

No. 806,143.

PATENTED DEC. 5, 1905.

J. J. HOEY.  
CAR FENDER.

APPLICATION FILED MAR. 13, 1905.

Fig. 1,

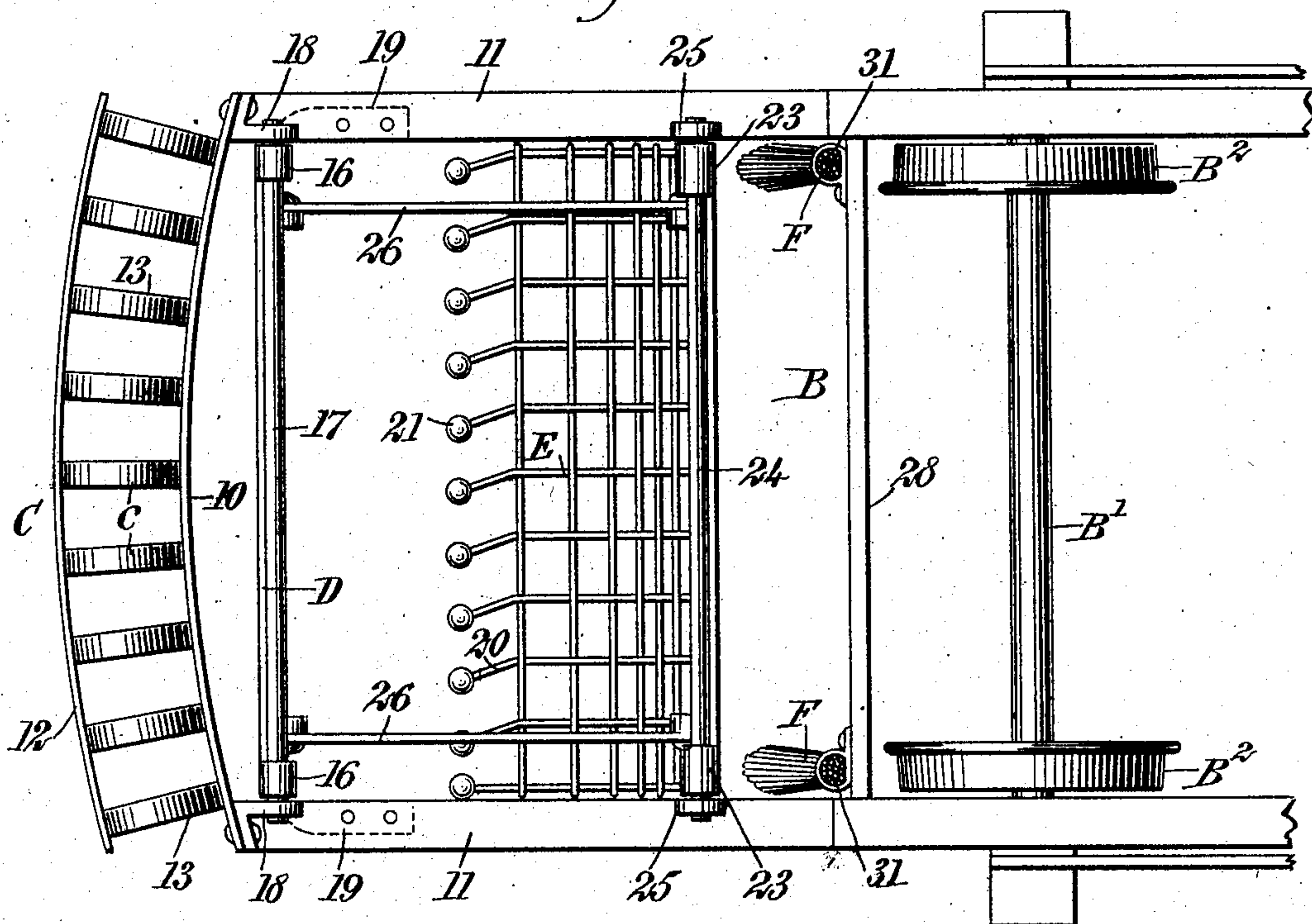


Fig. 2,

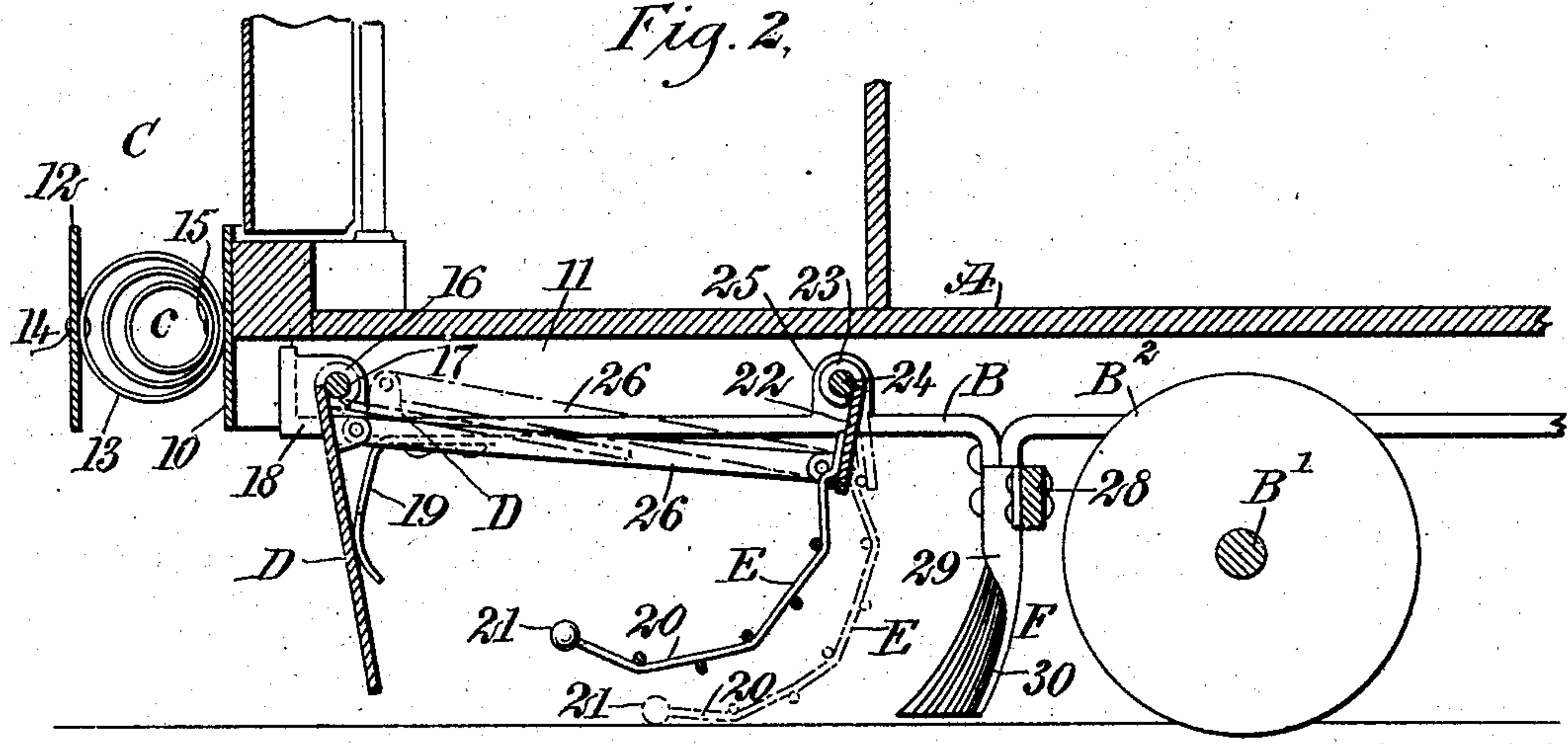
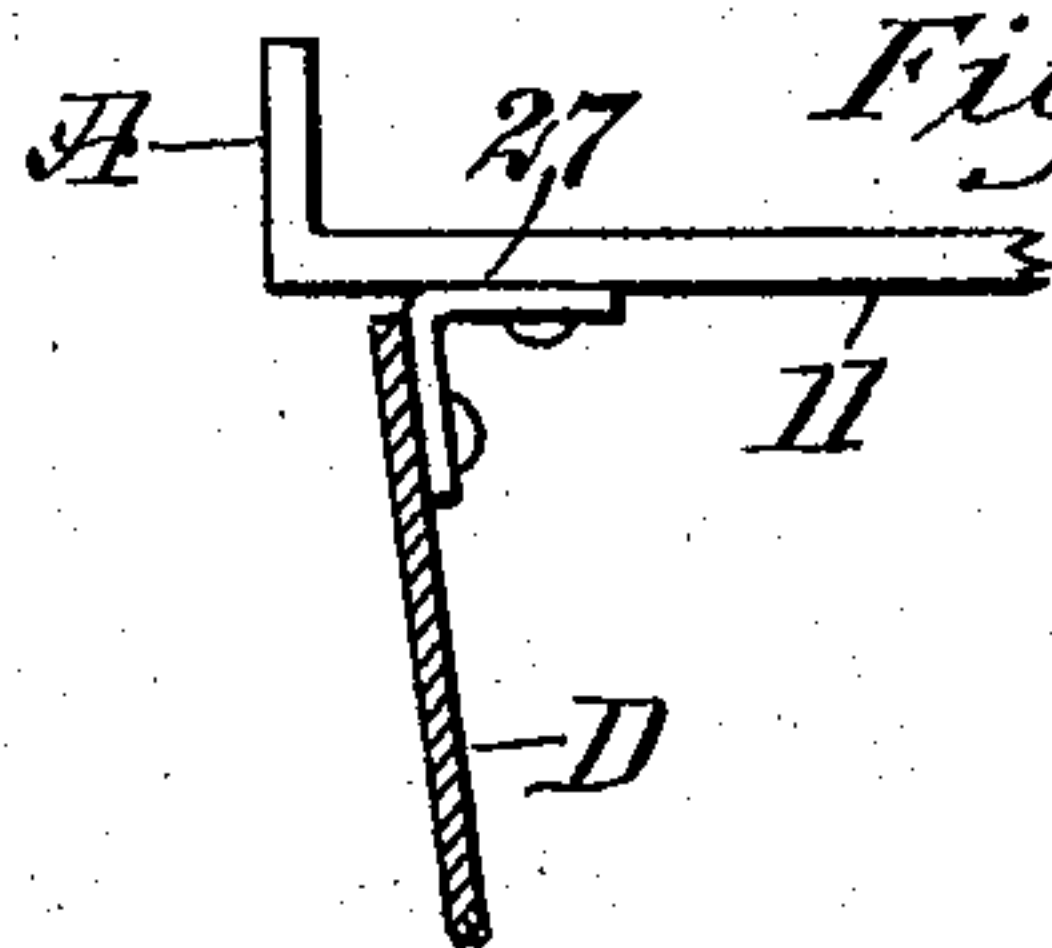


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## CAR-FENDER.

No. 806,143.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed March 13, 1905. Serial No. 249,796.

*To all whom it may concern:*

Be it known that I, JOHN J. HOEY, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Car-Fender, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, convenient, effective car-fender capable of ready attachment to a car and in the construction of which complicated springs are not employed.

A further purpose of the invention is to provide a construction of fender which will include a buffer or bumper of nested ring members of more or less yielding material, which will render the shock to the person or object struck as light as possible, and also to provide a downwardly-extending apron at the end of the car, which apron normally closely approaches the road-bed and will remain in normal position under ordinary conditions, but which will yield rearward under the impact of a body and in so yielding will cause a scoop to drop and receive and retain the body. Further, in connection with the foregoing I employ brush wheel-guards which will effectually prevent bodies or objects from coming in contact with the wheels of the car, the said guards being sufficiently yielding when first engaged with to ease the shock, but which are sufficiently rigid thereafter to push a body or object before them.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the sills of a car and a portion of the truck and a plan view of the improved fender applied to the car. Fig. 2 is a vertical section through a portion of one end of a car and a vertical section through the improved fender; and Fig. 3 is a detail side elevation of a portion of the bottom of the car and a section through the apron applied thereto, illustrating another manner of connecting the apron with the said bottom of the car.

A represents a portion of the body of a car, B a portion of the truck connected with the

car-body in the customary manner, B' an axle carried by the truck, and B<sup>2</sup> its wheels.

At each end of the car a buffer or bumper C of peculiar construction is located. The buffers or bumpers are alike, and each consists of an inner longitudinal arched plate 10, secured to the end portions of the sills 11 of the car-body A, an outer correspondingly-arched plate 12, and intermediate cushions c, connected with both plates, as is shown in Figs. 1 and 2. Each of these cushions comprises a series of eccentrically-located nested bands or rings 13 of decreasing diameter, preferably made of metal more or less elastic. The outer band or ring of each cushion c is secured to the outer arched plate 12, as shown at 14 in Fig. 2, and all of the rings or bands of each cushion are attached to the inner plate 10, as is clearly shown at 15 in Fig. 2. Under this construction it is evident that the buffer or bumper C will yield proportionately to the weight brought to bear against it and that the object struck will not sustain such a shock as follows the operation of the ordinary non-yielding bumpers or those bumpers controlled by single springs.

At each end of the car I employ an apron D, which preferably consists of a plate of suitable dimensions to extend from rail to rail of the track and from a point adjacent to the floor of the body of the car to a point quite close to the road-bed between the rails, as shown in Fig. 2. The plate, comprising the apron D, may be solid, as illustrated, or it may be perforated or reticulated, and normally stands with a slight inward inclination, as is illustrated in Figs. 2 and 3.

In the construction of the apron eyes 16 may be produced at its upper end portion, as shown in Figs. 1 and 2, which eyes loosely receive a shaft 17, secured in hangers 18, attached to the end portions of the sills 11 of the car-body, and stops of pliable or yielding metal are secured to the under face of the sills 11, extending downward and inward, so as to have more or less bearing against the rear face of the apron D, as is particularly shown in Fig. 2. These stops 19 serve to retain the apron in its normal position against the influence of the wind and weather and against ordinary force, but permit the apron to yield inwardly or rearwardly in the event it engages with the body of a person or any other heavy object.

At the rear of the apron D and between the



apron and the wheels of the truck the main fender E is located beneath the body of the car, being in the nature of a drop-shoe. The fender E is preferably made as light as possible consistent with strength. Therefore in its construction it is perforated or reticulated, a netting of wire of suitable gage being usually employed, as illustrated.

The fender E is more or less curved, its forward or outer face being concaved and its inner or rear face convexed, as is particularly shown in Fig. 2. The transverse bars 20 of the fender at its lower edge are diagonally located or inclined in direction of one side of the car and terminate in smooth preferably spherical heads 21, as is shown in Fig. 1, so that when the fender E is in its dropped or lower receiving position (shown by dotted lines in Fig. 2) the lower terminal members of the fender will not have a tendency to jab or lacerate the body received by said fender, but rather will tend to assist the body forward to the concaved face of the fender.

The upper edge portion of the body of the fender is firmly secured to a plate 22, and said plate is provided with eyes 23 or their equivalents, which eyes are mounted to turn upon a shaft 24, usually secured in ears 25, extending upward from the truck B, as is shown in Figs. 1 and 2.

When the apron D is in its normal position, the fender E is held raised from the road-bed, as shown by positive lines in Fig. 2, and when the apron D is pushed inward or rearward the fender simultaneously drops to its receiving position over the road-bed, as is shown by dotted lines in Fig. 2. This simultaneous action of the apron D and the fender E is brought about by means of links 26, pivoted to the rear face of the apron D and the forward face of the top or suspension plate 22 of the fender, one link being adjacent to each end of said elements D and E.

I desire it to be understood that instead of hinging the apron to the body A of the car and employing the stop 19, as shown by Figs. 1 and 2, the attachment of the apron to the car-body may be made as illustrated in Fig. 3, wherein it will be observed that angle-brackets 27, of yieldable or pliable metal, are secured by means of one member thereof to the car-body A, and the apron D is attached to their other members. Thus the brackets 27 serve as supports and hinges for the apron D, since when an object strikes the apron D it will bend the downwardly-extending members of the brackets 27 far enough backward to permit the object encountered to pass to the fender E and the fender to drop into position to receive said object.

If by any accident the person endangered should pass the fender E, I provide a means for effectually preventing said person from coming in contact with the wheels B<sup>2</sup>. Such means consist of brush-guards F, located one

in advance of the tread of each wheel B<sup>2</sup>, being usually held in position by attachment to a cross-bar 28 on the truck B; but said brush-guards may be attached to the brake-beam or to the brake-shoes, if so desired.

Each brush-guard consists of a downwardly and forwardly curved shoe 29, circular at its upper end, where it is secured to its support, as is shown in Figs. 1 and 2, but open from its forward face from a point near its center to its lower end, as is shown at 30 in Fig. 2. Each shoe 29 contains and retains in position a sufficient quantity of metal bristles 31 to constitute a brush fully exposed at its front lower portion, and the lower ends of these brushes, which are over and near to the rails, flare outwardly to a certain extent, so that when an object encountered strikes the brushes they will yield to such an extent as to reduce the shock to a minimum, but will thereafter become so rigid as to push the object before them.

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

1. In car-fenders, a bumper consisting of forward and rear curved plates and nested bands connecting the plates.

2. In car-fenders, a bumper consisting of a front and a rear plate correspondingly curved, and nested bands of yielding metal connecting the said plates, the said bands being graduated in diameter, the outer band of each nest of bands being secured to the outer plate and all of the bands of each nest to the inner plate.

3. In car-fenders, an apron located at the end of a car, a yielding support for the said apron, a fender pivoted beneath the car at the rear of the apron, and a connection between the apron and fender, whereby when the apron is pushed inwardly the fender simultaneously drops to a receiving position.

4. In cars, an apron having a yielding support and located at the end portion of the car beneath the same, a shaft beneath the car at the rear of said apron, a plate having eyes mounted to turn on the shaft, a fender having the upper edge thereof secured to said plate, and links pivotally connecting the apron with the fender whereby when the apron is pushed inward, the fender drops downward, the fender being supported in upper position while the apron is in its normal position.

5. In cars, a fender having a concaved forward face and a convexed rear face, the said fender being constructed of a woven wire of predetermined gage, the transverse wires extending beyond the lower longitudinal wire, the extending portions of the transverse wires being given an inclination in direction of one side of the car, and heads at the outer ends of the extended portions of the said transverse wires.

6. In cars, a brush-guard, consisting of a



shoe having a downward and forward inclination, means for supporting said shoe, said shoe being circular at its upper end and recessed at its forward portion from a point 5 near its center to its lower end, and a brush of metallic bristles secured in the circular portion of the shoe, being exposed at the opening in the shoe, the said bristles normally flaring outward at their lower portions, for 10 the purpose described.

7. In cars, the combination with a car-body, the truck and its wheels, of a bumper located at the end portion of the car-body, comprising inner and outer arched plates, nested 15 metal bands connecting the plates, the bands in the nest being eccentrically located and gradually decreasing in diameter, an apron having a yielding support and located at an end of the car beneath the body, a fender 20 pivotally connected with the truck of the car

at the rear of the apron, the fender having its forward face concaved, links connecting the fender with the said apron, and brushguards carried by the truck, located in front 25 of the tread of the said wheels, said brushguards consisting of shoes downwardly and forwardly curved, having circular upper portions and semicircular lower portions, the lower portions being open at the front, and metallic bristles bunched and secured in the 30 shoes, being exposed at the open portions of the same.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN J. HOEY.

Witnesses:

F. W. HANAFORD,  
JNO. M. RITTER.