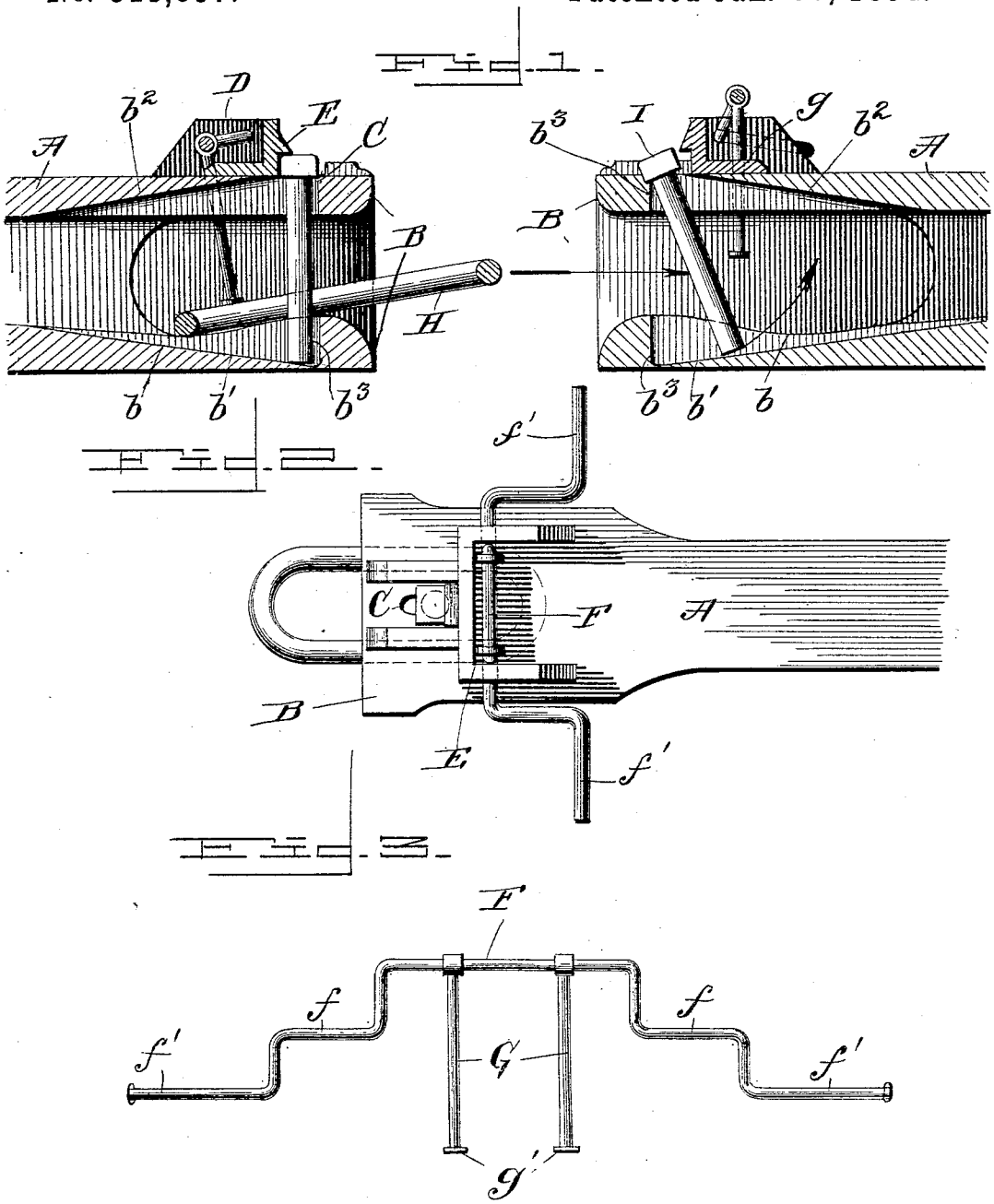
(No Model.)

# J. W. SMART.

## CAR COUPLING.

No. 513,657. Patented Jan. 30, 1894.

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# UNITED STATES PATENT OFFICE.

JOHN W. SMART, OF BURNET, TEXAS.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 513,657, dated January 30, 1894.

Application filed November 15, 1893. Serial No. 491,013. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. SMART, a citizen of the United States of America, residing at Burnet, in the county of Burnet and State of Texas, have invented certain new and useful Improvements in Car-Coupling Devices, of which the following is a specification.

My invention relates to automatic car couplers, and has especial reference to a controlling device for car coupler links.

The object of my invention is to provide a link controlling device to be used in coupling cars together where the cars have draw-heads of the same or different heights which will render it unnecessary for a person to go between the cars during the operation.

A further object of my invention is to provide a simple construction which may be cheaply manufactured and be readily attached to any draw-head.

For a full and complete understanding of my invention, reference is to be had to the accompanying drawings, in which—

Figure 1 is a central longitudinal sectional view of two draw-heads illustrating my invention. Fig. 2 is a plan view of a draw head having a link and the controlling device attached thereto. Fig. 3 is a view in side elevation of the link controlling device detached from the draw head.

In the drawings, A refers to the draw heads.

B represents the mouth of the draw head with flaring sides of usual form. The lower inside surface *b* of the mouth is of curved form, as shown in Fig. 1. Centrally located lengthwise in this lower surface is a groove *b'* which rises gradually as it slopes to the rear. A corresponding groove $b^2$ is cut in the upper surface of the mouth of the draw-head over the lower groove for a purpose which will hereinafter appear. These grooves have perpendicular walls $b^3$ at their outer ends as shown.

C is a hole in the upper front part of the mouth of the draw head, preferably of elongated form, see Fig. 2, for the insertion of a coupling pin H.

D is a casing of rectangular form, open at the rear, and preferably having a front projecting lip E to engage the top of the coupling pin when it is in the rear end of the elongated hole C to prevent the pin from jumping out of the hole, see Fig. 1, but which does not interfere with the ready withdrawal of the pin when it is moved into a forward position, as will readily appear.

In the side walls of the casing is mounted a double crank F on its arms *f* and having end arms *f'* extending to the sides of the car to permit the crank to thereby be operated without the necessity of a person going between the cars. Near the middle of said crank and equi-distant apart are mounted two rods G to turn upon the crank as the latter is moved. These arms pass through apertures *g* in the upper part of the draw-head in rear of the coupling pin, and have enlarged ends *g'* to bear upon the sides of the coupling link when it is inserted in the mouth of the draw head.

The operation of the device is, as follows, see Fig. 1: When it is desired to couple two cars together which are coming together, a person standing at the side of one of the cars, operates the double crank by means of the handle on the end of arm *f'*, and by means of the rods G which bear upon the side of the link and the curved shape of the lower surface of the mouth of the draw-head upon which the link rests, raises or lowers the outward end of the coupling link so that it will pass into the mouth of the draw head on the opposite car, push back the pin in that draw head, owing to the cut away grooves therein, pass beyond the link thus permitting it to drop back in place, in a well known manner, and in this manner the cars are readily coupled without exposing the life of the operator, as in the old practice where it is necessary for a person to go between the cars to do the coupling.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. In a car coupler, the combination with a draw-head of a mouth with cut away portion on its lower surface of curved contour, of longitudinal grooves centrally located in the upper and lower surfaces of the mouth, a coupling pin adapted to be pushed backward in said grooves, a casing on top of the draw-head, a double crank mounted in the side walls of the casing and having arms extending outwardly to the sides of the car, rods

centrally and revolubly attached thereto and extending through apertures in rear of the coupling pin into the mouth of the draw head, enlarged ends on the lower extremities of the rods to bear upon the sides of a coupling link to raise or lower the same, substantially as described and set forth.

2. The combination in a car coupler of a draw-head with a cut away portion on its lower surface of curved contour, of longitudinal and centrally located grooves in the upper and lower surfaces of the mouth, a coupling pin adapted to be pushed backward in said grooves, a casing on top of the draw head, a crank mounted in the side walls of the casing and having arms extending outwardly to the sides of the car, rods centrally attached to said crank and extending through apertures in the upper part of the draw-head, enlarged lower ends on the rods to bear upon the coupling link to raise and lower the same, as and for the purposes set forth.

3. An automatic car coupler comprising a draw head with a cut away portion in the lower surface of the mouth, grooves in the upper and lower surfaces of the mouth centrally and longitudinally located to permit a coupling pin to be moved backward and forward from an upright position, an elongated hole in the upper part of the mouth for the insertion of a coupling pin, a projection above the rear portion of the hole, a casing on top of the draw-head, a double crank mounted in the sides of the casing and having outwardly extending arms, rods attached centrally to said crank and extending through apertures in the draw head in rear of the coupling pin, to contact with a coupling link to raise or lower the same, substantially as described and set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. SMART.

Witnesses:

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O. L. HUNDLEY.