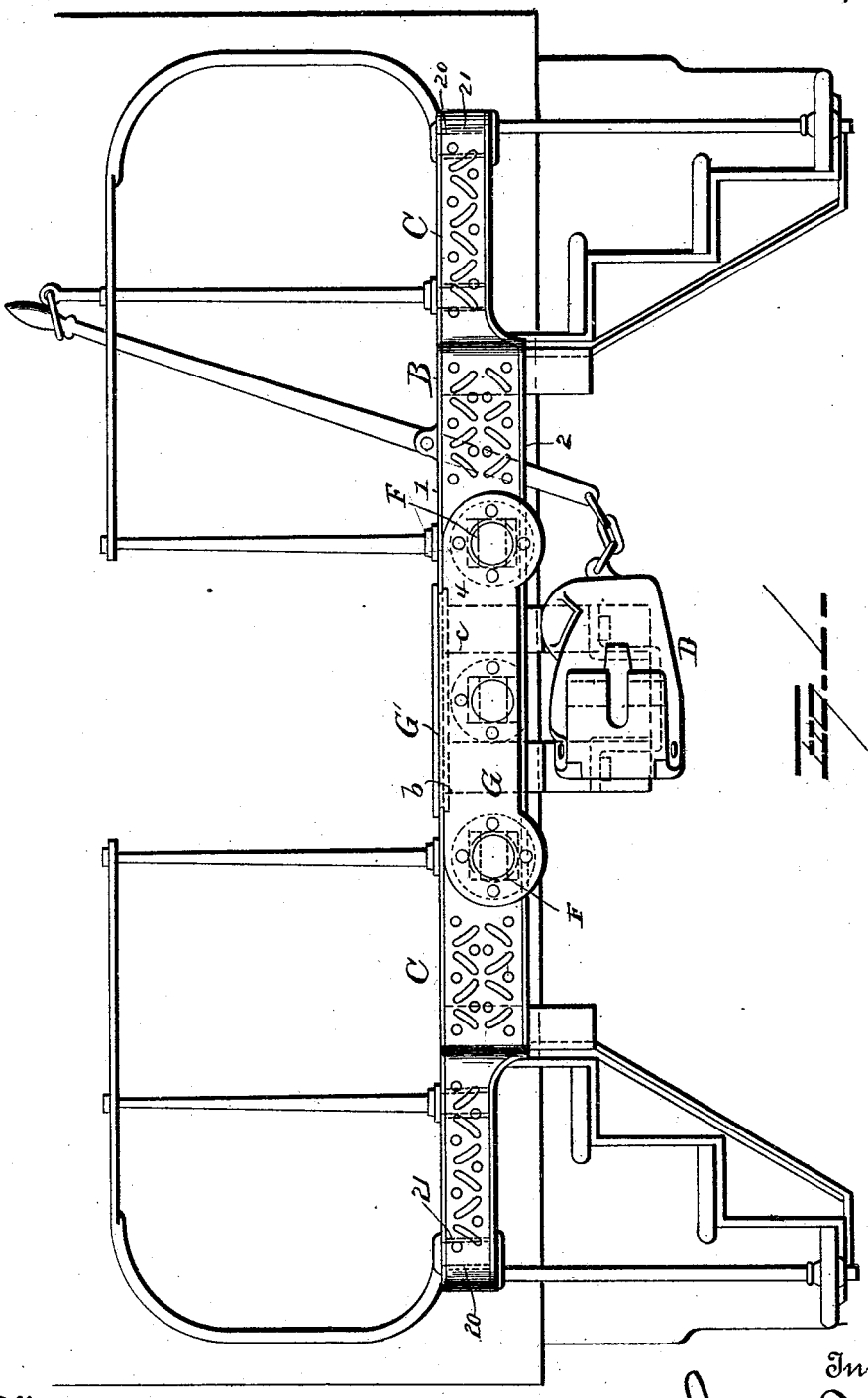
(No Model.) 3 Sheets—Sheet 1.

J. TIMMS.

BUFFER AND END SILL FOR CARS.

No. 493,371. Patented Mar. 14, 1893.



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(No Model.) 3 Sheets—Sheet 2.

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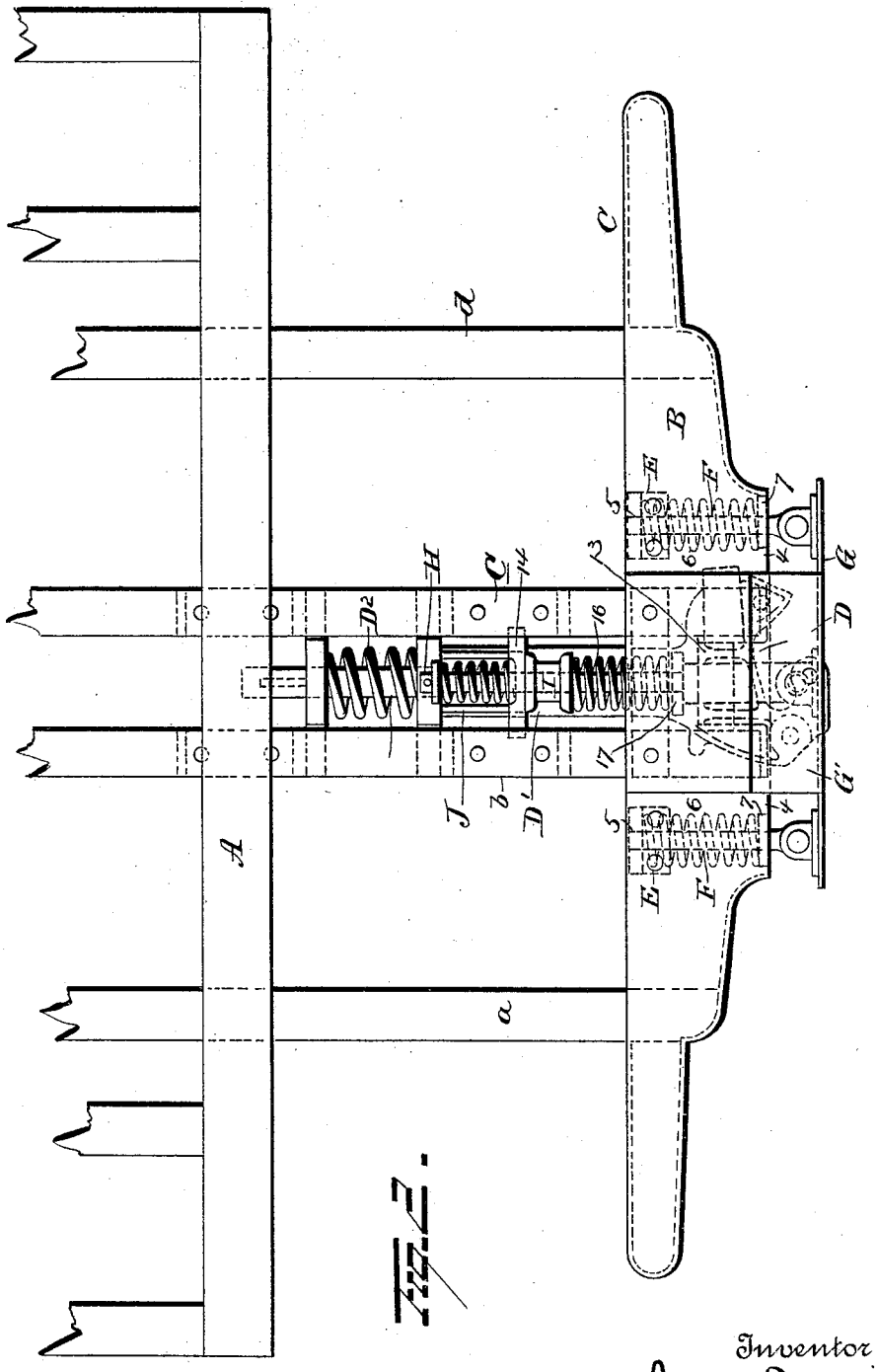

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

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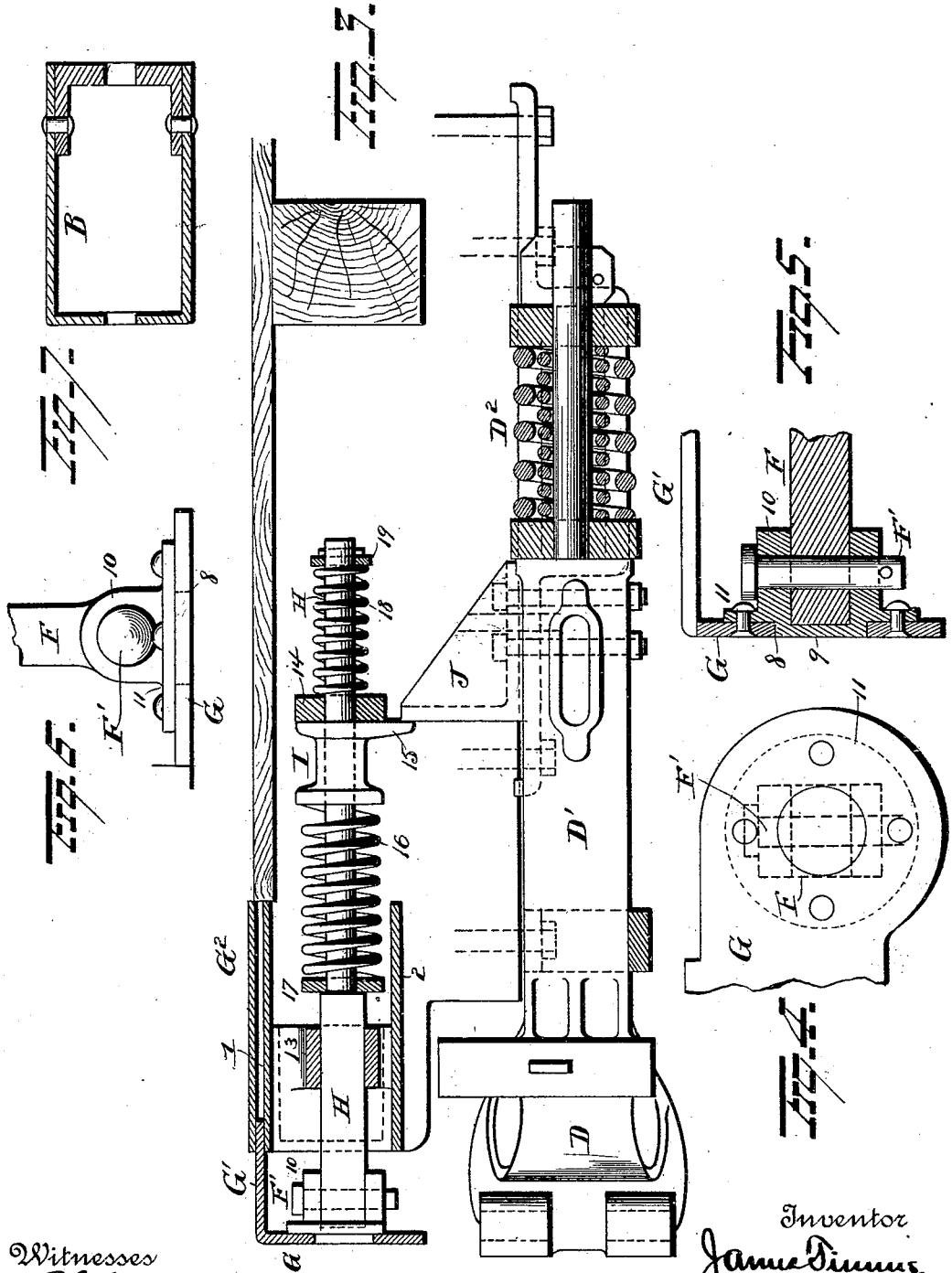

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UNITED STATES PATENT OFFICE.

JAMES TIMMS, OF COLUMBUS, OHIO, ASSIGNOR TO THE BUCKEYE AUTOMATIC CAR COUPLER COMPANY, OF SAME PLACE.

BUFFER AND END SILL FOR CARS.

SPECIFICATION forming part of Letters Patent No. 493,371, dated March 14, 1893.

Application filed October 10, 1892. Serial No. 448,404. (No model.)

To all whom it may concern:

Be it known that I, JAMES TIMMS, a resident of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Car Buffers and End Sills; 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 an improvement in cars and more particularly to end sills and buffers therefor,—the object of the invention being to produce an end sill and buffers which shall be simple and efficient in construction and arrangement,—which shall also possess a great amount of strength and durability, and which shall be effectual in the performance of their functions.

A further object is to provide simple and efficient means for automatically projecting the buffer plates and apron carried thereby when the drawhead is pulled forward.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts as hereinafter set forth and pointed out in the claims.

In the accompanying drawings: Figure 1 is an end view of a car embodying my improvements. Fig. 2 is a plan view. Fig. 3 is a sectional view. Figs. 4, 5 and 6 are detail views illustrating the connection between the buffer plate and buffer rods. Fig. 7 is a view of a modification of the end sill.

A represents the end timber of a car, and *a*, *b*, *c*, *d*, illustrate timbers projecting forwardly therefrom. The timbers *a*, *b*, *c*, *d*, are securely bolted at their forward ends between the members 1, 2, of my improved end sill B. The end sill B is made of pressed steel and comprises the two parallel members 1, 2, and connecting or face plates C. The plates or members 1, 2, of the sill are preferably made wider at points between their ends (as at 4) than at their extremities, as shown in Fig. 2. The connecting or face plates C extend along both edges of the narrow ends of the plates 1, 2, and terminate at the ends of the wider portions 4 of said plates as most clearly shown in Fig. 2.

A draw head D is located beneath the sill B,—the draw bar D′ of which extends rearwardly and is supported in suitable brackets carried by the timbers *b*, *c*, suitable springs D^2 being provided for cushioning the draw head, as usual.

Securely bolted between the members 1, 2, of the end sill B at each side of the center thereof, are brackets E having perforations 5 for the passage of buffer rods F. Springs 6 encircle the buffer rods F, bearing at one end against the brackets E and at their other ends against suitable collars 7 carried by the buffer rods,—and at the forward ends of the buffer rods a buffer plate G is attached, in a manner which will be presently explained. The buffer plate G is provided at its top with a plate or apron G′ which projects over the sill B, the latter, at this point being somewhat depressed, as shown in Figs. 1 and 3 to accommodate said apron. Thus it will be seen that the plate or apron G′ will cover the space between the sill and the buffer plate and over the coupler and prevent all danger of conflict with the coupler by persons passing from one car to another. Over the plate or apron G′, a floor plate G^2 is secured.

The ends of the buffer plate D are made with perforations 8 for the reception of a flange or enlargement 9 on a block or knuckle 10, said blocks or knuckles also having flanges 11 whereby to bolt the knuckles to the buffer plate. The blocks or knuckles 10 are bifurcated for the reception of the forward ends of the buffer rods F, which latter are pivotally connected to the knuckles by means of pins or bolts F′. By this means the buffer rods will be securely and effectually connected with the buffer plate.

A buffer rod H is connected with the buffer plate G at the center, in the same manner as above described. A bracket 13 is secured between the members 1, 2, of the sill B and serves to brace the same. When the buffer plate is forced back against the end sill B the block or knuckle 10 will enter the bracket 13. The bracket 13 is perforated for the accommodation of the buffer rod H, said rod also passing through a bracket or follower 14 carried by the timbers *b*, *c*. A sleeve I is loosely mounted on the buffer rod H and is made with

an enlargement 15,—said sleeve being adapted to bear against the bracket or follower 14. A spring 16 encircles the rod H, bearing at one end against the sleeve I and at the other end against a collar 17. The buffer rod H is extended rearwardly of the bracket or follower 14 and has a spring 18 encircling it, one end of said spring bearing against the bracket or follower and the other end against a collar 19 at the rear end of the rod H. By the employment of the spring 18 the buffer plate and apron will be retained in their proper position.

Secured to the draw bar D′ is a bracket J, the free end of which is disposed so as to be in the path of the enlargement 15 of the sleeve I. From this construction it will be seen that when the draw head and draw bar are pulled forward, the bracket J will strike the enlargement 15 on the sleeve I and, bearing on the spring 16 will force the buffer rod H forward, whereby the buffer plate G will also be forced forward, carrying with it the apron G′, and cause the latter to cover the space between the end sill and the buffer plate, over the coupler.

The ends of the railing at the end of the car are provided with shanks 20 adapted to pass through sleeves 21 secured in the sill. The posts 22 are also secured to the sill in the same manner. By thus securing the railing and posts to the sill they will be held rigidly in position and the rigidity of the sill will be increased.

Instead of making the sill B of three plates secured together it may be pressed from a single piece of metal, as shown in Fig. 1.

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

1. The combination with an end sill for a car, comprising steel plates, of brackets secured between said plates, buffer rods passing through said brackets, springs encircling said buffer rods between the plates comprising the sill, and a buffer plate secured to said buffer rods, substantially as set forth.

2. The combination with an end sill for a car, comprising pressed steel plates, of sleeves passed through said plates, and posts secured to said sleeves, said posts being adapted to support the end rail of the car, substantially as set forth.

3. The combination with a buffer plate and a rigid bracket, of a buffer rod connected to said buffer plate and passing through said bracket, a spring encircling said buffer rod in rear of the bracket, said spring being adapted to bear at one end against said bracket and at the other end against a collar at the end of the buffer rod, substantially as set forth.

4. The combination with a buffer plate, of a bifurcated block or knuckle secured to the buffer plate said block having a portion extending through an opening in the plate and a buffer rod pivotally connected to said bifurcated block or knuckle, substantially as set forth.

5. The combination with a buffer plate having perforations in its ends, of bifurcated blocks or knuckles having enlargements to enter said perforations in the buffer plate, and buffer rods pivotally connected to said bifurcated blocks or knuckles, substantially as set forth.

6. The combination with a buffer plate having perforations, of bifurcated blocks or knuckles having enlargements to enter said perforations in the buffer plate, flanges projecting from said block or knuckle whereby to secure it to the buffer plate, and buffer rods pivotally connected to said bifurcated blocks or knuckles, substantially as set forth.

7. The combination with a horizontal buffer plate, an apron projecting from the outer edge thereof, a buffer rod connected to the buffer plate, and a draw bar, of a collar secured to said buffer rod, a sleeve mounted loosely on said buffer rod, a spring encircling the buffer rod between the collar and sleeve, and a bracket carried by the draw bar and adapted to strike said sleeve, substantially as set forth.

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

JAMES TIMMS.

Witnesses:
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S. S. TUTTLE.