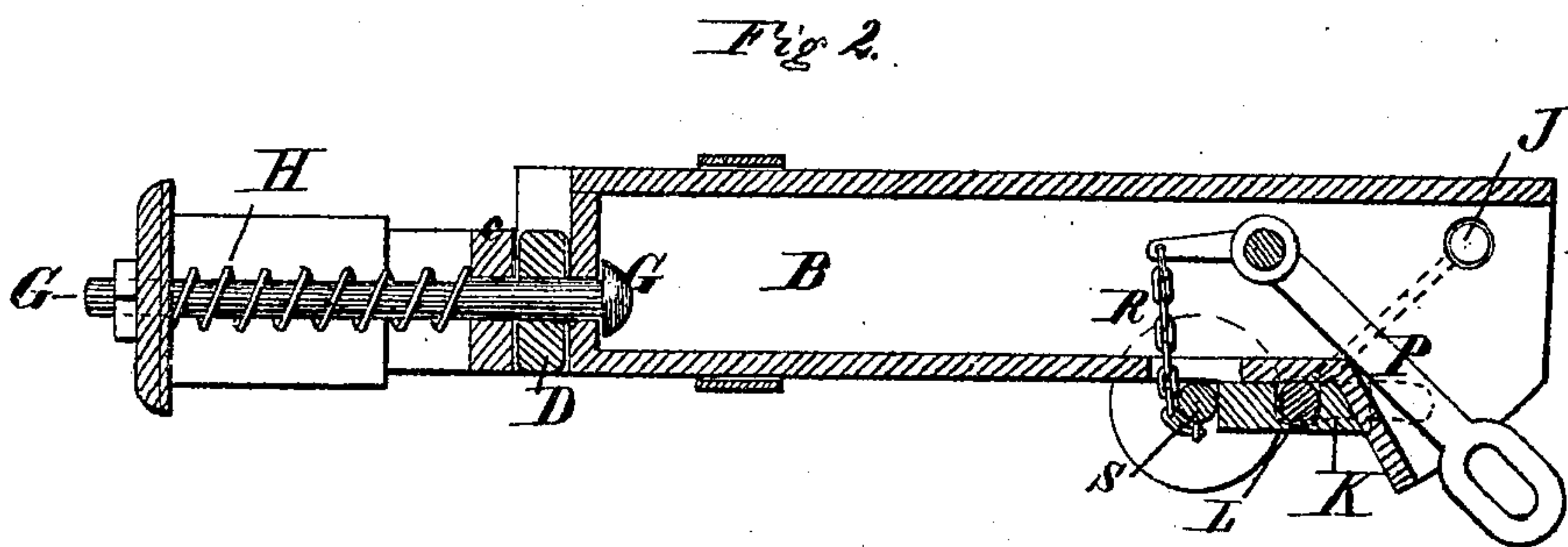
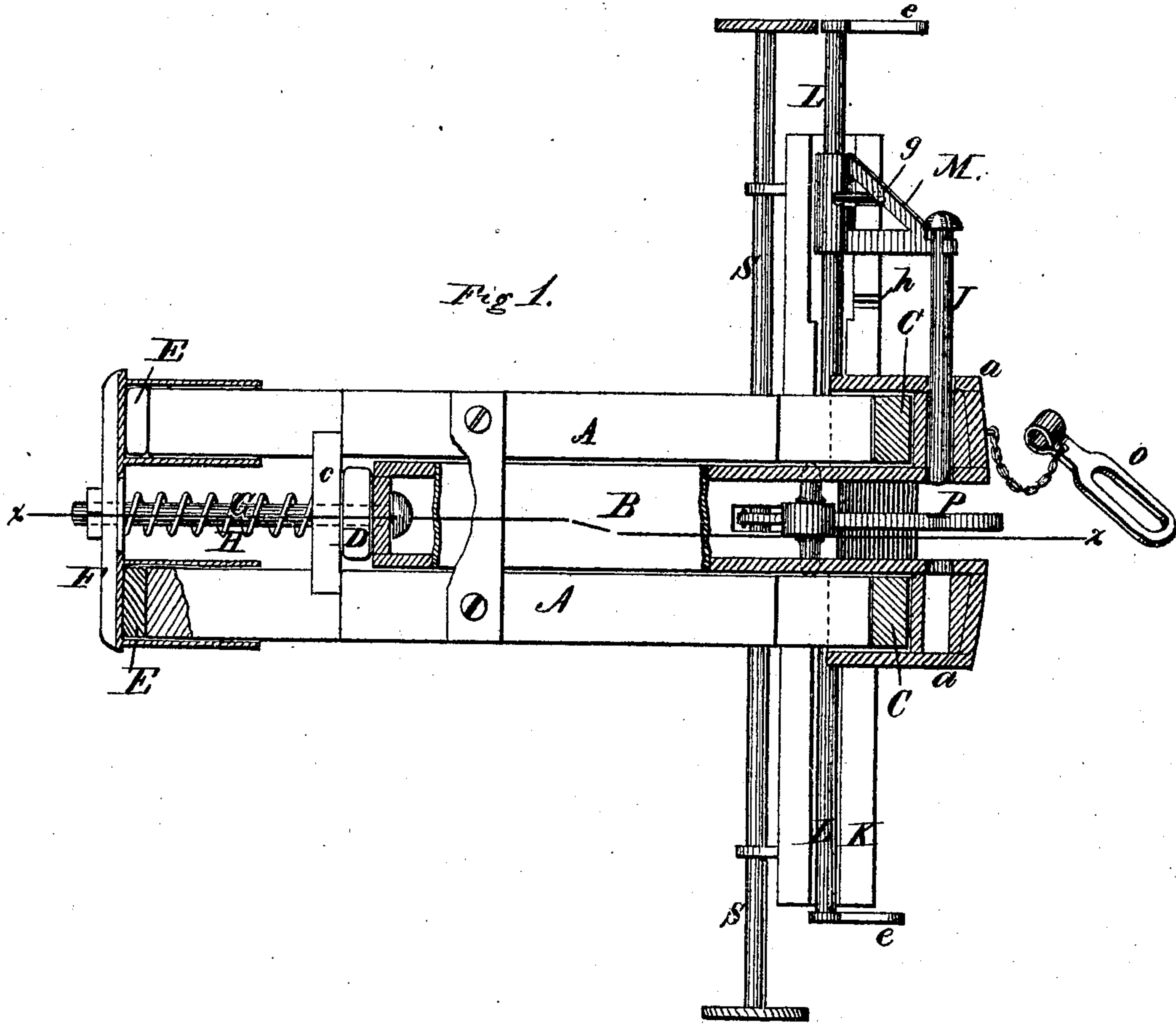


H. BALE.

Improvement in Car-Couplings.

No. 132,429.

Patented Oct. 22, 1872



Witnesses.

Harry King.
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Inventor.

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UNITED STATES PATENT OFFICE.

HARDIN BALE, OF PETERSBURG, ILLINOIS.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 132,429, dated October 22, 1872.

To all whom it may concern:

Be it known that I, HARDIN BALE, of Petersburg, in the county of Menard and State of Illinois, have invented certain Improvements in Railroad Car Couplings and Bumper, of which the following is a specification, reference being had to the accompanying drawing.

My invention consists in a novel manner of constructing a yielding draw-head and buffer, and in novel coupling devices, as hereinafter described.

Figure 1 is a top-plan view of my improved draw-head and coupling, portions being broken away to show the interior. Fig. 2 is a longitudinal vertical section of the same on the line *x x* of Fig. 1.

A A represent two rigid parallel bars secured to the bottom of the car, and B the draw-head or bar mounted between them and provided at its front end with two sockets, *a*, which fit over the front ends of the bars A and inclose rubber blocks C, which are placed against said ends, as shown in Fig. 1. The draw-head and its sockets are cast in one solid piece, and the springs applied by simply inserting them loosely into the sockets, so that when the head is placed in position they will bear against and be held by the longitudinal bars or timbers on the car-body, as shown. This method of constructing the head and applying the springs is exceedingly cheap and simple, as it obviates the expense and labor of providing and applying separate sockets or beds for the springs and of securing the springs thereto. D is a rubber block placed between the back end of the draw-head B and a cross-bar, *c*, which is secured between the bars A for the purpose. E E are rubber blocks placed against the back ends of the bars A, and F is a metal head or plate provided with sockets fitting over the rear ends of bars A, and inclosing the rubber thereon. G is a bolt or rod connecting the head or plate F with the back end of the draw-head B, and H a spiral spring mounted on the bolt G between the head or plate F and the cross-bar *c*.

When the cars are brought together the front end of the draw-head A forms a buffer to receive the concussion, which is taken up by the rubber blocks C D, which yield so as to let the draw-head move back. When the cars are

coupled, and the draw-head pulled forward, the strain is conveyed through the rod G to the plate F and received upon the rubber blocks E and the spiral spring H, which permit the head to give forward, so as to relieve the coupling-pin and other parts from violent strain when the cars are started suddenly. Thus it will be seen that by my method of constructing the draw-head and applying the springs it is allowed to yield when pulled forward, and also to give back when the cars are brought together, so as to form a spring-buffer.

J is the coupling-pin, which I mount in the front end of the draw-head in a horizontal instead of the usual vertical position. K is a transverse bar secured rigidly to the under side of the draw-head and extending out in line with the sides of the car. L is a rod or shaft mounted on the bar K in such manner that it can both rotate and slide lengthwise, and provided at its ends with handles *e*. M is an arm or bracket mounted on the rod L and connected to the coupling-pin J, the arrangement being such that when the rod is moved lengthwise it carries the arm and coupling-pin with it, while at the same time the rod is free to turn independently of the arm. The rod is provided with a stud or pin, *g*, and the bar K with two notches, *h*, for the pin to lock into, so as to hold the rod from moving endwise, and thereby hold the coupling-pin in or out, as may be required. When the coupling-pin is drawn out, as in Fig. 1, and it is desired to shove it in, the operator takes hold of either of the handles *e*, and turns it so as to rotate the rod and unlock the pin *g*, and then moves the rod endwise so as to carry the coupling-pin home, and then turns the handle again so as to lock the pin *g* into the recess and prevent the coupling-pin from being jolted or accidentally pushed back. The handles are made quite heavy to serve as weights to hold the rod and prevent the pin *g* from jumping out of its seat. My coupling-pin, being arranged horizontally, cannot, of course, be locked through the ordinary coupling-links arranged to receive the usual vertical pins. In order, therefore, to enable a car provided with my coupling to be coupled to those having the ordinary coupling, I provide a coupling-link,

O, as shown in Fig. 1, having in one end a horizontal eye to receive my horizontal pin, and in the opposite end a vertical eye to receive the ordinary upright pin. This link I suspend to the draw-head B by a chain, as shown, so that it is always present for use. In the front end of the draw-head a coupling-link, P, is mounted on a horizontal pivot, so that its front end can swing up and down. A transverse eye or opening is made through the end of the link to receive a horizontal coupling-pin, it being intended to use this link only in connection with cars having a horizontal pin, as in my plan, and not with those having the common coupling. The end of the link P is extended back of the pivot and provided with a chain, R, which is carried down through the bottom of the draw head and attached to a rod, S, which is mounted on the bar K, as shown. The ends of the rod S are extended out to the sides of the car and provided with hand-wheels, by which it may be turned so as to wind up the chain and raise the end of the link P to the required height to receive the coupling-pin of the other car. The height of the coupling-pin will, of course, vary in different cars, but by hinging the coupling and connecting it with the rod, as described, the operator standing at the side of the train can adjust and hold it in the exact position required.

By arranging my coupling pin and link as described, and extending the rods for operating them out to the sides of the car, I enable the operator to manipulate them quickly and easily, and prevent the necessity of his entering between the cars, and thus avoid all danger of accidents to him therefrom.

Having thus described my invention, what I claim is—

1. The draw-head B provided with the sockets *a*, in combination with the springs C, when arranged substantially as described.

2. The rotating and sliding rod L provided with the pin *g*, in combination with the arm M and coupling-pin J, when arranged to operate in connection with a draw-head provided with a notch or groove, *h*, as described.

3. The pivoted coupling-link P, in combination with the chain R and rod S, the latter being mounted on the draw-head and extended out beyond the sides of the cars, whereby the operator is enabled to adjust the link without entering between the cars, and the link is permitted to retain its position while the draw-head is moving longitudinally.

HARDIN BALE.

Witnesses:

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