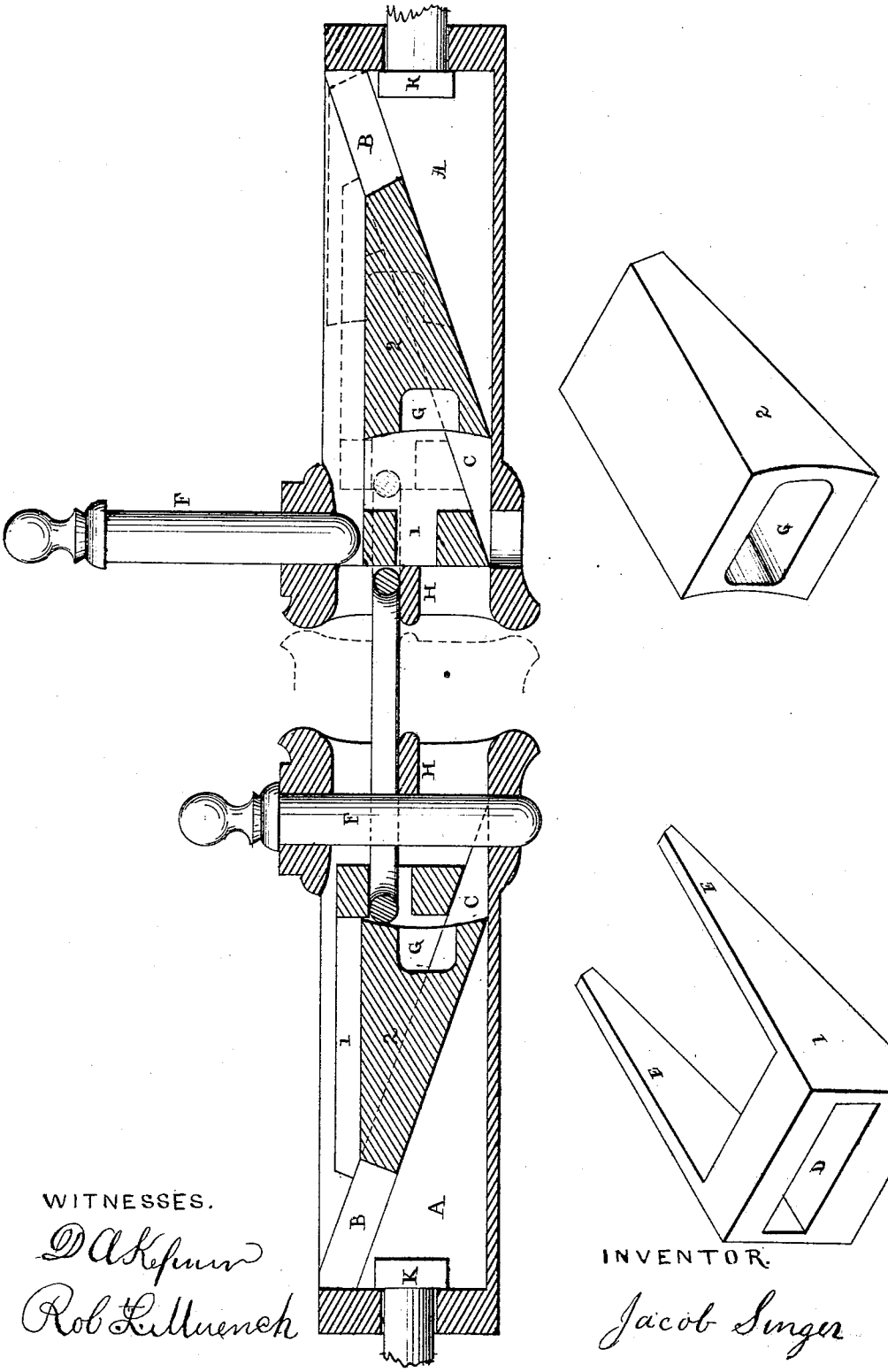
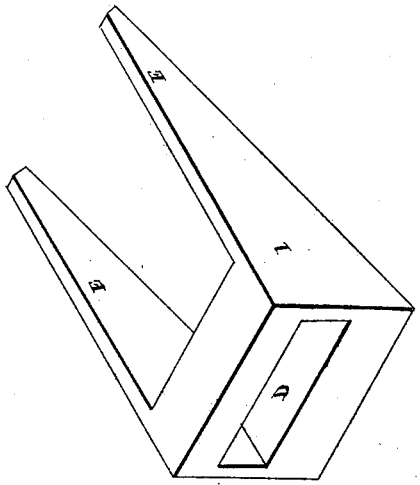
J. SINGER.

Car-Coupling.

No. 166,563. Patented Aug. 10, 1875.





WITNESSES.

D A Kepner

Rob Lellmench

INVENTOR.

Jacob Singer

UNITED STATES PATENT OFFICE.

JACOB SINGER, OF HARRISBURG, PENNSYLVANIA.

IMPROVEMENT IN CAR-COUPLINGS.

Specification forming part of Letters Patent No. **166,563**, dated August 10, 1875; application filed October 16, 1874.

To all whom it may concern:

Be it known that I, JACOB SINGER, of the city of Harrisburg, county of Dauphin and State of Pennsylvania, have invented an Improvement in Car-Couplings, of which the following is a specification:

The object of my invention is to provide a self-coupling draw-head for railroad-cars which shall not only obviate personal risk in making up trains, but which shall also put an end to the usual breakage of coupling-links—a cause of delay, expense, and vexation well known to railroad men.

To this end I attach a narrow right-triangular cheek-plate, marked A in the annexed drawing, to the inner face of each side of the ordinary draw-head frame. These plates are fixed in place point forward, the short side against the rear plate of the frame, and the right angle down. Each cheek-plate is rabbeted on its longer edge from the heel end to within a proper distance of the point, so that a recessed face appears at B B, and two inclined edges are presented upward, the upper one coinciding with the original long edge of the plate, and ending in the bull-nose chamber opposite the coupling-pin, the other coinciding with the rabbet, and terminating at C, the forward end of said rabbet.

In new castings it is obvious that the inclined ways can be formed on the pattern, and made an integral part of the fabric.

I then prepare two blocks or followers, marked 1 and 2 in the drawing, to slide on these inclines. Follower No. 1 is the shell of a wedge with a rectangular base, slotted athwart at D, and two thin triangular sides, E E, so formed and proportioned that when placed on the upper incline of the cheek-plates it shall slide forward to the end of it. In this position the top edge of the follower is parallel with the top edge of the draw-head. The slot in its base is directly in the rear of the cross-bar H, which divides the bull-nose into two nostrils, and the upper edge of the base lies across the range of the pin-hole. If the pin be now thrust into the hole from above it will be stopped by the follower and stand poised, as shown at F. The block-follower No. 2 is in the form of a solid truncated wedge, proportioned like No. 1, but made narrower, being designed to traverse the rabbet incline, and to move freely between the thin triangular sides of the shell-follower. Its base is recessed athwart at G, to admit the entrance of the rounding link-end. It is represented in its normal position in the sectional drawing, the base looking forward, and resting against the rabbet-stop C. When necessary this follower is recessed also at the rear end, so as not to interfere with the working of the bolt-head K.

To meet the strains and jars of service, the cross-bar H, dividing the bull-nose chamber, should be especially strong and durable. I therefore make it of steel or wrought-iron; and instead of perforating it for the pin, as is customary, I extend it no farther than the front line of the hole, as represented in the drawing. It serves thus not only as a re-enforce against sudden jerks, but permits the use or the withdrawal of a bent pin, which otherwise, with three holes in a row, were either tedious or impracticable.

Things being thus arranged, the sectional sketch illustrates the process of coupling at the moment of encounter. The link of the car advancing from the left being held in position, and guided fair by the followers on that side, strikes the shell-follower in the opposite draw-head, which recedes before it up the incline, as shown by dotted lines, until the passage of the link permits the pin to fall into place, and thus effect the coupling. A like process obtains in coupling through the lower nostril of the bull-nose, the movable parts being so formed that the link, when in place, whether above or below, is held level and true by the cross-bar or bottom plate of the bull-nose, the slot or the lower bar of the shell-follower, and the front of the block-follower.

Should the draw-heads meet with a shock, causing an ill-proportioned link violently to forereach, the block-follower not only cushions the blow, but by means of the recess in it guides the link in its advance, and thus effectually prevents breakage. The same object may be attained by substituting a steel spiral or rubber spring in the rear part of the draw-

frame, furnished with a recessed head similar to that of the block-follower, and like provision for the working of the bolt K, against which it would react. The plain block-follower, however, is quite as efficient, more durable, and less likely to get out of order.

I claim as my invention—

1. A triangular shell, No. 1, slotted at D, in combination with the inclined way B, and a yielding auxiliary device beyond to receive the link in case of violent shocks, as and for the purpose described.

2. The block-follower No. 2, in combination with the shell-follower and inclined seat, as and for the purpose set forth.

JACOB SINGER.

Witnesses:
D. A. KEPNER,
ROBT. L. MUENCH.