

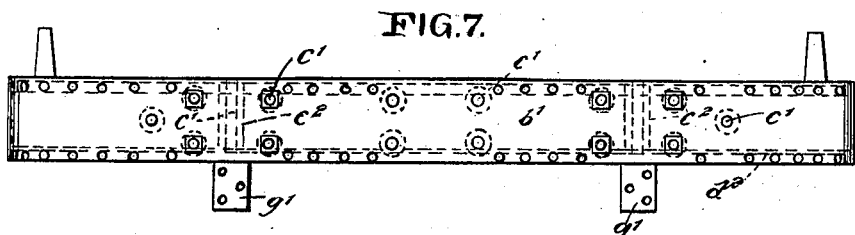
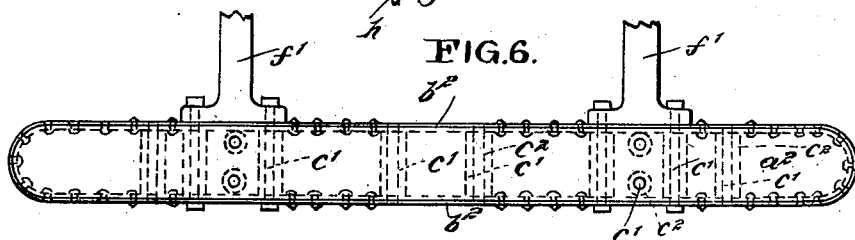
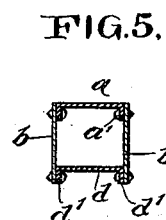
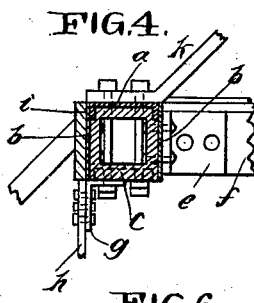
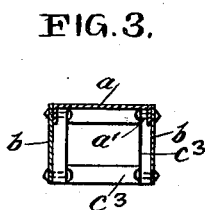
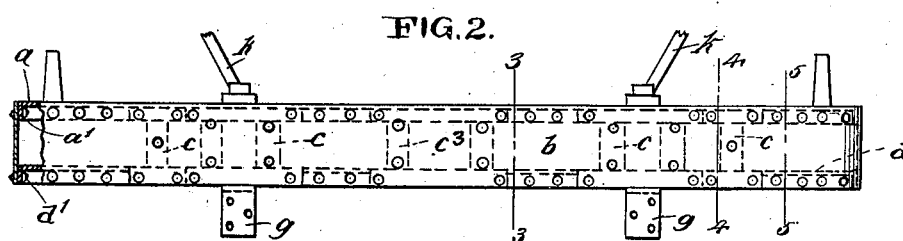
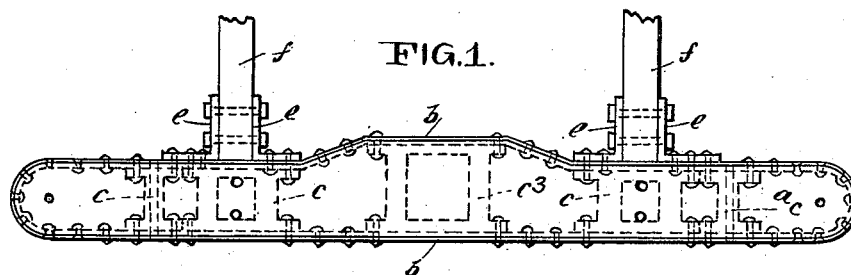
No. 647,919.

Patented Apr. 17, 1900.

J. F. DUNN.
LOCOMOTIVE BUFFER BEAM.

(Application filed Apr. 3, 1899.)

(No Model.)



WITNESSES:

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JAMES F. DUNN, OF SALT LAKE CITY, UTAH.

LOCOMOTIVE BUFFER-BEAM.

SPECIFICATION forming part of Letters Patent No. 647,919, dated April 17, 1900.

Application filed April 3, 1899. Serial No. 711,499. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. DUNN, of Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and Improved Locomotive Buffer-Beam, of which the following is a full, clear, and exact description.

This invention relates to a locomotive buffer-beam involving certain improvements by which it is possible to construct the beam of rolled-steel plate, thus producing a beam strong and durable in every respect and at the same time light and inexpensive.

A main purpose of this construction is effectually to protect the boiler-front, cylinder-heads, and other vital parts of the locomotive in case of collision.

This specification is the disclosure of two forms of the invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of one form of the invention. Fig. 2 is a front elevation of the same. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is a section on the line 5 5 of Fig. 2. Fig. 6 is a plan view of the second form of the invention, and Fig. 7 is a front elevation thereof.

The form of the invention shown in Figs. 1 to 5 is constructed of an unbroken top wall *a*, formed of rolled, flanged, or pressed steel, with a downwardly-extending peripheral flange *a'*. Unbroken front and back walls *b*, also formed of rolled or pressed steel, are riveted to the flange *a'*. Between the front and back walls *b* and within the beam a number of cast-metal webs *c* and *c'* are mounted and riveted to the front and back walls to form a rigid structure. The webs *c* are located, respectively, at the side frames *f*, and the web *c'* is located at the middle of the beams and is of greater depth than the webs *c*. The greatest buffing stress on the beam is borne at these points, and such stress is therefore properly met. This is especially so with respect to the webs *c*, which transmit the strain directly to the side frames of the locomotive. It will be observed that certain of these bolts *c'* and spools *c''* are situated directly adjacent to the side

frames, so as to transmit to these elements the stress at the points named. Such points bear the greatest buffing stress, and by this arrangement I provide a beam which is well adapted to resist the stress imposed upon it. It is further to be seen that the beam, being of rolled or pressed steel, is practically indestructible and effectually protects the boiler-front and cylinder-heads and other vital parts of the locomotive, so that in cases of collision the colliding engine will not crash through the boiler and injure the parts referred to. At each end of the beam a short bottom wall *d* is arranged, such walls having downwardly-extending edge flanges *d'* riveted to the side walls *b* the same as the flanges *a'* are riveted to the side walls. At points intermediate the ends it is not necessary to provide a bottom wall, since the webs *c* will serve to sufficiently strengthen the beam. Lugs *e* are riveted to the engine frame-beam *f*, and the beam is also provided with downwardly-projecting lugs *g*, riveted in place to carry the heel *h* of the pilot. The cap *i* of the pilot is adapted to be bolted to the front face of the beam, as shown in Fig. 4. The diagonal boiler-braces *k* are bolted to the top of the buffer-beam, as shown.

Figs. 6 and 7 illustrate a construction of the beam in which the webs shown in Figs. 1 to 5 are dispensed with and in which the beam is provided with a continuous top wall *a''* and a continuous bottom wall *d''*, each having downwardly-projected flanges riveted to the continuous front and back walls *b''*. The engine frame-beams *f'* are bolted to the rear wall *b''* of the buffer-beam, and the buffer-beam is also provided with downwardly-projecting flanges *g'*, riveted in place and serving to carry the heel of the pilot. For the purpose of strengthening the walls of the beams against each other in place of the webs employed in the form of the invention first disclosed I provide the various bolts *c'* with spools *c''*, which bear against the faces of the walls, and thus prevent the collapse of the beam.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A locomotive buffer-beam, having an unbroken top wall of rolled or pressed steel, unbroken front and back walls also of rolled or

pressed steel, the front and back walls being riveted to the top wall, webs secured within the beam between the front and back walls to prevent the collapse of the beam, and two
5 rolled or pressed steel plates respectively at the ends of the beam and at the bottom thereof and riveted to the front and back walls.

2. A locomotive buffer-beam, formed of rolled or pressed steel and attached to the
10 front ends of the locomotive side frames, and means for internally strengthening the beam, such means being situated directly adjacent to the respective side frames to transmit to

said frames the greatest buffing stress on the beam.

3. A locomotive buffer-beam, formed of
15 rolled or pressed steel and provided with three cast-metal webs situated interiorly, the middle of such webs being of greater depth than the end webs and the end webs being respec-
20 tively seated directly in front of the side frames of the locomotive.

JAMES F. DUNN.

Witnesses:

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