

T. C. NATION.
MINE CAR COUPLING.
APPLICATION FILED DEC. 24, 1907.

908,880.

Patented Jan. 5, 1909.

Fig. 1.

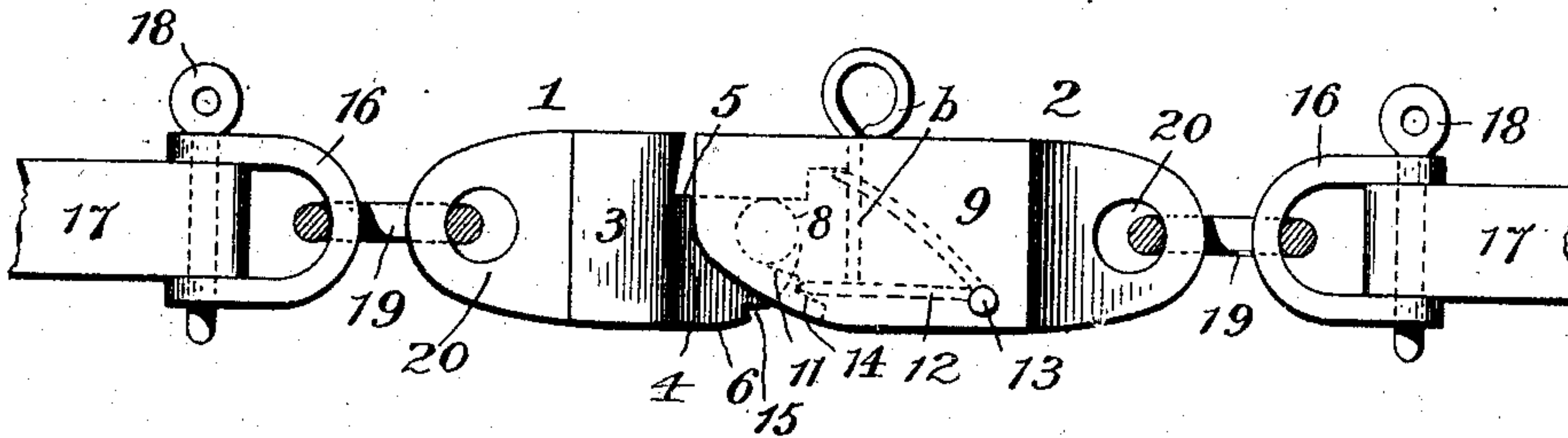


Fig. 2.

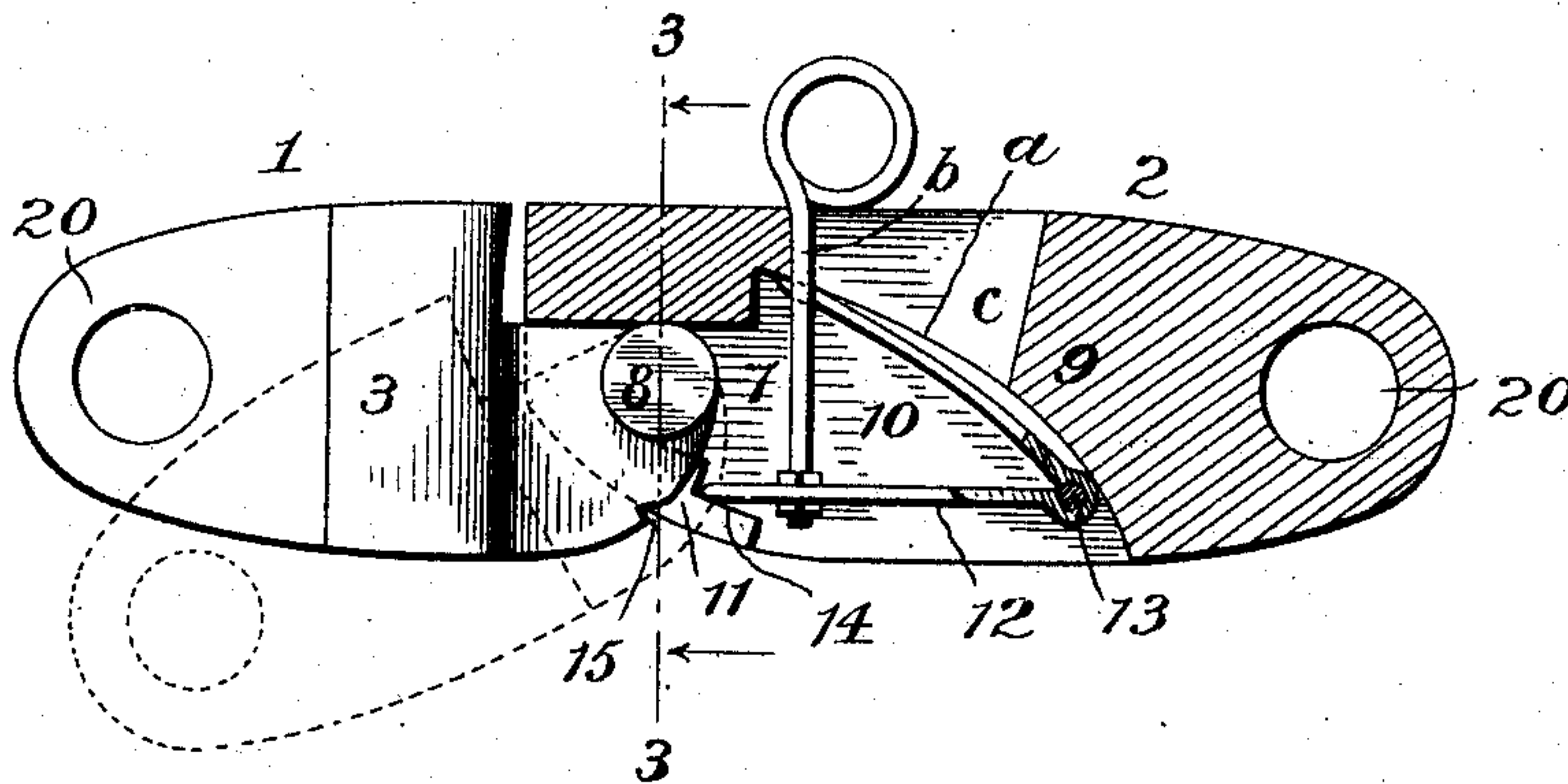
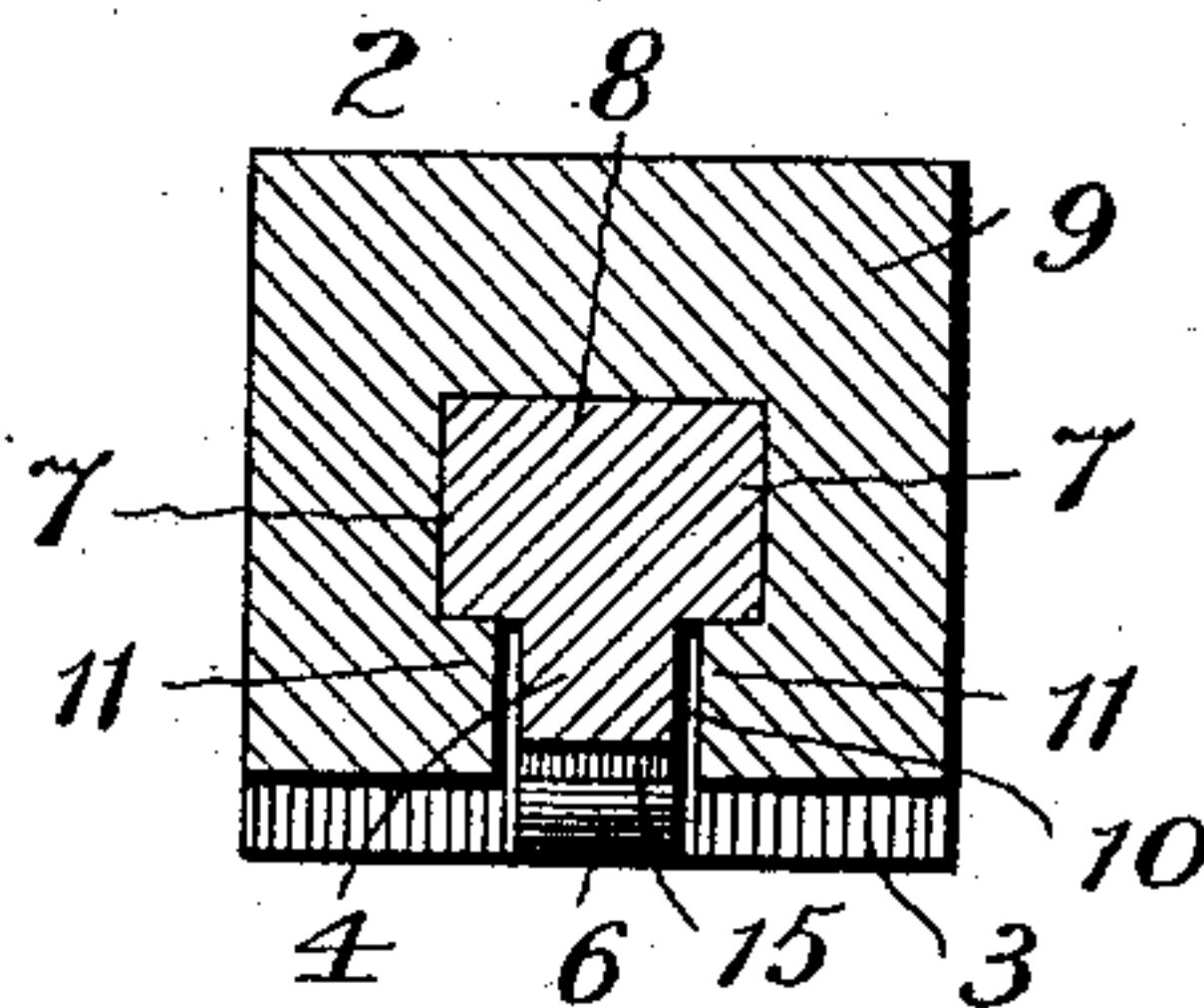


Fig. 3.



Witnesses:

James Hutchinson:
Geo. D. Riley.

Inventor:

Thomas C. Nation.
By Joseph H. Hunter, Attorney:

UNITED STATES PATENT OFFICE.

THOMAS C. NATION, OF EQUALITY, ILLINOIS.

MINE-CAR COUPLING.

No. 908,880.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed December 24, 1907. Serial No. 407,911.

To all whom it may concern:

Be it known that I, THOMAS C. NATION, a citizen of the United States, residing at Equality, in the county of Gallatin and State of Illinois, have invented certain new and useful Improvements in Mine-Car Couplings, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention relates to improvements in car couplings and aims to produce a simple, safe and efficient device designed principally for use with mine cars or the like.

The invention comprehends the use of two main coupling members adapted to interlock, and important novel features of the invention reside in the special construction and coöperation of said members and in the particular means for connecting the same with the cars to allow for the sharp bends and varying grades common to mine roadways.

One embodiment of the invention comprises the particular construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings and particularly pointed out in the appended claims.

In the drawings: Figure 1 is a side elevation of the couplers in interlocked relation, Fig. 2 is a similar view showing one of the couplers in section, Fig. 3 is a transverse section taken on the line 3—3 of Fig. 2.

Referring more particularly to the drawings, wherein like reference characters designate corresponding parts throughout the several views, 1 and 2 designate the main members of the coupling, said members being adapted to interlock one with the other. The member 1 includes a body portion 3, forwardly projecting from which along the central longitudinal line thereof is a reduced neck portion 4, which extends upward from the bottom of the body portion and terminates short of the top thereof. This neck portion 4 has a substantially straight flat horizontal upper surface 5 and a lower surface 6, the surface 5 rounding into the surface 6 at the forward end of the neck and the surface 6 extending from such point downwardly in a curve to the bottom of said body portion. Extending from opposite sides of the neck at the forward upper extremity thereof are cylindrical projections, the front and upper surfaces of which extend flush with the adjacent top and forward surfaces of the neck to form a head 8. The member 2

includes a body portion 9, which is hollowed out from its under side to provide a recess 10 for the reception of the head 8, said recess being so made as to permit the head to be fitted therein from the under side of said member. The recess 10 extends, from a point intermediate the ends of the member, through to one end thereof and projecting inwardly from the side walls of the recess are curved ribs 11, which extend along the front of the recess and constitute in effect hooks to be engaged by the projection 7 of the head 8.

The members are adapted to be interlocked by arranging the member 1 at substantially right angles to the member 2, inserting the head 8 within the recess to engage the rear ends of the ribs 11 and then swinging upward and moving forward the member 1 into longitudinal alinement with the member 2. The members are formed complementary to each other to permit of this positioning thereof and so that when they are brought into alinement, the tops of the body portions will be level with each other and the upper forward faces *a*, *a'* being oppositely disposed. The portions *a*, *a'* are adapted to abut to limit the downward vertical movement of the forward ends of the members when in engagement and said portions *a*, *a'* are normally held in engagement and the members in alinement by the weight of the same. In this connection it is to be noted that the front surface of the body portion 1 is curved inwardly from its ends toward its center and the lower front end of the member 2 is curved on substantially the same arc as the curve of the front surface of the member 1. The height of the recess 10 at the forward end of the member 2 is about equal to the height of the neck 4, and the distance between the ribs 11 is slightly larger than the width of said neck.

It is to be noted that while the members may be readily connected or detached, the accidental uncoupling of the same is extremely unlikely for the reason that it is necessary that they assume a position substantially at right angles to each other and any tendency of this nature is counteracted by the weight of the members tending to keep them in horizontal alinement. It is further to be noted that by having the recess open from the under side of the member 2, dirt from the cars will not collect therein.

In order to maintain the head 8 at the forward end of the recess when the members are

interlocked, I employ a vertically swinging keeper 12, consisting of a flat spring mounted in the recess and having one end bearing against the downwardly curved top wall *a* of the recess 10 and secured by a transverse pin 13, the other free end of the spring normally resting upon seats 14 and extending across the recess. The keeper is adapted to be swung upward in the recess to permit of the ready withdrawal of the head 8 from the forward end thereof and for this purpose I provide an operating rod *b* which is secured to the forward end of the keeper and projects upwardly through a slot *c* in the body 2, a short distance above the top thereof. Any convenient operating mechanism may be connected with the upper end of the operating rod, which is provided with an eye at its upper end for this purpose. It is also desirable to limit the vertical swinging movement of the members relative to each other and with this idea in view I provide the head 8 with a stop shoulder 15, which extends transversely thereof and is adapted to be engaged by the front edge of the keeper.

The means for connecting the coupling members with the cars include horizontally swinging clevis loops 16, which are secured to draw bars 17 by removable clevis pins 18, and links 19 passing through eyes 20 formed at the rear end of the coupling members. As will be understood this arrangement permits of the vertical and horizontal lateral adjustment of the coupling relative to the cars to allow for sharp bends and varying grades of the roadway, and a vertical swinging and lateral swinging movement of the members in coupling and uncoupling the same.

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

1. A coupling comprising two vertically swinging members adapted to be interlocked by being engaged at an angle to each other and then brought into longitudinal alinement, said members having portions to engage each other when the members are in alinement in interlocked relation and said members being so arranged that the weight of the same will tend to maintain said portions in engagement and the members in interlocked relation.

2. A coupling comprising two angularly locking separable members, one of said members being provided with a recess opening downwardly from the under side thereof and having a seat at the forward end of the recess, and the other member having a head

to be fitted in the recess of the other member from the under side thereof and to be moved forwardly in said recess to engage the seat, and a keeper to normally extend across the recess in the rear of the seat, said keeper serving to limit the swinging movement of the members relative to each other.

3. A coupling comprising two angularly locking separable members, one of said members being provided with a recess opening downwardly from the under side thereof and having a seat at the forward end of the recess, and the other member having a head to be fitted in the recess of the other member from the under side thereof and to be moved forwardly in said recess to engage the seat, and a keeper to normally extend across the recess in the rear of the seat, the forward end of the keeper being adapted to engage a transverse groove in the head of one of the members to limit the swinging movement of the members relative to each other.

4. A coupling comprising two angularly locking separable members, one of said members being provided with a recess opening downwardly from the under side thereof and having a seat at the forward end of the recess, and the other member having a head to be fitted in the recess of the other member from the under side thereof and being moved forwardly in said recess to engage the seat, and a keeper to normally extend across the recess in the rear of the seat, said keeper being provided with an operating rod extending through a slot in said member to the upper side thereof.

5. A coupling comprising two members adapted to be interlocked, one of said members being provided with a recess opening downwardly from the under side thereof and with curved ribs projecting from opposite sides of the recess and extending along the front thereof, the other member being provided with a reduced neck having cylindrical projections extending from opposite sides thereof, the forward end of said neck being adapted to be fitted in the recess of the other member in the under side thereof to engage the projections with the curved ribs, and a spring keeper to normally extend across the recess in rear of the neck and serving to limit the swinging movement of the members relative to each other.

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

THOMAS C. NATION.

Witnesses:

DEANA MASON,
J. W. HALEY.