

(No Model.)

G. BOYD.
CAR COUPLING.

No. 303,486.

Patented Aug. 12, 1884.

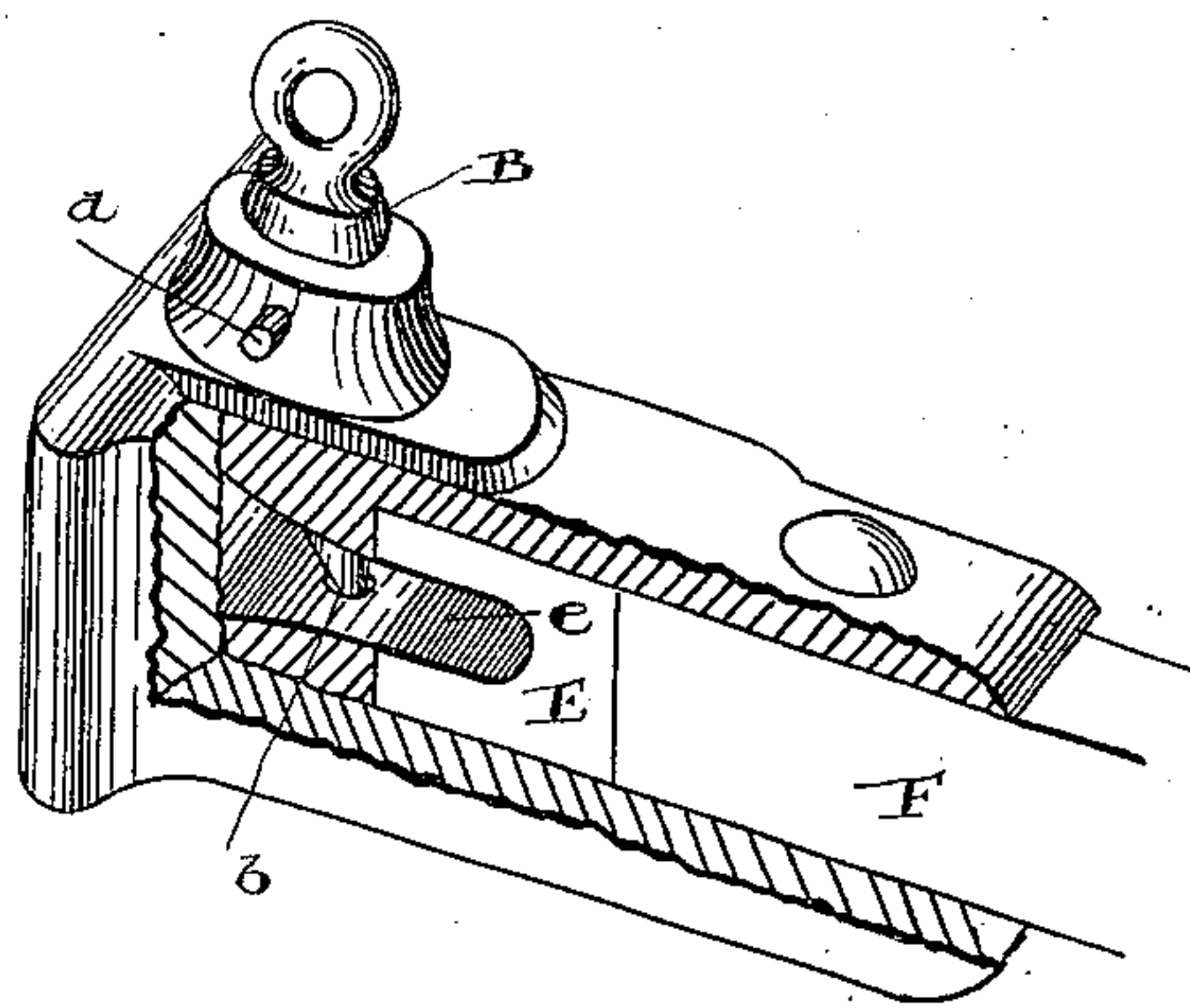
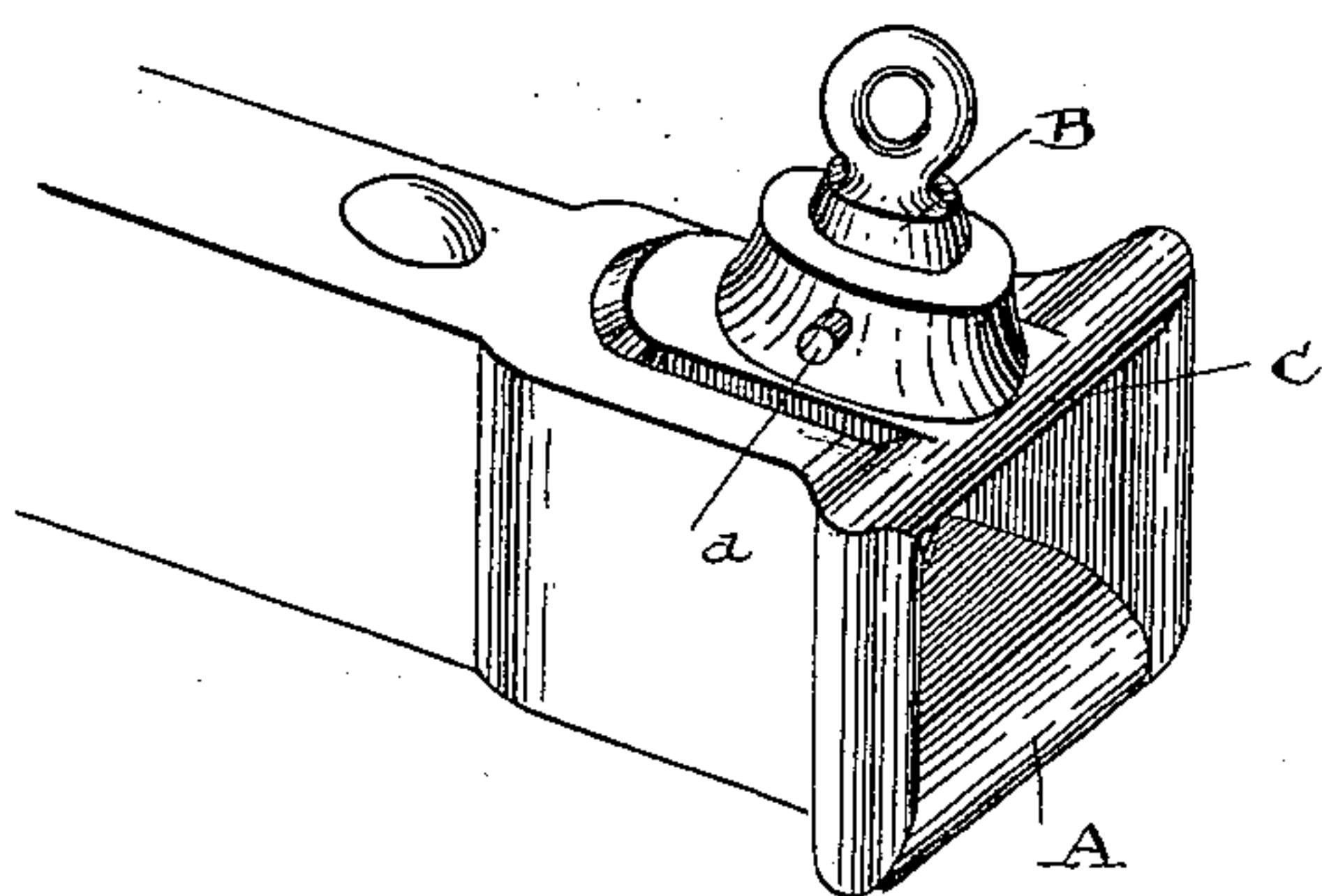


Fig. 1.

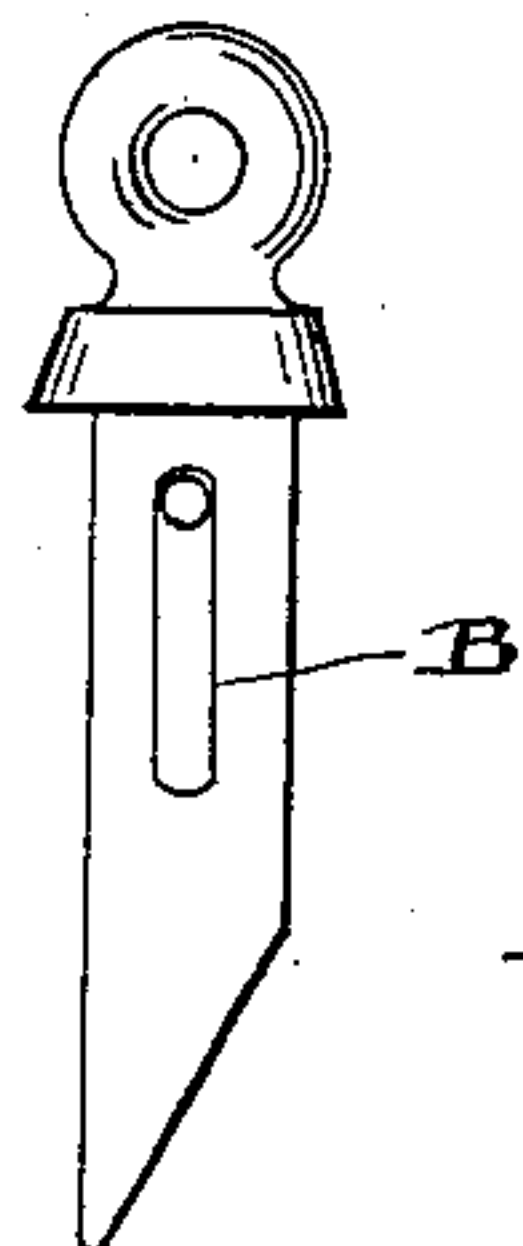


Fig. 3.

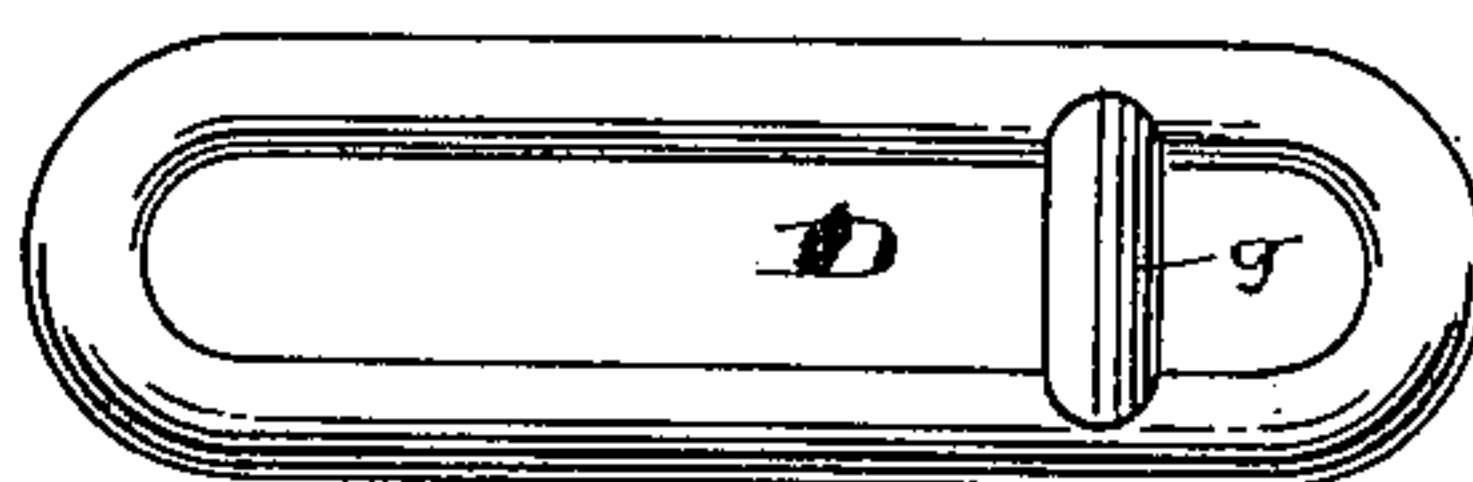


Fig. 4.

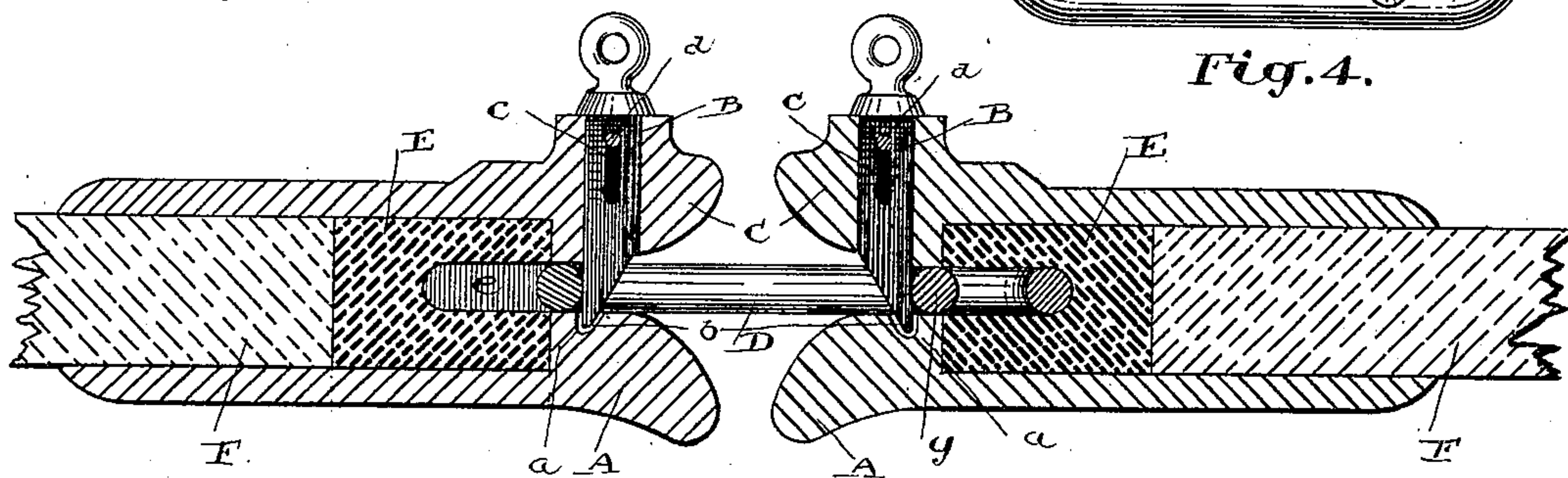


Fig. 2.

Witnesses.

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UNITED STATES PATENT OFFICE.

GARDINER BOYD, OF TORONTO, ONTARIO, CANADA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 303,486, dated August 12, 1884.

Application filed January 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, GARDINER BOYD, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, gentleman, have
5 invented a certain new and useful Self-Acting Car-Coupler; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of the invention is to devise a
10 simple, cheap, and effective car-coupler, capable of being used in connection with an ordinary non-self-acting car-coupler; and it consists, essentially, of a peculiarly-shaped bell-mouthed draw-head provided with a rubber
15 block, or its equivalent, for holding the coupling-link horizontally, and a coupling-pin having one of its sides beveled near the end, so as to form that portion of the pin like the bolt of an ordinary spring-latch, in order that a
20 horizontal blow from the end of the coupling-link shall force the pin in an upward direction to permit the link to pass, all being constructed and arranged substantially as hereinafter explained.

25 Figure 1 is a perspective view showing two draw-heads forming my improved self-acting car-coupler, a portion of one of the heads being cut away to expose the interior construction. Fig. 2 is a sectional elevation of the
30 same. Fig. 3 is a detail of coupling-pin. Fig. 4 is a detail of coupling-link.

I am aware that various self-acting car-couplers have been designed prior to my invention, and that some of the features embodied in my invention have been used separately in car-couplers differently constructed. Owing to the combination of old parts and the special construction of each as adopted in
40 my improved car-coupler, I have succeeded in producing an effective and practical self-acting car-coupler, where others with somewhat similar parts have failed.

In the drawings like letters of reference indicate corresponding parts in each figure, and
45 in referring to one part on a single draw-head it will be understood that a corresponding part on the other draw-head will be found.

A is the lower lip of the bell-mouthed draw-head. This lip, it will be noticed, extends on
50 a gradual incline to a point near the shoulder

a. Between the shoulder *a* and the end of the incline a recess or hole, *b*, is formed to permit the pointed end of the coupling-pin B to project below the top surface of the lip A, but it is not intended that the coupling-pin B shall
55 come in contact with the lower portion of the draw-head, the entire strain caused by the draft being directed against the upper portion, C, of the draw-head, which portion is constructed specially strong for the purpose of
60 resisting the strain. The coupling-pin B has a longitudinal slot, *c*, made in it, through which slot a pin, *d*, passes. This pin is riveted to the upper portion, C, of the draw-head, and in passing through the slot *c* per-
65 mits the free vertical movement of the pin for a sufficient distance without allowing it to jump out of its bearing. By this arrangement the coupling-pin can always be depended upon to be in position, and the loss to which
70 railroads are now subjected will thus be prevented. It will be noticed that the front edge of the coupling-pin B is beveled off toward the point of the pin, so as to leave a beveled
75 edge, against which the horizontal coupling-link D will strike as it enters the draw-head. Consequently the pin B will, through the action of the link, be forced upwardly; but owing to the weight of the pin it will fall into the link immediately that the end of the link has
80 passed it.

E is a rubber block inserted between the shoulder *a* and the end of the draw-head shank F. This rubber block E has a recess, *e*, formed to receive the end of the link D, when the said
85 link is set into the draw-head, for the purpose of being directed toward the draw-head, with which it is to be coupled. This recessed rubber block, while being sufficiently strong to support the link in a horizontal position, must be suffi-
90 ciently elastic to permit the link to adjust itself slightly when subjected to any undue strain. For instance, should the end of the link being guided into the draw-head come in contact with one side of the bell-mouth, the rubber block
95 will not prevent the link D moving sufficiently to admit of its entering the narrow neck of the draw-head, where it will come in contact with the beveled end of the coupling-pin B.

While I prefer a rubber block of the de- 100

scription shown, it will of course be understood that a steel spring might be arranged to accomplish the same purpose. It will be noticed that the draw-head proper is bolted to the draw-head shank F, which shank extends into the said draw-head, as indicated. Should it become necessary to remove the rubber block E, it is merely necessary to withdraw the draw-head from the shank, when the said block may be readily adjusted.

I do not show any means for uncoupling my improved self-acting car-coupler, as any of the well-known means may be adopted. A crank-rod connected to the top end of the pin and extending to either side of the car might readily be arranged, or a rod extending to the top of the car might easily be connected to the end of the pin. When the link D is inserted into the recess in the rubber block E, the end of the link must necessarily be some distance away from the pin, and as the distance from the end of the link to the pin would cause too much slack, I provide near one end of the link a cross-bar, *g*, rigidly fastened to the sides of the link, and designed to withstand the strain of the draft, the said bar coming in contact with the pin at that end of the link which is supported by the block. In order to protect the recess *e* in the rubber block E, a metal lining, *h*, should be inserted.

What I claim as my invention is—

1. In an improved self-acting car-coupler, a draw-head having a bell-mouth end, the in-

clined lower lip of which extends to a point where the interior diameter of the draw-head is increased, in combination with the draw-head shank F, connected to the draw-head, as specified, and a rubber block E, fitted into the draw-head between the end of the draw-head shank F and the shoulder *a*, formed by the enlargement of the interior diameter of the draw-head, the said rubber block having a recess, *b*, formed in it for the reception of the coupling-link, substantially as and for the purpose specified.

2. In a self-acting car-coupler having a bell-mouth end and a recessed rubber block, E, inserted in it, a coupling-pin, B, having its front edge beveled toward the point, in combination with the coupling-link D, provided with a cross-bar, *g*, substantially as and for the purpose specified.

3. A draw-head provided with a beveled coupling-pin, B, having a longitudinal slot, *c*, for the passage of the pin *d*, in combination with the link D, provided with a cross-bar, *g*, and fitting in the recess, *e*, formed in the rubber block E, substantially as and for the purpose specified.

Toronto, December 20, 1883.

GARDINER BOYD.

In presence of—

C. C. BALDWIN,

F. BARNARD FETHERSTONHAUGH.