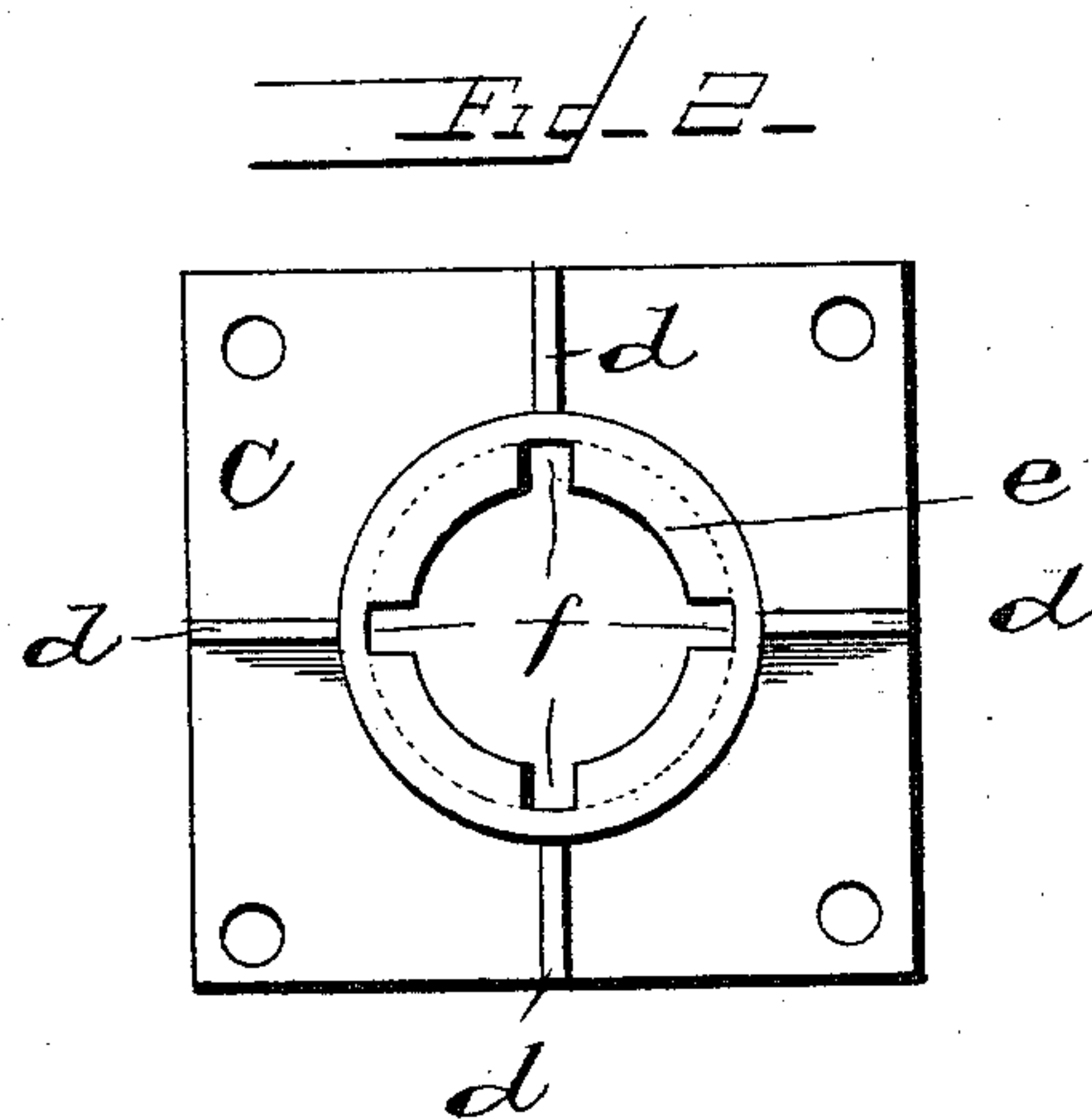
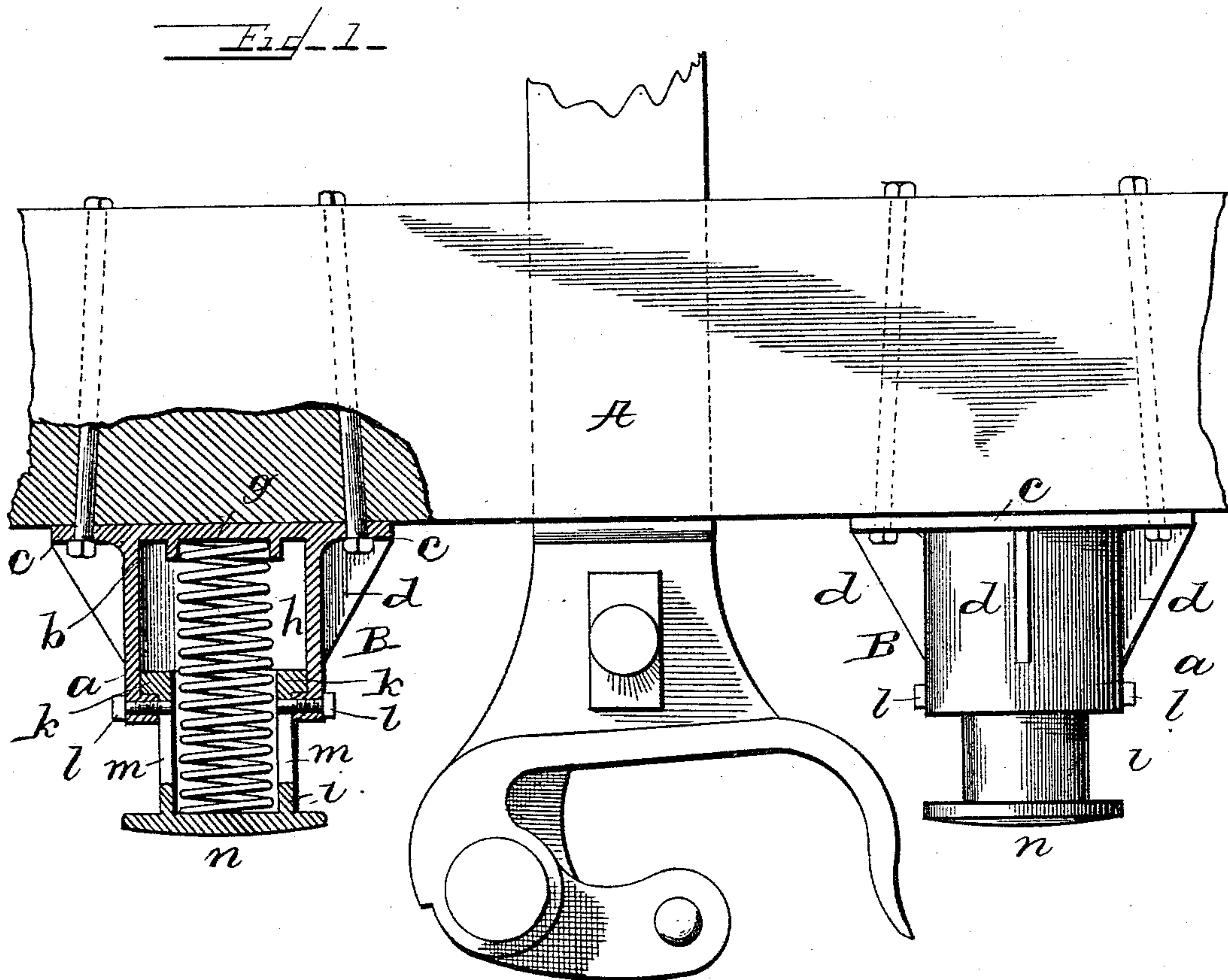


(No Model.)

J. GREEN.
CAR BUFFER.

No. 458,532.

Patented Aug. 25, 1891.



Witnesses

G. A. Taubenschmidt,
H. B. Reinohl

Inventor

Inventor
John Green
By Johnston & Reinold
Attorney

Attorney

UNITED STATES PATENT OFFICE.

JOHN GREEN, OF RENOVO, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO
D. R. PFOUTZ, OF SAME PLACE.

CAR-BUFFER.

SPECIFICATION forming part of Letters Patent No. 458,532, dated August 25, 1891.

Application filed June 8, 1891. Serial No. 395,435. (No model.)

To all whom it may concern:

Be it known that I, JOHN GREEN, a citizen of the United States, residing at Renovo, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Car-Buffers; 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 present invention relates to buffers for railway-cars, and has for its object certain improvements in construction, which will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a plan view of a car-sill provided with my improved buffers, one of which is shown in section; and Fig. 2, a front end view of the outer cylinder.

Reference being had to the drawings and the letters thereon, A indicates a car-sill; B B, my improved buffers, which consist of an outer cylinder *a*, having a closed inner end *b*, a flange or base *c*, by which the cylinder is secured to the sill A by suitable bolts, brackets *d* for strengthening the flange or base *c*, and an inwardly-projecting flange *e* at the outer or open end of the cylinder. The flange *e* is provided with a series of passages *f*, which serve a twofold purpose, as will hereinafter more fully appear.

At the inner end or bottom of the cylinder *a* may be formed a concentric seat *g* to receive one end of the spring *h*, or a nest of springs may be used. Within the cylinder *a* is inserted a cylinder *i*, which is of a diameter equal to the opening in the cylinder *a*, as bounded by the flange *e*, and is provided at its inner end with a series of lugs *k*, which bear against the inner surface of the outer cylinder, and, in conjunction with the flange *e*, keep the inner cylinder in alignment. The cylinder *i* is held against rotation on its axis by one or more bolts *l*, which pass through the outer cylinder and are screw-threaded at the part adjacent to the head of the bolt to engage with a corresponding screw-thread in the cylinder. The inner ends of the bolt or bolts *l* engage with a slot or groove *m* in

the inner cylinder. The outer end of the spring *h* rests or bears against the inner surface of the head *n* of the buffer, and the spring is encircled about half its length by the inner surface of the cylinder *i*, which prevents the spring buckling or being displaced laterally by compression.

One of the most serious difficulties attending the practical operation of this class of buffers has been that the air has been confined in the cylinders, and when the piston or plunger has been driven in by the force due to automatic coupling or shunting cars the compression of the confined air has burst the cylinder. By forming the passages *f* in the flange *e* the inner cylinder is not only inserted and removed through the open outer end of the inner cylinder and retained by its lugs *k* coming in contact with the flange *e*, but the air displaced by the inner cylinder being forced toward the bottom of the outer cylinder is permitted to escape freely through said passages until the head *n* is brought to bear against the outer end of the cylinder *a*, and thus relieves the cylinder of strain. The escape of air from the cylinders is also effected by the slots *m* in the inner cylinder. The buffers thus constructed provide effective means for taking up the shock or concussion generally transmitted to or sustained by the "dead-wood," the couplings, and the draft-gear of a car, and may be produced at very small cost. The cylinders require no boring or turning, and the only work required to be done on them after coming from the foundry is to drill and tap the screw-threaded hole or holes to receive the bolt or bolts *l*.

Having thus fully described my invention, what I claim is—

1. A car-buffer consisting of an outer cylinder having a closed end and a flange or base formed integral therewith and provided with an inwardly-projecting flange at its open end, having passages, an inner cylinder filling the opening in the outer cylinder and having a buffing-head at one end, lugs around its opposite end and fitting the inner diameter of the outer cylinder, and a spring between the bottom of the outer cylinder and the head of the inner cylinder.

2. A car-buffer consisting of an outer cylinder having an inwardly-projecting annular flange provided with air-escape passages at its outer end, and an inner cylinder fitting
5 the space within said flange and guided at the inner end of said cylinder by lugs which engage the outer cylinder, in combination with an interposed spring and a screw-bolt secured in the outer cylinder and engaging

slots in the inner cylinder for preventing the inner cylinder turning on its axis.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN GREEN.

Witnesses:

D. C. REINOHL,
H. B. REINOHL.