

W. McINTOSH.
CAR UNDERFRAME.

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907,271.

Patented Dec. 22, 1908.

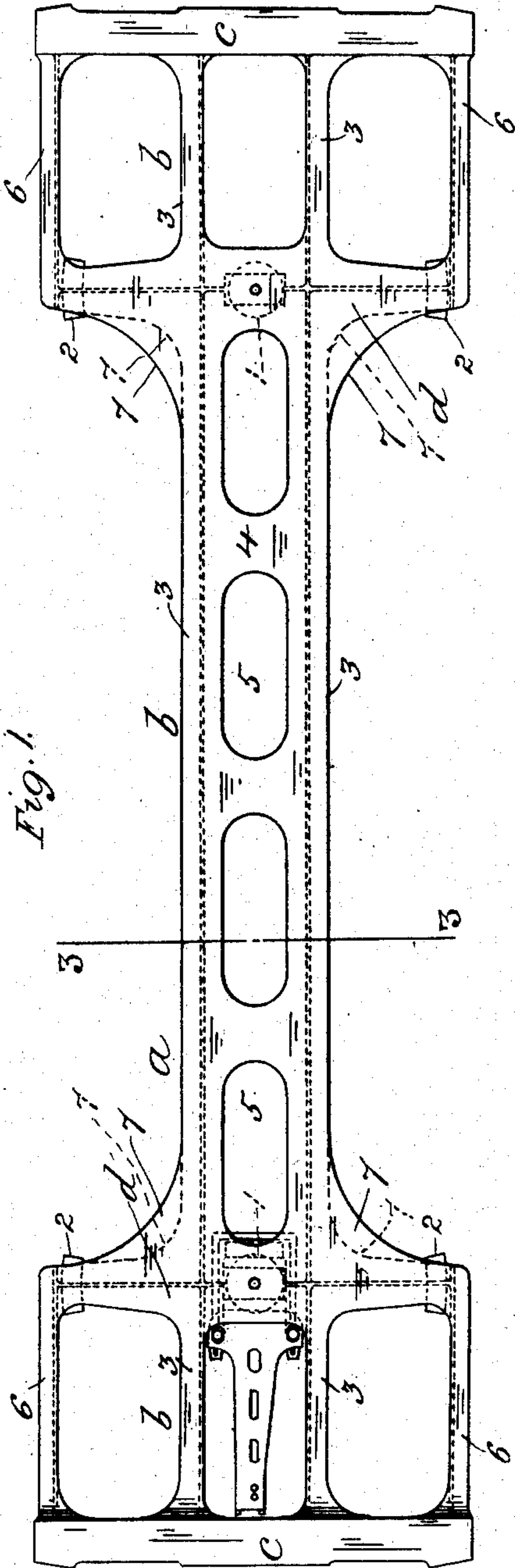


Fig. 1.

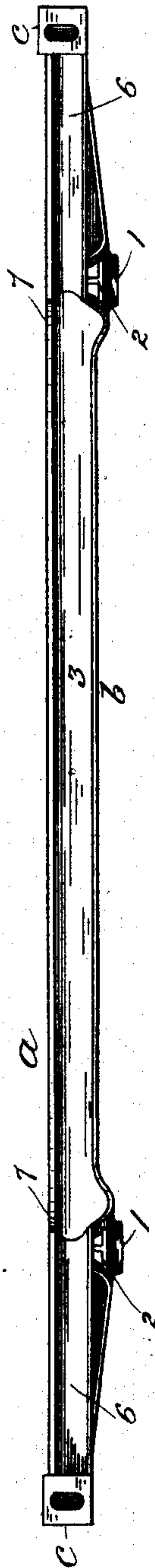


Fig. 2.

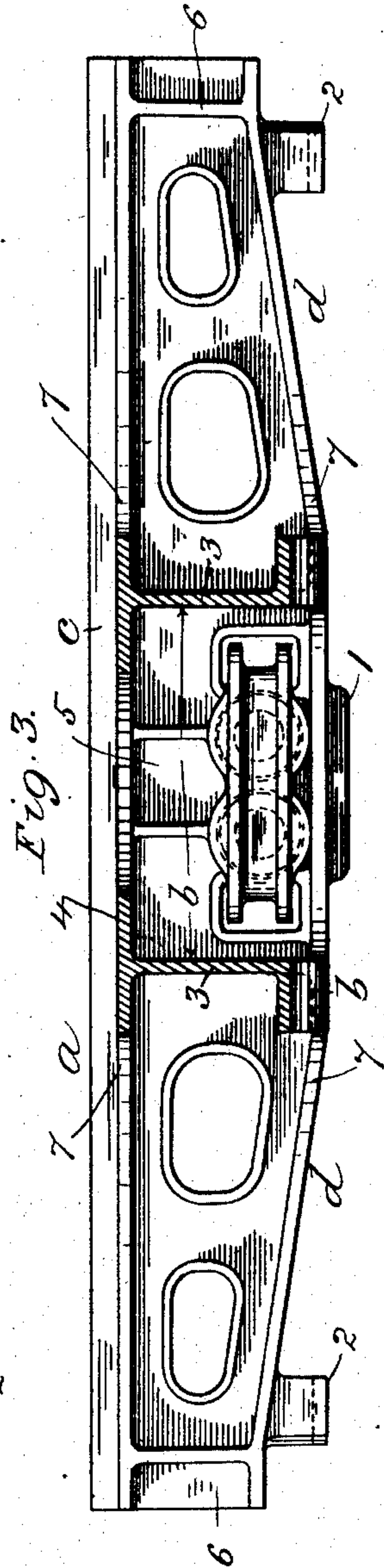


Fig. 3.

WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM McINTOSH, OF NORTH PLAINFIELD, NEW JERSEY, ASSIGNOR TO LOCOMOTIVE
TENDER FRAME COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE.

CAR-UNDERFRAME.

No. 907,271.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed July 1, 1908. Serial No. 441,324.

To all whom it may concern:

Be it known that I, WILLIAM McINTOSH, a citizen of the United States, residing at North Plainfield, in the county of Somerset and State of New Jersey, have invented a new and useful Improvement in Car-Underframes, of which the following is a specification.

My invention relates particularly to a metallic car underframe specially adapted to a poling or ferry-push car, but also applicable to other railroad cars, either as the underframe proper, or as a reinforcement to the ordinary wooden underframe; and my invention has for its object to provide a strong, simple, rigid, compact, and durable structure in which the component side and intermediate longitudinal members, which in the ordinary underframe of this class extend the entire length between the end sills, are resolved into a single central longitudinal member whereby any stress on the end sills or lateral parts of the underframe adjacent thereto, is concentrated to and transmitted through the said member as directly as possible from the point of impact.

The invention consists in features of novelty as hereinafter described and claimed, reference being had to the accompanying drawing forming part of this specification, whereon,

Figure 1, is a top plan view of my improved metallic car underframe; Fig. 2, a side elevation thereof, and Fig. 3, a vertical transverse section to enlarged scale through the underframe on line 3, 3, in Fig. 1.

Like letters and numerals of reference denote like parts in all the figures.

a represents my improved metallic car underframe which is preferably composed of cast steel integral throughout and consists of a single longitudinal center girder or sill *b* extending practically the entire length of the underframe between the end sills *c* to which its ends are united.

Intersecting the longitudinal center girder *b* at the usual distance from each end sill *c* is a transverse, preferably I-shaped, member *d* which constitutes the body-bolster (and is hereinafter so termed) of the underframe *a*, the body-bolster *d* being perforated centrally for the king-bolt (not shown) and having the center-plate 1 and side-bearings 2 on its underside in the usual manner, each body-bolster *d* being also preferably, adapted for

the application thereto of a suitable draft-gear, such as that for which Letters Patent of the United States were granted to Harry M. Pflager, January 23, 1906, Number 810,805, as indicated to the left of Fig. 1. Or the draft-gear may be otherwise applied to the underframe *a* as found most suitable.

The longitudinal center girder *b* in the present case preferably, consists throughout of two opposite upright channel-shaped side members 3, spaced a suitable distance apart and having their flanges outward, the top flanges of the side members 3 and the corresponding flanges of the body-bolsters *d* being flush and united together by an intermediate horizontal top plate 4 through which are preferably formed lightening holes 5, the top plate 4 being preferably omitted (or not) between the body-bolsters *d* and the end sills *c* as shown.

The body-bolsters *d* are united respectively, at each end to the corresponding end of the adjacent end sill *c* by a preferably, channel-shaped member 6 which is adapted to transmit any stress thereon or on the end sill *c* thereabout, to the end portion of the body-bolster *d* from which the stress is concentrated and transmitted to the longitudinal center girder *b* immediately adjacent to the rear side of the body-bolster *d*, by gussets 7 which in the present case unite the side (or equivalent) members 3 of the girder *b* thereat diagonally, or practically so, to the rear flanges (or equivalent members) of the body-bolster *d*, the whole forming a double T-shaped beam or bar of great strength and rigidity adapted to withstand abnormal end thrust and blows without lateral spreading of its component parts, and consequent telescoping of the car body, when so used.

I do not limit myself to the particular shape described of the longitudinal center girder *b*, as it obviously may be otherwise shaped in cross section without departure from the constructive principle of the underframe *a*; moreover, if desired to make the underframe *a* of greater length than can be conveniently cast in one piece, the longitudinal center girder *b* may be divided and the divided ends thereof fixed together in any suitable manner.

What I claim as my invention and desire to secure by Letters Patent is:

1. A metallic car underframe, comprising

a single longitudinal center girder, a transverse member united to each end of the said girder and adapted to form an end sill, a transverse member intersecting the said
5 girder and adapted to form a body-bolster, and a longitudinal member extending only between and uniting the said end sill and bolster together at each side of, and spaced apart from the said girder, substantially as
10 described.

2. A metallic car underframe, comprising a single longitudinal center girder, a transverse member united to each end of the said girder and adapted to form an end sill, a
15 transverse member intersecting the said girder and adapted to form a body-bolster, a longitudinal member extending only between and uniting the said end sill and

bolster together at each side of, and spaced apart from the said girder, and gussets 20 uniting and adapted to form diagonal braces between the rear side of the said bolster and the said girder, substantially as described.

3. A metallic car underframe, consisting of a single longitudinal center girder, a rec- 25 tangular framework intersecting the said girder at and adjacent to each end thereof, the said framework comprising an end sill and a body-bolster, and a member uniting the said sill and bolster together at each 30 side of and spaced apart from the said girder, substantially as described.

WILLIAM MCINTOSH.

Witnesses:

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