

(No Model.)

J. C. BRYANT.
CAR COUPLING.

No. 401,726.

Patented Apr. 16, 1889.

Fig. 1.

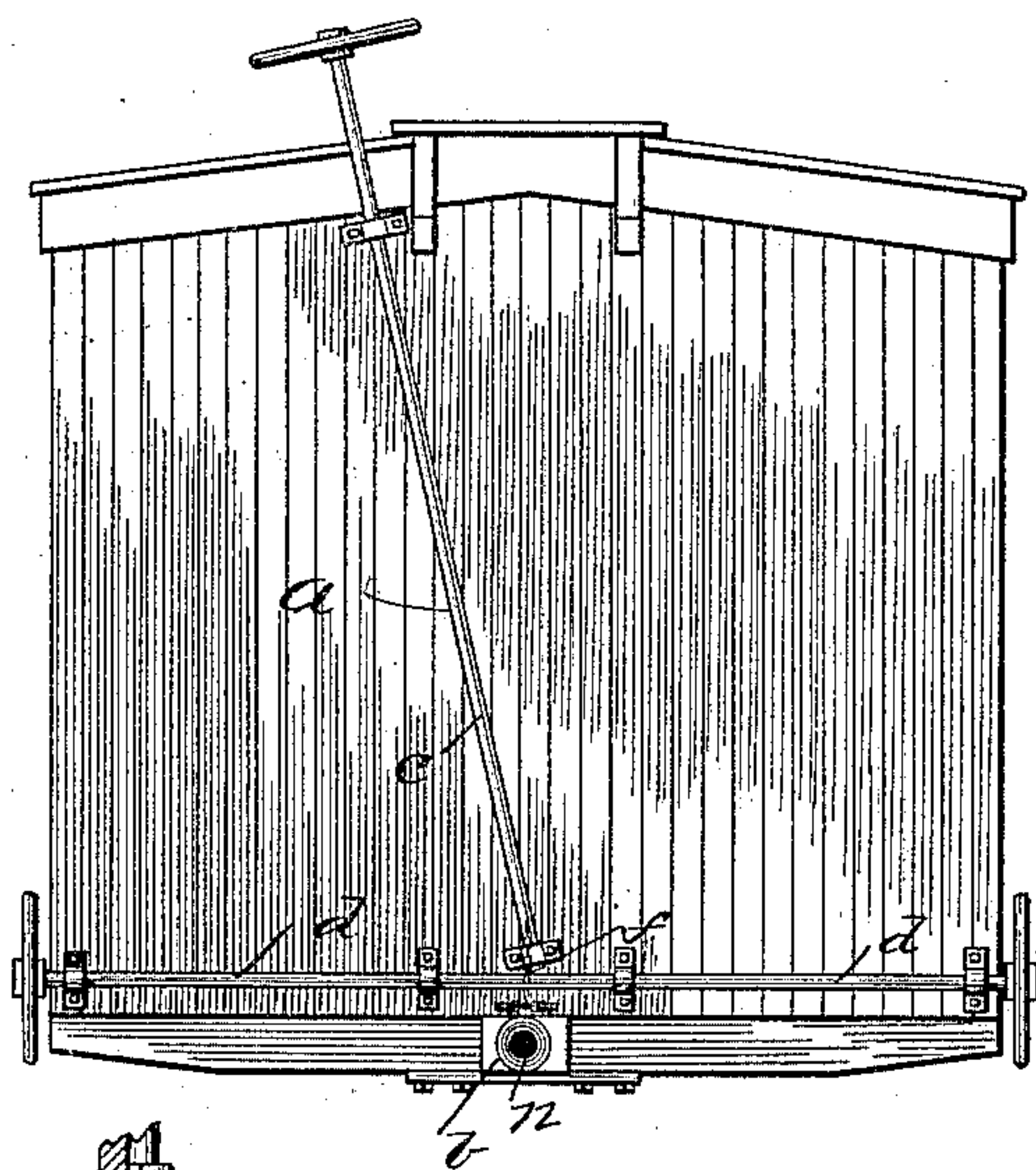


Fig. 2.

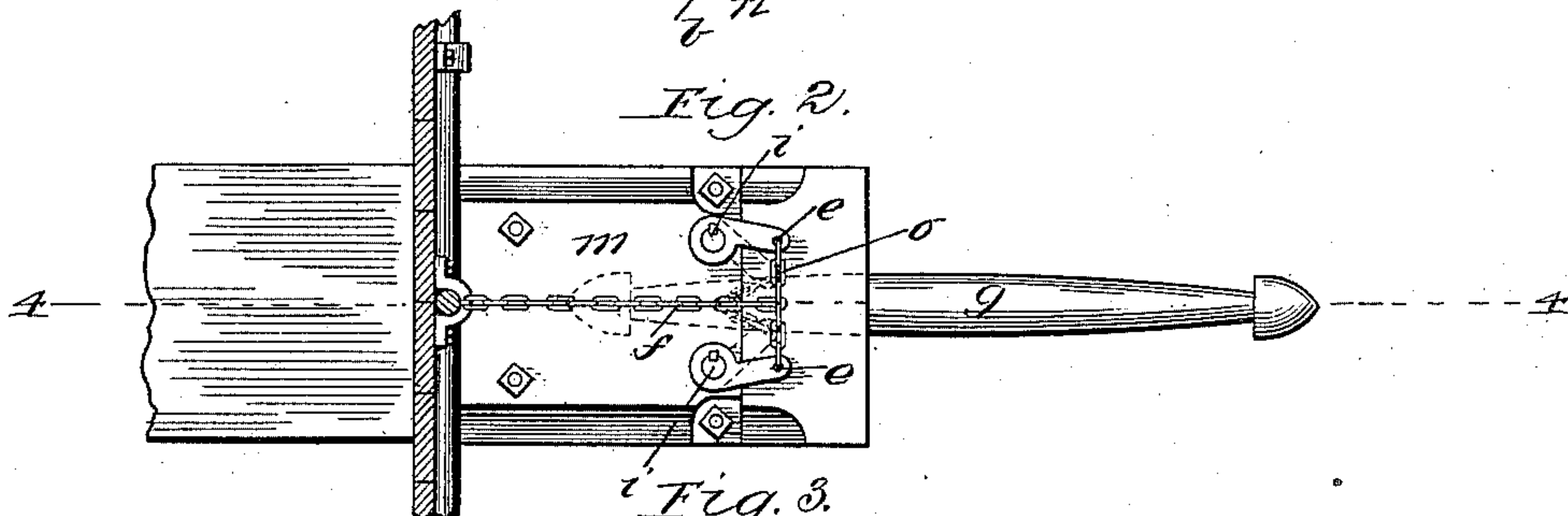


Fig. 3.

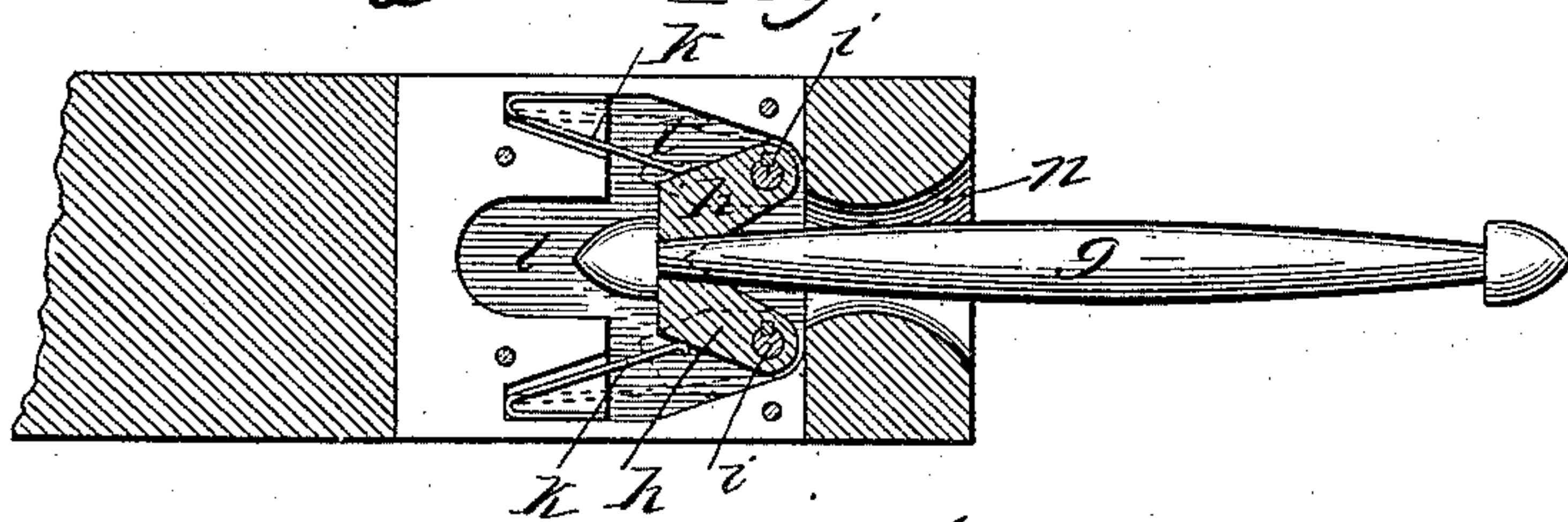


Fig. 4.

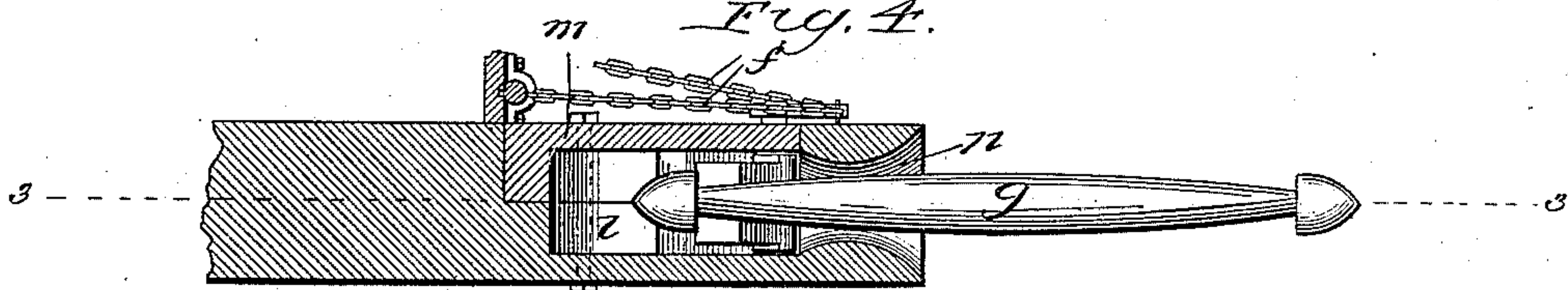
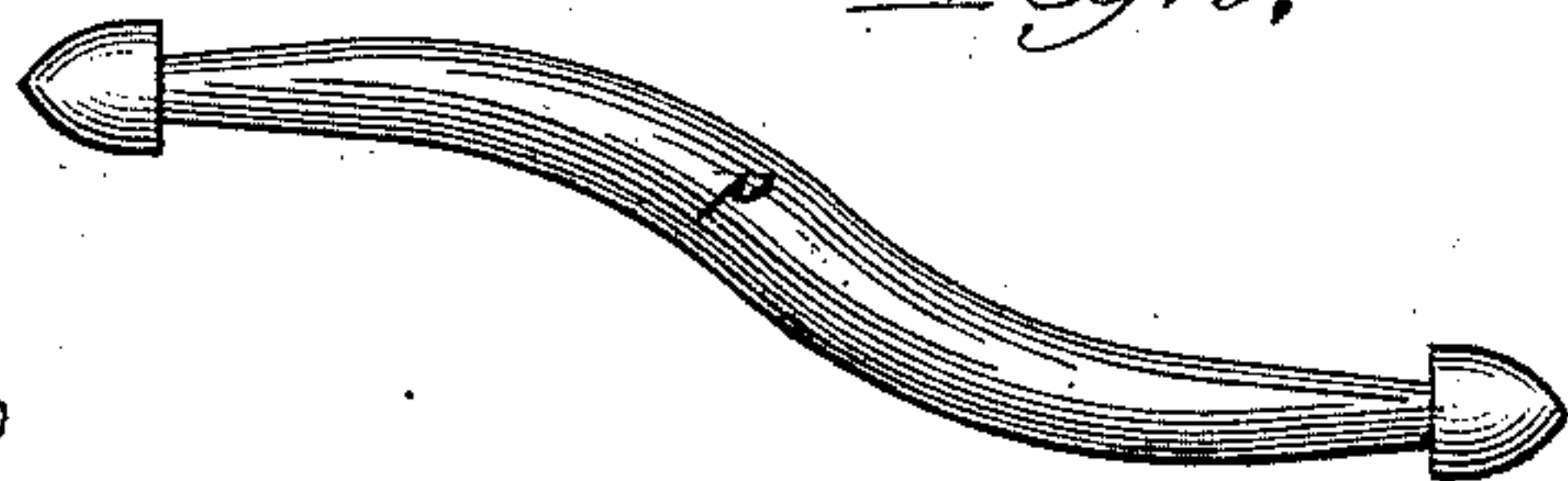


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 401,726, dated April 16, 1889.

Application filed December 27, 1887. Serial No. 259,161. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. BRYANT, a citizen of the United States, residing at Charity, in the county of Moore and State of Tennessee, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to new and useful improvements in car-couplings; and it consists in certain peculiarities of the construction and arrangement of the same, as will be hereinafter more fully set forth, and specifically claimed.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it.

The objects of my invention are, first, to afford an automatic coupling which shall be strong, safe, and reliable in its action, and at the same time adapted to be easily uncoupled without going between the cars, thus avoiding accidents and loss of life, so frequent in the present system of coupling; secondly, to afford facilities for coupling cars of irregular height, and, thirdly, to obviate the use of links. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a car with my device attached. Fig. 2 is a detail plan view of my invention; Fig. 3, a horizontal section on line 3 3 of Fig. 4. Fig. 4 is a longitudinal section on line 4 4 of Fig. 2. Fig. 5 is a modification.

In the drawings, *a* represents the end of an ordinary freight or box car; *b*, the draw-head, which is made of iron, and is secured to the car in the usual manner. *c* is a vertical rod to be used when it is desired to uncouple from the top of a car.

d is a horizontal rod to be used in uncoupling from the ground or the side of the cars. These rods are secured to the car by ordinary eyebolts or otherwise, and are connected or joined to cranks *e e* (which form a portion of my uncoupling device) by means of chains *f*.

g is a pin, made of suitable material, length, and size, and provided at each end with a tapering or conical-shaped head, as seen in the drawings. In Fig. 5 I have shown a modified

form of this pin, which I may use in coupling cars of irregular height.

h h are clutches rigidly secured to the crankshafts *i i* and adapted to engage with the pin-head, as will be presently explained.

k k are springs secured at one end to the side of the recess *l* in the draw-head. The other end of each spring is slightly bent, so as to permit of free action, and impinges with the outside of the clutches *h h*, as will be more readily understood by referring to the drawings Fig. 3.

m is a removable plate secured to the draw-head just back of the flaring opening *n* and above the recess *l* by means of screw-bolts or otherwise, and which may be removed when it is desired to repair or replace the springs or clutches.

It will be seen in Figs. 3 and 4 of the drawings that I form the draw-head with the usual flaring opening, *n*, to allow a free insertion of the pin and to permit of lateral motion to the pin when the cars are turning a curve, either of the springs yielding sufficiently to make a very short curve, while the other forces the opposite clutch firmly against the pin behind the head thereof, thus rendering it impossible to become uncoupled. Through suitable holes in the plate *m*, I pass the crankshafts *i i*, to which are firmly secured the clutches *h h*. The lower ends of these shafts are socketed in suitable bearings in the bottom of the recess of the draw-head, and to the upper ends the cranks *e e* are securely attached. As seen in Fig. 2 of the drawings, these cranks are joined together by a chain, *o*, attached to the end of each, which is held taut when the cranks are in their normal position. Midway between the said cranks and to the chain *o*, I attach the chains *f*, which are secured at the other ends to the rods *c* and *d*.

While I prefer to use the form of spring shown in the drawings, it is obvious that a spiral one could be substituted therefor, and that the result would be the same. The rods *c* and *d* are loosely held to the cars, so that when the chains *f* are wound around them and the uncoupling is performed the springs pressing the clutches together will force the

ends of the cranks apart, and thus unwind the chains, leaving the clutches free to grasp the pin when it is again inserted.

The operation of my coupling is very simple and perfectly reliable. The pin is inserted by the operator into the opening of the draw-head and pressed back until its head passes the clutches, which, being held together by the springs, now clasp the pin, holding it in a horizontal position. The cars are then run together and the coupling made in the other draw-head in manner similar to above. To uncouple, it is only necessary to use either of the rods *c* and *d*, which draws the ends of the cranks together and separates the clutches, thus releasing the pin. It will be readily understood that the pin remains in one of the draw-heads, and that no links are required.

The use of the crooked pin *p* is obvious and does not require explanation.

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

In a car-coupling, the combination of the draw-head *b*, having the recess *l*, the flaring opening *n*, provided with a removable plate, *m*, with the clutches *h*, the cranks *e*, having crank-shafts *i*, the springs *k*, the chains *f* and *o*, the rods *c* and *d*, and pin *g*, having a conical-shaped head at each end, all constructed, arranged, and operating substantially as shown and described, and for the purpose set forth.

Dated this 16th day of December, 1887.

JOHN C. BRYANT.

Witnesses:

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