

F. A. KRAUSE.
 CAR COUPLING.
 APPLICATION FILED MAR. 27, 1912.

1,041,488.

Patented Oct. 15, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

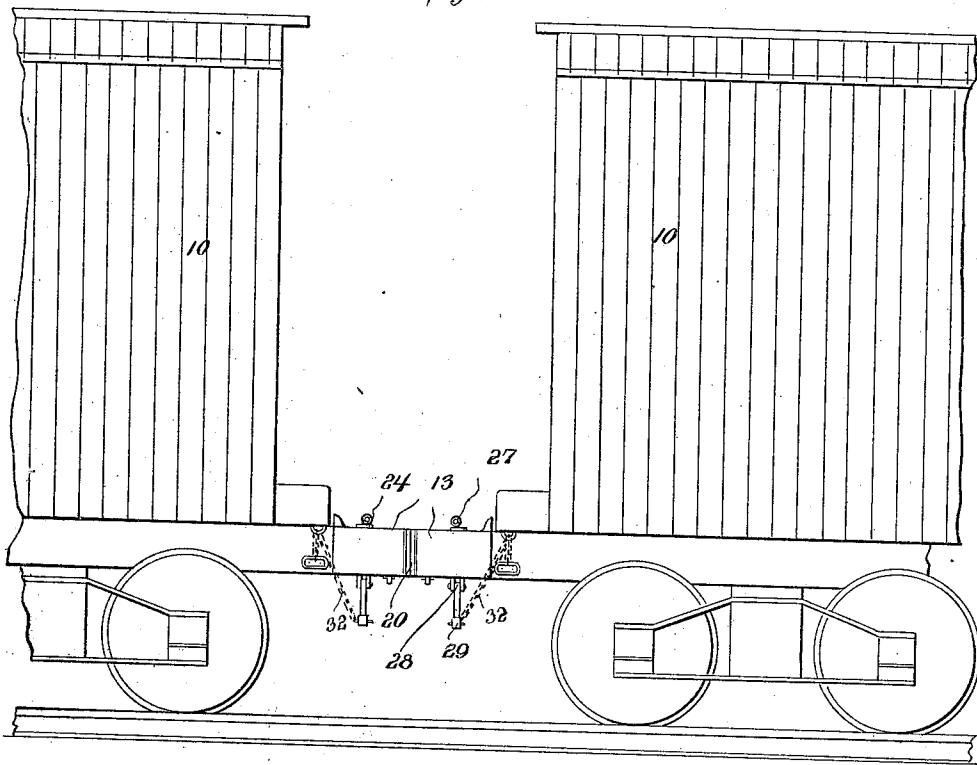
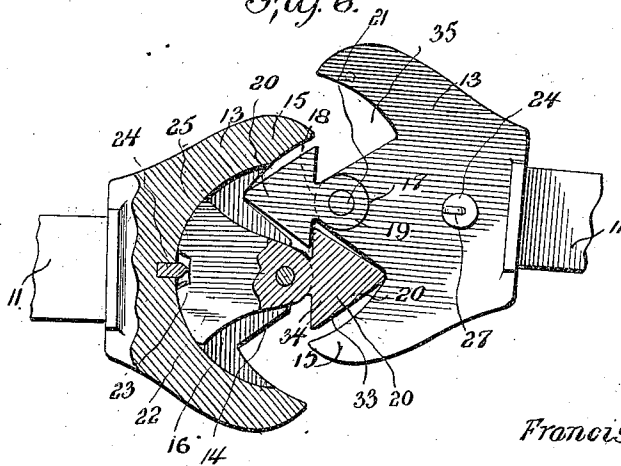


Fig. 6.



Witnesses

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2 SHEETS-SHEET 2.

Fig. 2.

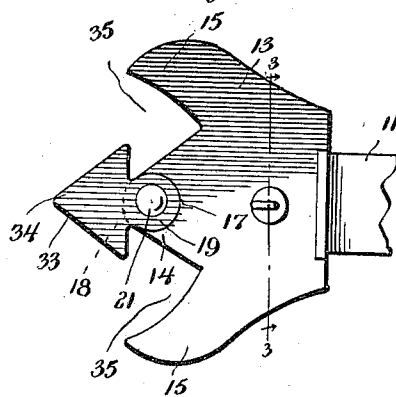


Fig. 4.

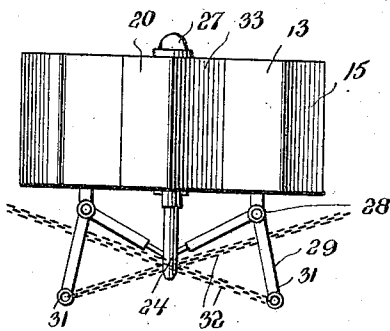


Fig. 3.

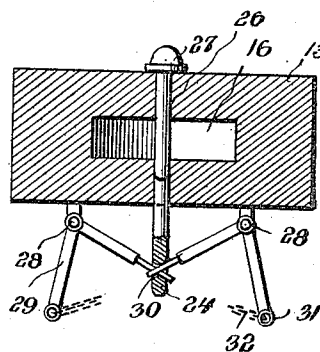


Fig. 5.

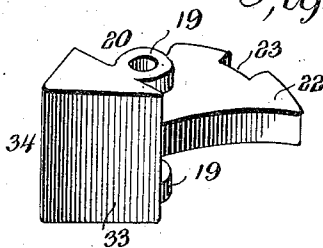
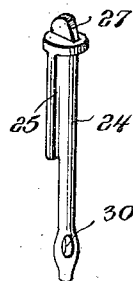


Fig. 7.



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UNITED STATES PATENT OFFICE.

FRANCIS A. KRAUSE, OF HINGHAM, MASSACHUSETTS.

CAR-COUPLING.

1,041,488.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed March 27, 1912. Serial No. 686,537.

To all whom it may concern:

Be it known that I, FRANCIS A. KRAUSE, citizen of the United States, residing at Hingham, in the county of Plymouth and State of Massachusetts, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

The invention relates to car couplings and more particularly to the class of automatic drop pin lock car couplings.

The primary object of the invention is the provision of a coupling in which the locking jaw or knuckle may be reversely swung to either side of the central line of draft of a car thereby permitting the coupling of adjacent cars irrespective of the direction of a curve in the track when the car is thereon within the curve.

Another object of the invention is the provision of a coupling in which a locking pin will automatically drop into engagement with the knuckle or jaw when the latter has become locked with the coupling of an adjacent car thereby obviating the necessity of a trainman going between the adjacent cars for the coupling of the same, thus avoiding injuries resulting therefrom.

A further object of the invention is the provision of a car coupling in which the locking pin may be released by a trainman standing at either side of the car, thus avoiding the necessity of a person going between adjacent cars for the uncoupling of the same, and that will permit the joining of the couplings of adjacent cars at either side of the central line of draft of the cars.

A further object of the invention is the provision of a coupling with which adjacent cars may be conveniently and easily coupled without requiring the manual handling of the coupling on either car, and that will prevent the accidental uncoupling of the cars during the travel of the same, in a straight course, or when rounding a curve in the track.

A still further object of the invention is the provision of a coupling which is simple in construction, reliable and efficient in operation, strong, durable and inexpensive in manufacture.

With these and other objects in view the invention consists in the construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, and

pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a fragmentary side elevation of adjacent cars showing the couplings constructed in accordance with the invention thereon and connected. Fig. 2 is a top plan view of one of the couplings. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is an end elevation of the coupling. Fig. 5 is a perspective view of the locking jaw of the coupling removed. Fig. 6 is a plan view of a pair of couplings connected one of the same being shown partly in section. Fig. 7 is a perspective view of the locking pin removed from one coupling.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings by numerals 10 designates the respective ends of adjacent cars which may be of any ordinary well-known construction and are adapted to be connected by means of couplings hereinafter described.

Each coupling comprises a draw bar 11 which is mounted beneath the end platform of a car end 10 in any approved manner and is formed at its outer end with a coupling head 13 the same being formed with intermediate and outer V-shaped stationary jaws 14 and 15 respectively. The intermediate jaw 14 is of greater width than the outer jaws 15 and is formed with a central bifurcation providing a guide opening or recess 16 which intersects the outer jaws 15 for a predetermined distance for a purpose presently described.

In the intermediate jaws 14 at opposite sides of the slot or recess 16 therein and in outer faces thereof are formed counter seats 17 providing ears 18 and in these seats 17 are engaged ears 19 on a swinging locking knuckle or jaw 20, the said ears 18 and 19 being formed with suitable alining perforations receiving a pivot pin 21 thereby hinging the knuckle or jaw 20 to the head. Formed on the knuckle or jaw 20 is a sector-shaped wing 22 which projects into the slot or recess 16 and is adapted to arcuately move therein, the wing being formed in its free edge with a medial notch 23 to receive a locking element presently described.

The locking element comprises a pin 24 the inner portion of which is substantially

triangular-shaped in cross section while its outer portion is reduced with respect thereto and is of substantially circular-shape in cross section, the inner portion being formed
 5 with a chisel-like edge 25 serving as a locking lip to engage in the notch 23 in the wing 22 of a turning knuckle or jaw 20, and this pin is slidably engaged in a vertical opening 26 formed in the coupling
 10 head 13 and intersecting the slot or recess 16, so that on the lowering of the said pin 24 its locking lip or chisel edge 25 will automatically enter the notch 23 when the knuckle or jaw 20 has been shifted to bring
 15 the wing 22 in axial alinement with the draw bar 11 thereby locking the said turning knuckle or jaw 20 against movement.

Formed on the upper end of the locking pin 24 is an eye 27 to which may be connected any suitable device for effecting the raising of the pin or to permit the manual raising thereof when desired. The locking pin 24 is of a length greater than the depth
 20 of the head 13 so that its lower end will protrude beyond the bottom face to the said head to be engaged by a raising or lowering device presently described. Formed on the under face of the head 13 are bearings 28 in which are pivoted reversely swinging substantially bell-crank shaped arms 29 each
 30 having one limb loosely passed through a slot or opening 30 formed in the lower end of the locking pin 24 while its opposite end is provided with an eye 31 to which is connected a pull chain 32, the chains 32 being
 35 extended through suitable guide members on the end of the car body 10 in a lateral direction and terminated at opposite sides of the car so that a trainman may grasp either
 40 of the chains 32 and on pulling upon the same cause the raising of the locking pin 24 for releasing the knuckle or jaw 20 of the coupling without requiring or necessitating the trainman going between the cars
 45 when coupled for the uncoupling thereof, thereby avoiding injury resulting therefrom.

The knuckle or jaw 20 is formed with reversely beveled side faces 33 to provide an arrow-shaped head 34 adapted for locking
 50 engagement with a similarly shaped head of a swinging knuckle or jaw in the coupling on an adjacent car. The intermediate and outer jaws 14 and 15 are spaced from each other to provide recesses 35 at opposite sides of the central line of draft, the
 55 recesses being adapted to receive the arrow-shaped head in the coupling of an ad-

jacent car for the connecting of the two cars. It is evident that irrespective of the angular position of the knuckles or jaws 60 20 in the heads 13 of adjacent couplings the beveled side faces 33 of the said jaws or heads will contact with each other on the coming together of the car ends and thereby each be directed into either of the recesses 65 35 in the heads 13 for locking engagement of the said swinging jaws, the knuckles or jaws 20 when engaged with each other being locked automatically by the locking pins 24 which are designed to drop into engagement in the notches 23 in the wing 22 of
 70 the said swinging knuckles or jaws thus securely coupling the cars.

From the foregoing description, taken in connection with the accompanying drawings, it is thought that the construction and operation of the invention will be clearly understood, and therefore, a more extended explanation has been omitted.

What is claimed is:—

1. A car coupling comprising a head having intermediate and outer substantially V-shaped stationary jaws, a swinging knuckle pivoted to the intermediate jaw and automatic locking means for coöperation with
 85 the knuckle to sustain the same immovable when in one position.

2. A car coupling comprising a head having intermediate and outer substantially V-shaped stationary jaws, a swinging knuckle pivoted to the intermediate jaw, automatic locking means for coöperation with the
 90 knuckle to sustain the same immovable when in one position, and an arrow-shaped head formed on the knuckle.

3. A car coupling comprising a head having intermediate and outer substantially V-shaped stationary jaws, a swinging knuckle pivoted to the intermediate jaw, automatic locking means for coöperation with the
 100 knuckle to sustain the same immovable when in one position, an arrow shaped head formed on the knuckle, means for releasing the locking means, the said head being formed with recesses between the stationary jaws and adapted to receive the
 105 head of the knuckle of an adjacent coupling.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS A. KRAUSE.

Witnesses:

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 CHARLES F. KELLY.