(No Model.)

S. J. FILSON.

CAR COUPLING.

No. 274,749. Patented Mar. 27, 1883.

Fig. 1.

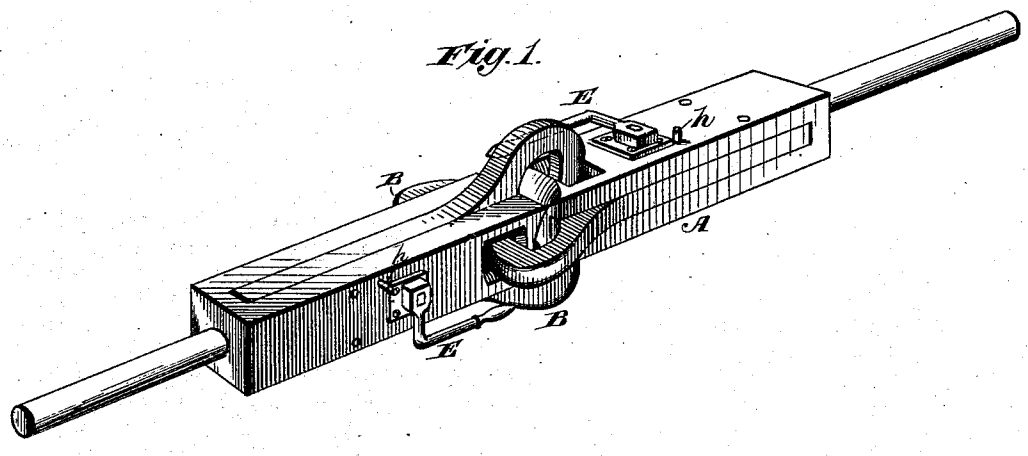


Fig. 2.

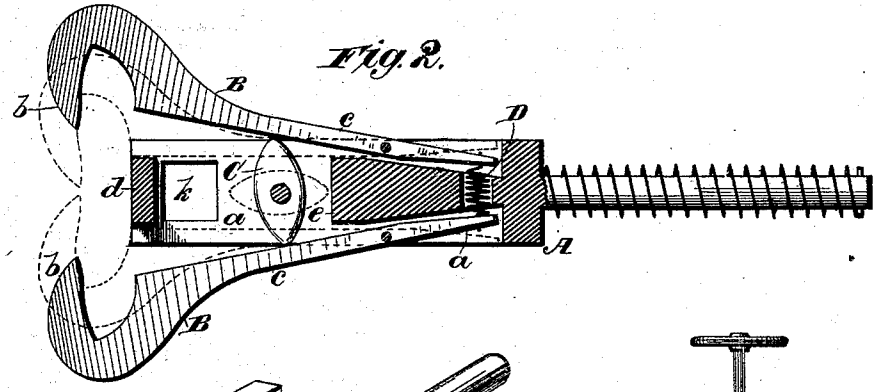


Fig. 3.

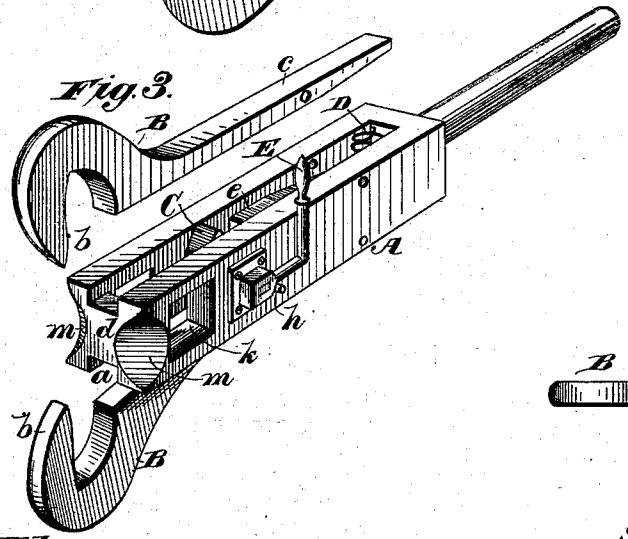
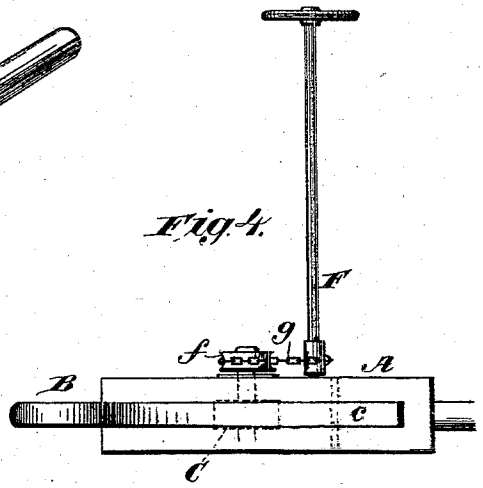


Fig. 4.



Witnesses.
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N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

SAMUEL J. FILSON, OF MAYSVILLE, KENTUCKY.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 274,749, dated March 27, 1883.

Application filed February 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL J. FILSON, a citizen of the United States, residing at Maysville, in the county of Mason and State of Kentucky, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to that class of car-couplings in which the draw-bars of opposite cars are each provided with a pair of spring-jaws.

The object of my invention is to provide a novel arrangement of hooked jaws, whereby when two draw-bars are brought together the jaws of one stand at right angles to the other, and each jaw engages a recess in the adjacent draw-bar, thus constituting an efficient coupling, which is not liable to become accidentally uncoupled. This I accomplish by the construction and arrangement of parts hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the draw-bars of two railroad-cars connected by means of my improved automatic coupler. Fig. 2 is a sectional plan view of my improved car-coupling, showing the spring-jaws open. Fig. 3 is a perspective view of the same, showing one jaw thrown outward and the other disconnected from the draw-bar. Fig. 4 is a side elevation, illustrating one manner of operating the car-coupling, or opening the spring-jaws from the platform or top of the car.

Like letters of reference are used to designate the same parts throughout the several views.

The draw-bars A A, forming part of my coupling mechanism, may be constructed of wood or metal in any approved manner. These draw-bars are cored or recessed, as shown at *a*, for the reception of the movable or operative parts of the coupling, which comprise the spring-jaws B B and a cam or eccentric, C, that is arranged between said jaws. The jaws B B are each formed with a hooked end, *b*, and a shank, *c;* or, if preferred, the shank *c* may be made in a separate piece that is bolted or otherwise securely connected to the jaw of which it forms a part. These jaws B B, or their shank ends, are pivoted within the recess *a* of the draw-bar on each side of the abutments *d* and *e*, that are integral with the draw-bar and limit the inward movement of the jaws when closed. The inner sides or edges of the jaws B B are straight for nearly their entire length, so that when closed they bear firmly against the straight or regular surface of the abutment *d*, and the corresponding portion of the abutment *e*. The sides of the latter abutment, however, are straight or rectangular only at its forward end for a certain distance, and then gradually incline inward to its rear end, to afford sufficient room for the necessary movements of the inner tapering ends of the shanks *c c* in opening the jaws.

At the rear of the abutment *e* is placed a spring, D, that may be made in the spiral form shown in Figs. 2 and 3, or of other convenient character. This spring is arranged to bear outward against the ends of the shanks *c c*, so as to close the jaws B B when the said pair of jaws are relieved from the pressure of the cam C. Instead of a spiral spring, it is obvious that a V-shaped spring or an elliptic spring may be employed to accomplish the same object. The tension of the spring is sufficient to close the jaws B B and hold them firmly against the abutments *d e*, so that when the hooked jaws of two opposite draw-bars are coupled or engaged, either with each other or in the manner to be hereinafter explained, the cars to which such draw-bars are attached will not be liable to become uncoupled by jerks or jars.

The coupling-jaws B B, when closed, may be opened by means of the cam C, that is pivoted in the draw-bar between said jaws, the partial rotation of the cam exerting an outward pressure against the jaws capable of overcoming the pressure of the spring. It is obvious that instead of the cam an eccentric or equivalent device may be employed for this purpose. The cam C or the eccentric, as the case may be, is connected to a lever, E, as shown in Figs. 1 and 3, by which the cam, eccentric, or equivalent device can be readily actuated, and the lever E, if desired, may be of such length as to extend to the side or platform of the car, so that the coupling-jaws may be opened without requiring the attendant to pass between the cars. The same result is attained by connecting the eccentric or cam C to a pulley, *f*, Fig. 4, that connects by means of a chain, *g*, with a rod or shaft, F, extending to the platform or top of the car, and provided with a hand-wheel or crank by which power is applied, so as to partially rotate the cam and actuate the coup-

ling-jaws. When the lever E is used, pins *h* may be provided to limit its movement in opening the jaws. The opposite sides of each draw-bar are provided with recesses or sockets *k k*, and when the draw-bars come together the hooked jaws of one interlock with the recesses or sockets of the other. The position of the parts when thus coupled is shown in Fig. 1, in which the jaws of each draw-bar are securely engaged in the socketed end of the opposite draw-bar. The draw-bars are thus coupled in such a manner as to allow sufficient play, and the coupling-jaws, while firmly closed by their respective springs, may yet be readily opened by means of the cams C and their actuating mechanism, so as to effect an instantaneous uncoupling whenever desired.

In order to facilitate the engagement of the hooked jaws B B with the socket or recess *k* of the opposite draw-bar, each of said draw-bars is chamfered or beveled at the end, as shown at *m m*, Fig. 3, the chamfered surfaces terminating at the margin of the socket *k*, and enabling the curved or rounded ends of the hooked jaws to slip readily into engagement with the sockets *k k*, when the opposite draw-bars are brought together. The inwardly-curved ends of the hooks *b b*, as shown in Figs. 2 and 3, are also such as to enable them to readily pass each other when brought forcibly together.

It will be observed that the opposite draw-bars A A are arranged in such a manner that the hooked jaws of each are at right angles to the corresponding jaws of the other, the recess or socket *k* in one draw-bar being vertical, while in the other the socket or recess is horizontal. This position or relative arrangement of the couplings is necessary in order that adjacent cars may be connected, and for the purpose of securing a proper correspondence between the coupling mechanism of the cars to be coupled the draw-bars may be hung in such a manner as to be capable of being turned or adjusted to the proper position with relation to the coupling-hooks of the adjacent car. When a railroad-car provided with couplings of this description is to be connected to a car having the ordinary link-and-pin coupling, the hooked ends *b b* of the spring-jaws B B will readily engage with such link.

Having thus described my invention, what I claim is—

The two draw-bars, each having recesses or sockets in its opposite sides, and two pivoted hooked jaws on each draw-bar being arranged at right angles to each other, and the jaws of one bar adapted to engage the recesses or sockets in the other, combined with means for throwing each pair of jaws away from each other, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

SAMUEL J. FILSON.

Witnesses:

JAMES L. NORRIS,

J. A. RUTHERFORD.