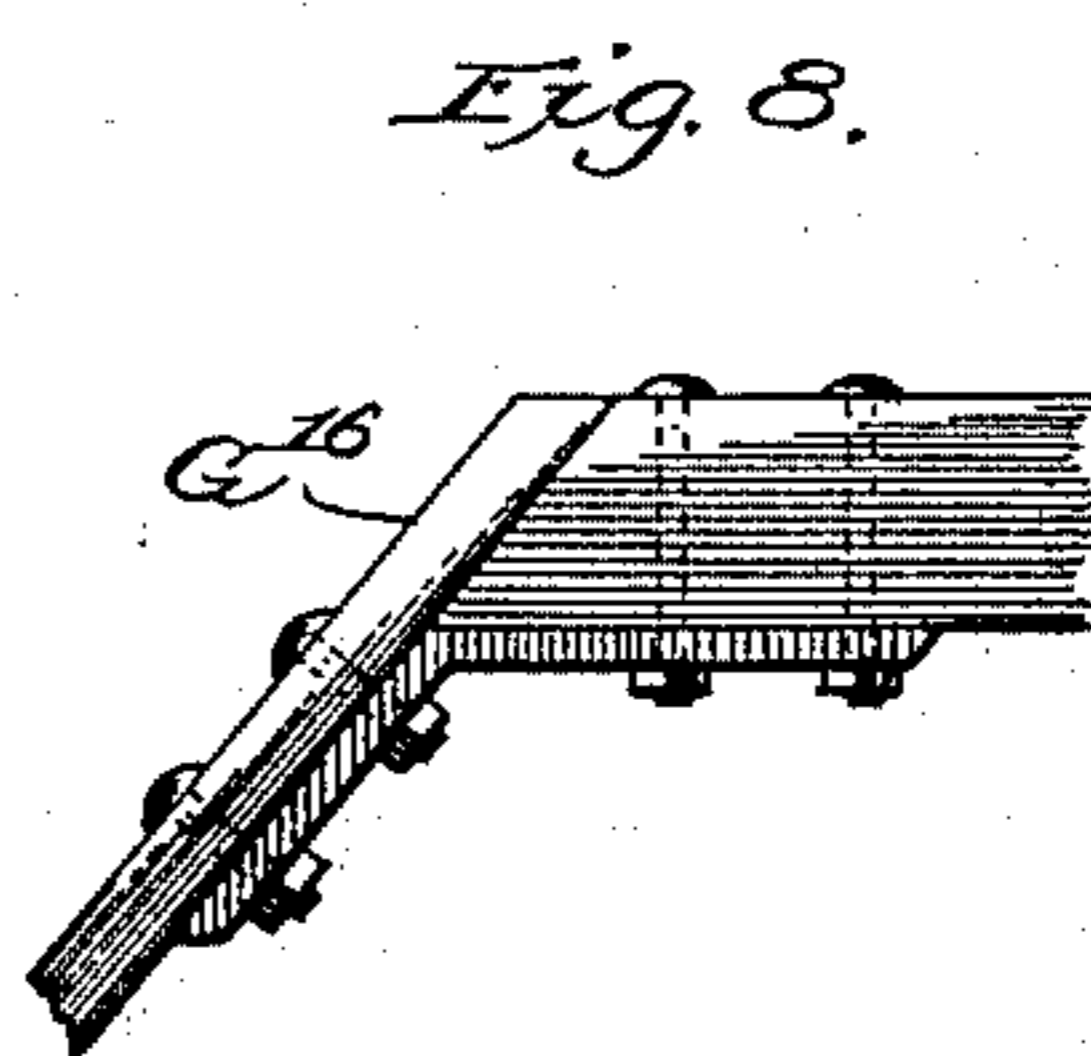
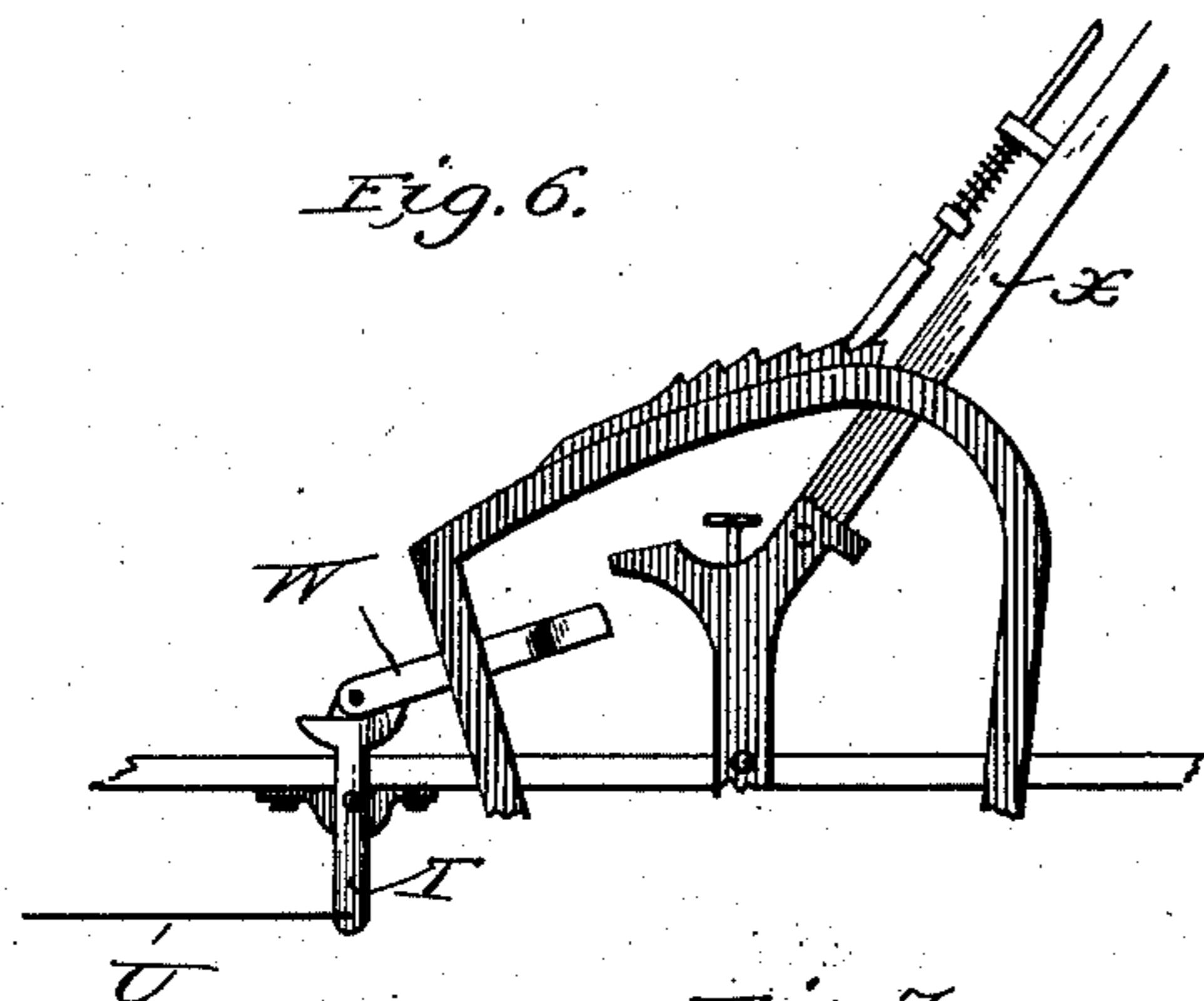
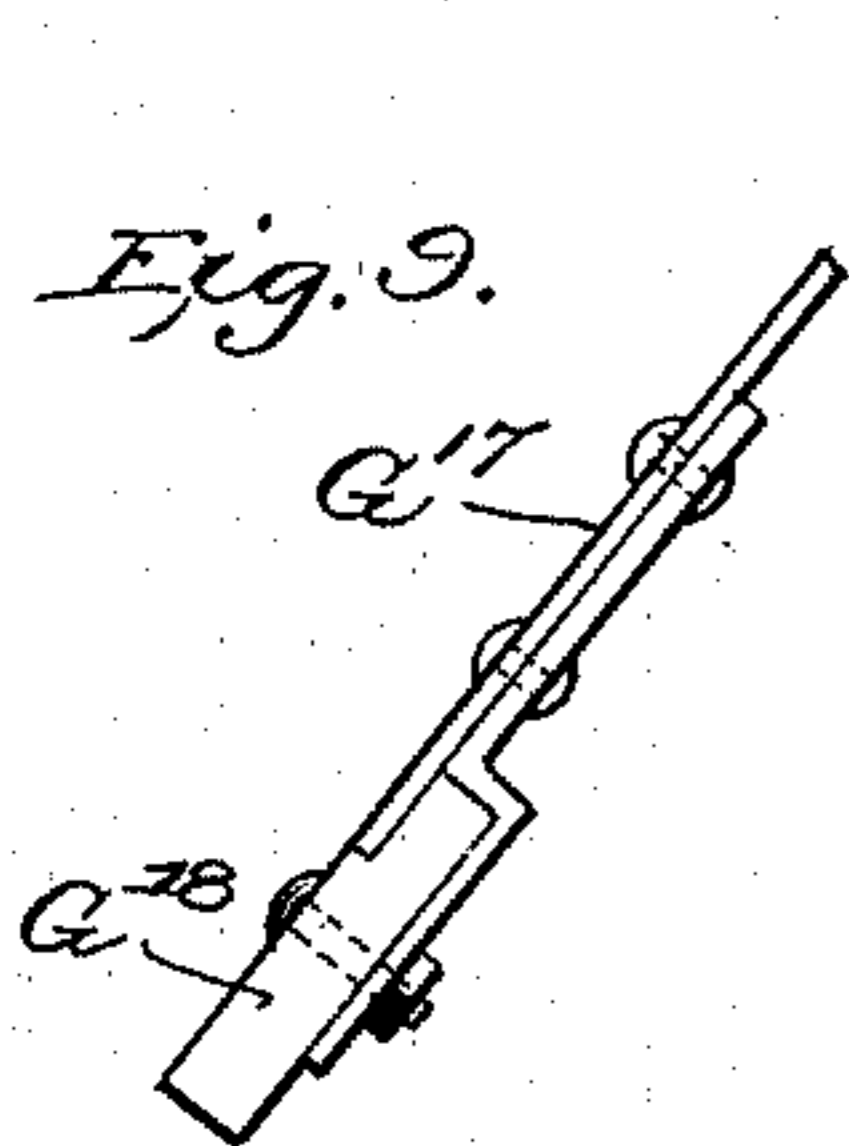
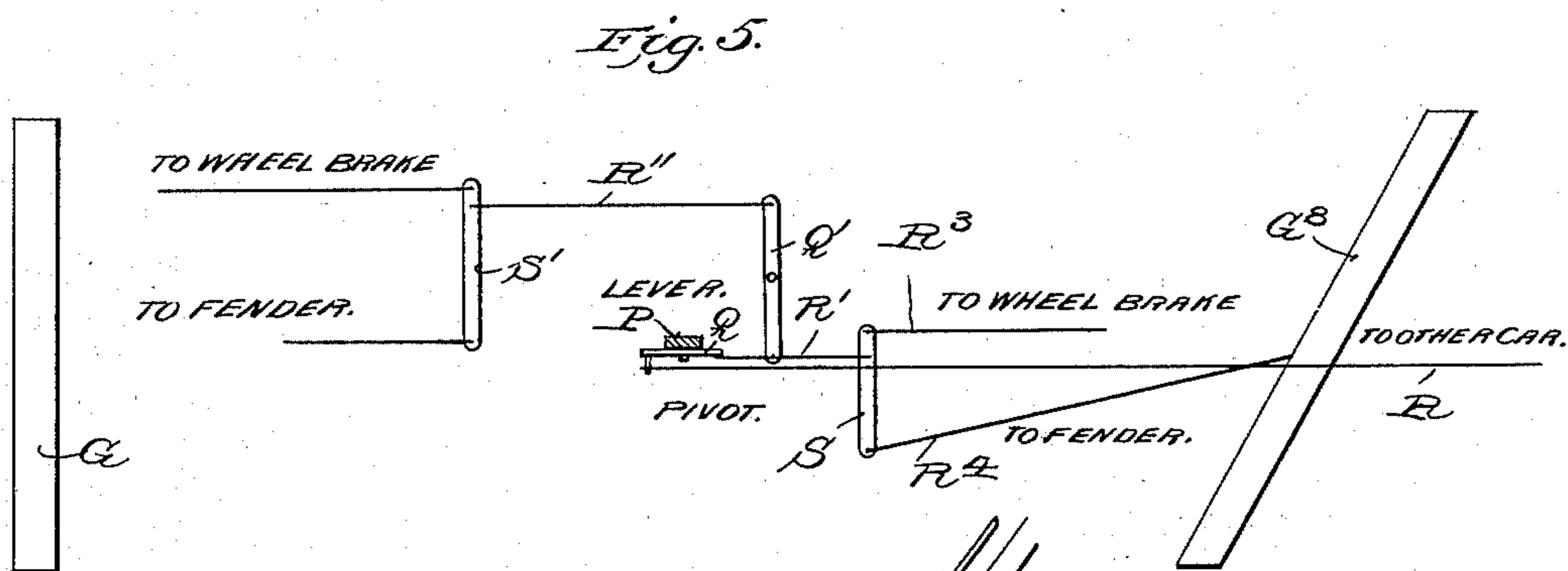
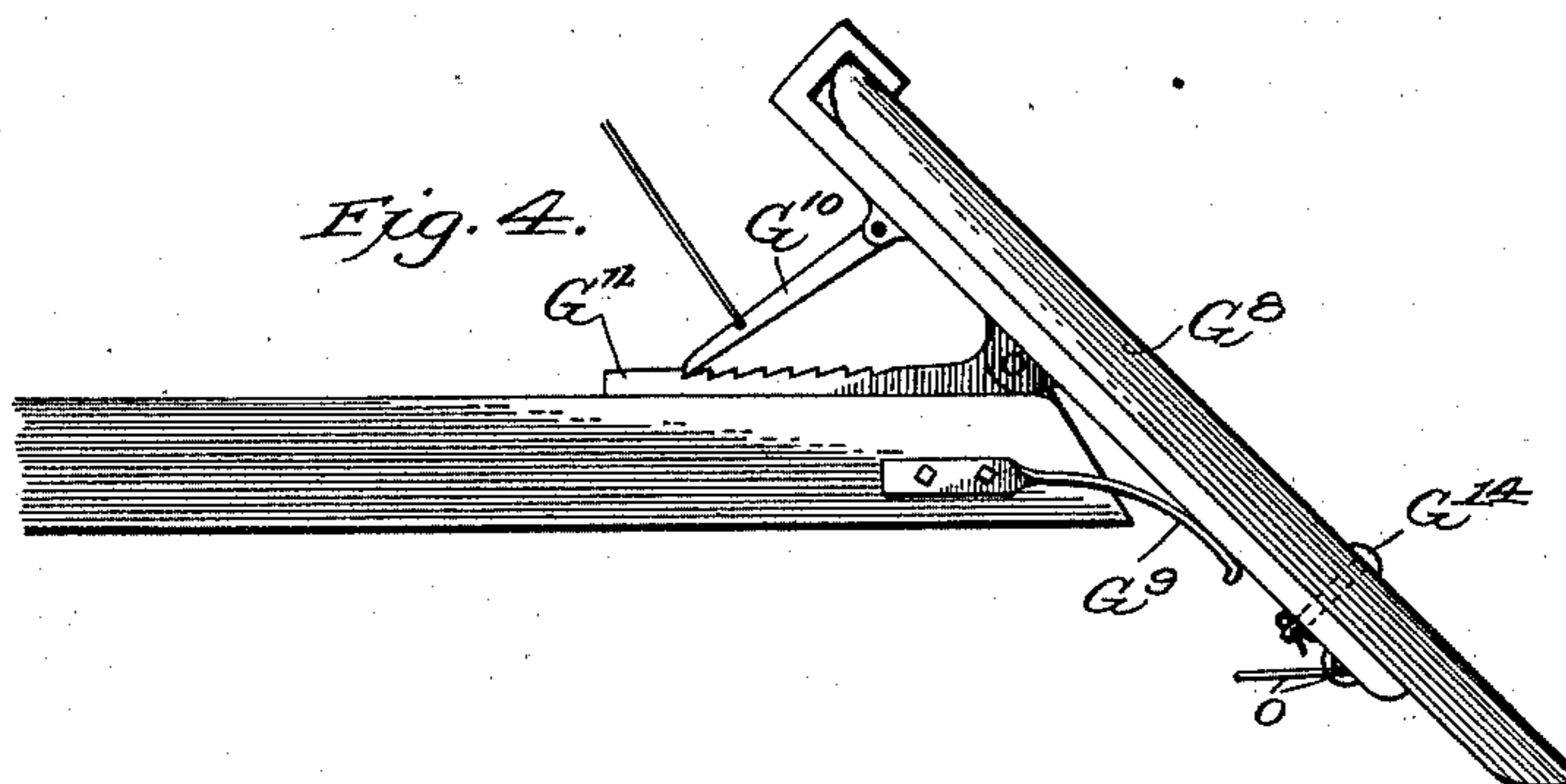
(No Model.)

2 Sheets—Sheet 2.

L. Q. C. LAMAR.
CAR FENDER.

No. 522,905.

Patented July 10, 1894.



witnesses:

Harry B. Rohrer
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Inventor:
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By Wallace Greene,
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UNITED STATES PATENT OFFICE.

LUCIUS Q. C. LAMAR, OF OXFORD, MISSISSIPPI.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 522,905, dated July 10, 1894.

Application filed March 31, 1894. Serial No. 505,856. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS Q. C. LAMAR, a citizen of the United States, and a resident of Oxford, county of Lafayette, State of Mississippi, have invented new and useful Improvements in Car-Fenders, of which the following is a specification.

This invention relates to safety attachments for street cars especially cable and electric cars. Its general object is to prevent killing or injuring persons or other beings struck by a moving car, and to avoid injuring either car or passengers when the fender strikes fixed or immovable obstacles.

More particularly, the invention relates to making the fending member of readily breakable material, to arranging such member to be thrown down into contact with the rails, automatically and otherwise, to securing it, positively, in any desired position until it is released by human will, and to have the parts which are most subject to injury easily and cheaply adjustable and replaceable. Most fenders now in use for fear of striking some projecting part of the road or road bed, are carried so far above the track that they readily pass over human limbs and then ride up over the body, thus preventing escape that might otherwise be possible. The rollers with which it has been sought to make it less dangerous to carry the fender near the track only make this result more certain since they seize and hold even the garments and also aid in raising the fender so that the body may pass beneath. By making the directly-fending member of readily destructible material no danger arises from forcing it down upon the track and while it has sufficient resistance to perhaps grind off a finger passed beneath it by lying in some depression, and to raise or push aside a human body, it breaks in meeting a rail end, a stone projecting too far above the general surface of a pavement, or other rigid object lying in its path. The material preferred is wood, though in many respects various well known, grainless, artificial boards are better since they cannot split but are simply torn away enough to allow passing the resisting object.

In the drawings, Figure 1 is a side elevation of a car provided with novel fending devices. Fig. 2 is a diagrammatic plan of the

same devices. Figs. 3 and 4 show on a larger scale portions of the same devices. Fig. 5 is a diagrammatic plan of a slightly modified arrangement showing the fenders operable in connection with a common wheel brake instead of a track brake. Figs. 6, and 7 show in elevation and diagrammatic plan means used when the fender is to be operated through the agency of the grip lever of a cable car. Fig. 8 illustrates the use of certain of my devices in a rigidly fixed fender. Fig. 9 shows a different combination of the breakable member with other fenders, either fixed or movable.

In Figs. 1, 2, 3, and 4, A is a grip car and B, B' are beams which in common cars usually carry a pointed fender of some sort.

C is a swinging brake of common construction to which are connected the rear ends of two parallel bars D, D' joined at their somewhat lower front ends by a cross bar D'' to form a frame which becomes a platform by the addition of wire netting E, wood or the like. These bars are forwardly supported by inclined links F depending from the car and from their obliquity necessarily lowering the front end of the platform when the latter is drawn rearward in setting the brake to which it is attached. No novelty is herein claimed for these devices. To the front end of this platform is hinged a downwardly and forwardly inclined, moderately thick, board H of wood or other material readily tearable or breakable, and this is swung down upon its hinges I by means of the track brake lever J, and otherwise, as will presently appear.

The hinges consist of a leaf G attached to the front of the platform and a second, forked leaf G' having in at least one branch a set-screw G'' to adjustably retain the board which is slipped between the fork branches. The leaves are so constructed that when the board is in its normal position with its lower edge a little above the rail, where it is held by a spring G''', shoulders G⁴ make upward movement impossible. Below the hinge axis are other shoulders G⁵ which limit, absolutely, the downward swinging. When the board is swung downward from its normal position, as it may be accidentally by meeting any object in its path, or purposely by devices to be described, all counter or returning move-

ment is prevented by a spring-pressed, curved ratchet bar G^6 ,—which, however, may be released by a pull upon a rod or cord G^7 .

At the other end of the car, a fender board G^8 , of like material, is hinged, centrally, to an oblique beam B'' connecting the ends of the unequal beams B, B' . This fending member extends entirely across the track, but very obliquely, in order that any object struck may be pushed laterally out of the car's path when it is run in the opposite direction, the intent being to have the board wide enough to prevent the object from passing over it. Yet if it be narrower, or if for other reason the object should pass over, it will fall upon a platform K , (Fig. 2.) This board, like that at the other end of the car is normally held above the track by a spring G^9 , while a pawl G^{10} limits its upward movement and holds it whenever it is swung downward enough to let the pawl pass a tooth of the ratchet plate G^{12} . The pawl is, as in the other case, released by means of a rod or cord G^{13} .

The swinging hinge leaf may extend upward and be bent back as a hook to retain the upper edge of the board, whose lower side is made fast by a removable bolt G^{14} . Both the swinging boards may be drawn down by the same movement that applies the track brake.

Upon one side of the track brake lever, J , is centrally pivoted a short lever L whose ends are connected, respectively, by rods O, O' , to the fending member G^9 and to the lower end of a lever M centrally pivoted to a fixed bearing. The opposite end of this latter lever is connected by a rod O'' to the central portion of a free bar N , and from the ends of this bar run, respectively, rods O^3, O^4 connecting to the hinged fending member G and to the usual track brake (not shown).

Evidently the arms of the levers and bar may be so proportioned that the force applied to the lever J will be divided in any desired ratio between the fenders and the brake; and practically most of it should be expended upon the brake.

It is to be observed that if either of the fenders or the brake strike the rails before the others and so cease to move downward, the swinging of the lever J may still be continued until all in succession are pressed firmly down against the rails. And further, the brake may be thereafter worked as usual without releasing the fenders, should it be desirable, but if the chains or rods connected to the pawls be drawn the fenders will be released and the springs will return them to their original positions.

Should any person, unobserved by the gripman, be struck by the fender, the latter swings automatically down to the track and is rigidly locked there by the pawls, and thus the unusually small space ordinarily found between the front edge of this fender edge and the track is instantly closed in case of need, without any attention from the gripman.

Should any rigid object be struck, no possible injury can result, beyond breaking out a more or less large portion of the board, which is of material and thickness adapting it to this end. And again, this breakable character makes it perfectly safe to force the fending member down firmly upon the track no matter what the speed of the car which, so far as I am aware, has not heretofore been considered practicable. It may be said that the member will soon be destroyed. Probably, if the necessity for depressing it shall often arise; not otherwise. And in any case the cost of the board is almost nominal, and it may be quickly reversed when the lower edge is too much worn or broken, and may with equal facility be replaced by another, it being a simple matter to carry others at all times upon the car.

In Fig. 5 P represents a lever similar to the lever J but used for applying the common wheel brake. To the side of this as before, is pivoted a short lever Q , one end of which is connected by a rod R to the brakes of a trailer car, not shown and the other to both the central part of a free bar S and the end of a lever Q' . The latter is centrally pivoted to a fixed support and has its other end joined by a rod R'' to the central portion of a free bar S' , one end of which is connected by a rod R^3 to the usual wheel brake (not shown), and the other, by a rod R^4 , to the fending member G^8 . In like manner, the ends of the bar S' are connected to the other wheel brake of the same car and to the other fending member.

When it is desired to operate the fenders from the grip lever, a short vertical lever T is pivoted in front of the latter to extend through the car floor, where its lower end is connected by a rod U to the end of a free bar V whose opposite end is joined, by a rod U' , with the free end of a lever T' having its opposite end mounted upon a fixed pivot. The central portions of the bar V and the lever T' are connected to the fending members, respectively, by rods U^3, U^4 .

To the upper end of the lever T is pivoted a stiff bar W adapted to swing in the plane of the grip lever X into and out of the path of the latter, and to be supported at either limit of its path by shoulders upon the bar T . Now the parts are so arranged that the grip is released, in the usual manner by swinging the grip lever over against the end of the bar W , which is ordinarily not moved by such operation. But if the lever X be forcibly pressed still farther over, the bar W is caused to move longitudinally and the lever T swinging upon its pivot draws the rod U and thus pulls down both fenders against the rails, where they are held by devices similar to those shown in other figures of the drawings.

It is important that nothing whatever is attached to the grip operating mechanism and hence that the latter may be removed in the usual way, it being only necessary to swing

the bar W upon its pivot, out of the way; and further, that the very movement which releases the grip,—the first movement in case of danger,—throws the fenders down upon the track and locks them there.

Fig. 8 shows a breakable board G^{16} used as a rigidly fixed fender, and Fig. 9 illustrates the use of such board G^{18} to form the lower part of a not readily breakable fender G^{17} , either fixed or swinging.

It is evident that the lever by which my devices are operated may be a special lever instead of one of those used for the brakes or grip, and it is further evident that the fending member being very readily removable, a stronger member, wholly or partially of steel, for example, may be temporarily put in its place, and we then have, especially in the case of the oblique member, a very effective and excellent snow plow.

What I claim is—

1. A fender having its fending member projecting, when in action, below the other parts of the fender and formed of material readily broken away in meeting unyielding obstacles yet capable of resisting impact of the human body at any probable speed of a car.

2. In a car fender, a fending member adapted to be broken away in meeting objects that would otherwise endanger other portions of

the fender, and means for forcing said member down against the surface over which said member passes.

3. In a car fender, a readily breakable board of suitable material forming the obstruction-meeting member, detachably and adjustably secured in front of the other parts and arranged to extend materially below the plane of such parts.

4. A car fender having a fending member of readily destructible material, arranged to be lowered from its normal position, and provided with means for preventing the unwished for return of the member when it has been so lowered.

5. In a car fender, the combination with a readily breakable fending member projecting below other parts of the device but normally a little above the rails, means for lowering said member at will, means for holding it when lowered, means for releasing it, and means for returning it to its normal position.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 31st day of March, 1894.

LUCIUS Q. C. LAMAR.

Witnesses:

WALLACE GREENE,
WM. H. DE LACY.