2 Sheets—Sheet. 1.

J. WHITE.

Car Coupling.

No. 80,688. Patented Aug. 4, 1868.

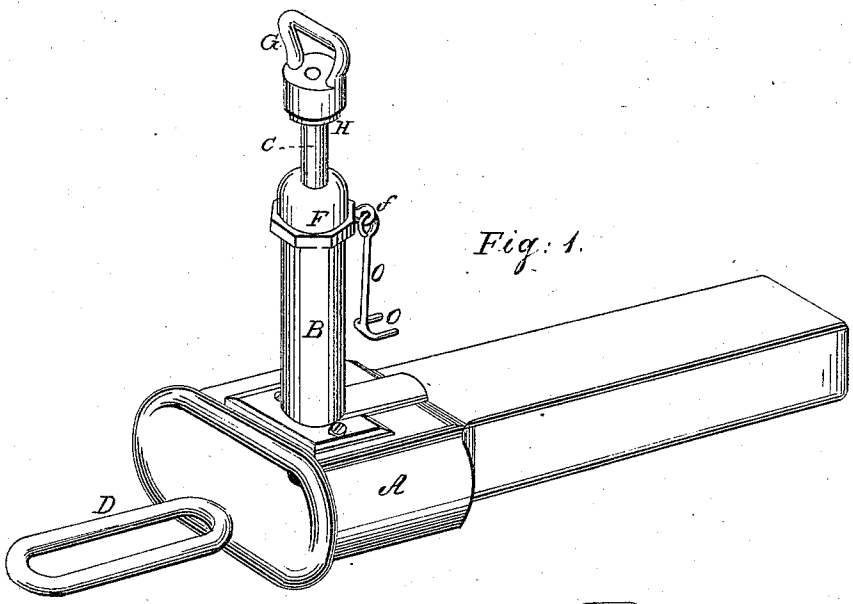


Fig: 1.

Fig: 2.

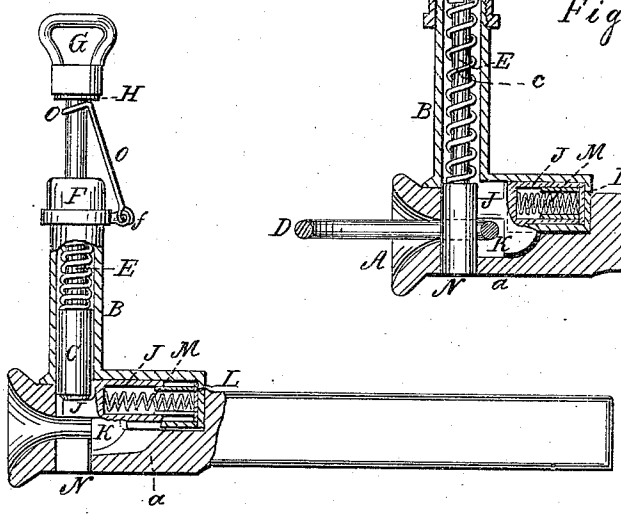
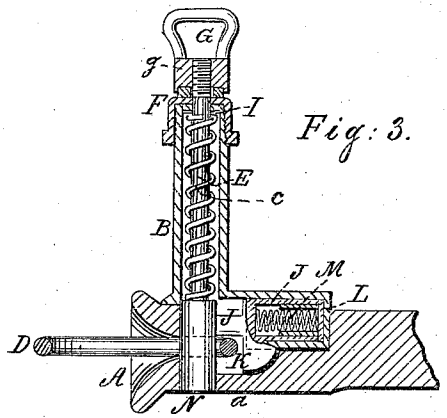


Fig: 3.



Attest.

Chas. Bauer

Jas. H. Laycock

Inventor.

James White

By Knight Bros

Attys

2 Sheets—Sheet 2.

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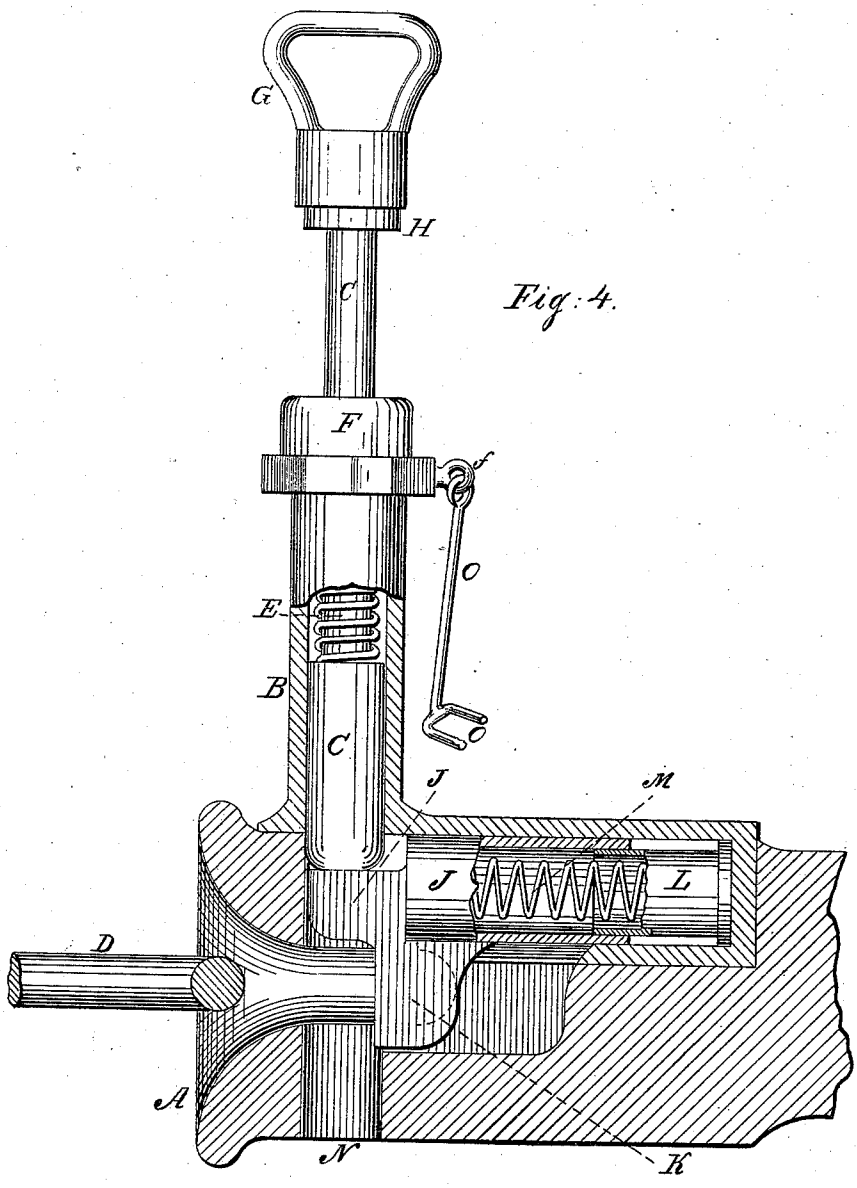

Fig. 4.

Attest:
Chas Bauer
Jas. A. Layman

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James White
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United States Patent Office.

JAMES WHITE, OF HARRISON, OHIO.

Letters Patent No. 80,688, *dated August* 4, 1868.

IMPROVED 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, JAMES WHITE, of Harrison, in the county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Car-Couplings; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to that class of devices commonly known as automatic car-couplings, and my improvements consist in providing the pin, with which the link is retained in the draw-head, with a spring, for the purpose of compelling it to descend very rapidly and engage with the link, and a novel construction of spring-bolt for maintaining said pin in an elevated position, the pin being released by the impingement of the entering-link against said bolt, thereby forcing it back and bringing the pin into action.

My improvements further consist in a novel construction of the coupling-pin and its housing, and a device for securing the pin in an elevated or non-effective position, so as to permit the cars to be pushed or backed, when desired, on to a side track or otherwise, without coupling.

In the accompanying drawings—

Figure 1 is a perspective view of a coupling embodying my improvements, a link being shown as in the act of being ejected from the draw-head.

Figure 2 is a vertical section through the draw-head, the pin being represented as supported in an elevated position by a catch, which is provided for that purpose.

Figure 3 is a vertical section, showing the manner in which the pin engages with the link; and

Figure 4 is an enlarged sectional view, with a link shown as in the act of entering the draw-head.

A represents a draw-head of ordinary construction, having secured to its upper side a cylinder, B, and this cylinder contains the pin C, which engages with a coupling-link, D.

The pin C has a shaft, *e*, of somewhat less diameter than the pin proper, and this shaft is surrounded by a coiled spring, E, which bears against the upper end of the pin C, and the under side of a cap, F, which is secured to the end of cylinder B.

This shaft is screw-threaded at *g*, so as to engage with the detached handle G, and this handle has a washer, H, secured to its lower side, so as to form a water-tight joint between the handle and cap when the pin C is in its depressed or effective position.

A gasket, I, interposed between cylinder B and its cap F, serves to exclude rain, dust, &c., from the spring when the handle is elevated.

Adapted to play within the longitudinal slot *a* of the draw-head, is the spring-bolt J, having a downwardly-projecting shoulder, K, against which the entering-link impinges, and this spring-bolt is provided with a tubular stem, *j*, within which fits a short cylinder, L, and said spring-bolt is continually pressed forward towards the mouth of the draw-head, by means of the spring M, which is contained within said tubular stem, *j*, and cylinder, L.

The draw-head A is provided with the customary vertical aperture N, for the reception of the pin C.

The cap F has a staple, *f*, to which is attached a catch, O, whose free end terminates in a fork, *o*, which, engaging around the shaft *e*, immediately under the handle G, serves to maintain the pin in an elevated position, and thereby prevents it dropping and engaging with the link.

The operation of my coupling will be easily understood by referring to figs. 2, 3, and 4, and, in the last view, it will be seen that the pin C has been elevated, and is supported upon the spring-bolt *j*, the forked catch O hanging loosely by the side of the cylinder B.

When the end of the entering-link D impinges against the shoulder K, the spring-bolt J is forced back towards the rear of the draw-head, the cylinder L sliding within the tubular stem *j*, and, as soon as said bolt has been completely withdrawn from under the pin C, the latter is instantly forced down by means of the spring E, engages with the link, and enters the aperture N in the draw-head, thus securely coupling the cars together.

The spring E causes the pin G to descend so rapidly and engage with the link, that there is no opportunity for the latter to recoil and fly out of the draw-head by the concussion of the cars.

The spring M forces the bolt J towards the mouth of the draw-head, and when the pin is engaged with the link, said bolt bears against the pin, and thereby prevents it rattling and shaking about.

Whenever it is desired to uncouple the cars, the brakesman has only to elevate the pin by means of its handle, and, as soon as the lower end of said pin clears the spring-bolt, the latter immediately flies out towards the mouth of the draw-head, and thereby supports the pin, as soon as the operator quits his hold of the handle. This protrusion of the spring-bolt not only serves to maintain the pin in its elevated position, but it also ejects the link from the draw-head, as shown in fig. 1.

Whenever cars are to be "switched off" on to a side track, and it is not desirable to have them coupled, the apparatus can be rendered non-effective by simply engaging the forked catch O *o* under the handle of the shaft *e*, as shown in fig. 2, which prevents the pin C descending and engaging with the link.

It will be seen that, in case the pin C should become bent or broken, it can be readily removed by unscrewing the cap F, and, as said pin and its spring are housed within the cylinder B, they are protected from the inclemencies of the weather, and cannot be frozen up in winter, or rendered inoperative in summer-time by the accumulation of dust, cinders, &c.

The provision of the tubular stem *j* and cylinder L permits of the spring M being much longer and having a greater range than could be effected by any other arrangement within the same space.

My coupling can be applied to almost any draw-head in use, by simply making a slot in the head for the reception of the spring-bolt, and then attaching the cylinder B, with its accessories, to the upper side of the head.

I claim herein as new, and of my invention—

1. The pin C, enclosed within the tight cylinder B F, and operated by a spring, E, substantially as and for the purposes described.

2. In combination with the above, I further claim the lugs or projections J K, telescopic hollow stem *j* L, and spring M, all constructed, arranged, and employed as and for the purposes specified.

In testimony of which invention, I hereunto set my hand.

JAMES WHITE.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.