

No. 815,927.

PATENTED MAR. 20, 1906.

B. LEV.
TUBULAR CAR FENDER.
APPLICATION FILED JULY 18, 1904.

3 SHEETS—SHEET 1.

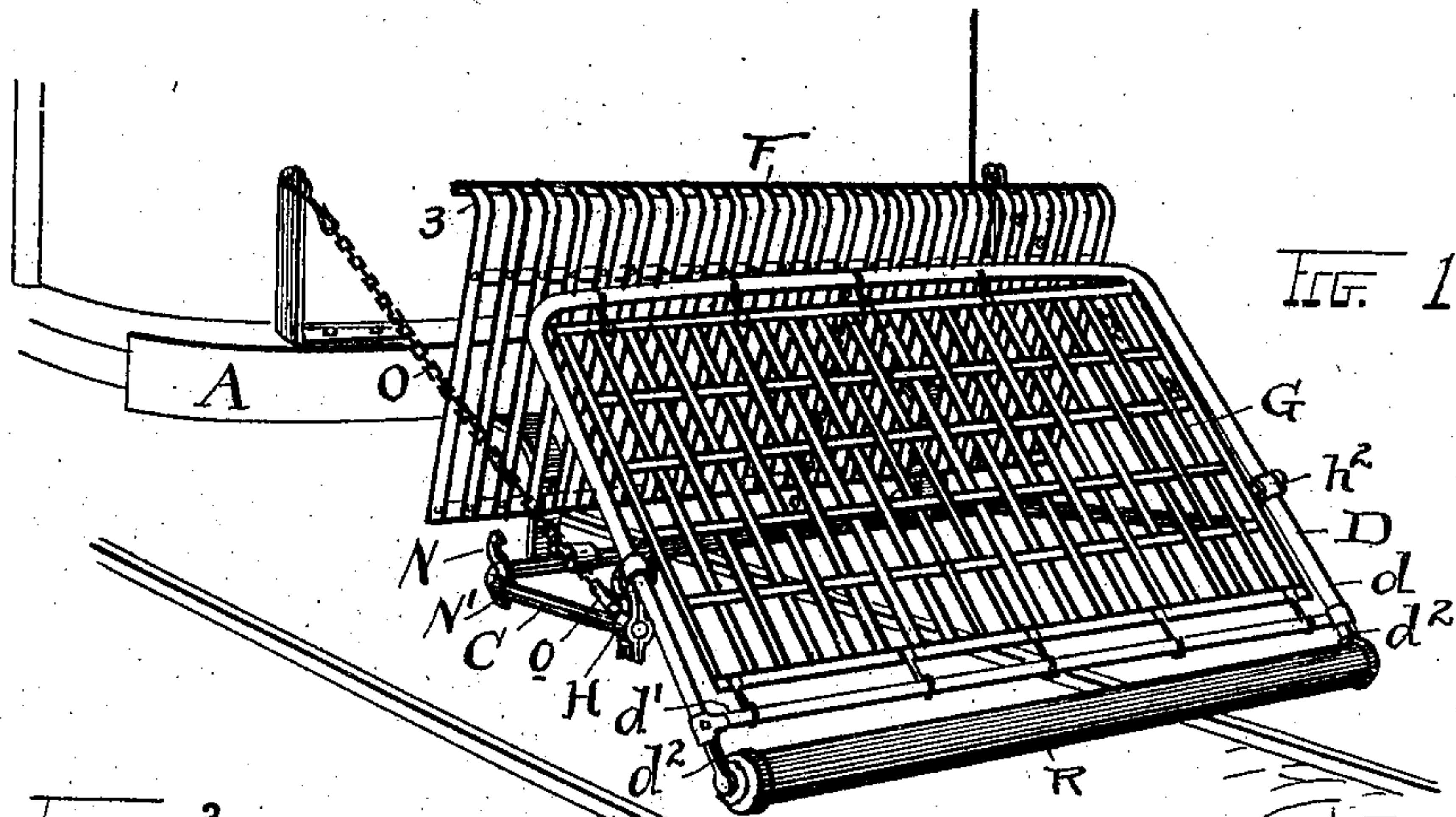


FIG. 2.

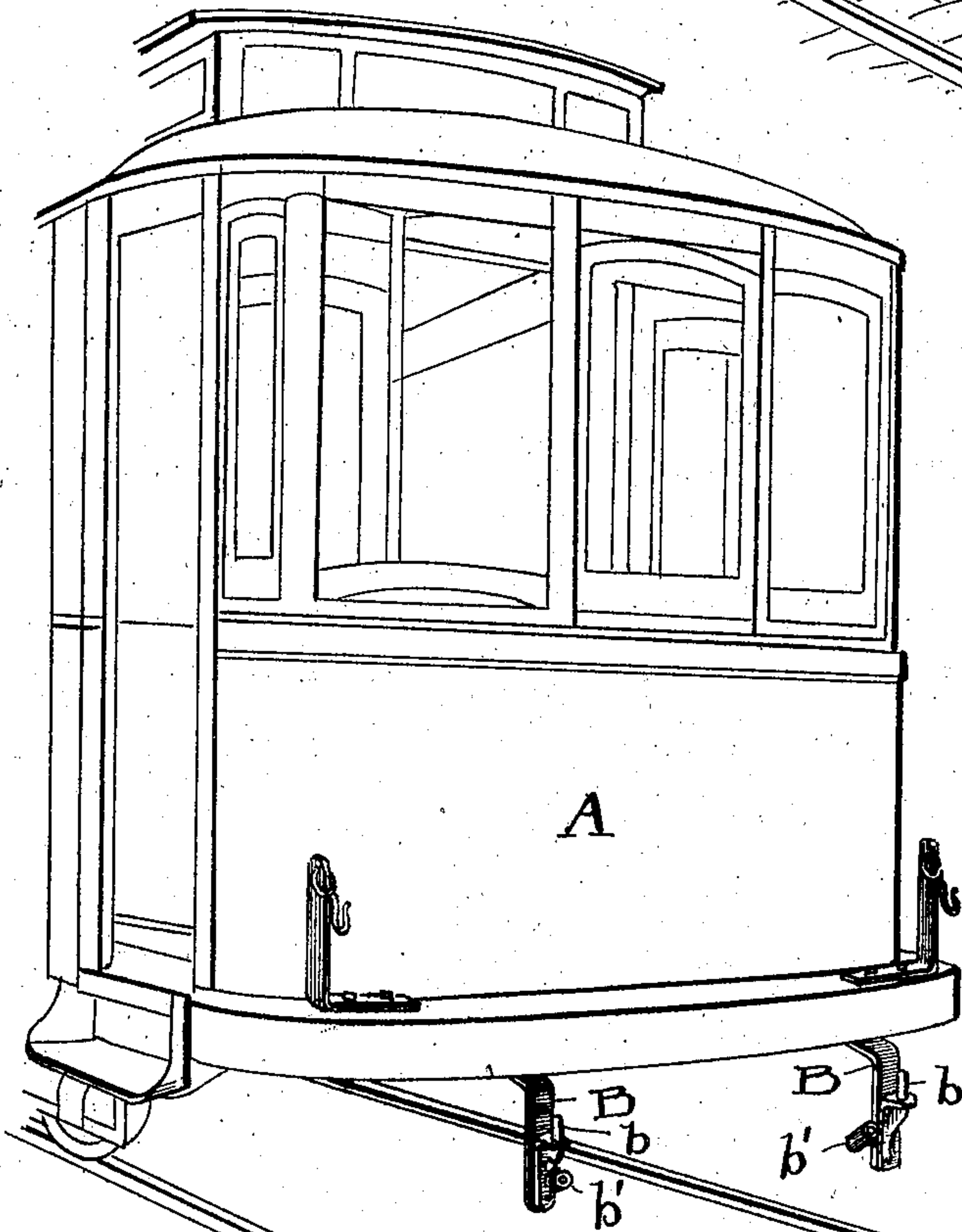
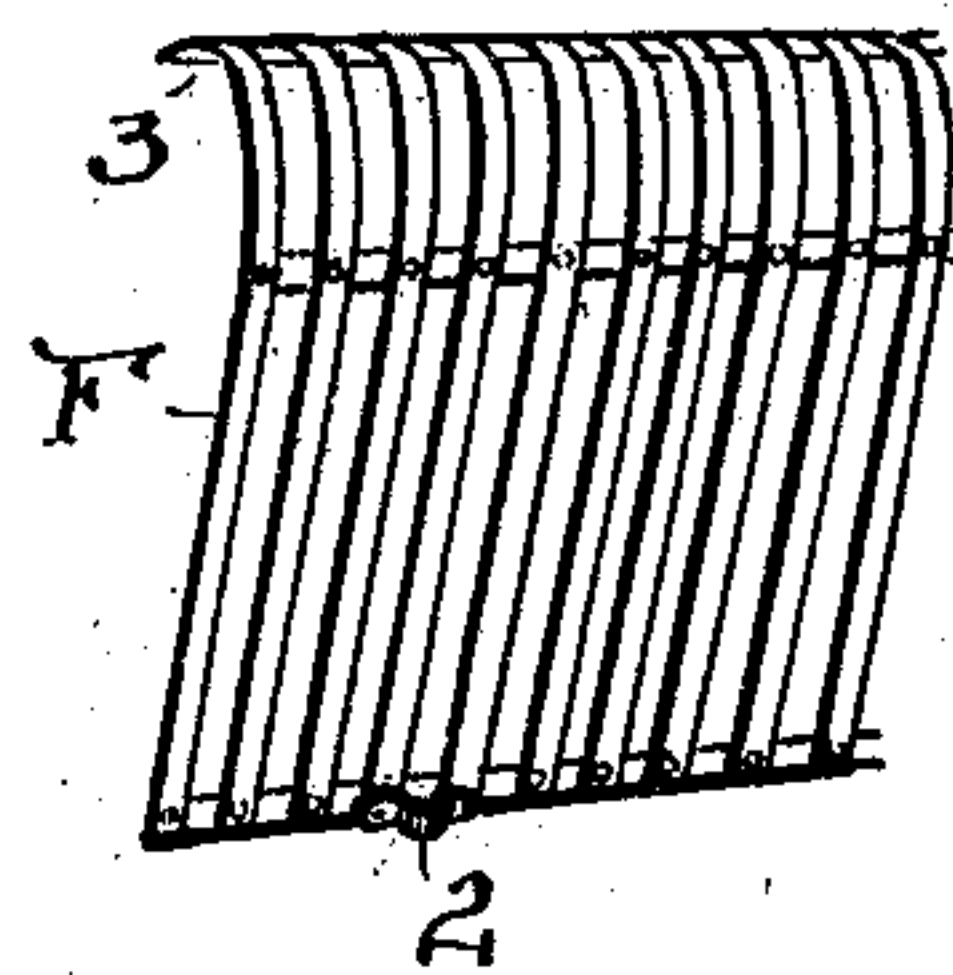


FIG. 3.



WITNESSES:

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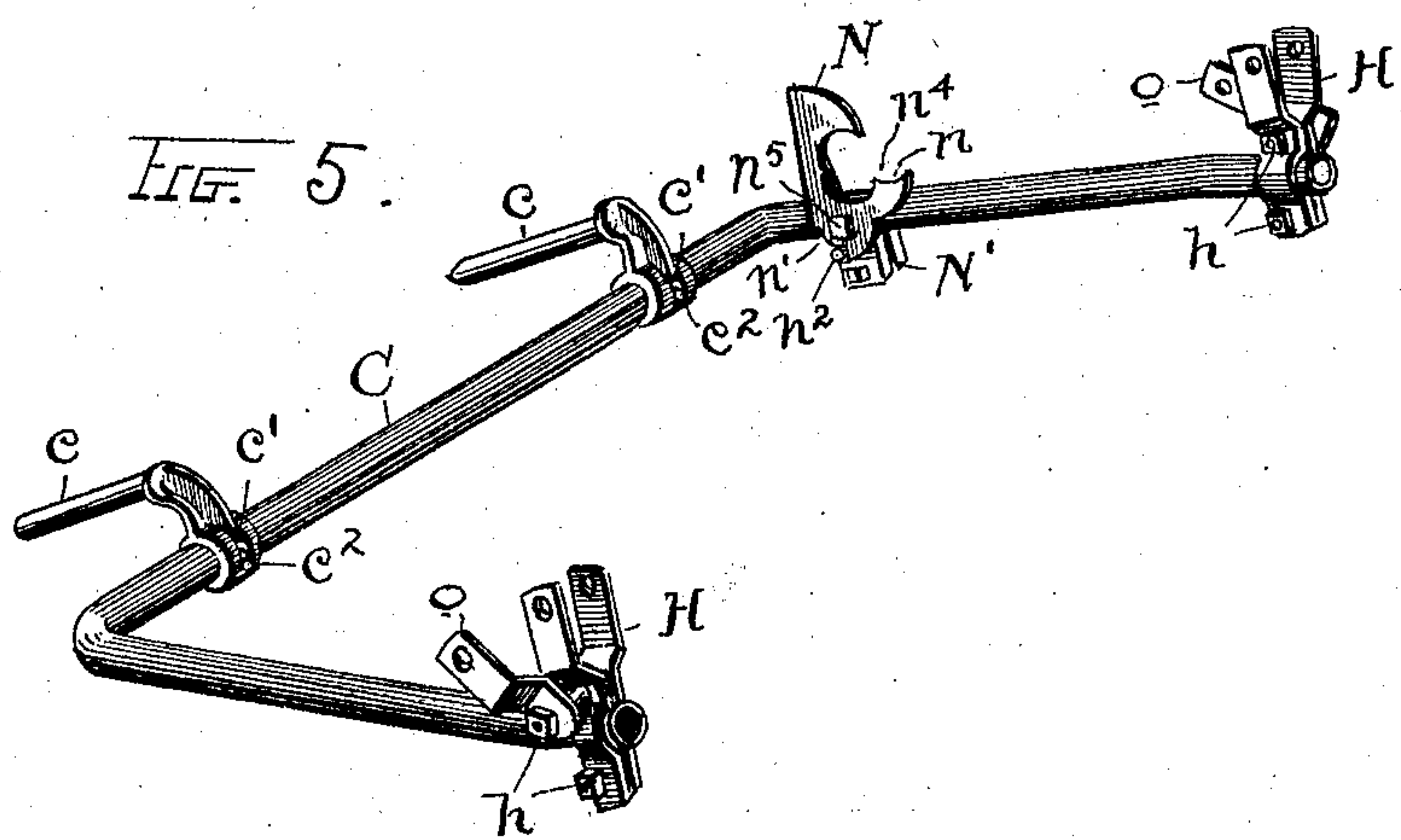
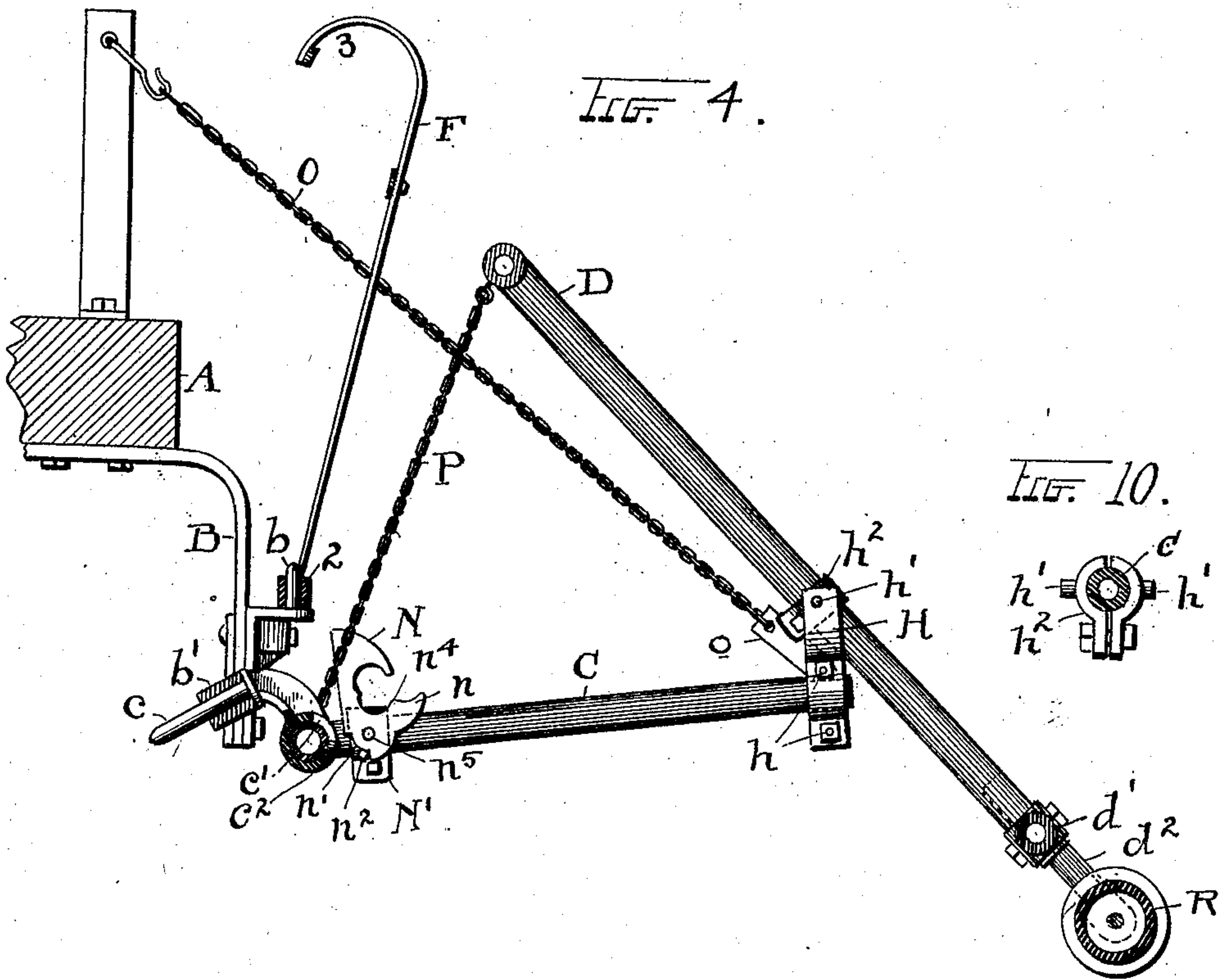
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

FIG. 6.

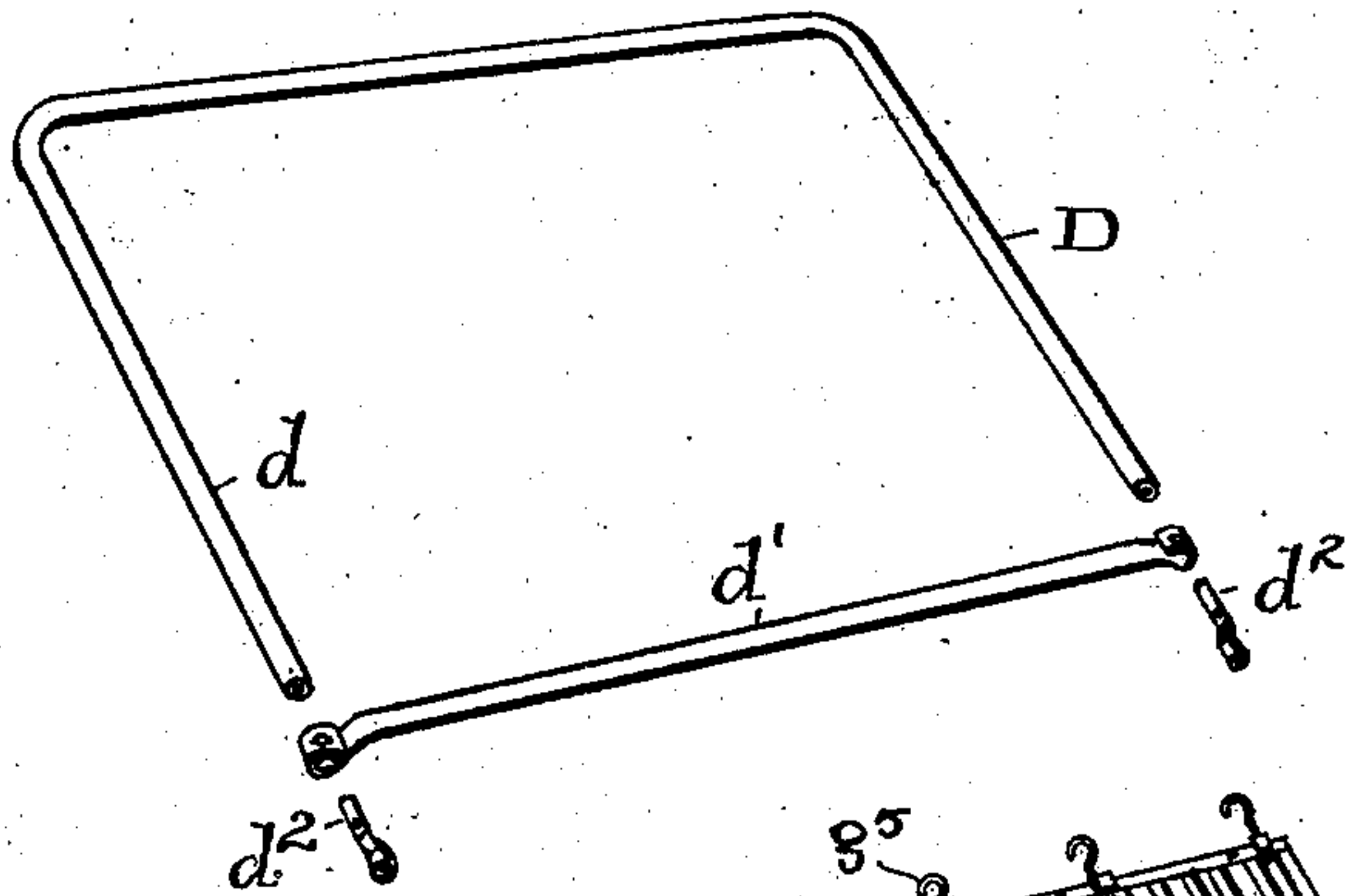


FIG. 7.

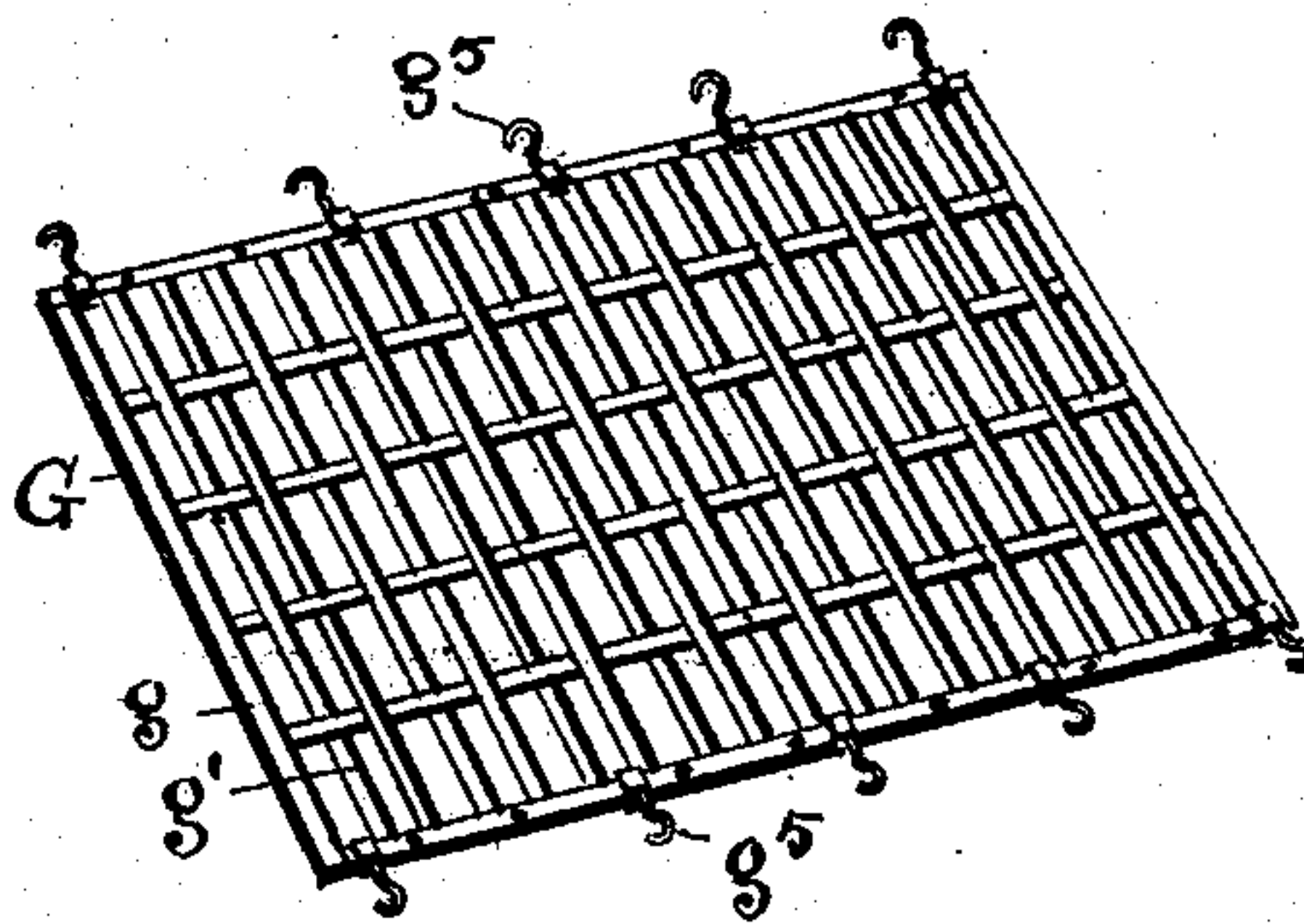


FIG. 8.

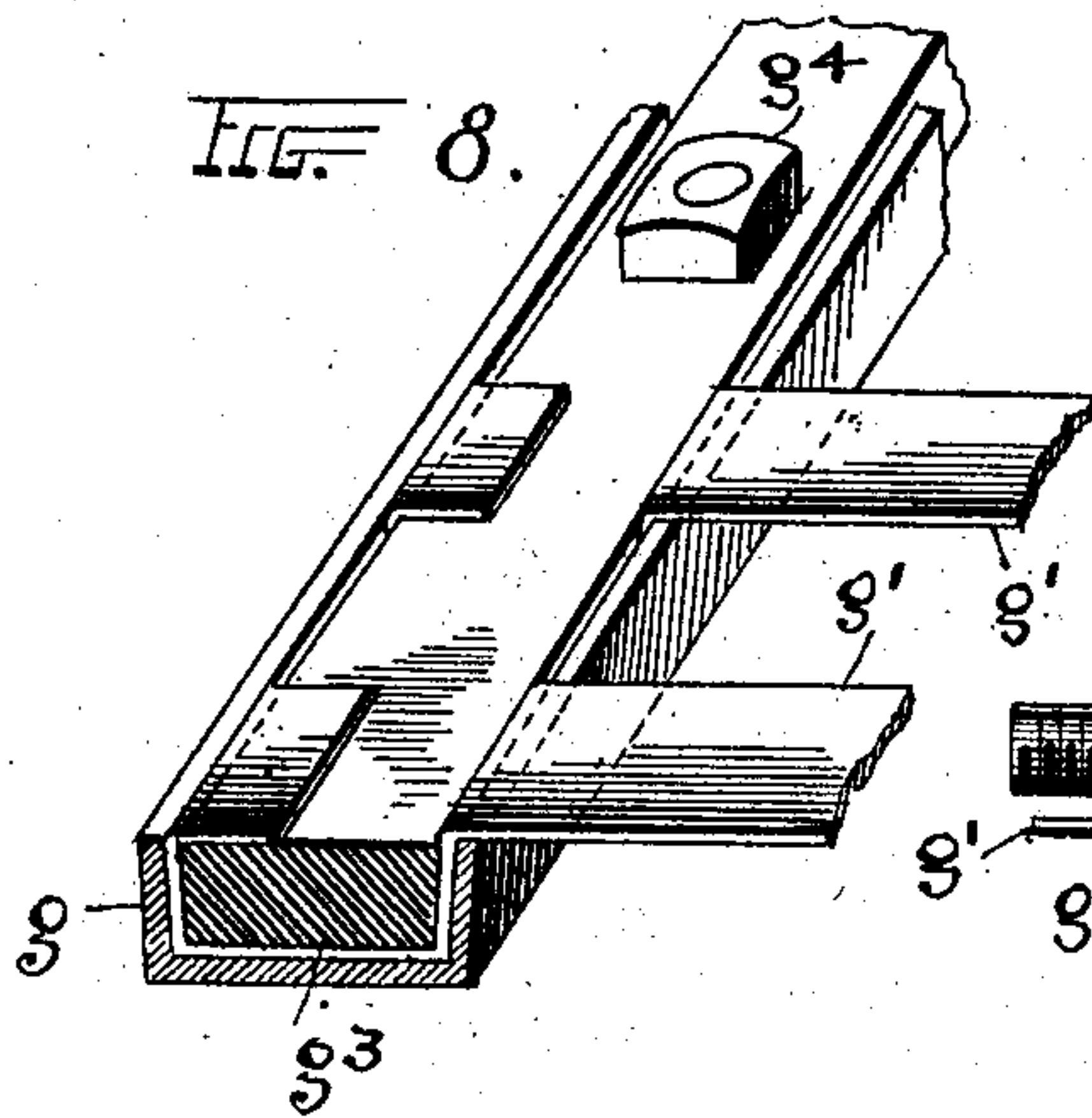
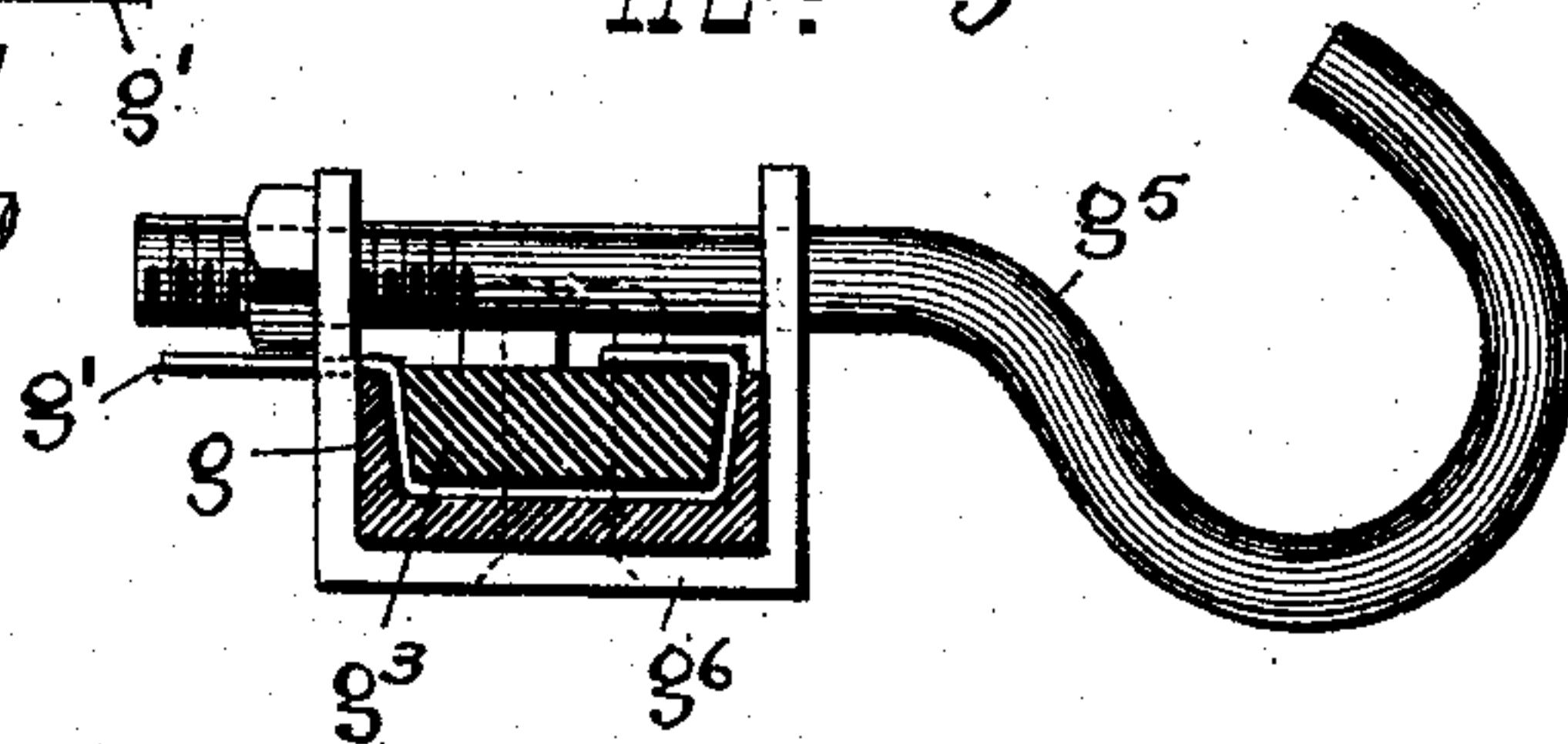


FIG. 9.



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UNITED STATES PATENT OFFICE.

BENJAMIN LEV, OF CLEVELAND, OHIO, ASSIGNOR TO ECLIPSE RAILWAY SUPPLY CO., OF KANSAS CITY, MISSOURI, A CORPORATION OF DELAWARE.

TUBULAR CAR-FENDER.

No. 815,927.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed July 18, 1904. Serial No. 217,031.

To all whom it may concern:

Be it known that I, BENJAMIN LEV, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Tubular Car-Fenders; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to tubular car-fenders; and the invention consists in the construction, combination, and arrangement of parts substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my complete fender mechanism as it appears on a car. Fig. 2 is a perspective elevation of one end of the car with the means for supporting the fender. Fig. 3 is a perspective view of the fender proper or buffer. Fig. 4 is a sectional elevation of the fender mechanism in operative position on a car. Fig. 5 is a perspective view of the frame and its appurtenances for supporting the carrier. Fig. 6 is a perspective view of the outside carrier-frame; and Fig. 7 is a perspective view of the carrier-body, adapted to be supported in said frame. Fig. 8 is an enlarged view of a portion of the carrier-body, showing the manner of securing the bars therein. Fig. 9 is a sectional elevation showing the manner of engaging the hooks upon the carrier-body. Fig. 10, Sheet 2, is a view of one of the pivot-clamps upon the carrier-frame.

One of the principal objects of the invention thus disclosed is to afford a knockdown fender mechanism, so that practically any and every part of the fender may be repaired in its place without removal or be removed for repairs or substitution as conditions may require.

Another object of the invention is to afford a construction whereby the entire mechanism, including the carrier and the fender, may be bodily detached at one end of a car and placed on the other end, as in the case of cars which run back and forth without turning loops and are not otherwise reversed.

To these several ends I provide the car A with brackets B at its bottom and front, upon

which are pins *b* to support the spring-buffer or fender proper, F, and at the side and lower down on the said brackets are sockets *b'* at an inclination rearwardly and downwardly, adapted to receive the pins *c* upon the tubular frame C, which supports the carrier. The spring-fender F has loops or sockets 2, adapted to rest down over the pins *b*, and the said fender has no other means of support. In its working position it occupies the relation to the car and the remainder of the fender mechanism relatively as seen in Fig. 4, in which it is shown as having a forward inclination carrying it well away from the front of the car, and the upper portion of the fender is curved rearwardly and downwardly, so as to make a spring portion 3, adapted to strike against the car under heavy strain, and thus afford a cushioning effect. Ordinarily it is not expected that the fender will strike the car if a person be thrown against it, because it is supposed to be strong enough to withstand the impact without requiring the resistance of the car-body. However, should the impact be severe the fender will reach its spring-resisting limits and then upon contacting with the car the shock is materially lessened.

It will be noticed that in order to remove the fender it is necessary simply to lift it off the pins *b* and carry it away, and it will be noticed also that in order to remove the frame C it is only necessary to withdraw the pins *c* from their sockets and it can be removed. Then by detaching the stay-chains for the front of said frame from the car the entire carrier mechanism can be taken off and bodily transferred to the other end of the car in as short a time as it will take two men to remove it here and carry it there. This of course would be but a few moments at the most, and thus the entire fender mechanism can be quickly and easily detached at one end of the car and replaced at the other whenever transfer is found necessary, or the carrier can be raised to a vertical or folded position against fender F when necessary.

The pins *c* upon frame C constitute a portion of a supporting-bracket for said frame in which the frame has a limited rotary movement determined by the length of the slots *c'* in said brackets and the projections or lugs *c''* on the frame. This rotary movement is just

sufficient to enable the frame C to be raised to a vertical or folded position upon these supports, and the lugs c^2 and the bracket-supports c' engaging thereon are fixed upon the said frame C according to the location of brackets B upon the car or other possible conditions.

D represents the outer frame portion of the carrier proper, and G represents the inside or body portion of the carrier. These two parts are connected to work together and constitute, essentially, one part, known herein as the "carrier;" but following my principle of construction I build the carrier so that it shall be separable as occasion may require. Thus the frame D is itself made of a single tubular piece d , bent to form the rear and sides of the frame, and a cross-piece d' at the bottom thereof has its ends flattened and bent around to sleeve upon the extremities of the upper part d and constitute the lower portion of the frame. The supports d^2 for roller R are socketed in the ends of the frame d , and a single pin, bolt, or screw passed through coinciding holes in said frame D, cross-piece d' , sleeved thereon, and roller-support d^2 locks them firmly together. The said pins, bolts, or the like are made removable, so that any one of the three parts shown in Fig. 6 may be repaired or replaced while the others remain serviceable. The body G of the carrier, Fig. 7, likewise is made of separate or separable parts and is comprised of an outer channel-iron frame g and a series of interlaced metallic strips or bars g' , engaging at their ends with or in the said frame g after the manner shown in Fig. 8. In this figure I show the bottom side of a portion of the channel-iron frame g , and it will be seen that the slats g' are locked in or upon said frame by bending their ends at right angles at three different points around a locking-bar g^3 , which occupies the frame g —that is, the slats g' are engaged along the top and bottom and sides of the body G in the manner shown in Fig. 8, and bolts g^4 serve to fasten the bar g^3 in place and to clamp the ends of the slats immovably about the same. It occurs, obviously, that if one or more of the said slats becomes bent or disabled it can be removed by releasing the bolts g^4 and taking out the affected part or parts, and the entire body G is supported upon frame D by a series of hooks g^5 along its top and bottom, respectively. These hooks are adapted to be engaged over frame D, and the arrangement is such that the body G cannot be removed without releasing the hooks for that purpose. To this end the said hooks are secured to or upon the inner carrier-frame g by means of yokes g^6 , and the shanks of the hooks are threaded and engaged through the ends of said yokes and secured by means of nuts which take up said hooks sufficiently to hold them in firm en-

gagement with the frame D. When the body G is to be removed from frame D, either the upper or the lower line of hooks can be let out for that purpose.

Any suitable means may be employed for connecting the carrier with its frame D from the ends of the supporting-frame C; but in this instance I use a two-part clamp H, fashioned to be firmly locked on the said frame C by means of bolts h above and below the frame C, and the upper extremities of the said clamp are bent apart and have holes or openings in which are engaged the trunnions h' on the sides of a collar h^2 , clamped on frame D, and through which the said carrier or carrier-frame is pivotally supported at or near its middle and sides. In lieu of the trunnions h' I might employ a suitable bolt which would traverse all the parts and lock them pivotally together; but the trunnions answer every purpose, if made strong enough. The collar h^2 is removably and adjustably bolted in working position upon the frame D.

In the operation of a fender of this kind it is designed to have the carrier come into a reversely-tilted position when it carries a body and to lock it down in such position to prevent the body from being cast over the front of the carrier. To this end I employ a pivoted catch N, supported upon the rear of frame C and provided at its front with an arm n , so that when the carrier drops at the rear and strikes the said catch the catch will spring backward slightly within the limits of its slot n' , and the carrier-frame will strike arm n and throw the top of the catch forward over the said frame, and thus automatically engage and hold it until purposely released. A lug n^2 works in slot n' as a stop.

Suitable stay-chains O connect in any suitable way with the front of the car at one end and with links e or other suitable connection at the forward end of frame C and hold the frame at one or another elevation, according as the chains are taken up or let out, and a chain P controls the position or inclination of the carrier-frame, as seen in Fig. 4.

By securing the slats g' separately, as shown, I leave them each to be separately removed for straightening or other purpose, and no rivets, screws, or the like are employed at their ends or where they cross the other slats. Interlacing of the slats is especially advantageous with my manner of securing the ends, as it locks the slats together in coöperative relations.

Strength and lightness of construction are considerations of first importance, and for this reason I employ tubular frames C and D. By using tubes I make a light and strong structure.

The entire device is referred to herein as a "fender" or "fender mechanism;" but specifically the part F is the fender part, and

the parts D and G constitute the fender-carrier and C the carrier-supporting frame.

In this instance the slats g' are flat; but they might be of wire and be within my invention.

Obviously the brackets or equivalent supports B on the car for fender F might be provided with sockets or eyes instead of pins or posts b , as shown, and the fender provided with pins to engage in said sockets. This would be a mere reversal of what is shown. The same kind of reversal might be used for supporting the carrier-frame C, and the pins might be on bracket B instead of being on brackets c' .

Respecting pivoted catch N for the carrier, it is to be further observed that said catch has a hump or rise n^4 on its lower finger n , which serves as a shoulder to check any possible tendency toward accidental disengagement when the carrier has been caught by the catch, and any such tendency would only be asserted by said shoulder or stop n^4 . In operation it is immaterial whether the catch be back or forward on its pivot. In either case its pitch is limited by lug n^2 and automatic locking on the carrier occurs. This never fails. The said catch or hook N is pivotally supported upon a clip N' , fixed on frame C, and the stop-lug n^2 is on said clip, while the catch pivots at n^5 . The back of the hook or catch is rounded or so shaped that when frame G strikes it the hook will glance or fly back. From this glance the frame G naturally strikes arm n thus thrown up, and the hook is thereby carried over and upon frame G in locking engagement.

What I claim is—

1. In car-fenders, a fender-carrier comprising an outer frame and a combined inner frame and mesh thereon removably supported on said outer frame at its upper and lower edges, said outer frame having a detachable bar across its lower portion.

2. In car-fenders, a carrier consisting of an outer tubular frame and an inner frame and woven body provided with hooks connecting the said inner frame with the outer frame.

3. In car-fenders, a carrier consisting of an outer frame and a body within the same, and hooks on said body engaged upon said outer frame, said hooks having threaded shanks for adjustment, substantially as described.

4. In car-fenders, a carrier consisting of an outer frame, and body within the same, hooks on the upper and lower edges of said body engaged on said frame, and separate means for engaging each of said hooks, substantially as described.

5. The carrier for a car-fender consisting of a tubular outer frame, a body-frame of channel-iron and hooks thereon engaged on said outer frame, said hooks having threaded shanks, and yokes through which said shanks

are engaged and the hooks are tightened for service, substantially as described.

6. A carrier for a car-fender comprising an outer frame, an inner frame removably supported on said outer frame and a body portion consisting of interlaced slats separately engaged upon and removed from the said inner frame, substantially as described.

7. In carriers for car-fenders, a carrier having a channel-iron frame and interlaced slats removably engaged at their ends in said frame, substantially as described.

8. A carrier for car-fenders consisting of a channel-iron frame, slats running crosswise of each other and bent at their ends for engagement in said frame, and fastening-pieces for said ends engaged with said frame, substantially as described.

9. A carrier for car-fenders having a frame, interlaced straps stretched across said frame and constructed to be separately removed, and bars resting across the ends of said slats and locking them in place, said bars being provided with fastening-bolts and the said slats having bent ends overlapped by said bars, substantially as described.

10. In car-fenders, a carrier-frame formed of metallic tubing and provided with a separate removable cross portion at its front and supports for the ends of said cross portion engaged in the ends of the sides of said frame, said frame and supports being separately locked together, whereby any damaged part may be removed and the others used, substantially as described.

11. A carrier for car-fenders having an outer supporting-frame, sleeves provided with outside trunnions adjustably secured on said frame and supports engaged by said trunnions on which the carrier is pivoted, substantially as described.

12. The carrier-supporting frame and the carrier, supports for the carrier detachably secured on the sides of said frame and lateral projections on the carrier engaged in said supports, substantially as described.

13. In car-fenders a supporting-frame for the carrier, the carrier pivoted at its sides upon the sides of the said frame, and a catch for the carrier pivotally supported at the rear and side of said frame, said catch having a forwardly-projecting portion in front of its point of engagement, substantially as described.

14. In car-fenders, a carrier and a frame on which the carrier is pivotally supported, and brackets for supporting said frame constructed to afford limited rotation of the frame therein and provided with rearwardly-projecting pin-shaped portions adapted to be socketed on the car, substantially as described.

15. In car-fenders, a car and supports thereon having inclined sockets, in combina-

tion with a carrier-frame and supports for said frame of substantially pin shape engaged in said sockets, whereby the said frame is made readily attachable and detachable, substantially as described.

16. A car-body and detachable supports thereon for a car-fender, in combination with a supporting-frame, brackets in which said frame is rotatively supported and said brackets constructed to be removably engaged on said detachable supports, and a carrier pivoted in said supporting-frame, substantially as described.

17. In safety attachments for cars, a car and brackets on the bottom and front of the car, said brackets constructed at different elevations to support a car-fender and a fender-carrier, respectively, substantially as described.

18. In safety attachments for cars, a car and supports thereon provided with vertically-disposed pins for a car-fender and inclined sockets to support a carrier, in combination with fender and carrier, substantially as described.

19. In car-fenders, a pivotally-supported

carrier and a catch therefor having a hook adapted to engage over the frame of the carrier and a projection at its bottom extending forward of the hook in position to be struck by the carrier when the hook is tilted back, whereby the hook is thrown over the carrier and caused to lock the same, substantially as described.

20. In car-fenders, a tilting carrier, in combination with a pivoted catch, said catch having a hook and a front projection in advance of the hook provided with a shoulder n^a to confine the carrier in the catch, substantially as described.

21. The combination of the catch and the support on which the catch is pivoted, the said catch having a hook and a forwardly-extending portion n in advance of the hook, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

BENJAMIN LEV.

Witnesses:

R. B. MOSER,

C. A. SELL.