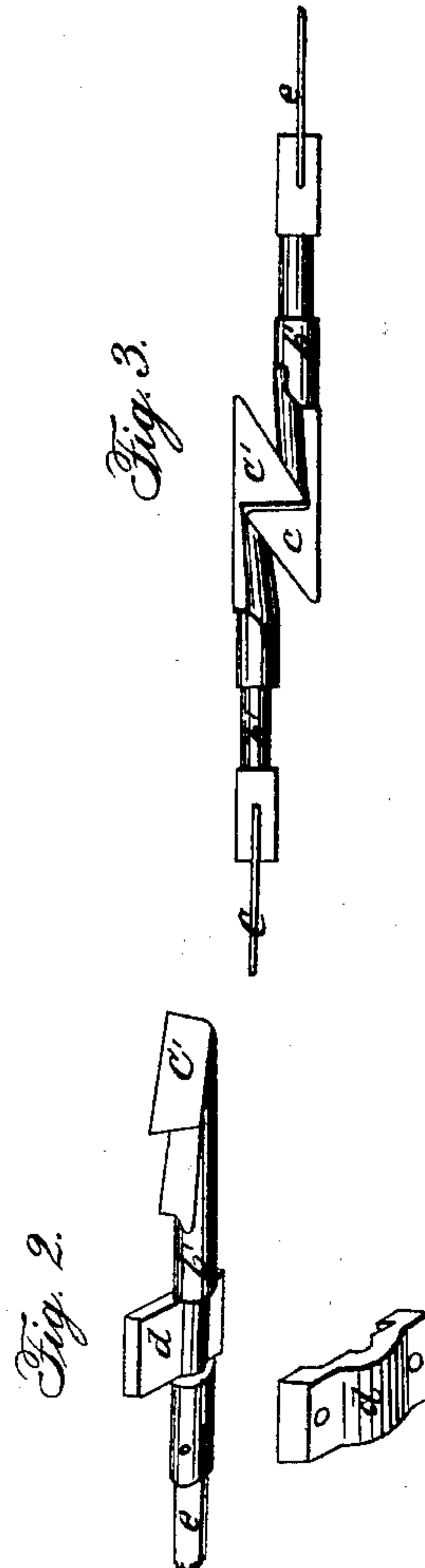
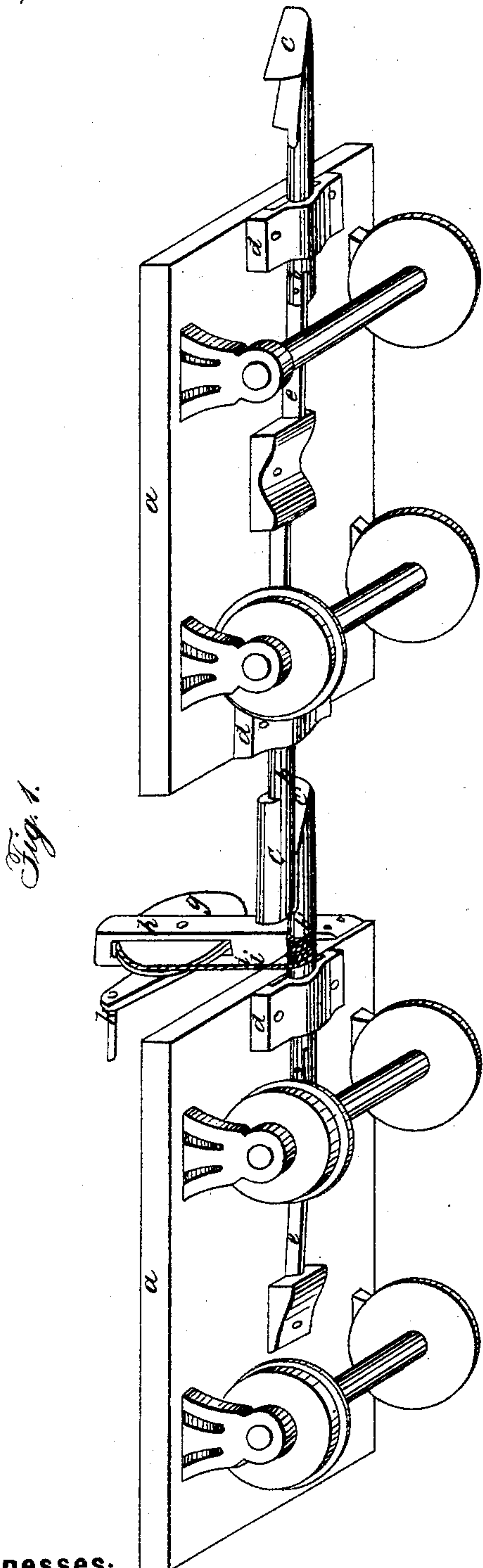


E. L. KEELER.
Car Coupling.

No. 24,938.

Patented Aug. 2, 1859.



Witnesses:

Martin J. Bushing
L. P. Stone

Inventor:

Edward L. Keeler

UNITED STATES PATENT OFFICE.

EDWARD L. KEELER, OF PITTSBURG, PENNSYLVANIA.

CAR-COUPLING.

Specification of Letters Patent No. 24,938, dated August 2, 1859.

To all whom it may concern:

Be it known that I, EDWARD L. KEELER, of
Pittsburg, in the county of Allegheny and
State of Pennsylvania, have invented a new
5 and useful Improvement in Couplings for
Railroad-Cars; and I do hereby declare that
the following is a full, clear, and exact de-
scription thereof, reference being had to the
annexed drawings, forming part of this
10 specification, in which—

Figure 1, is a perspective representation
of the under side of two rail-road trucks
connected together with my improved coup-
ling. Fig. 2 is a representation of one of my
15 coupling shafts, detached from the bottom
of the truck. Fig. 3 is a representation or
top view of two coupling shafts in the posi-
tion they assume when the trucks to which
they are respectively attached are coupled
20 together.

My invention and improvement consists in
the use of beveled head coupling bars of the
peculiar construction hereinafter described
in combination with a spring to each coup-
25 ling bar whereby they are caused to recover
their position for repeated action, and kept
firmly in place in a coupled position, my
improved coupling possessing the following
important characteristics, viz: When two
30 trucks are brought sufficiently near to each
other, the coupling shafts form a locking
connection of themselves, the coupling being
self-acting; that any two cars may be in-
stantaneously uncoupled even when the train
35 is in rapid motion, by simply turning a
winch or handle; that so long as the cars re-
main on the track, the coupling will not be-
come unlocked excepting by the voluntary
act of turning the winch to uncouple the
40 cars, but so soon as any one or more of the
trucks or cars in a train is thrown off the
track, such car or cars immediately become
detached from the train, so that when one
car leaves the track it has no tendency to
45 draw off the car to which it is attached.

To enable others skilled in the art to make
and use my improved coupling, I will pro-
ceed to explain its construction and oper-
ation.

50 In the drawing Fig. 1, *a* and *a'* are two
trucks or cars constructed in the usual man-
ner; *b* *b'* are the coupling shafts which are
attached underneath the car to the platform
or bottom of the frame. The shape of these
55 coupling shafts is seen more clearly in Fig.

3. The head *c* of each coupling shaft pro-
jects beyond the end of the car, and also a
small portion of the rounded part of the
shaft, as seen in Fig. 1. The shaft *b* is fas-
tened to the bed of the car by a journal box
d, the diameter of the journal of the shaft
being less than that of the other parts of
the shaft, so as to form a shoulder on the
shaft on either side of the journal box *d*, and
thus prevent any backward or forward mo-
tion of the shaft. The rear end of the shaft
terminates in a spring *e*, consisting of a bar
of steel which is inserted at one end in the
coupling shaft *b*, while the other extremity
of the spring is fastened in a block *f*. The
7 effect of the spring *e* is to permit the shaft
to rotate partially on its axis in the journal
box *d*, when force is applied to it, and to
cause it to resume a position uniformly the
same when the force is withdrawn. It also
7 prevents the accidental uncoupling of the
cars by the jolting of the train or by any
slight force applied to the heads of the
coupling bars, and renders my coupling su-
perior to those coupling arrangements which
8 depend on gravitation to keep the coupling
heads in their proper position.

A pulley *g*, supported by a frame *h*, is
placed in a suitable position at the end of
the car, and a rope or chain *i*, fastened at
8 one end to the pulley *g*, its other end wound
around the shaft *b*, just back of the head *c*,
of the coupling shaft; so that when the
pulley is turned by the winch or handle *k*,
the coupling shaft is caused to turn about
9 one fourth around on its axis; and as soon
as the winch *k* is released, the spring causes
the shaft to recover its position as before
stated. The head *c*, of the coupling shaft,
is triangular in shape on its upper side, be-
9 ing beveled on one side and terminating in
a point, as seen at Fig. 3, while the under
side is shaped as seen in Fig. 2, being sloped
off in such a manner as that when the two
opposite heads *c* and *c'* of the coupling
1 shafts of two cars come together, the shafts
being unable to yield sidewise, turn each of
them a little on its axis, and thus allow the
heads *c* and *c'* to pass each other, and be-
come locked together, as seen in Fig. 1 and
1 3. Cars and trucks are usually to be fur-
nished with two coupling bars, one project-
ing from each end of the car, but the loco-
motives and cars intended for the end of
trains need have only one. A pulley for 1

turning the coupling shaft and disconnecting the cars should be connected with each shaft, that is, one at each end of every car.

Having thus described the construction of my improved coupling, I will proceed briefly to explain its mode of operation.

It is evident from what has been before stated that when two trucks or cars furnished with my coupling are brought together on the same track, that the shafts *b b'*, will turn sufficiently to allow their heads *c* and *c'* to form a locking connection. Now so long as these two cars remain on the track, this connection cannot be broken, without the turning of one or both of the shafts, which will not occur otherwise than by design, as the spring is strong enough to keep them in place, and prevent their displacement. If however one of the cars should by any accident tilt up so far as to turn over sidewise, there is nothing to prevent the immediate uncoupling of the cars; or if one of the cars runs off the track, the connection will be at once broken, as the

coupling is only effective when both cars 25
to be united are on the track. Thus it is
manifest that in any accident which can
happen to a train, rendering the separation
of the cars advisable, the coupling acts of
itself and releases the cars which remain on 30
the track from those which run off. The
great ease with which the cars may be un-
coupled without any other operation than
a slight turn of the winch *k*, no matter at
what speed the train is running, is a mani- 35
fest advantage in case of impending danger.

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

The combination of a beveled coupling 40
head *c*, shaped substantially as described,
with a spring *e* as a coupling for rail road
cars constructed and arranged in the man-
ner hereinbefore described.

EDWARD L. KEELER.

Witnesses:

MARTIN G. CUSHING,
L. P. STONE.