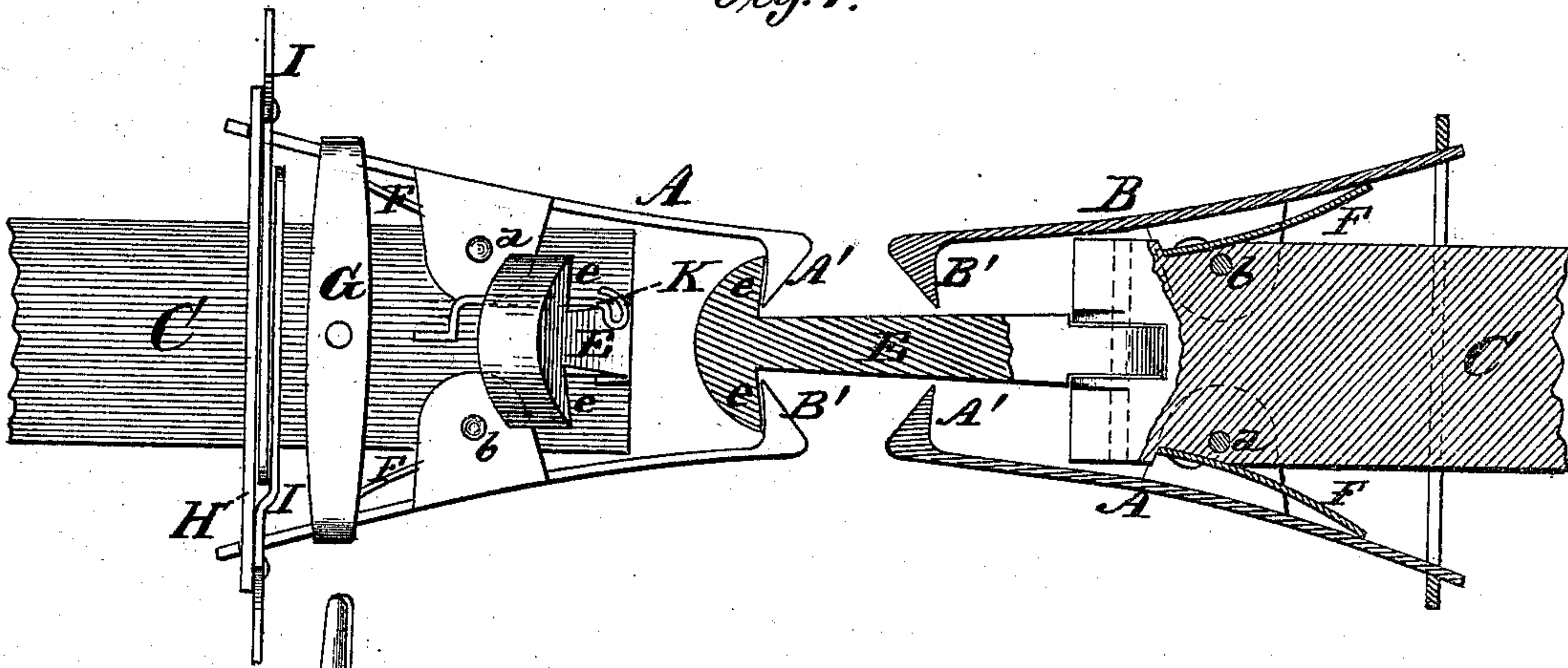


## Car-Couplings.

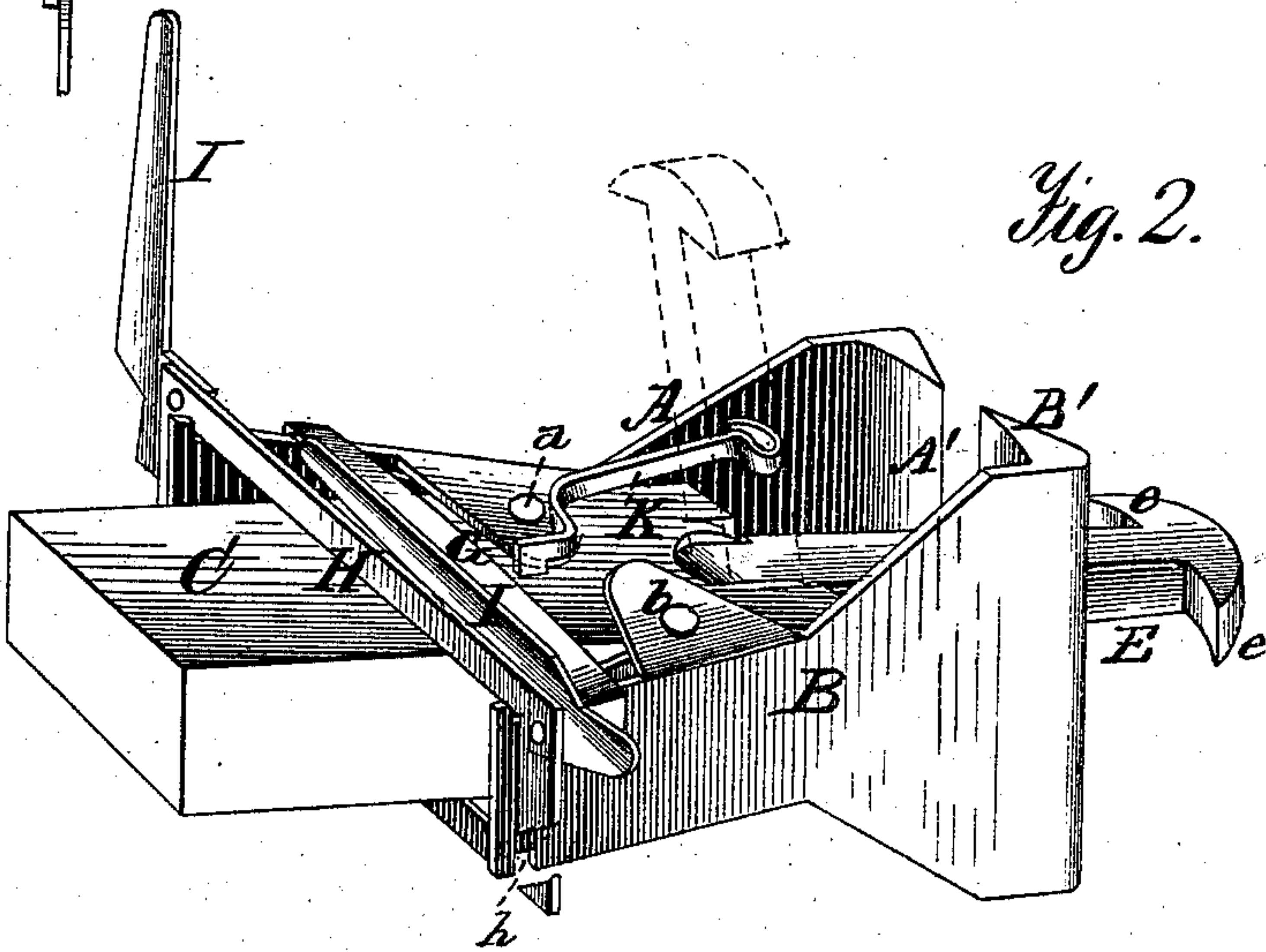
No. 150,648.

Patented May 5, 1874.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

A. Ruppert &  
H. E. Quinn

A. F. Woodard

*Inventor.*

by *Robert J. Calk*



# UNITED STATES PATENT OFFICE.

ALVIN N. WOODARD, OF LAPEER, MICHIGAN.

## IMPROVEMENT IN CAR-COUPPLINGS.

Specification forming part of Letters Patent No. **150,648**, dated May 5, 1874; application filed March 20, 1874.

*To all whom it may concern:*

Be it known that I, ALVIN N. WOODARD, of Lapeer, in the county of Lapeer and State of Michigan, have invented certain Improvements in Car-Couplings, of which the following is a specification:

This invention relates to that class of car-couplings which consist, in the main, of a pair of spring-jaws, which are automatically opened by the projecting end of the coupling-bar of an approaching car, and interlock with the head or flukes of said coupling-bar in closing upon its shank, each draw-head of each car being provided with a pair of spring-jaws, and also with a coupling-bar, so arranged that it may be swung either into a passive position or into an active one. My improvement consists of a certain novel mechanism for opening the jaws in the act of uncoupling a car; and also in the arrangement of the coupling-bar in relation to a spring-latch designed to hold it in its passive position.

In the annexed drawings, Figure 1 illustrates two of my improved car-couplings coupled together, showing one in plan, and the other in horizontal, section. Fig. 2 is a perspective view of one of them.

The same letters of reference are used in both figures in the designation of identical parts.

The jaws A and B are pivoted on opposite sides of the draw-bar C, as at *a* and *b*. They extend a suitable distance beyond the extreme end of the draw-bar, and terminate in inwardly-turned hooks A' and B'. By reference to Fig. 2 it will be seen that the forward ends of the jaws are much wider than the remaining portions, thus providing them with hooks sufficiently elongated vertically to admit of the reliable coupling of cars differing in height. The jaws are shown in their closed position, it being such that there is just sufficient space between their hooks to admit of the free vertical play of the shank of the coupling-bar E between them. They are thus closed by the action of strong springs F, placed between the draw-bar C and their rear ends, as best seen in the sectional portion of Fig. 1. The

action of the springs is limited by the fixed clasp G, which consists of a stout bar fixed to the draw-bar, and terminating in downwardly-projecting ends, hooking over the rear ends of the jaws.

The mechanism for opening the jaws consists of a rectangular yoke, H, fitted upon the rear ends of the jaws so as to engage with notches *h* cut in their upper and lower edges, and preferably a pair of levers, I, one pivoted to either end of the yoke. The length of the yoke is such that when placed over the jaws the latter will just touch its end bars. Both jaws are simultaneously operated by giving either one of the levers I an outward and downward turn, because, in acting with its short arm against one of the jaws, the lever also draws with equal force upon the yoke, and in moving it operates the other jaw to the same extent as the first.

The levers may be united by a connecting-rod, or may remain independent, as shown; and in the latter case they can be folded down upon the draw-bar, to be out of the way when not in use.

In addition to the function assigned to it, the yoke may perform that of the clasp G, and the latter be dispensed with; but I prefer to use both, so that the jaws can be held always in a central position when closed, notwithstanding the spring may be of uneven strength.

The coupling-bar E is pivoted with one end in a recess in the end of the draw-bar C, in such a manner that it will be sustained in a horizontal position when thrown down for action. Its outer end is provided with flukes *e e*, adapted for interlocking with the hooks of the jaws. When not in action it is swung up into a vertical position, and is caught and held in this position by a spring-latch, K, which is fastened behind it to the draw-bar, and curved and bent substantially in the manner shown, so that it may first be pushed aside by the coupling-bar, and then hook around the same. The coupling-bar will be made sufficiently long to prevent the jaws of two cars approaching each other for the purpose of coupling them from coming to-

gether. The outer end of the coupling-bar is suitably rounded or beveled, to facilitate its entrance between the jaws.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the jaws A and B, springs F, draw-bar C, yoke H, and lever or levers I, substantially as specified.

2. The combination of the draw-bar C, coup-

ling-bar E, and spring-latch K, substantially as and for the purpose specified.

In testimony whereof I have signed my name to the foregoing specification in the presence of two subscribing witnesses.

A. N. WOODARD.

Witnesses:

B. EDW. J. EILS,

H. E. QUINN.