

X. KRAPP.
Car-Couplings.

No. 146,134.

Patented Jan. 6, 1874.

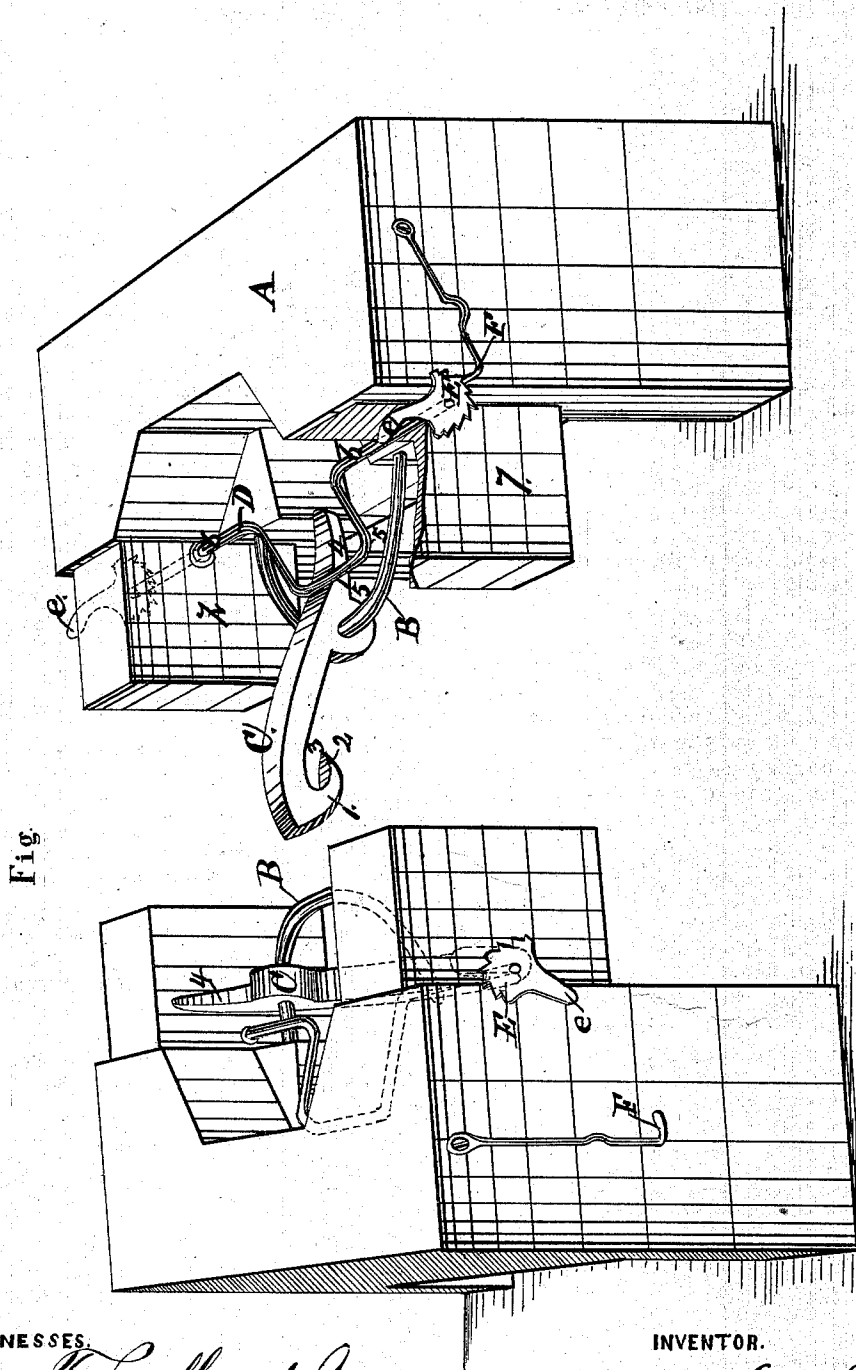


Fig.

WITNESSES.
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his atty.

UNITED STATES PATENT OFFICE.

XAVER KRAPF, OF ALLENTOWN, PENNSYLVANIA, ASSIGNOR TO WILLIAM BALLIET AND SABINA KRAPF.

IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. 146,134, dated January 6, 1874; application filed December 9, 1873.

To all whom it may concern:

Be it known that I, XAVER KRAPF, of Allentown, Lehigh county, State of Pennsylvania, have invented an Improvement in Automatic Car-Couplings, of which the following is a specification:

My improvements consist in a combination of specific devices for effecting the automatic coupling of cars, the combination embracing a coupling lever-hook hung upon the draw-head so as to be free to rise and fall, a crank-lever arranged to be set to hold the hook at any desired degree of elevation, a curved ratchet or ratchets on the axis of the crank-lever as a means for setting the crank, and a pawl for holding these parts in the position to which they are set, the pawl being held in engagement with the teeth of the ratchet by reason of the stress or strain produced by the leverage weight of the coupling-hook, and released and dropping out of engagement by its own gravity when, in the act of coupling two cars, the coupling-hook is raised to engage with the draw-head of the other car.

In the accompanying drawings forming part of this specification, A represents a draw-head having a curved draw-hook or staple, B, on which is hung the lever coupling-hook C. The forward end of this hook has its outward or hook portion made with a downward exterior curve, 1, and an inner curve, 2, the two ending in an upward-rising beak or tip, 3. The other or inward end has an upturned part, 4, adapted to pass within the crank or loop 5 of the crank rod or lever D, and thus to serve to sustain the hook C in any position to which the loop 4 shall have been set. The lever or shaft D has its two ends 6 6, which are in line with each other, project through the beams 7 7 of the draw-head, and on one or both of these ends are screwed arched ratchets E, having handles or arms e, the teeth of the arch being on its under side or downward edge. A hook, F, pivoted on the draw-head, as seen, so as to drop by its own weight when not held up by some power, is adapted to engage with the teeth of the ratchet, and to be held to such engagement when the weight of coupling-hook C, by its pressure upward of the loop 4, strains the engaged tooth against the toothed end of the hook F.

It will now be evident that by these devices the hook 1 2 3 can be set to any proper elevation to adapt it to the coupling of cars whose draw-heads are higher or lower; that the curved or cam-shaped portion 1 of the hook adapts it, when coming in contact with the draw-head, staple, or connection on the car to be coupled, to rise as it moves forward to engage and couple therewith; that when such rise takes place the tip 4 of necessity lowers, and thereby releases its strain or pull on the crank or loop 5, and so disengages the ratchet, (or both ratchets when two of them and two setting-hooks are used,) and permits the setting-hook F to drop.

The tip 4 of hook C is made of such form that after the cars have been thus coupled the loop 5 may not fall off the tip, but remain loosely thereon, so as to be ready to come into use again whenever any subsequent coupling is to be effected.

When two setting-hooks are used, one on each side of the draw-head, it is not necessary to set both in order to set the hook C. It will be sufficient to set one, which will then receive all the strain caused by the weight of the hook C. By having the setting-hooks applied on both sides of the car there is no need of going to the opposite side of the car to set the apparatus, nor between the cars with risk of being crushed. The hook C, being swung upon a curved support, is free to move or swing laterally, and thus adapts it to the motion of the cars when passing around curves. The coupling is also sufficient to permit the backing around any curve.

The handle or lever e on the ratchet E affords a means for actuating the crank 5 to lift the coupler C when the cars are to be uncoupled.

I claim—

The combination of the coupling-hook C, crank-rod D, ratchets E, and drop-hooks F, applied to the draw-head, to operate conjointly substantially as and for the purpose set forth.

XAVER KRAPF.

Witnesses:

JOSHUA STAHLER,
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