J. H. GARTSIDE.

Draw-Head.

No. 161,335. Patented March 30, 1875.

FIG. 1.

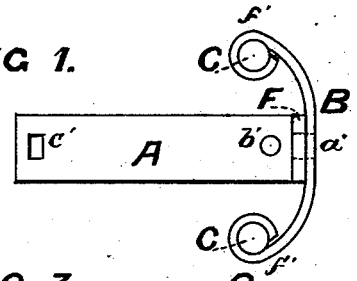


FIG. 2.

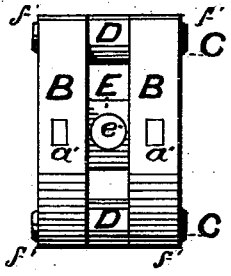
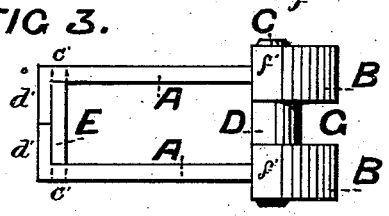
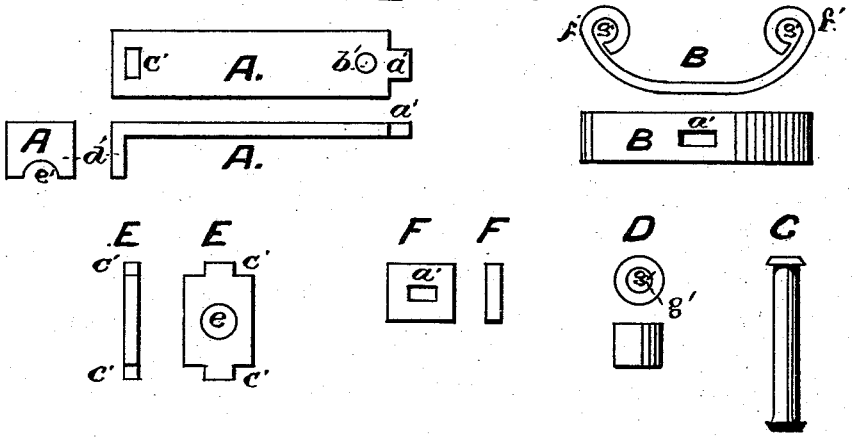


FIG. 3.



DETAILS.



WITNESSES.

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JOSEPH H. GARTSIDE, OF PORT PERRY, ASSIGNOR TO JOHN B. GEYSER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN DRAW-HEADS.

Specification forming part of Letters Patent No. **161,335**, dated March 30, 1875; application filed August 4, 1874.

To all whom it may concern:

Be it known that I, JOSEPH H. GARTSIDE, of Port Perry, in the county of Allegheny and State of Pennsylvania, have invented certain Improvements in the Form of, and Mode of Constructing, Draw-Bars, used in the coupling of railroad-cars, of which the following is a specification:

My invention relates to the combination of a number of parts, each of which can be easily manufactured of a standard size, so as to be interchangeable, and easily put together, and when joined forming a draw-bar, which is intended to be used in the same manner as those now in most common use are. Those ordinarily in use are of wrought-iron, forged solid by hand, and are very expensive in first cost, as well as in repairs.

In order to avoid many of the difficulties in the manufacturing, attaching, and operating of draw-bars, I form mine of a number of parts, which can be cut out and shaped by suitable machinery, and afterward put together, thus saving a large amount of hand-labor. I also form the parts of sufficient strength, which is so economically distributed as to give equal bearing in all its parts, with the least quantity of material and dead weight.

Figure 1 is a top view of the draw-bar, fastened together ready for use. Fig. 2 is a front or face elevation of the same. Fig. 3 is side elevation of the same.

In details are shown various views of the different parts going to form my draw-bar, sufficient to show a mechanic their shape and object.

The same letters of reference apply to all the various views, and the mortises and tenons are lettered alike, to show where one part matches another.

A is the top or bottom plate, for two are required, which are alike in all respects. They are provided with the tenon *a'*, the pin-hole *b'*, the mortise *c'*, and the angle or elbow *d'*, in which one-half of the draft-pin hole *e'* is cut out. B are the face-pieces, bent of the form shown, their ends *f'* being turned so as to form a rivet-socket, *g'*. In the center of the face is the mortise *a'* to slip over the corresponding tenon on A. C are the rivets, which slip through the sockets *g'* of B, and also through the collar D. When tightened up, these rivets hold the face B B together, the collar D keeping them apart and forming the jaw or opening G. E is the back end piece, having the draft-pin hole *e'* in its center, and the tenons *c' c'* to suit the corresponding mortise in A. F is a shoulder-washer having the mortise *a'* to suit the corresponding tenon on A.

Having thus described the various parts, I will now describe the method of putting them together to form the draw-bar. First, one of the tenons, *c'* on E, is heated to a red heat, and thrust through *c'*, in the top plate A, so that the shoulders of E rest in the angle formed by *d'*. It is then securely riveted and fastened. The other tenon on E is then heated, and the second plate A fastened in the same manner. When done, the draft-pin hole *e'* should be clear and unobstructed. The face is next taken in hand, and two of the pins C, which at this stage have but one of the ends headed, are heated to a red heat at the headless ends. These are then thrust through the sockets *g' g'* of the curved ends of B. Then one of the collars D is put over each of the pins, and the second part of B is then added, and the whole riveted and fastened solidly together. The parts A A, previously described as fastened together by E, are now taken, and the tenons *a' a'* being heated one of the shoulder-washers F is passed over them—one on each. The tenons are then put into the corresponding mortises *a' a'* of the previously-described joined face B B, and, being riveted and fastened, the draw-bar is finished.

In the preceding description, the material is supposed to be wrought-iron. As the amount of hand-labor required is but the forming of six substantial rivet-joints, the saving over a solid wrought piece of similar shape is apparent.

As the parts could be made of other material than wrought-iron, I do not confine myself to that only, but claim the use of any suitable material.

This draw-bar forms a solid and substantial piece of work. It allows of the iron being used in the most economical manner, and the gaining of strength, where strength is most

required. The various pieces being made of a standard size the parts are interchangeable, thus allowing of the removal of a defective or broken part, and its replacement by a new one, or an entire new bar can be formed from a number of old broken ones. All that is required is to chip the rivets loose, take them to pieces, and reform the joints, thus effecting a great saving.

Another and most important feature of my improvement is, that the opening of the jaws G is so long, and, when two cars are standing together, the space between the curved ends *f'* is so wide, as to allow the brakeman to adjust the connecting-link therein without calling on the shifting-engine to move the cars, as with the old style he is compelled to do, thus effecting a great saving in rolling-stock and working-time, besides decreasing his own risk of life and limb—for one movement of the cars, if properly made, will be sufficient to make up a whole train.

The old bars are subject to a large amount of breakage by opposing bars of different height, striking them above or below the point of resistance offered by the plate A on the face. This I have remedied by using the shoulder-washer F, which strengthens the whole surface of the face B exposed to concussion.

The bar is constructed so as to admit of the use of any coupling-pin in the hole *b'*, and of any link or draft pin now in general use.

Having thus described my invention, I claim—

A draw-head formed by uniting the separate pieces A A, B B, C C, D D, E, and F F, having the tenons, mortises, and openings shown, substantially as and for the purposes set forth.

JOS. H. GARTSIDE.

Witnesses:

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