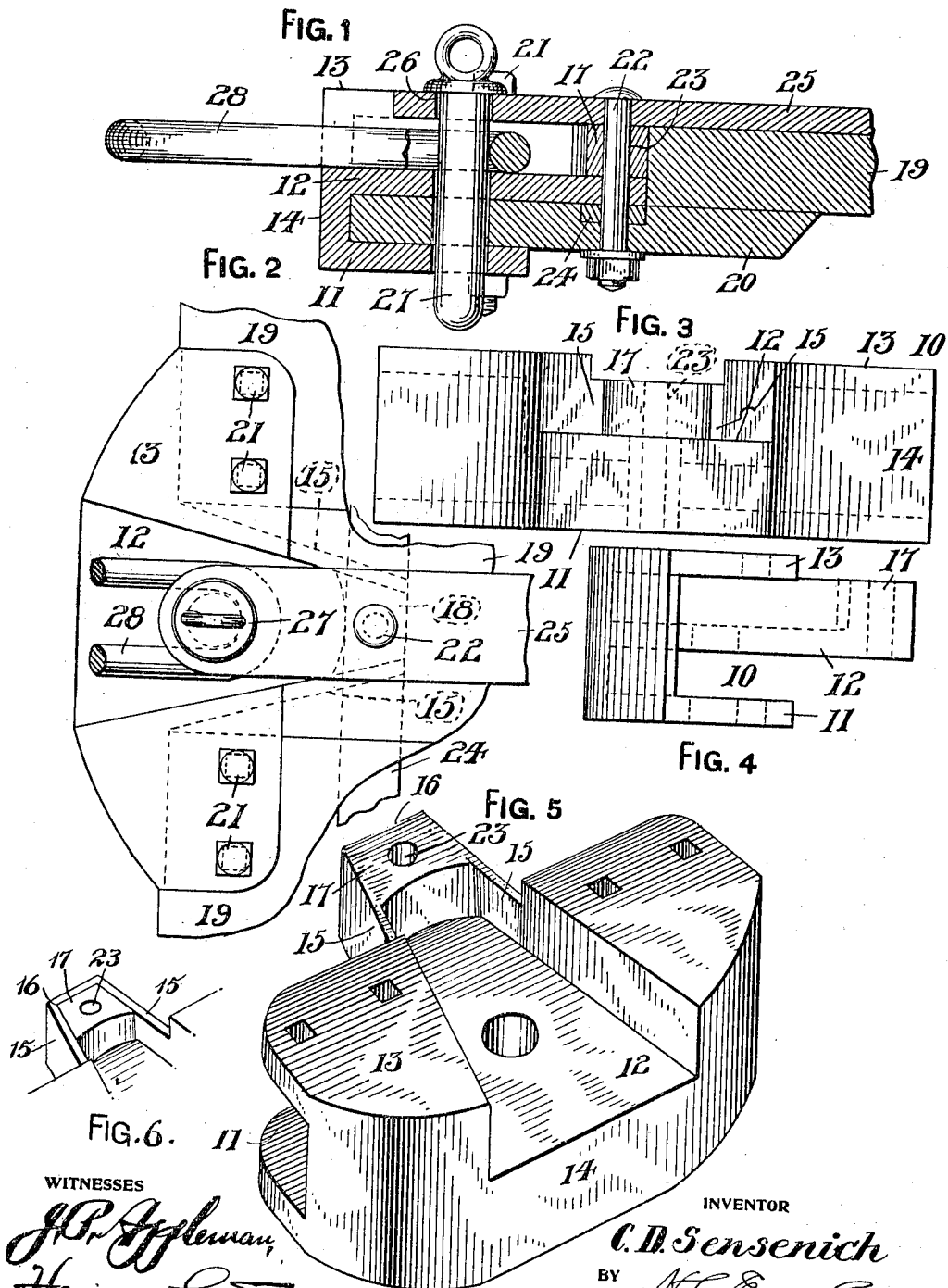


C. D. SENSENICH.
BUMPER AND COUPLING FOR MINE CARS.
APPLICATION FILED DEC. 29, 1911.

1,051,825.

Patented Jan. 28, 1913.



WITNESSES

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CHESTER D. SENSENICH, OF IRWIN, PENNSYLVANIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHESTER D. SENSENICH, citizen of the United States of America, residing at Irwin, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Bumpers and Couplings for Mine-Cars, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in bumpers and couplings for mine cars, and has for its object the provision of a construction which will provide for maximum stability and at the same time provide for a ready coupling with a car having a similar construction or one provided with a side bumper structure in which the coupling link is located on a different plane from the general type of center bumper structures now in general use.

To these and other ends, the nature of which will be readily understood as the invention is hereinafter disclosed, my invention consists in the improved construction and combination of parts hereinafter fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims.

In the accompanying drawings, in which similar reference characters indicate similar parts in each of the views, Figure 1 is a vertical longitudinal section of a portion of a mine car with my improved construction in place. Fig. 2 is a top plan view of the same. Fig. 3 is a front elevation of the casting which forms the principal part of my invention. Fig. 4 is a side elevation of the same. Fig. 5 is a perspective view of a modified form of the casting. Fig. 6 is a detail perspective view showing another modified form.

Referring to the accompanying drawings, 10 designates the casting which forms the principal element of the present invention, serving as a bumper, a link support, and having a particular configuration which co-acts with the framing of the car in such manner as to cause all of the parts to co-act to increase the stability of the construction.

The casting is formed with three horizontally extending walls, 11, 12, and 13, located on spaced-apart planes, the lower wall 11 extending throughout the lateral length of the casting, the wall 12 having a lateral length less than the length of the wall 11

and being located approximately central of such length, while the wall 13 is formed in two parts, each being of a lateral length approximately equal to the distance between the side of the bumper and the vertical plane of the side of the wall 12, the three walls being preferably formed integral with the front or bumper face 14 of the casting, the latter face being of proper configuration, preferably slightly curved throughout a part or the whole of its direction of length. As shown in Fig. 3, this provides a facial appearance of a bumper having a depressed central portion, the bottom of the depression being the top surface of the plate or wall 12.

As will be seen by reference to Figs. 2 and 5, the wall 12 has its sides extending on lines converging from the front or bumper face, the distance between the top plane of the wall 12 and the bottom plane of the walls 13 being provided by vertically extending webs 15, which, like the wall 12, project rearwardly beyond the rear end of the walls 11 and 13, the wall 13 overlapping the top planes of the webs 15, thus providing a structure in which the walls 13 project above the top plane of the remainder of the casting. The webs 15 may be of any desired configuration at the rear of the wall 12. For instance they may extend simply in the plane of their direction of length, being unconnected at their rear ends excepting to the wall 12, as shown for instance in Fig. 2 in dotted lines; or if desired, the ends of the web may be connected by a web 16 as is shown in Fig. 6, or this web may be increased in size to project forwardly a considerable distance to provide what may be termed a block 17 formed integral with the webs 15 as shown in Fig. 5 and which would serve the same function as the separate block shown in dotted lines at 18 in Fig. 2.

The casting is placed in position with the upper surface of the floor planks 19 substantially on the plane of the lower surface of the walls 13, the walls 13 resting upon said floor planks as indicated in Fig. 2, the planks being arranged to provide a support to the rear face of the webs 15 and 16 (if the latter be used) or the block 17, as shown in said Fig. 2, with the result that all strains or pressures placed on the bumper in a direction lengthwise of the car are also placed on the supporting timbers (planks 19), so

that the latter afford support for the bumper structure.

The planks 19 may be of any desired thickness, any space which may be left below the bottom plane of the planks and the plane of the upper face of the wall 11 being filled by filling blocks or planks 20, an example of which is shown in Fig. 1, this construction providing for a ready assemblage of parts and at the same time adding stability to the construction.

The bumper casting is secured to the planking 19 (and the filling blocks 20, if the latter be employed) by means of bolts 21 which extend through the casting from top to bottom, passing through the walls 11 and 13; they are further secured by means of a bolt 22, which extends through an opening 23 formed in the wall 12 and in the block 17 or 18 as the case may be, located above the top plane of the wall 12 as shown in Fig. 1, the bolt passing through the filling block, if employed, and through the belt 24 which has its direction of length extending laterally of the car, and the draw-bar 25, the construction being such that the parts are firmly secured in position by means of said bolt 22.

As shown in Fig. 1, the draw bar 25, the wall 12, the filling block 20 and the wall 11 are provided with alined openings 26 for the passage of the pin 27 for the coupling. There are a number of positive advantages which result from this particular arrangement of parts, among which may be stated the following: By reason of the depressed portion provided by the wall 12, which wall acts as a support for a link 28, the draw-bar 25 extends in a substantially single plane, instead of being required to be bent at an angle as in constructions of the present day, thus not only placing the front of the draw bar within the plane of the bumper, but at the same time providing that the pulling strain thereon is exerted entirely in the plane of its direction of length and insuring that the openings for the pin 27 will not readily pass out of alinement. This particular arrangement, in connection with the fact that the side walls of the depressed portion converge toward the rear, by means of which construction the link is caused to be retained in a position where coupling is readily effected, tends to entirely eliminate liability of the forward end of the draw-bar being bent upwardly, a result which is common in constructions now in general use. An additional advantage lies in the fact that there is a positive support provided for the blocks 17 or 18, as the case may be, by the walls or webs 16; where the block is separate, as indicated at 18, the wedge effect of the webs on the corresponding walls of the block 18 would act as a support to take any strain which might be provided by

movements of the links 28 into contact with said block, off of the bolt 22; and where the block is formed integral, as at 17, the webs 15 forming a continuation or connection between the blocks and the forward portion of the casting, act in a similar capacity, so that the bolt 22 is not subjected to strains such as might weaken it, especially as this portion of the casting is supported by the planks 19. Furthermore, the particular configuration of bumper in connection with the locating of the link support at a point below the normal plane of the bumper, places the link in position where it can readily enter the coupling head of a mine car equipped with the side or double bumper structures, without requiring the link to vary materially from an approximate horizontal plane; this is of especial importance since any material variation would tend to throw the car off of the track, and by reason of the extended lateral length of the bumper casting, the device will co-act with the bumpers of the cars equipped with the side or double bumper.

As will be readily understood, the particular construction shown is such as to provide for a maximum stability, a simple and efficient operation, a durability in construction, and a construction that can be made and placed in position at a relatively low cost, and which can be installed in cars in substitution of bumper structures thereon without materially affecting the construction of a car itself.

While I have herein shown one or more forms in which my invention may be carried out, it is obvious that variations and changes therein may be required or desired in use, and I desire to be understood as reserving the right to make any and all such changes and modifications in the structure and combination as may be required or desired, so long as such changes and modifications fall within the spirit and scope of the invention as expressed in the accompanying claims.

Having thus described my invention, what I claim as new is:—

1. A bumper casting for mine cars comprising upper, lower and intermediate walls located on spaced horizontal planes and connected at the front of the bumper, said intermediate wall converging toward the rear of the casting and forming a depression therein and carrying a block acting as the rear wall of the depression.

2. A bumper casting for mine cars comprising upper, lower and intermediate walls located on spaced horizontal planes and connected at the front of the bumper, said intermediate wall converging toward the rear of the casting and forming a depression therein and carrying a block acting as the rear wall of the depression, said block being

supported by the side walls of the depression.

3. A bumper casting for mine cars comprising upper, lower and intermediate walls located on spaced horizontal planes and connected at the front of the bumper, said intermediate wall converging toward the rear of the casting and forming a depression therein and carrying a block acting as the rear wall of the depression, said block being supported by the side walls of the depression, and being of a height less than the depth of the depression at the front of the bumper.

4. A bumper casting for mine cars comprising upper, lower and intermediate walls located on spaced horizontal planes and connected at the front of the bumper, said intermediate wall converging toward the rear of the casting and forming a depression therein and carrying a block acting as the rear wall of the depression, and a draw-bar supported by said block and having its forward end extending within the planes of said depression.

5. In a mine car and in combination, framing, a bumper casting secured to said framing, said casting having a depression extending below the top plane of the fram-

ing, the bottom wall of said depression carrying a block acting as the rear wall of the depression, and a draw-bar having its direction of length extending in a substantially single plane, said draw bar being mounted on said framing and said block, and having its forward end projecting into said depression.

6. In a mine car and in combination, framing, a bumper casting secured to said framing, said casting having a depression extending below the top plane of the framing, the bottom wall of said depression carrying a block acting as the rear wall of the depression, and a draw-bar having its direction of length extending in a substantially single plane, said draw bar being mounted on said framing and said block and having its forward end projecting into said depression, said depression having its side walls converging toward the rear of the casting, said walls acting as a support for the block.

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

CHESTER D. SENSENICH.

Witnesses:

LOUIS S. MALONE,
W. E. WILSON.