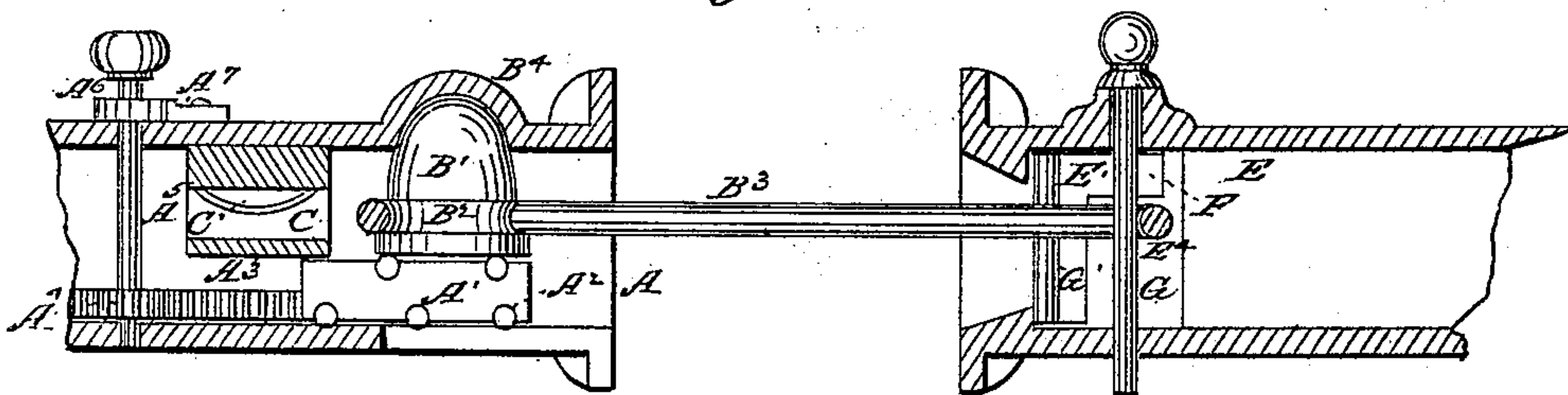


T. R. HERD.  
Car Coupling.

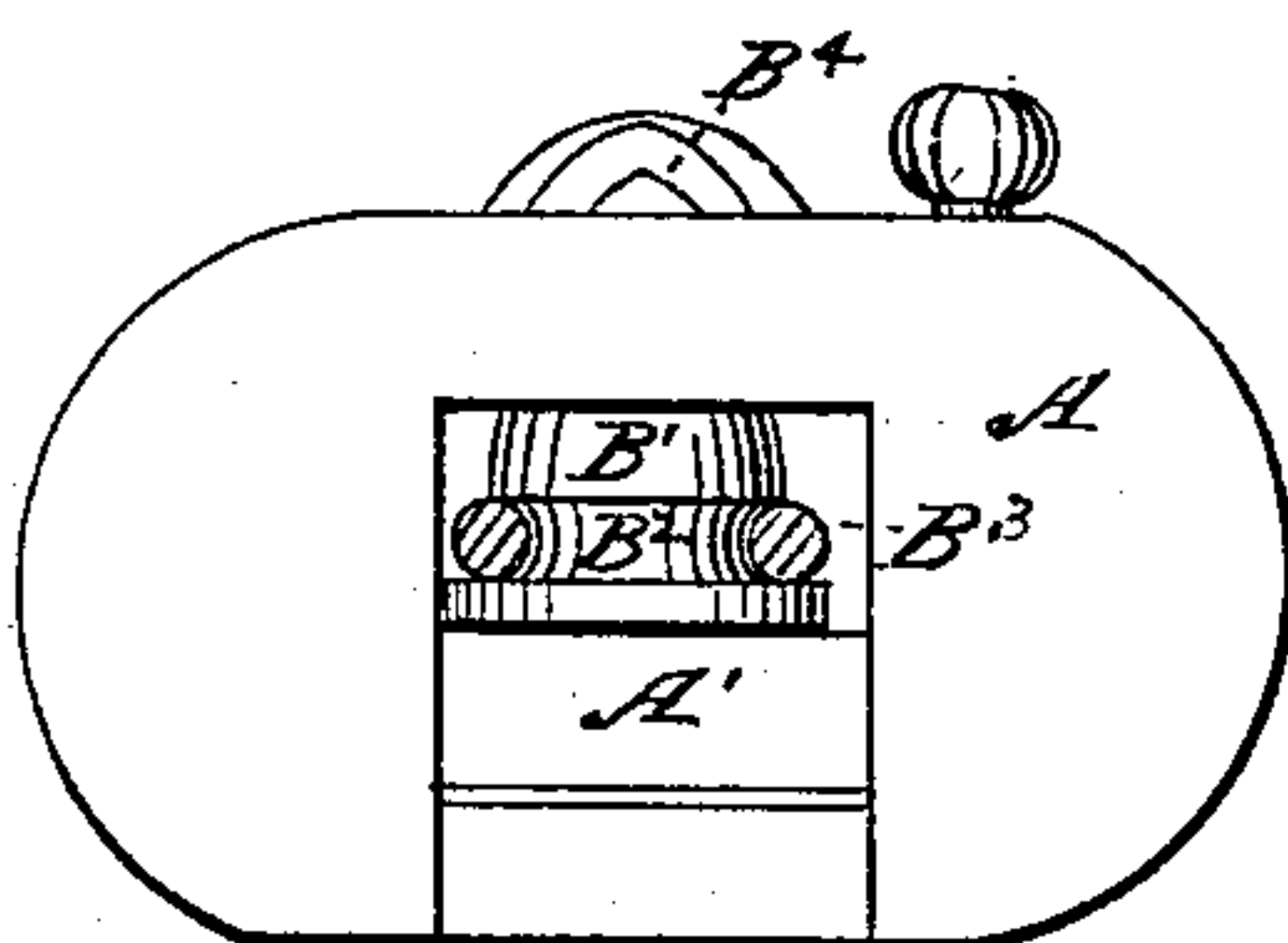
No. 98,377.

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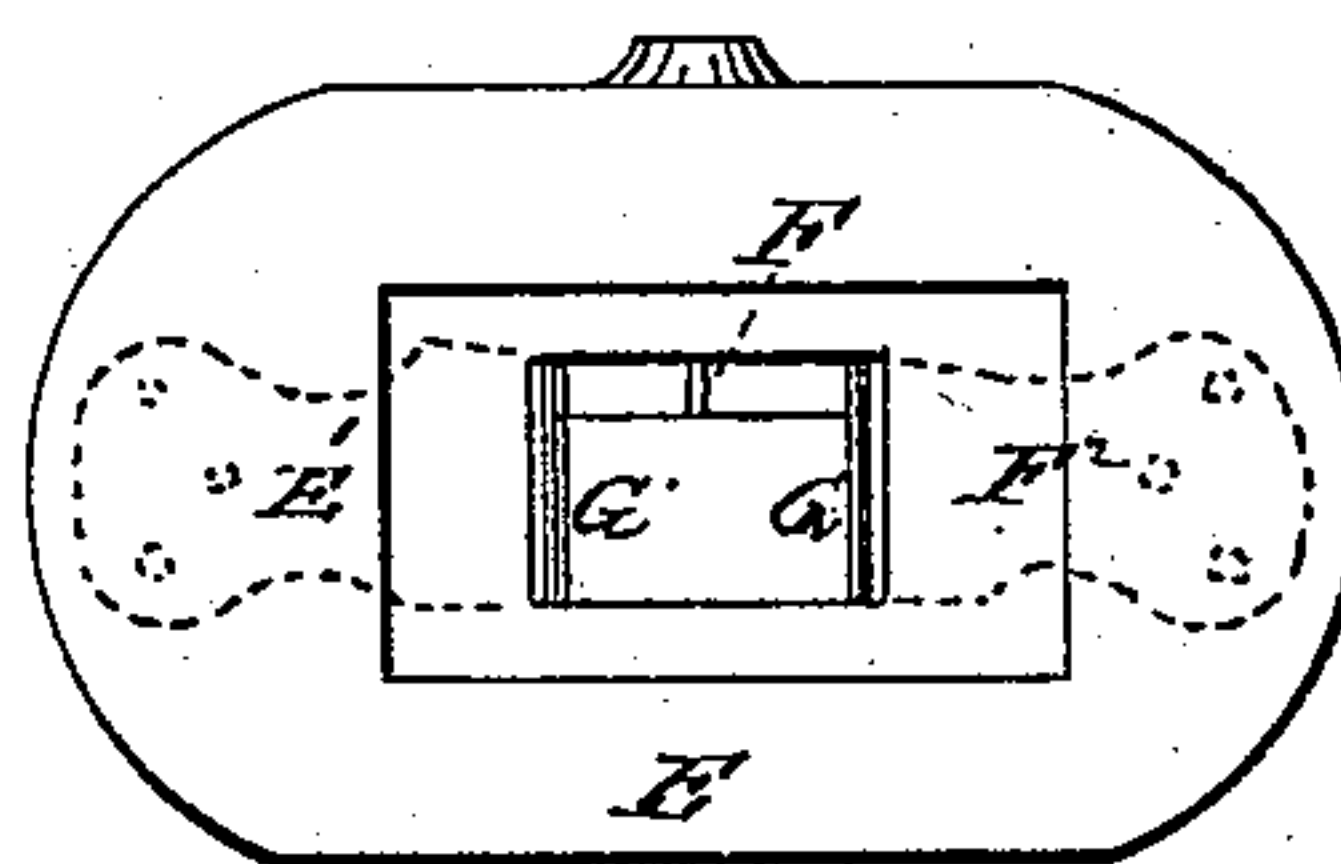
*Fig. 1*



*Fig. 2*



*Fig. 3*



*Witnesses:*

*A. L. France*

*John Clark*

*Inventor:*

*Thomas R. Herd*  
*per his atty*  
*Perceval Probert*

# United States Patent Office.

THOMAS R. HERD, OF ALLEGHENY, PENNSYLVANIA.

Letters Patent No. 98,377, dated December 28, 1869.

## IMPROVEMENT IN CAR-COUPLING.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, THOMAS R. HERD, of Allegheny, in the county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Car-Couplings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and use of devices, whereby railroad or other cars can be coupled together automatically, as hereinafter fully described—

In the accompanying drawings—

Figure 1 is a section of my invention.

Figures 2 and 3, views of some of the devices used.

Letters of reference denote parts.

The body of the bumper A is hollow, and of the same construction as those ordinarily in use.

A carriage, A<sup>1</sup>, supported by ordinary friction-rollers, A<sup>2</sup>, rests on the lower portion of the internal part of said bumper, said carriage A<sup>1</sup> being provided at the one extremity with an ordinary geared rack, A<sup>3</sup>, projecting therefrom in such a manner that an ordinary geared pinion, A<sup>4</sup>, attached to a vertical shaft, A<sup>5</sup>, will engage the teeth of said rack A<sup>3</sup>, and by the revolution of said shaft A<sup>5</sup>, said rack A<sup>3</sup> and carriage A<sup>1</sup> will be forced forward or backward, as required.

Said shaft A<sup>5</sup> passes through said bumper A, and is provided with an ordinary ratchet-wheel, A<sup>6</sup>.

Pivoted to said bumper A is an ordinary pawl, A<sup>7</sup>, in such a manner that its point will, if required, engage the teeth of said wheel A<sup>6</sup>, preventing said shaft A<sup>5</sup> from revolving.

Said carriage A<sup>1</sup> is furthermore provided at its upper portion with friction-rollers B, on which rests, when the bumpers are coupled, a curved cone, B<sup>1</sup>, having a flat base, resting on before-named rollers B.

Said cone B<sup>1</sup> has a groove B<sup>2</sup> around its periphery, near to its base, said groove being encircled with the ordinary coupling-link B<sup>3</sup>.

The upper part of said cone passes upward into a curved recess, B<sup>4</sup>, on the upper part of the body of said bumper A, the whole being so arranged that by the moving backward of the carriage A<sup>1</sup>, the link B<sup>3</sup> and cone B<sup>1</sup> fall out of place.

By pushing forward said carriage A<sup>1</sup>, the cone B<sup>1</sup> is kept in place, carrying with it the link B<sup>3</sup>, which is prevented from being withdrawn by the cone B<sup>1</sup> pressing against the recess B<sup>4</sup>.

Said bumper A is furthermore provided with a recess, C, inside of which is an ordinary curved spring, C<sup>1</sup>, so arranged that when the link B<sup>3</sup> is forced into said recess C, said spring C<sup>1</sup> holds said link B<sup>3</sup> in position for coupling.

The bumper E is constructed hollow, and of the same material as those ordinarily in use.

Curved springs E<sup>1</sup> E<sup>2</sup> are attached to the inner side of the bull-head E<sup>3</sup>, in such a manner as they will penetrate through suitable slots, E<sup>4</sup>, in the sides of said bumper E, and meet at or near the centre thereof, their upper portions being provided with seats F, so arranged that the ordinary coupling-pin G may rest thereon.

Said springs are furthermore provided with vertical rollers G<sup>1</sup>, one to each, said rollers being situated at or near the part of said springs, opposite to the mouth of said bumper E; the whole being so relatively arranged that the link B<sup>3</sup>, being held in place by the cone B<sup>1</sup>, and pushed against the springs E<sup>1</sup> E<sup>2</sup>, will force apart the same; the pin G, being then unsupported, falls through the link B<sup>3</sup>, and couples together both the bumpers.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The carriage A<sup>1</sup>, rollers A<sup>2</sup> B, rack A<sup>3</sup>, shaft A<sup>5</sup>, pinion A<sup>4</sup>, ratchet A<sup>6</sup>, and pawl A<sup>7</sup>; in combination with the curved cone B<sup>1</sup>, link B<sup>3</sup>, spring C<sup>1</sup>, and bumper A, having recesses B<sup>4</sup> and C, when constructed, arranged, and operating substantially as and for the purpose described and set forth.

2. The arrangement of the above devices, in combination with the bumper E, springs E<sup>1</sup> E<sup>2</sup>, seat F, rollers G<sup>1</sup>, and pin G, when constructed and arranged and operating substantially as described, and for the purpose set forth.

In testimony that I claim the foregoing as my own, I affix my signature, in presence of two witnesses.

THOS. R. HERD.

Witnesses:

PERCEVAL BECKETT,  
BENJAMIN FALLOWS.