

(No Model.)

B. F. HAUGH & G. H. VINCETT.
CAR COUPLING.

No. 586,183.

Patented July 13, 1897.

Fig. 1.

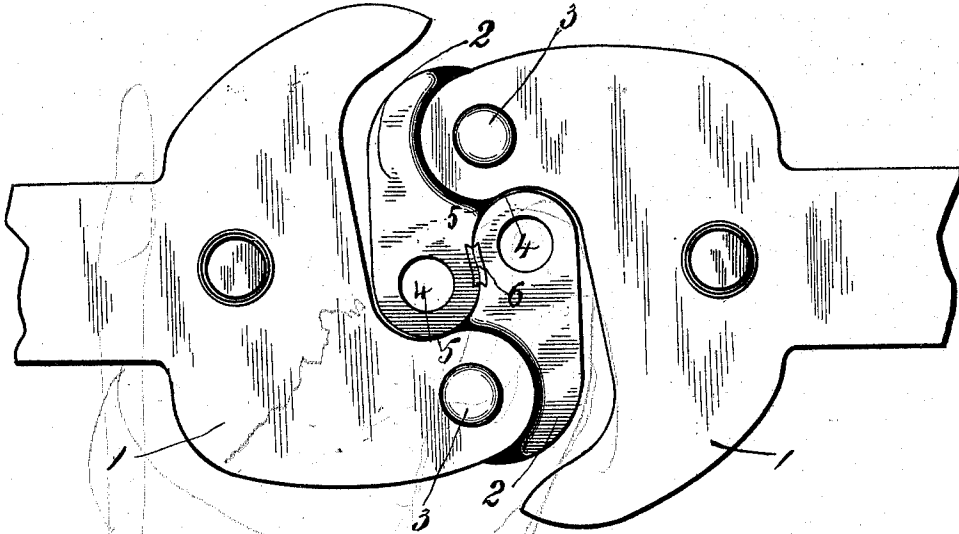


Fig. 2.

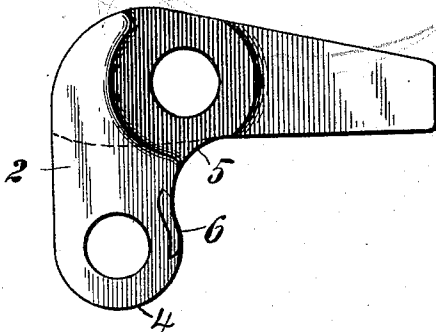


Fig. 3.

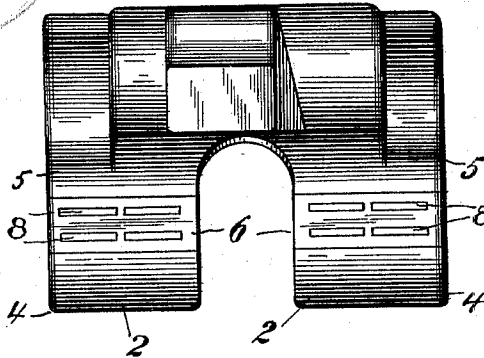


Fig. 4.

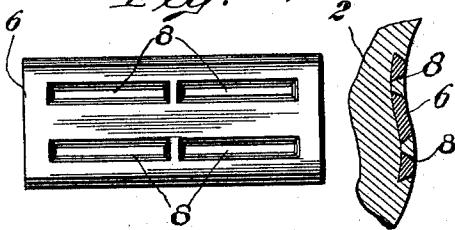
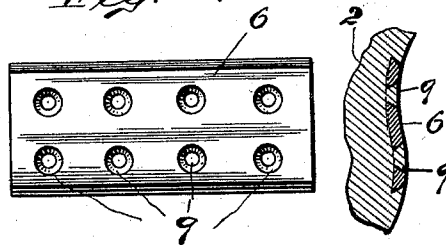


Fig. 5.



WITNESSES:

Joseph Ringland
W. W. DeFeux

INVENTORS

Benjamin F. Haugh and
George H. Vincett
BY
Thorpe & Bell
ATTORNEY.

UNITED STATES PATENT OFFICE.

BENJAMIN F. HAUGH, OF INDIANAPOLIS, AND GEORGE H. VINCETT, OF
ANDERSON, INDIANA.

CAR-COUPLING..

SPECIFICATION forming part of Letters Patent No. 586,183, dated July 13, 1897.

Application filed January 18, 1897. Serial No. 619,546. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. HAUGH, residing at Indianapolis, in the county of Marion, and GEORGE H. VINCETT, residing at Anderson, in the county of Madison, State of Indiana, citizens of the United States, have invented new and useful Improvements in Knuckles for Car-Couplers, of which the following is a specification.

Our invention relates to certain new and useful improvements in connection with automatic car-couplers, as will be hereinafter set forth.

The object of this our invention is to provide a means whereby the contacting surfaces of the engaging or interlocking portions or elements of the coupler, termed "knuckles," will be rendered more durable and offer a greater resistance to an abrasion of the contacting surfaces of the said interlocking parts or knuckles. We attain these objects by means of our metallic case-hardened strip applied to or inserted into the bearing-surfaces of the knuckles of the coupler illustrated in the accompanying drawings, in which similar numerals of reference designate like parts throughout the several views.

Figure 1 is a broken-off sectional plan view of an automatic car-coupler, showing our resistance-strip applied thereto. Fig. 2 is a detail plan view of the coupling-knuckle of the coupler. Fig. 3 is a detail elevational view of the same. Fig. 4 is a detail front and broken-off sectional views of that portion of the knuckles showing the manner of inserting the resistance-strip or metallic insertion in the contacting or bearing surface of the knuckle, and Fig. 5 is a similar view showing a modification of the said resistance-strip.

The coupling may be of any of the well-known forms of standard automatic couplers in general use, and for an illustration of the application of our invention we show a form of automatic coupler 1, (see Fig. 1), which exhibits the interlocking or coupling elements or knuckles 2 in coupled position or engagement.

The coupling-knuckles 2 are pivoted in the hollow of the draw-bar head by means of the pins 3, and the contours of the engaging or contacting surfaces of the knuckles between

the points 4 and 5 are similar and are made to conform to a certain established standard.

Neither the form of the knuckle nor the draw-bar head forms a part of our invention, the nature and object of which invention we will now proceed to describe.

Our invention consists in the application of hardened metallic strips 6 to the contacting surfaces of the knuckles, which strips may be either inserted in the knuckle after the forming of the same, or the said strips may be cast in place while casting the knuckle and in such a manner as to cause the outer bearing or contacting surfaces to be flush and to conform with the contour of the knuckles.

The strips 6 may be constructed either of self-hardening steel (preferably this material when said strips are to be cast in place) or any other metal capable of receiving a high degree of temper or hardness combined with toughness, or a metal capable of being case-hardened or chilled, which hardness is necessary to prevent the rapid wear at the rubbing contacting surfaces of the said knuckles.

The making or the composition of the self-hardening material of which the resistance-strip is composed is of importance and is accomplished by mixing and compounding with the steel, preferably when in a molten state, a certain percentage of either of the following metals: Tungsten, manganese, nickel, chromium, &c., any one of which imparts to the steel with which it is compounded that faculty of returning to the hardened state when permitted to cool in the natural way, and this condition will still exist in the steel so compounded irrespective of the number of times the compound may be heated and permitted to gradually cool. By the use of such a compound metal the casting of the hardened strip in place is made practical, as the said strip will return to its former hard state under all conditions of heat and will still retain its natural hardness and toughness, and in addition will be capable of being welded to other metals by either being in contact with the molten metal or being welded to other metal when both are heated to a welding-heat to be welded together.

The longitudinal edges of the resistance-strips 6 may be beveled or dovetailed in the

knuckles, and as a further means of firmly securing the said strips to the knuckles longitudinal slots 8, which taper outwardly at their edges, are provided for the purpose of
5 permitting the fluid metal when casting said knuckles to flow therein to form dovetail center grips or anchors, which effectually prevent said strips from "bulging" and loosening along their surfaces of contact with the knuc-
10 kles to which they are connected or welded. Another modification of the said strip is illustrated in Fig. 5, which exhibits a series of countersunk holes 9, arranged over the surface of the strip, and which may be substituted for the longitudinally-extending slots
15 having tapered edges. In such cases, where the knuckles are formed by being drop-forged, it will be readily understood that the said strips may be welded in place to the knuc-
20 kles, and in casting the said knuckles the strips may be set in place in the mold, and the metal of which said knuckles is composed is poured into the mold, thereby welding the said strip to the molten metal, which operation can be readily understood without fur-
25 ther description.

Having thus fully described the nature of this our invention, what we claim as new and useful, and desire to cover by Letters Patent of the United States therefor, is—

1. A coupling-knuckle for car-couplers, having a hardened metallic resistance-strip cast in place in its bearing or coupling surface and flush with the said surface.

2. A coupling-knuckle for car-couplers, having a resistance-strip of a self-hardening material cast in place in its bearing or coupling surface and flush with the said surface.

3. A coupling-knuckle for car-couplers, provided with a resistance-strip of hard material formed with longitudinally-extending dovetail edges, and a series of countersunk holes distributed over the surface of said strip, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

BENJAMIN F. HAUGH.
GEORGE H. VINCETT.

Witnesses:

THOMPSON R. BELL,
JOSEPH RINGLAND.