

J. L. DUNCAN.
Car-Couplings.

No. 142,998.

Patented September 23, 1873.

Fig. 1

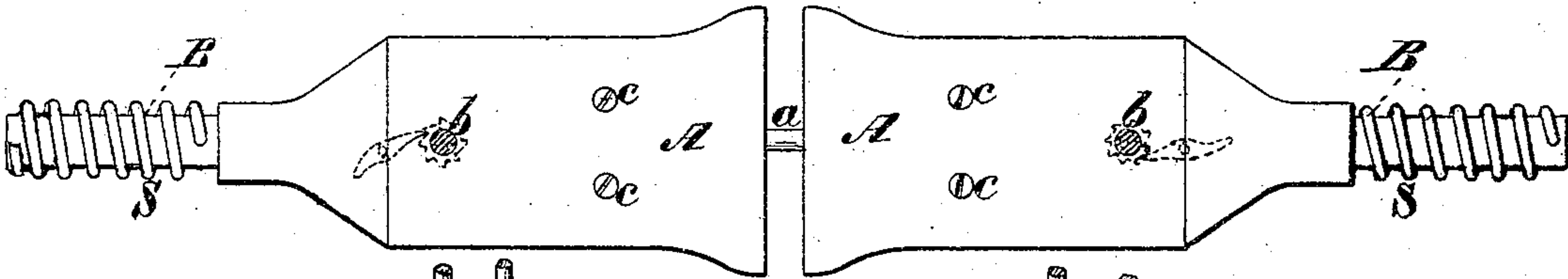


Fig. 2

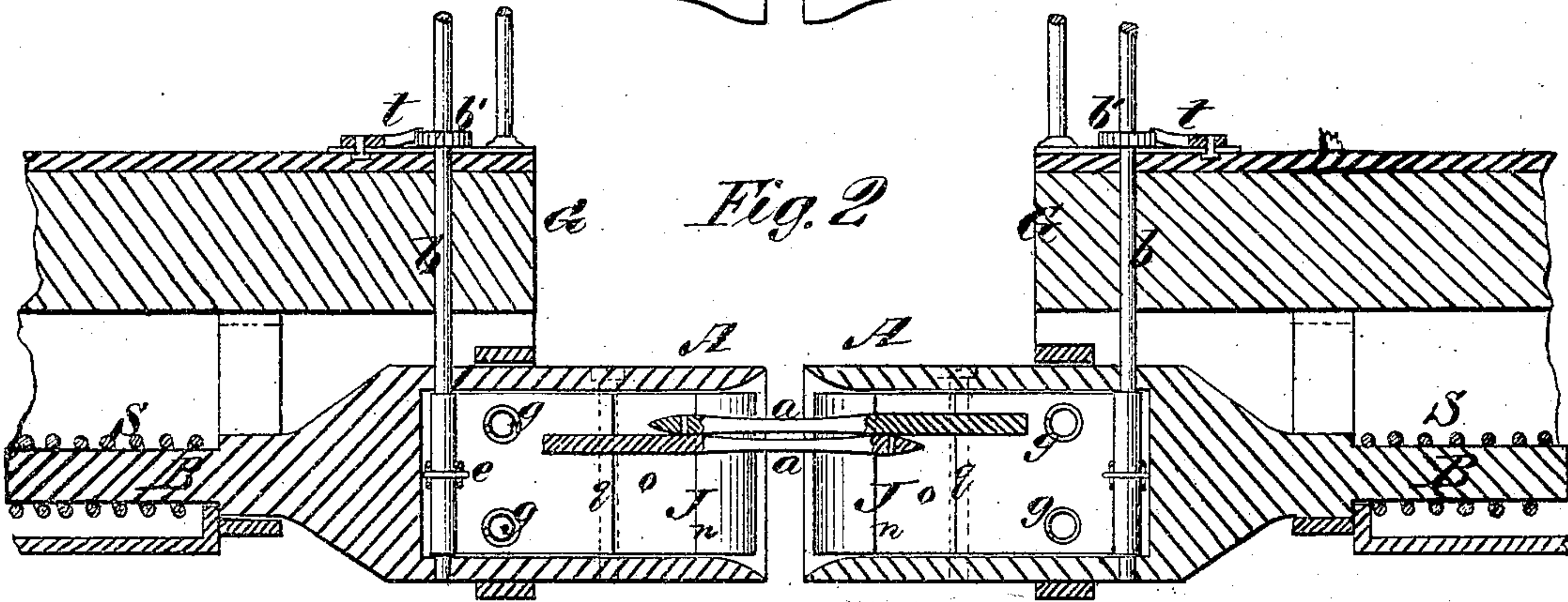


Fig. 3

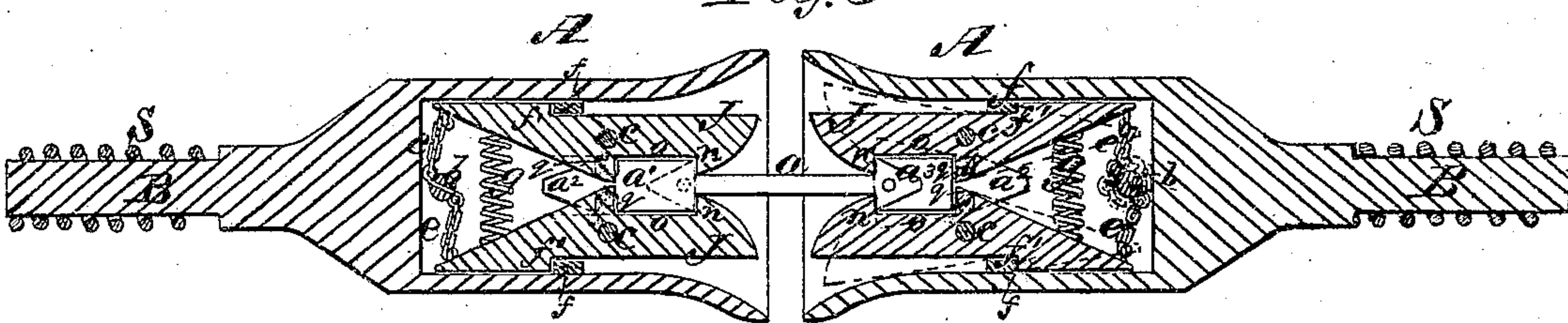
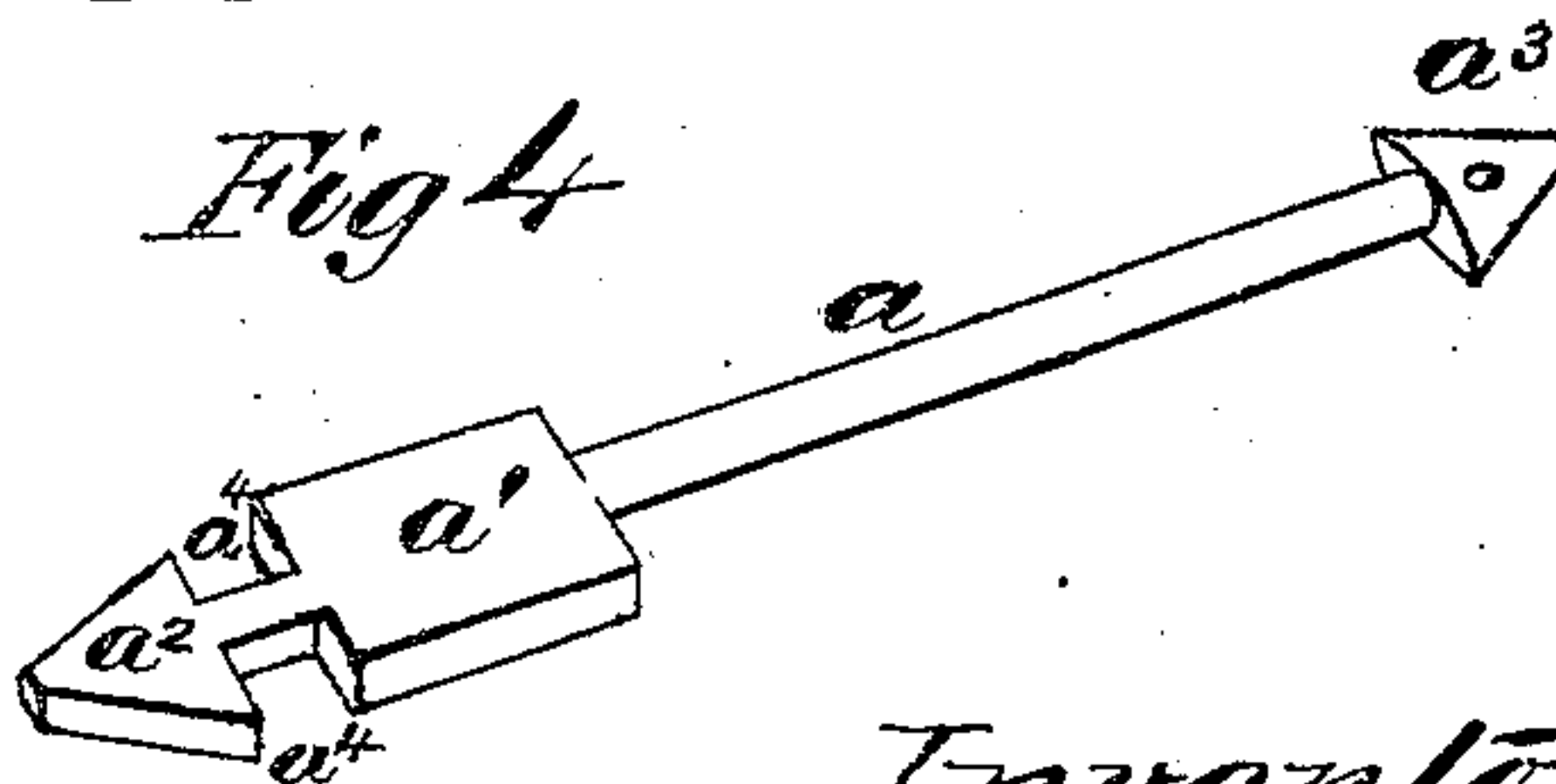


Fig. 4



Witnesses.

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Attest, I am a Notary Public in and for the State of New York.

UNITED STATES PATENT OFFICE.

JACOB L. DUNCAN, OF FREMONT, OHIO.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **142,998**, dated September 23, 1873; application filed June 28, 1873.

To all whom it may concern:

Be it known that I, JACOB L. DUNCAN, of Fremont, in the county of Sandusky and State of Ohio, have invented a new and Improved Car-Coupling; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a top view of the coupling. Fig. 2 is a section taken vertically and longitudinally through the coupling applied to car-platforms. Fig. 3 is a section taken horizontally through the coupling. Fig. 4 is a perspective view of one of the coupling-pins.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements on self car-couplers for railroad-cars, wherein spring-jaws are applied in the coupling-heads or buffers, so as to spring open and receive between them arrow-pointed coupling-bars when cars are brought together, said jaws being provided with uncoupling-rods, which extend up through the car-platforms, and have pawls and ratchets for holding the jaws apart, when necessary. My object is to provide the jaws of each coupling-head with an arrow-pointed coupling-rod, which is permanently but not rigidly applied between the jaws, as will be hereinafter explained; also, to provide for coupling cars of different heights without readjusting the coupling-rods.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawings, A A represent two coupling-heads or buffers, which are constructed with rear reduced extensions B B, for receiving springs S S, that allow the necessary elastic endwise play to the heads. The heads are applied beneath car-platforms G G, in the usual well-known manner. Each coupling-head A is recessed to receive two laterally-vibrating coupling-jaws, J J, which are connected to their heads by means of vertical pivots *cc*. (Shown in Figs. 1 and 3.) These jaws J J have shoulders *n n* formed on their inner faces, behind which shoulders are vertical recesses *o o*, and behind these latter the tails of the jaws are beveled and receive be-

tween them one or more springs, *g*, and a vertical rod, *b*. The spring or springs *g* act to close the front shouldered ends of the jaws J, and the rod *b*, which can be rotated in its bearings, is connected by chains *e e* to the tails of the jaws for the purpose of opening their front ends to release the coupling-rod *a*. The rod *b* extends up through the platform G, and has a hand wheel or crank applied on its upper end. A ratchet-wheel, *b'*, is also keyed to the rod *b*, with which a pawl, *t*, is made to engage, when it is desired to hold open the coupling ends of the jaws J, to which pawls a suitable spring may be applied, if desired, for keeping it in contact with its ratchet-wheel. The recesses *o o* have, in addition to the shoulders *n n*, two shoulders, *q q*, which receive behind them the arrow-head ends *a²* of a coupling-pin, *a*, and the recesses *o o* receive between them the enlarged quadrangular portions *a¹* of the coupling-pin, between which and the head *a²* is a neck, *a⁴*, as shown in Fig. 3. By these means the coupling-pin is permanently but loosely attached to the coupling-jaws, so that, while it is allowed to receive all the necessary play, it cannot be removed from its place, and while this is the case the coupling-pin will always be held in proper position for effecting a coupling. Each coupling-head A is provided with a coupling-pin, either one or both of which may be used, as circumstances require, and either one or both of which will couple cars whose platforms are of different heights, owing to the vertical depth given to the jaws J J. The coupling-head *a³* of each pin *a* is shaped like an arrow-head—that is to say, it is beveled laterally, so that when cars are brought together such head will of itself spread open the jaws J J, and enter the space formed by the recesses *o o*.

Fig. 4 shows clearly the shape of my coupling-pin *a*. Its arrow-head *a³* has a hole vertically through it, by means of which this end may be coupled to cars wherein the well-known links and vertical pins are used. By winding the chains *e e* upon the rod *b*, and thus opening the coupling ends of the jaws J J, and holding them open by engaging the pawl *t* with ratchet-wheel *b'*, these jaws will not close on the head *a³* of a coupling-pin of another car; and when the jaws of both coup-

ling-heads A A are similarly held open, cars may be backed about on "sidings" in a yard without being coupled together.

It will be seen, by reference to Fig. 3, that ribs *ff* are formed on the vertical inner sides of the coupling-heads, and that shoulders *f' f'* are formed on the outer sides of the jaws J J, which shoulders are behind the said ribs, thus preventing the drawing action on the jaws from straining the pivot-pins *c c*.

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

1. Laterally-movable coupling-jaws J J, piv-

oted at *c c*, and shouldered at *f' f'*, in combination with ribs *ff* on the inner sides of the coupling-head A, for the purpose of relieving the pivots *c c* from drawing strain.

2. The coupling-rods *a*, constructed with heads *a² a³*, short necks *a⁴*, and enlargements *a¹*, and applied to the recessed and shouldered coupling-jaws J J, substantially as and for the purposes described.

JACOB L. DUNCAN.

Witnesses:

JNO. ELWELL,
ORRELL P. I. RARICK.