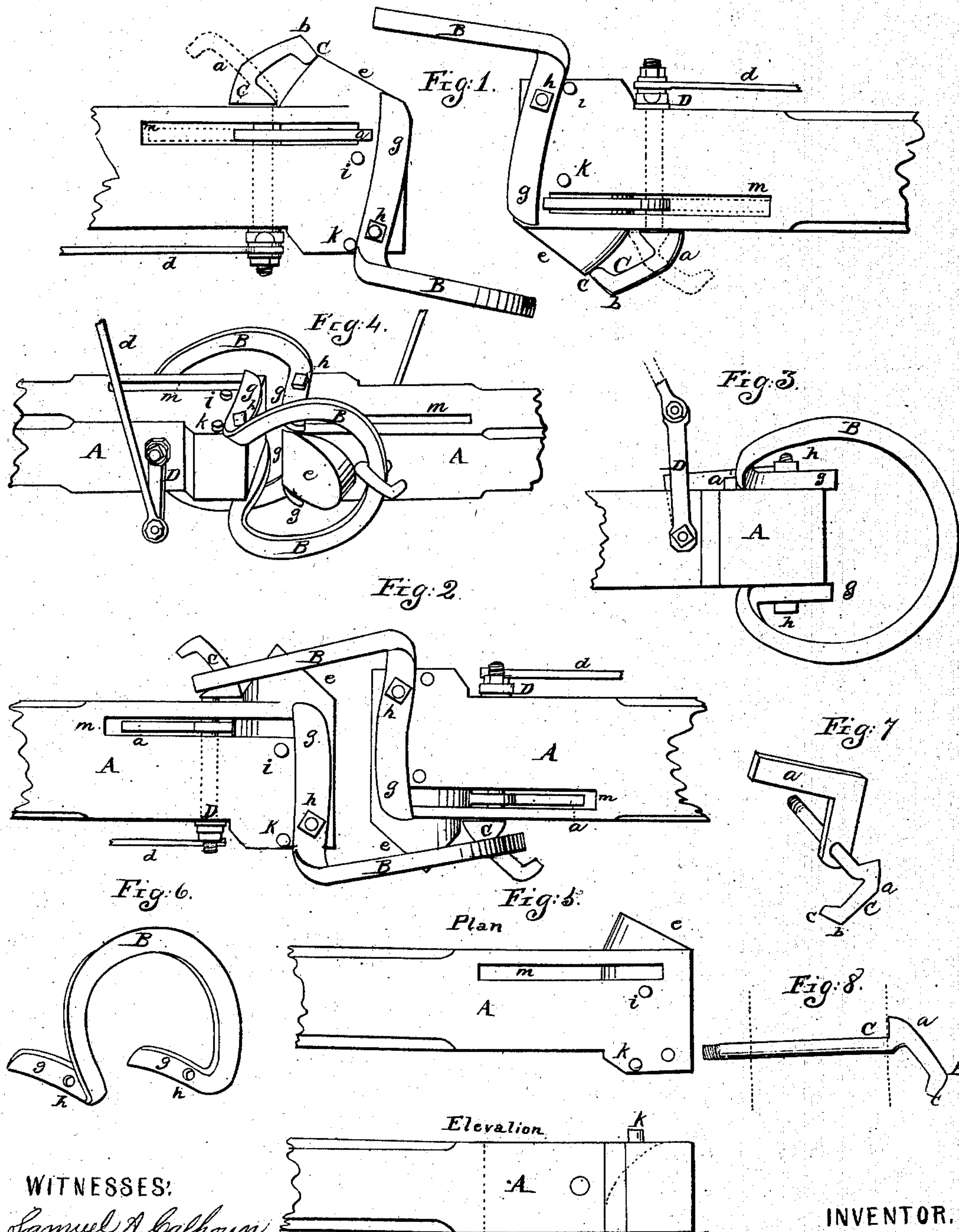


No. 60,384.

PATENTED DEC. 11, 1866.

E. H. KEITH.
CAR COUPLING.



WITNESSES:

Samuel A. Calhoun
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INVENTOR.

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IMPROVED CAR COUPLING.

ELIAS H. KEITH, OF PEORIA, ILLINOIS,

Letters Patent No. 60,384, dated December 11, 1866.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, ELIAS H. KEITH, of the city and county of Peoria, and State of Illinois, have invented a new and useful apparatus for Coupling Cars; I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1, the apparatus before being coupled.

Figure 2 is the apparatus coupled.

Figure 3, longitudinal elevation.

Figure 4, perspective view.

Figure 5, plan and elevation of bumper.

Figure 6, perspective of loop.

Figure 7, perspective of hook and arm.

Figure 8, diagram of hook.

My apparatus consists of a bumping iron, A, six inches deep by ten inches wide, and projecting from car say fifteen inches, provided with a ring or loop, B, having two arms, *g g*, bent so as to form nearly a right angle with the plane of loop, made of wrought iron, say one and a half inches thick by two inches wide; the width being in the plane of the loop, (for strength,) or presenting its thinnest appearance edgewise of loop or perpendicular. The arms, *g g*, of the loop, B, are curved slightly backwards from centre of loop, the size or diameter of ring or loop, B, say fourteen inches, and the arms each about eight inches long, through the arms near the bend are bolt holes, *h*, say one inch in diameter through which the loop is attached to bumper, the loop stands with the plane of its ring nearly parallel with the side of the bumper. One arm resting on upper, and the other on the under surface of bumper. On this bolt, *h*, the loop freely turns, though its motion is checked at certain distances by the stops, *i k*, cast in the bumper. A revolving bolt ending at one side in a hook, C, and having a crank, D, and rod, *d*, at the other end runs through the bumper horizontally, six inches in rear of loop, B, the hook being situated on the opposite side of bumper to the loop, and the point of hook projecting five inches from side of bumper as seen in drawing, the inner angle of hook falls back about one inch behind centre or axis of bolt, the outer end, *e*, of hook turns slightly inwards towards bumper to prevent possible escape of loop, B, the hook of one and a half inch wrought iron, it also has fitted to it at the part of bolt which passes through the mortise, *m*, the revolving bar, *a*, in shape like the letter L, and fixed by one of its points to bolt and prevented from turning on bolt by the bolt having a flattened surface at that part. This reversing bar is made of one inch iron, and is two inches broad at the bolt, and one and a half at the other, this bar is set on bolt at a right angle to the hook, C, and stands perpendicularly when the hook points forwards or to head of bumper, and the outer arm lies horizontally on the bumper in the slot or mortise, *m*, from centre of bolt or hook, C, to angle of reversing bar, *a*, is about four and a half inches and from thence to outer extremity of arm is seven inches, to give the reversing bar play, a mortise is cast in the bumper extending through from upper to lower surface, one and a half inch wide by twelve inches in length, but not allowing the bar to fall through at the end towards head of bumper, where it is desired to be within range of a blow from the arm, *g*, of the loop, B, a crank, D, is fitted on the opposite end of bolt, C, of sufficient strength (with nut,) which stands nearly at a right angle with hook, C, and when said hook points to fore part of bumper, (before coupling,) has about one inch inclination forward towards head of bumper, so that with weight of rod, *d*, the hook may be retained in the proper position for coupling, *i e.* ready for reversing by blow on end of reversing bar, *a*, the crank, D, then falls backwards towards car and then hangs nearly perpendicular, the weight of rod giving it an impetus downward and retains the hook in proper position over loop B. The rod is carried to top of freight car, or to top railing on platform of passenger car, where the rod passes through a ring allowing it free play. It is made of three-quarter inch iron. The face, *c*, to forward part of bumper in front of hook, C, is to guard hook from contact with loop, B, in approaching. The operation of this apparatus is as follows, in fig. 1, the bumper represented approaching the loop, B, being ready for catching on hook, C, the arm, *g*, of loop projecting in front of bumper, receives a blow from the opposite bumper, which reverses the hook, C, over the loop which has just turned into place. The same operation simultaneously takes place with the opposite bumper, thus attaching both hooks and loops and effecting a double coupling. The red lines in fig. 1, show the position of hooks as reversed on attachment or

coupling. The coupling or attachment is shown at fig. 2. These bumping irons have cavities for the reception of link and pin, in case where it is necessary to attach the bumpers now in use. The advantage of this mode of coupling is the double attachment, so that if the coupling on one side breaks the other is still holding fast. Also the exemption from danger of life and limb in the operation. The breaksman's presence between the cars at the bumpers being needless, as the coupling does its own work. But he is required at the uncoupling of cars, only in this invention, there also exhibiting another advantage as he is not required to go between the cars, but can uncouple them from the top of railing of passenger car or from top of freight car, on uncoupling the rod, *d*, raises the crank, *D*, and reverses the hook, *C*. The arm, *a*, of reversing bar at the same time falls on arm, *g*, of loop, *B*, the hook then points to head of bumper, the point *c*, of hook meeting the outer end of face or incline, *e*, of bumper, the back of hook throwing by its incline or slant the loop, *B*, outwards in receding, and at the same time draws arm, *g*, from under arm, *a*, of reversing bar, allowing same to fall forward into mortise the end resting on edge of mortise, the same operation taking place with regard also to opposite bumper.

I claim

1. The swinging loop *B*, with projections *g*, and limited by stops *i* and *k*, as described and for purpose set forth.
2. The combination of the hook *C*, crank *D*, and rod *d*, and reversing bar *a*, in mortise *m*, or their equivalents, as and for purpose set forth.

ELIAS H. KEITH.

Witnesses:

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