

No. 606,679.

Patented July 5, 1898.

O. W. NORLING.
CAR FENDER.

(Application filed Oct. 19, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

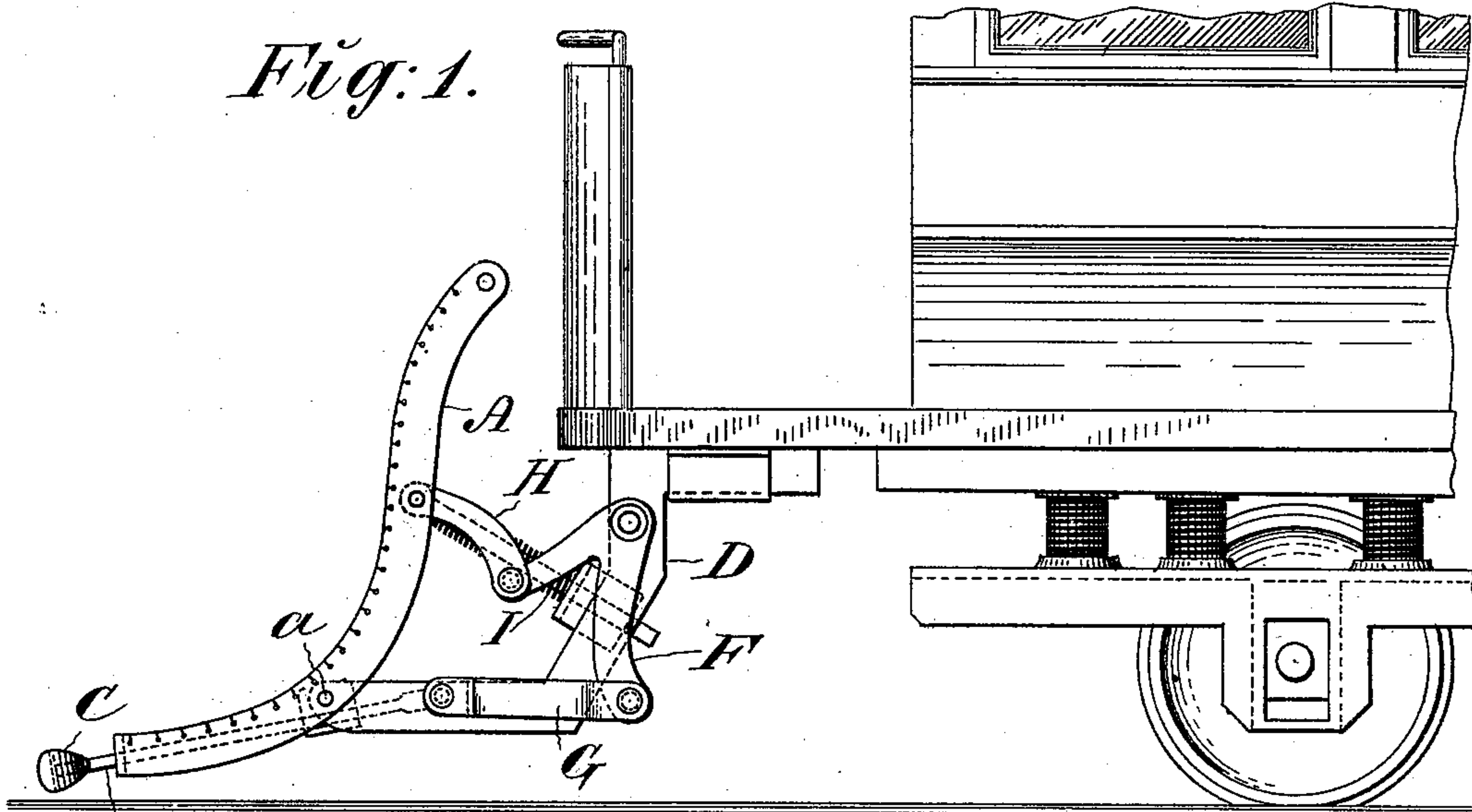
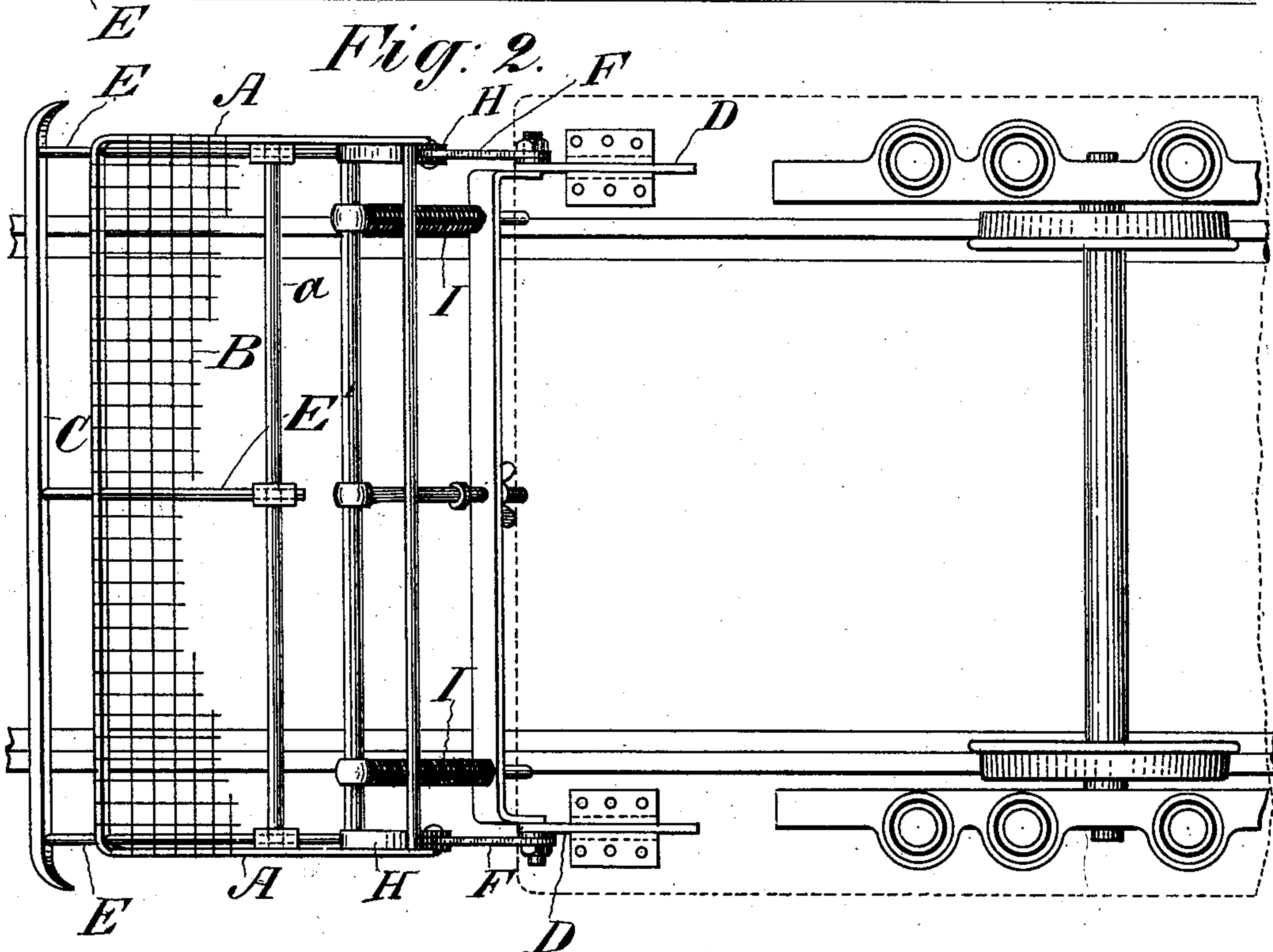


Fig. 2.



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Fig. 3.

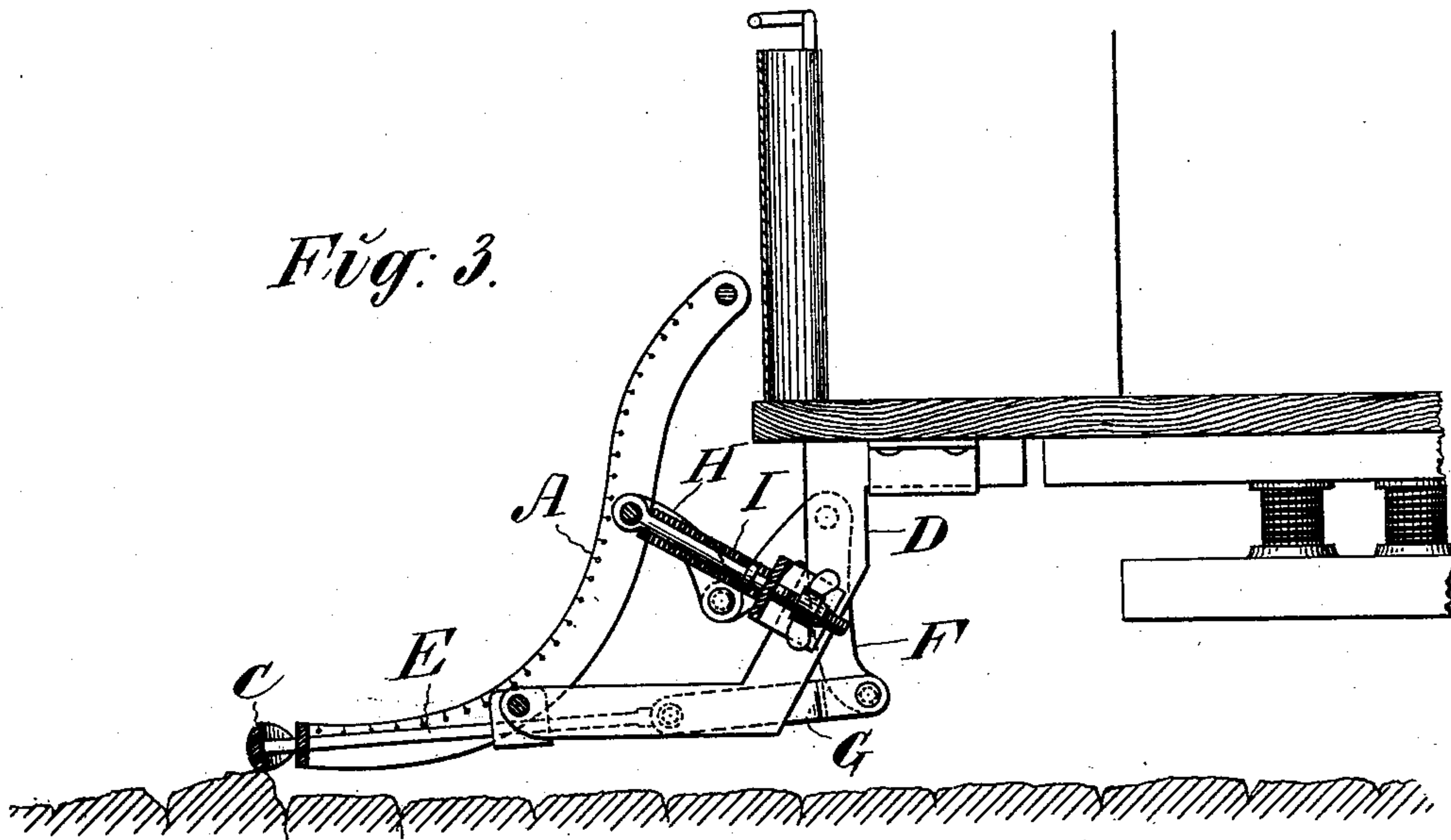


Fig. 4.

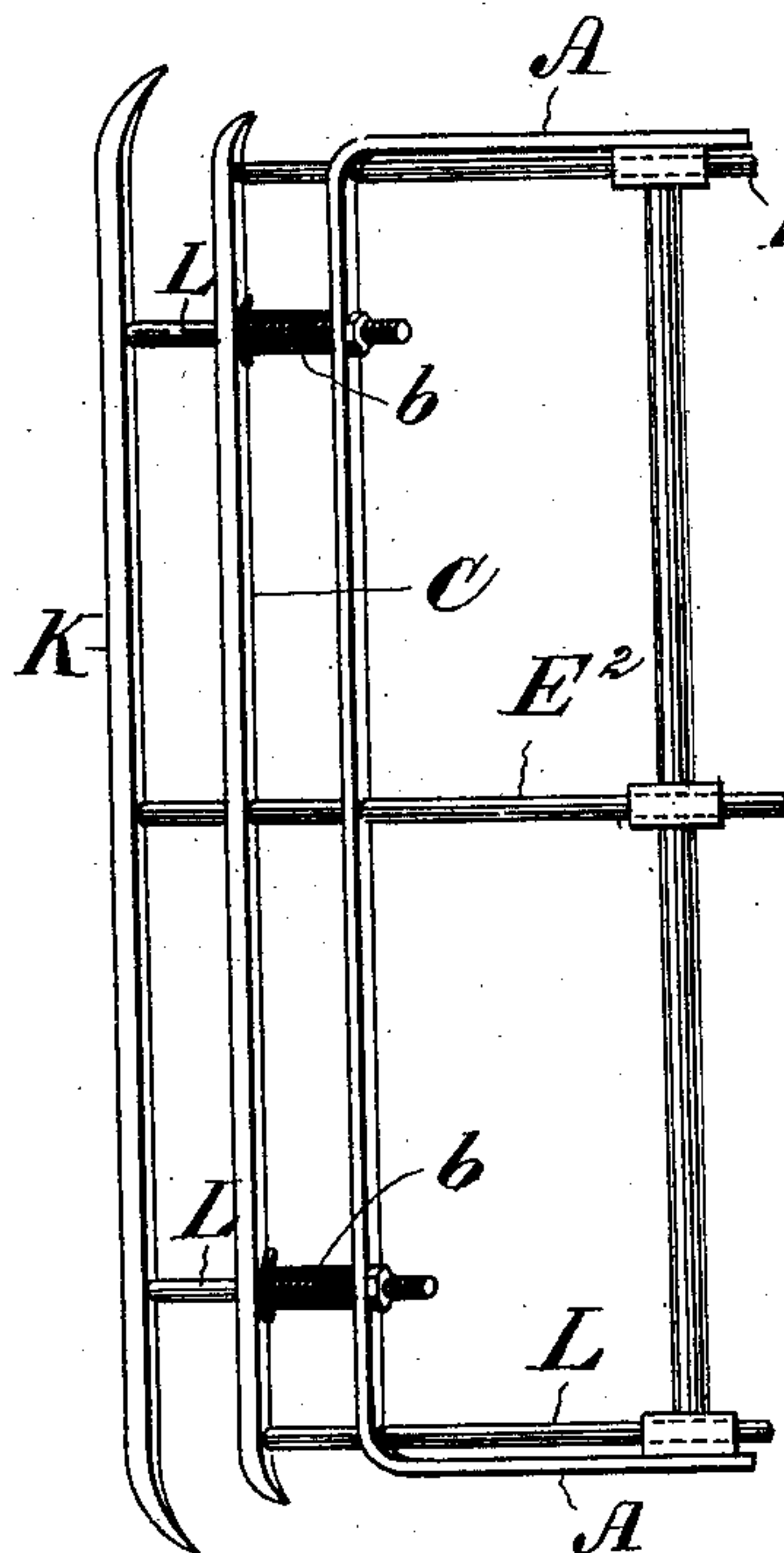
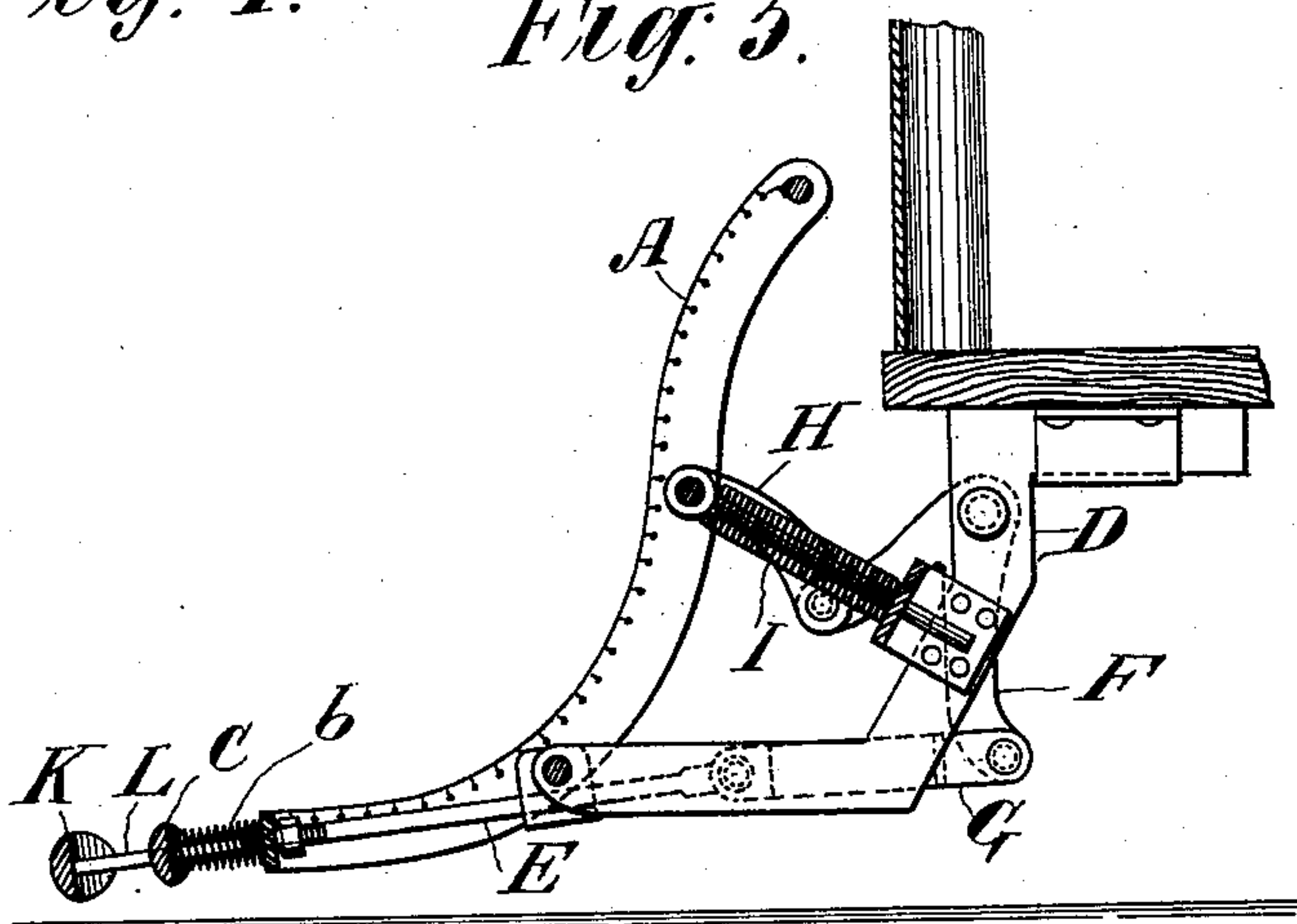


Fig. 5.



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OTTO WILIAM NORLING, OF BROOKLYN, NEW YORK.

CAR-FENDER.

SPECIFICATION forming part of Letters Patent No. 606,679, dated July 5, 1898.

Application filed October 19, 1897. Serial No. 655,693. (No model.)

To all whom it may concern:

Be it known that I, OTTO WILIAM NORLING, a citizen of the United States, and a resident of 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.

My invention relates to car-fenders, and especially to those intended for use on street-railway cars; but the improvements may be applied in connection with other styles of vehicles as well.

The object of my invention is to provide or produce a fender of the class named which may travel quite close to the road-bed and tracks and be capable of riding over any ordinary obstructions without danger of damage to the fender and which will at the same time afford a simple, efficient, and perfectly reliable safety guard and carrier for persons or objects of considerable size. To accomplish all of this and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain novel and useful arrangements or combinations of parts and peculiar features of invention, as will be herein first fully described, and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation, and Fig. 2 a corresponding plan view, showing a fragment of a car with my improved fender in place thereon and ready for use. Fig. 3 is a sectional elevation indicating the fender in the position it assumes immediately upon striking any small object over which it can ride. Fig. 4 is a plan view, and Fig. 5 a sectional elevation, illustrating the safety-fender of previous figures, with an additional movable front piece or buffer to still further reduce the resistance or shock upon striking a person or object.

In all of the figures like letters of reference, wherever they occur, indicate corresponding parts.

My improvements may be applied on fenders of any of the ordinary shapes which operate as receptacles or carriers for persons or objects. A A is the frame of one such fender, the same being usually supplied with a net or cushion, as indicated at B. These fenders or carriers are now of necessity mounted

so as to travel above the track and road-bed and ordinarily so high as to greatly limit their usefulness for the purposes intended—that is, for protecting life, limb, or property. They are carried thus high to avoid striking small objects, by which they would be damaged, and to allow for the jolting of the car without bringing them into contact with the pavement, &c.

To enable the fender to ride close to the ground, I supply it with a movable piece or buffer, as C, mounted in front of the lower portion of the frame and so arranged that whenever the buffer is pressed toward the remaining part of the fender it will compel the elevation or swinging up of the fender in order that it may pass the obstruction without damage.

The whole fender is carried on substantial arms or side pieces, as D, and they are preferably arranged so that the fender may be easily transferred from one end of the car to the other when required.

The frame A is pivoted in the arms D, as at a, so that its lower end may be tilted therein.

Buffer C is sustained by rods E E on each side, and these are connected back with levers or equivalent means by which they may cause the elevation of the front of the fender upon being forced in. The particular form of connections for this purpose is not material, the form shown, however, being simple and efficient for the desired object. In this form bell-crank levers, as F, are pivoted to the arms D, the lower ends of these being coupled with rods E, as through coupling-pieces G, and the upper ends connected with the frame A, as through coupling-pieces H. Whenever the buffer is forced toward the fender by any obstacle, the upper arm of the bell-crank lever will be forced down and cause the upper part of the fender to swing backward, thereby elevating the lower end and allowing it to ride over any small obstruction, as will be plainly seen. These connections may be modified in various ways within the limits of mechanical skill.

Springs, as I, offer a yielding resistance to the movements of the fender to obviate damaging effects of any sudden blows.

In the event that an obstacle is too great to be ridden over it will be thrown to one side or caught up and carried on the fender.

In striking the body of a person, for instance, the buffer is so low down as to strike under rather than over it. The effect of this is to tend to bear the buffer down when it cannot be forced in, and the body will then be caught and carried by the fender.

To reduce the concussion against a body or limb, it may be desirable to make the buffer more yielding than when single, as above described. This is easily accomplished by mounting a second buffer in front of the first one, as shown at K, Figs. 4 and 5. This is supported on rods, as L L, and maintained at a little distance from buffer C by light springs, as b b. Upon being struck it affords only a little resistance, with advantages which are sufficiently obvious. To effect the elevation of the fender, it would have to be forced back far enough to move the buffer C, and in any event it serves to diminish the shock, as intended. It may be used or not, as conditions may seem to require.

To add stability to buffer C, a third rod, as E', may be employed to sustain it near its middle point; but this is not always necessary and may be omitted, if preferred.

In Fig. 4 the rod E² is for like purpose as rod E' in Fig. 2 and may likewise be omitted, if desired.

The improved fender constructed substantially in accordance with the above explanations is simple and easy to apply and operate and will be found to answer all the purposes or objects previously alluded to.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In combination with a car-fender pivoted or hinged in arms as explained, a movable

buffer sustained in front of said fender and on sliding rods, the latter being connected with the bell-crank levers, and the said levers connected with the fender, the whole arranged to tilt up the front end of the frame as soon as the buffer is forced back by contact with an obstacle, for the purposes and objects set forth.

2. The combination with the hinged fender, the movable buffer supported thereon and connected with a bell-crank lever, the latter being coupled with the fender and the whole constructed and arranged to operate substantially as and for the purposes set forth.

3. In combination with the hinged fender the movable buffer sustained thereby and bell-crank levers connecting the two as set forth, of a spring or springs, as I, applied to the fender for the purpose of reducing shock, substantially as explained.

4. In a fender provided with a movable buffer and means for connecting the two as set forth, the combination with the first-named buffer of a second one and light springs connected therewith, for the purposes and objects named.

5. The combination as before set forth of the frame pivoted in the arms, the buffer sustained upon the frame, the sustaining-rods, bell-crank lever, coupling-pieces and springs connected with the frame, substantially as shown and described.

Signed at New York, in the county and State of New York, this 18th day of October, A. D. 1897.

OTTO WILLIAM NORLING.

Witnesses:

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I. H. KLIMAN.