(No Model.)

W. B. TURNER & J. J. MANN.

DRAW BAR AND BUFFER.

No. 296,801. Patented Apr. 15, 1884.

Fig. 1.

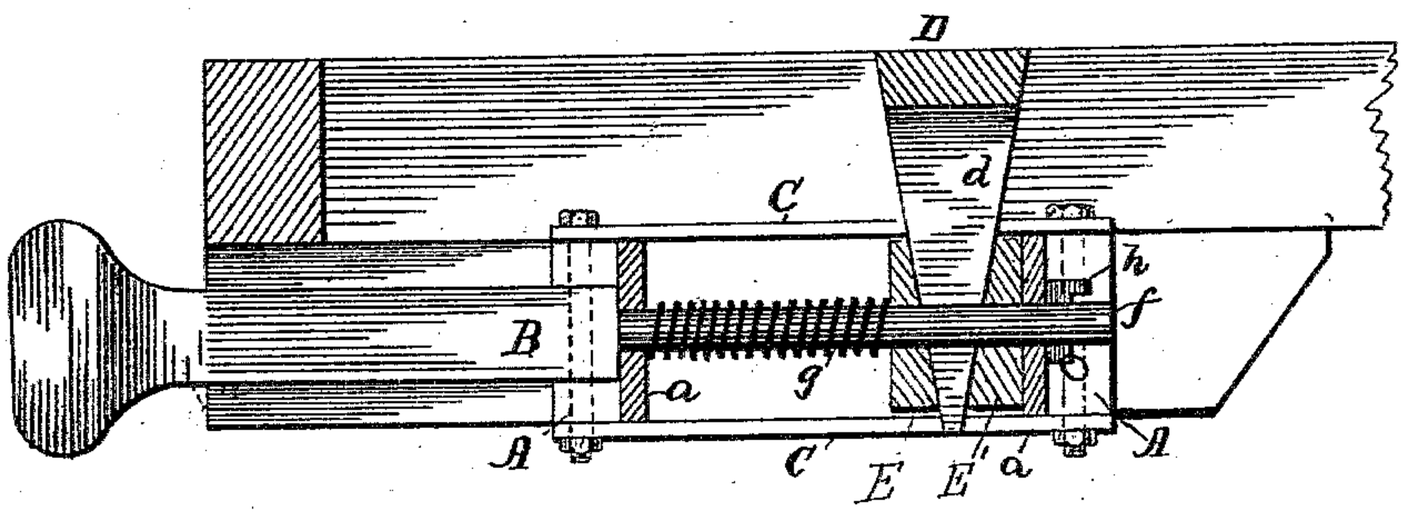


Fig. 2.

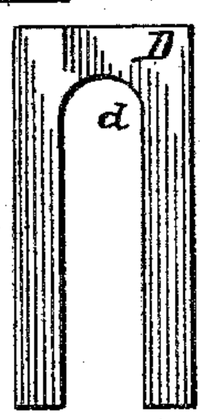


Fig. 4.

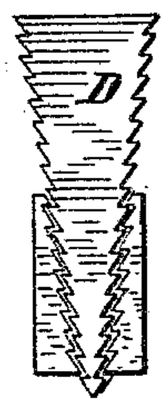
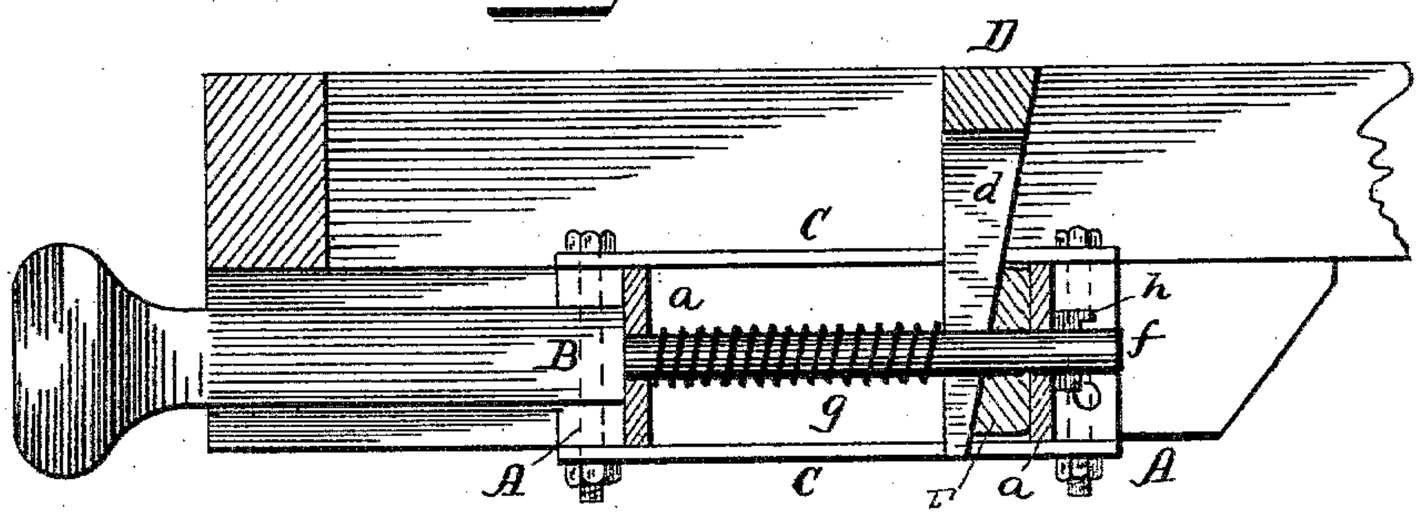


Fig. 3.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WILLIAM B. TURNER, OF NEW YORK, N. Y., AND JOHN J. MANN, OF JERSEY CITY, NEW JERSEY, ASSIGNORS OF ONE-THIRD TO CORNELIUS BEARD, OF NEW YORK, N. Y.

DRAW-BAR AND BUFFER.

SPECIFICATION forming part of Letters Patent No. 296,801, dated April 15, 1884.

Application filed February 12, 1884. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM B. TURNER and JOHN J. MANN, citizens of the United States of America, residing, respectively, in the city, county, and State of New York, and in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Preventing Lost Motion in Draw-Heads and Buffers, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in preventing lost motion in draw-heads and buffers for railway and other purposes; and it consists in the peculiar combinations, construction, and arrangement of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side view of a draw-head provided with our invention. Fig. 2 is a detail showing a front view of the wedge-shaped block marked D in Fig. 1, and Figs. 3 and 4 show modified forms of our invention.

A A represent the ordinary stop-blocks, which are bolted to the car or draft timbers. B is the draw-head. C C are straps on the top and bottom of the stop-blocks A A. These straps C C are secured to the stop-blocks A A by bolts passing downward through them, thus forming a pocket to support the follower-plates *a a* and inner end of the draw-head. The draw-head bolt *f* passes through the follower-plates and has a spring, *g*, around it and a key, *h*, through the inner end. The rear end of the draw-head B acts against the front follower-plate *a*, and compresses the spring by pushing on it, while the key *h* acts on the rear follower-plate *a* in the other direction, said plates thus forming abutments for the spring, thereby enabling it to form a cushion or yielding medium in either pulling or pushing the car.

It has been found to be very difficult, if not impossible, to produce a bumper-spring that will resist the enormous strains and blows to which such springs are subjected and still maintain their normal condition or length—for as a rule, with but very few exceptions, these springs become set after being in use a short time. The average reduction in the length of springs is about one inch. This gives the draw-head two inches of lost motion, as it allows the draw-head bolt to play one inch in the spring and follower-plates, and also allows the follower-plates and spring to play one inch in the pocket. To automatically prevent this lost motion is the object of our invention, and we accomplish it by the use of a wedge, D, having a recess, *d*, which may be made to straddle the bolt *f* and be inserted between two inverted blocks, E E′, arranged on the draw-bar bolt, each block having an inclined side, or in front of a single block of corresponding shape, as shown in Fig. 3, in which case the wedge D should preferably have one of its sides and its upper end at right angles. Should the spring *g* become shorter, the wedge D will drop, filling the space, and thus preventing the possibility of lost motion.

If preferred, the rear block, E′, may be dispensed with entirely by making the front side of the rear follower-plate inclined, when the same effect would be produced.

We do not limit ourselves to either of the shapes shown of the wedge D, as it is evident that it may be varied to a considerable extent without departing from the spirit of our invention; but care should be taken to have the taper of such proportions that the pressure of the spring will not cause it to rise. In some cases, to overcome this tendency to rise, the faces of the wedge D and the block E that are in contact may be provided with ratchet-shaped teeth arranged in opposite directions, as shown in Fig. 4; but we do not consider this usually necessary.

What we claim as new is—

1. The combination, with a draw-head or buffer, a spring, and its abutment, of a wedge, D, substantially as and for the purpose specified.

2. The combination, with a draw-head or buffer, a spring, and its abutment, of a wedge inserted between said spring and its abutment, adapted to automatically take up or prevent lost motion, substantially as described.

3. The combination, with a draw-head or buffer, a spring, and a wedge-shaped block, of a wedge, D, inserted between said spring and block, substantially as and for the purpose specified.

4. The combination of a draw-head, a spring, *g*, a wedge, D, having a recess, *d*, and two inverted-wedge-shaped blocks, all constructed, arranged, and operating substantially as described.

In testimony whereof we affix our signatures, in presence of two witnesses, this 9th day of February, 1884.

WILLIAM B. TURNER.
JOHN J. MANN.

Witnesses:
JOHN T. MCLAUGHLIN,
JAMES MCLAUGHLIN.