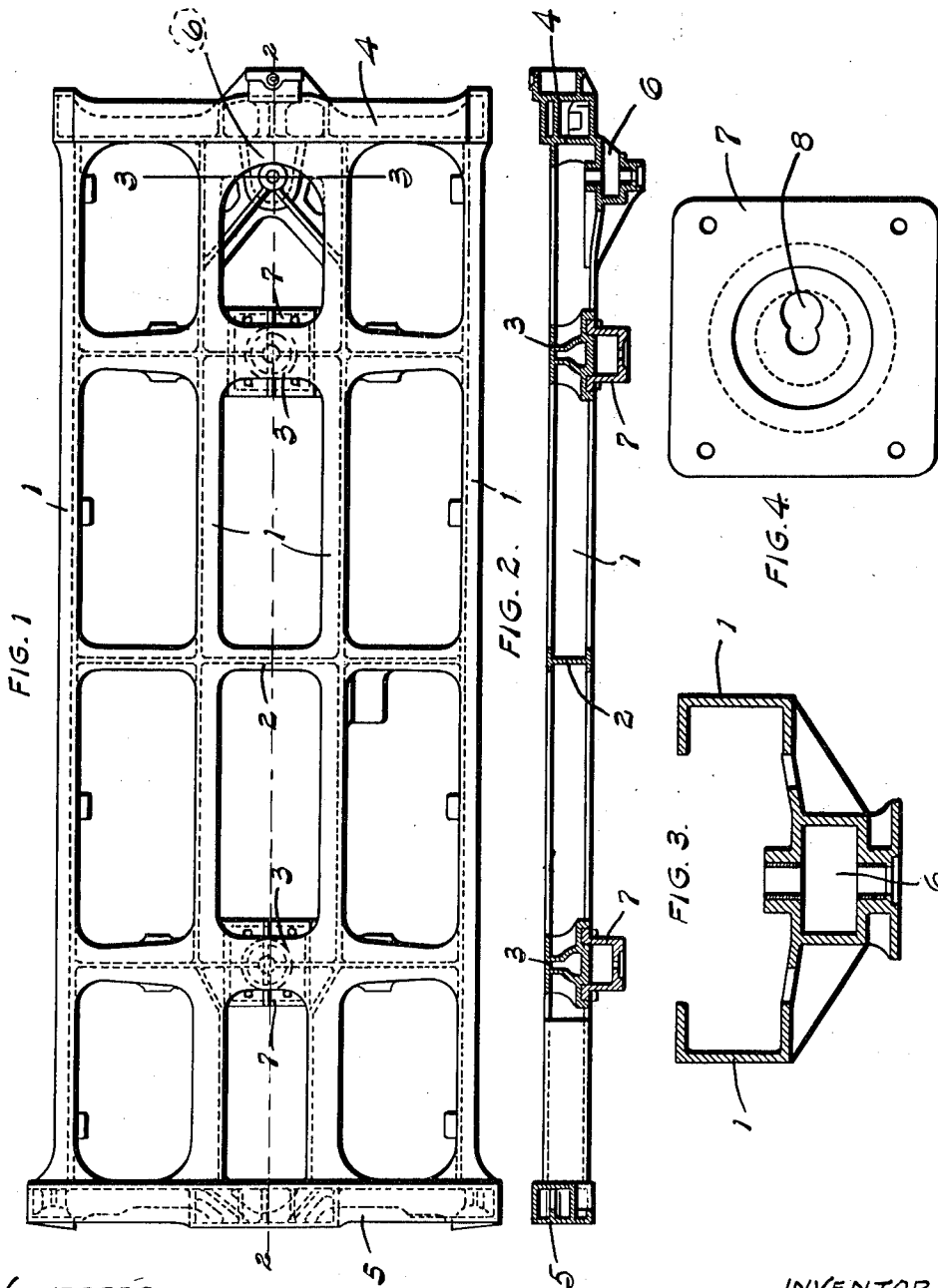


C. H. HOWARD.
 CAST STEEL UNDERFRAME FOR CARS.
 APPLICATION FILED JUNE 21, 1911.

1,022,366.

Patented Apr. 2, 1912



WITNESSES
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UNITED STATES PATENT OFFICE.

CLARENCE H. HOWARD, OF ST. LOUIS, MISSOURI, ASSIGNOR TO LOCOMOTIVE TENDER FRAME COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE.

CAST-STEEL UNDERFRAME FOR CARS.

1,022,366.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed June 21, 1911. Serial No. 634,589.

To all whom it may concern:

Be it known that I, CLARENCE H. HOWARD, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Cast-Steel Underframes for Cars, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of the improved tender underframe; Fig. 2 is a longitudinal sectional view on the line 2—2; Fig. 3 is a sectional view on line 3—3; Fig. 1, and Fig. 4 is a top plan view of the center plate.

This invention relates to new and useful improvements in cast steel underframes for locomotive tenders and other railway rolling stock, the object being to construct a device of the character described which can be cast in one piece and which embodies a novel arrangement of bracing bars and reinforcing webs, all as will hereinafter be described and pointed out in the claims.

In the drawings, 1 indicates the longitudinal members of the underframe; 2 the middle transverse member; 3 the bolster members; 4 the front end sill, and 5 the rear end sill. The vertical webs of the longitudinal members 1, as shown in Fig. 1, are located at the outer edges of the top and bottom flanges, and after passing the bolster member 3 nearest the rear end sill, said vertical webs are deflected inwardly or converge toward the inner edges of the flanges whereby they form a mounting for the cheek plates of the draft rigging. The front end of the tender frame is provided with a pocket 6 for a pocket coupler.

In the present type of tender underframe the king pins for the trucks are introduced from below, and for this reason the under-

frame may be imperforate above the king pin openings. The center plates are separate from the underframe, the lower face of the bolsters of which are preferably formed with seats for receiving the flanges of the center plates which latter are bolted in position. In the event that the center plates are worn they may be renewed or may be shimmed up in a well known manner. Each center plate 7 is provided with a key-hole opening 8, the larger portion of said opening being to one side of the center of the plate whereby the head of the king pin may be inserted and moved laterally into the smaller portion of the opening.

I claim:

1. In a cast steel underframe for cars, the combination of longitudinal members, bolster members and end sills, said longitudinal members having inwardly presented flanges between the bolsters and outwardly presented flanges between the bolster and end sill, the vertical webs of said longitudinal members being deflected at or near the bolster point so as to pass from the inner edges of one set of flanges to the outer edges of the other set of flanges.

2. In a cast steel tender underframe, the combination of flanged longitudinal members, the flanges thereof being substantially in alinement, and bolster members, the vertical webs of the longitudinal members being deflected substantially at the bolster point from the inner edges of one set of flanges on one side of the bolster to the opposite edges of the other set of flanges on the opposite side of the bolster.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 13th day of June, 1911.

C. H. HOWARD.

Witnesses:

HAL C. BELLVILLE,
B. L. CROWLEY.