(No Model.)

H. F. BALL.

CAR BUFFER.

No. 604,451. Patented May 24, 1898.

Fig. 1.

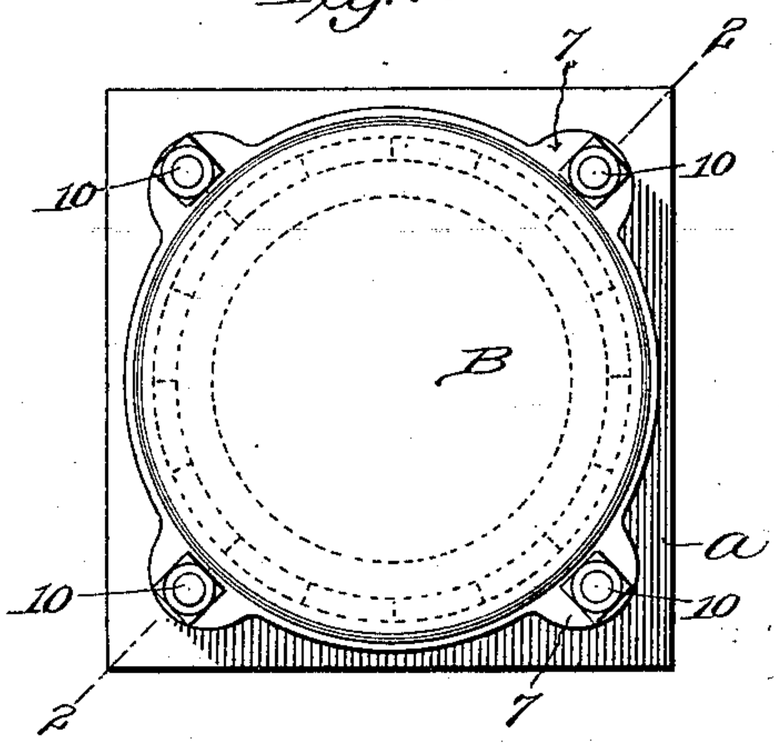


Fig. 2.

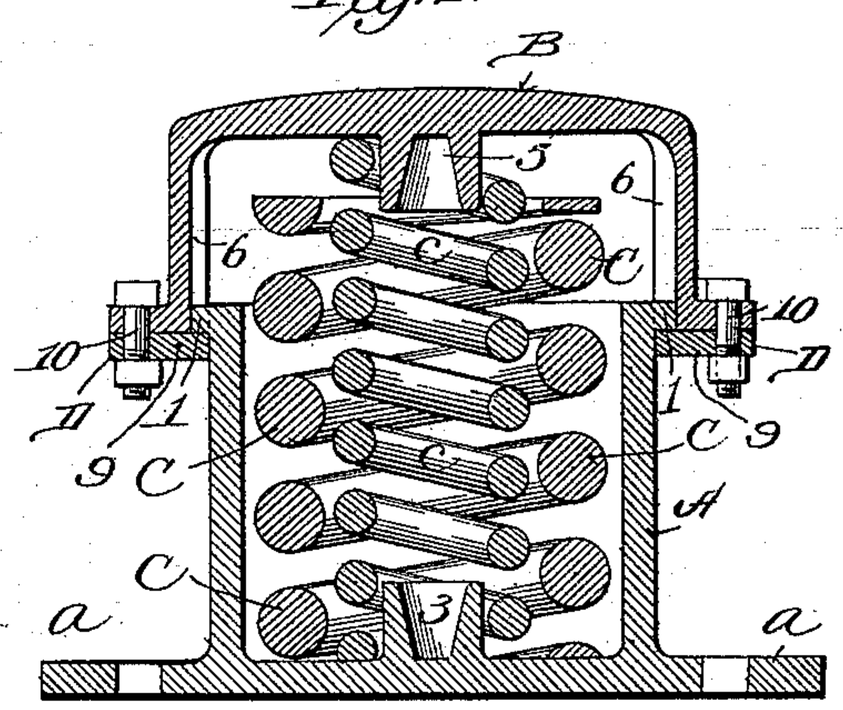
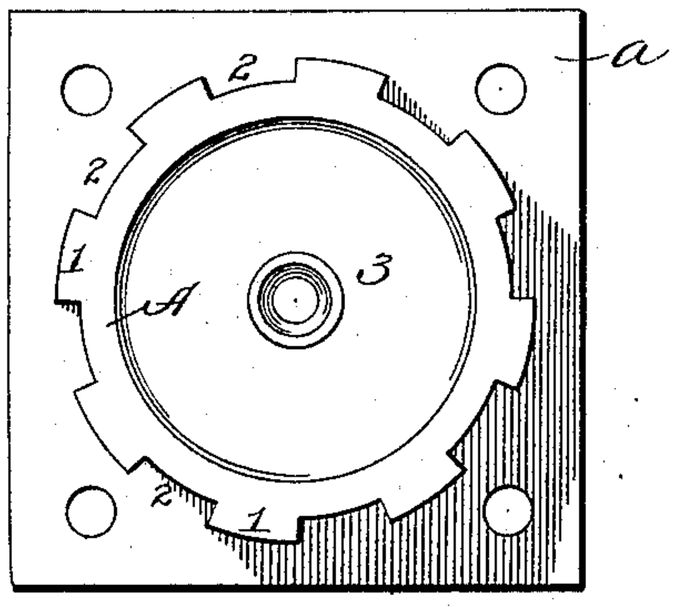


Fig. 3.

Fig. 4.



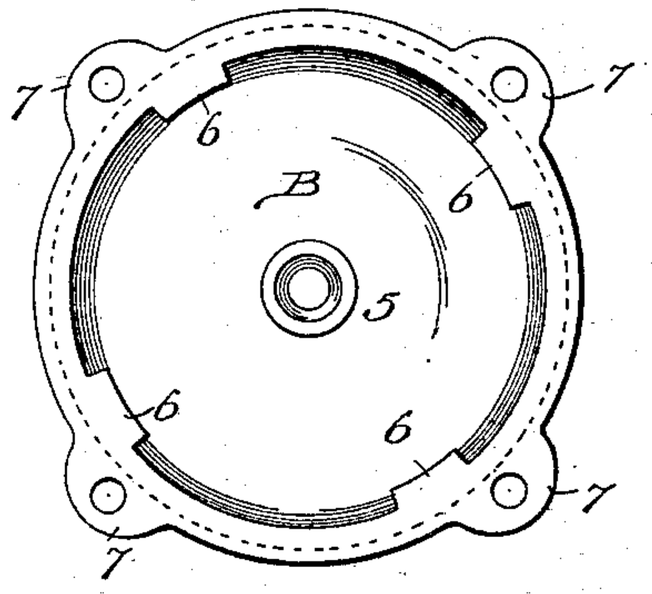
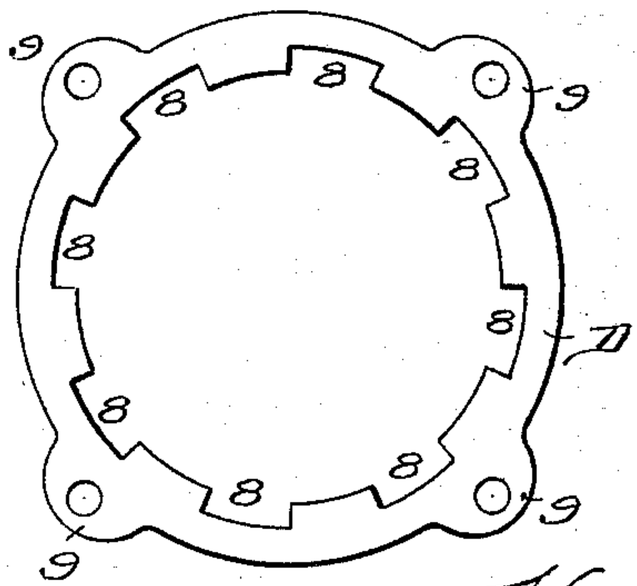


Fig. 5.



WITNESSES:

Harry S. Robertson

Jn. Darley.

INVENTOR

Herman F. Ball

BY F. H. Richards

ATTORNEY.

UNITED STATES PATENT OFFICE.

HERMAN F. BALL, OF CLEVELAND, OHIO.

CAR-BUFFER.

SPECIFICATION forming part of Letters Patent No. 604,451, dated May 24, 1898.

Application filed September 21, 1897. Serial No. 652,442. (No model.)

To all whom it may concern:

Be it known that I, HERMAN F. BALL, 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 Car-Buffers; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a car-buffer embodying my invention. Fig. 2 is a longitudinal central section thereof on the line 2 2, Fig. 1. Fig. 3 is a detached plan view of the base-section or spring-box. Fig. 4 is an inverted plan view of the cup friction-plate, and Fig. 5 is a detached plan view of the slip-ring which secures the cup friction-plate to the base-section or spring-box.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of that class of car-buffers wherein are combined a base-section or spring-box, a telescoping cup friction-plate, and interposed buffer-springs, and has for its object the provision of strong, simple, and efficient means for combining the telescoping sections and preventing the rotary movement of one section upon the other.

To this end the invention, generally stated, embraces the combination, with a flanged spring-box or base-section, of a flanged telescoping cup friction-plate which incloses the flanged spring-box, interposed buffer-springs, and a removable collar or slip-ring which loosely encircles the spring-box or base-section and is detachably attached to the flange of the cup friction-plate for confining the friction-plate to the base-section.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates a base-section or spring-box, preferably of cylindrical shape and provided with a base-flange *a*, by means of which it may be bolted to the car in the usual manner. At the opposite or open end the base-section or spring-box A is provided with an outwardly-projecting flange 1, having a series of recesses 2, which serve a double purpose—first, for the passage of corresponding lugs on a slip-ring or collar D, and, second, for the engagement of ribs, lugs, or offsets 6 on the interior of the cup friction-plate of the buffer. On the interior and at the bottom of base-section or spring-box A a lug or projection 3 may be provided for holding and centering the lighter and longer buffer-spring *c*, which supports the friction-plate under the initial impact in buffing.

B indicates the cup friction-plate, which may be provided on its interior with a centering-lug 5 for the light center spring *c*. The greatest inner diameter of this cup friction-plate B will be such as to permit it to pass freely over the outwardly-projecting flange 1 of the base-section A, and it will be provided on its interior with one or more (preferably a plurality of) ribs or lugs 6, adapted to engage in the recesses 2 of the flange 1, and thus prevent the rotation of the cup friction-plate B on the base-section A, as well as to guide its telescoping motion thereon. These ribs 6 also materially strengthen the cup friction-plate B. At its free edge the friction-plate B is provided with outwardly-projecting perforated lugs or ears 7, by means of which it is bolted to the collar or slip-ring D.

D indicates a detachable collar or slip-ring whose least inner diameter is slightly greater than the exterior diameter of the base-section or spring-box A, so that it may slide freely thereon, said slip-ring having a series of recesses or notches 8 of such size and so located that they will register with the projections formed by the recesses 2 of flange 1 and permit the slip-ring D to pass over the flange 1 when the slip-ring D is in a given position. The slip-ring D is also provided with perforated lugs or ears 9 for the passage of the bolts 10, whereby the slip-ring D, after having been passed over flange 1, may be bolted to the flange 7 of cup friction-plate B. The perforated ears 9 are so placed with relation to the recesses 8 and the projections formed thereby that when the slip-ring D is bolted to the cup friction-plate B the projections of flange 1 will oppose the inward projections on the slip-ring D, and the latter being unable to rotate by reason of its connection to friction-plate B and the lugs or ribs 6 therein, which engage in recesses 2, the slip-ring D

will hold the friction-plate B securely to the base-section A.

C indicates the main buffer-spring.

The construction of the devices being of substantially the character hereinbefore pointed out they may be combined (the buffer set up) as follows: The collar or slip-ring D will be passed over the flange 1 of base-section or spring-box A by causing the respective lugs or projections of one to register with the notches or recesses in the other, after which the springs C *c* will be inserted in the base-section or spring-box A. The cup friction-plate B will then be applied, the ribs 6 thereof entering recesses 2 in flange 1 of the base-section A, and the slip-ring D, having first been rotated sufficiently to bring the inwardly-projecting lugs beneath the outwardly-projecting lugs of flange 1, is finally bolted to the flange or lugs 7 of the cup friction-plate B by the bolts 10, after which the base-section or spring-box A may be bolted to a car in the usual manner.

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

1. In a car-buffer, the combination of a flanged spring-box or base-section, a flanged cup friction-plate which incloses and telescopes with the spring-box or base-section, interposed buffer-springs, and a removable collar or slip-ring which encircles the flanged spring-box or base-section and is detachably connected with the flanged cup friction-plate, substantially as and for the purposes specified.

2. In a car-buffer, the combination of a flanged spring-box or base-section, a flanged cup friction-plate, interposed buffer-spring, a removable slip-ring which encircles the base-section or spring-box and is detachably attached to the cup friction-plate, and means for preventing the rotation of the cup friction-plate on the base-section or spring-box, substantially as and for the purposes specified.

3. In a car-buffer, the combination of a base-section or spring-box having a notched flange, a flanged cup friction-plate having one or more inner ribs which engage the notched flange of the base-section, interposed buffer-spring, and a slip-ring, substantially as and for the purposes specified.

4. In a car-buffer, the combination with a base-section or spring-box having a notched flange, of a flanged cup friction-plate having one or more ribs on its interior which engage the notches of the flange of the spring-box, interposed buffer-spring, and a notched slip-ring, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 18th day of September, 1897.

HERMAN F. BALL.

Witnesses:

JNO. C. DENNERLE,

C. E. HATCH.