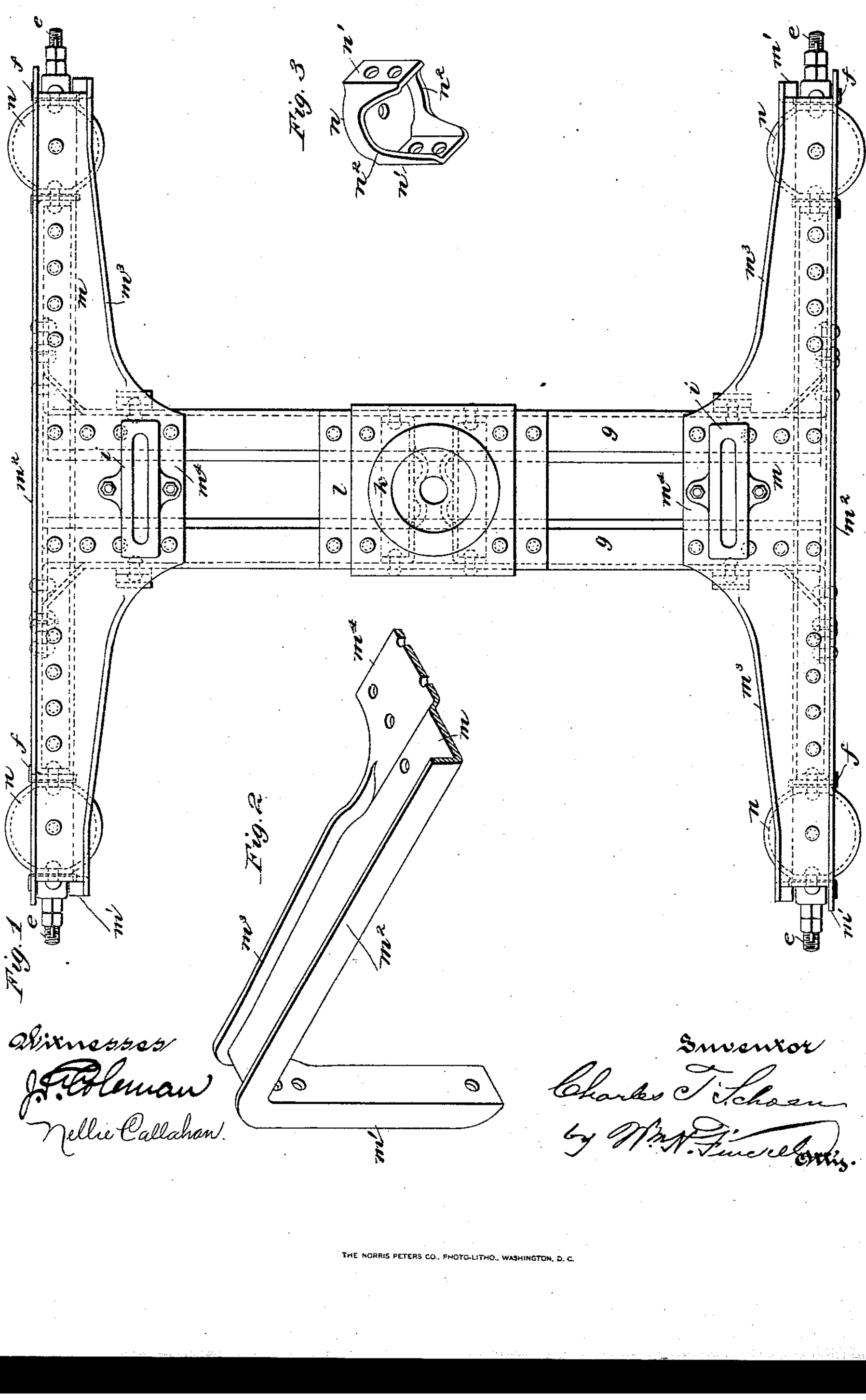
(No Model.) 2 Sheets—Sheet 1.

C. T. SCHOEN.

PRESSED STEEL TRUCK FRAME FOR RAILWAY CARS.

No. 571,934. Patented Nov. 24, 1896.



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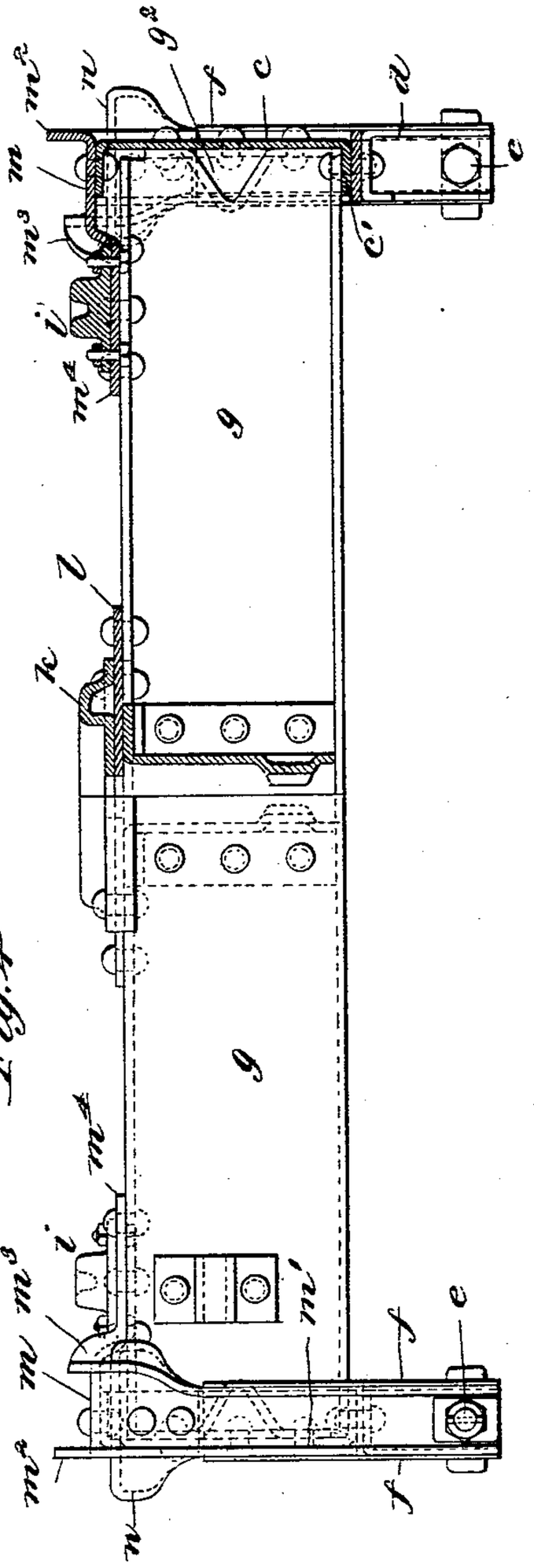

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UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF PHILADELPHIA, PENNSYLVANIA.

PRESSED-STEEL TRUCK-FRAME FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 571,934, dated November 24, 1896.

Application filed August 21, 1896. Serial No. 603,439. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. SCHOEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Pressed-Steel Truck-Frames for Railway-Cars, of which the following is a full, clear, and exact description.

This invention relates to improvements upon the invention forming the subject of my Letters Patent No. 553,431, dated January 21, 1896, and more especially to that form of the invention illustrated in the improvements forming the subject of my Patent No. 563,072, dated June 30, 1896.

The object of the invention is to increase the strength of the frame and to reduce the labor and cost of manufacturing the same.

The two features of improvement are, first, a combined upper chord or compression member and gusset-plate, and, second, a combined spring-cap and reinforce for use in the pedestals.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a top plan view of a composite or built-up pressed-steel truck-frame containing my improvements. Fig. 2 is a perspective view of one-half of the combined upper chord or compression member and gusset-plate. Fig. 3 is a perspective view of the combined spring-cap and reinforce. Fig. 4 is a half-section and end elevation. Fig. 5 is a half-section and side elevation.

In the drawings I have shown my invention as applied to a truck-frame constructed in accordance with my Patent No. 563,072, hereinbefore referred to, and the parts shown in the present drawings which correspond with parts in the drawings of the Patent No. 563,072 are herein designated by the same reference-letters, as follows:

b is the lower, bottom, or tensile member or chord, having its ends b' bent up vertically to form, in conjunction with angle-pieces d, the inner members or jaws of the pedestals, the extremities b^2 being bent out horizontally to form the tops of the pedestals.

c is the one-piece diaphragm, made with an inturned flange c' and riveted to the tensile member and to the compression member.

e are the stay-bolts for connecting the inner and outer members or jaws of the pedestals, and f are the wear-plates.

g g are the channel-beams, having flanges g' and bosses g^2 and constituting the transom.

i are the side bearings, k the center plate, and l the spacing-plate.

I wish to be understood, however, as not limiting my improvements to a truck-frame constructed in accordance with these previously-patented features.

The first improvement, as already indicated, consists in forming the upper or compression chord or member and the gusset-plate in one piece, and to this end the said member m has the vertical portions m' at its opposite ends made U shape in cross-section and constituting the outer members or jaws of the pedestals. The outer flange m^2 extends at a uniform height from one end of the chord to the other, while the inner flange m^3, which may be of less height than the outer flange, extends from the lower ends of opposite pedestals and dies out in the gusset-plate. The horizontal portion of the member m is widened out on the inner side to as great an extent as the wheel-space will admit in order to obtain the greatest strength at the weakest point—namely, the junction of the side frames with the transom—and the integral gusset-plate m^4 is depressed slightly from the level of the main body in order to reach down and be fitted snugly and squarely upon the flanges of the transom. The advantages incident to this construction of combined top chord or compression member and gusset-plate are that it reduces the number of parts to be assembled and united in the construction of a truck-frame and greatly strengthens the side frames in the direction of resisting the strains which occur in curving. Less riveting also is required, and thus there is economy in labor and material in the manufacture of the truck-frame.

The second feature of my improvement, namely, the combined spring-cap and reinforce, comprises a substantially-circular base n, adapted to be fitted to the top b^2 of the pedestal, and having the squared portions n',

which are adapted to be fitted to the inner and outer jaws of the pedestals, rivets being employed to secure the cap in position. The cap is provided with the vertical flanges n^2, constructed and arranged substantially as shown. This device performs the double function of a spring-cap or seat and of a brace for the ends of the side frame. The flanges of increasing width serve to impart an increase of strength at the angles of the pedestals, where such strength is needed to resist the strains put upon the pedestals by reason of the wheels striking obstructions, such as uneven rail-joints, frogs, switches, and the like, such strains having a tendency to bend the pedestals or the outer jaws of the pedestals outwardly by reason of the giving away or the weakening of the upper corners. The increased strength similarly imparted to the inner corners of the pedestals by means of this combined spring-cap and reinforce serves to resist vertical loads.

Both the combined compression member and gusset-plate and the combined spring-cap and reinforce may be made of steel plate pressed to shape, and while such construction forms a subject of claim herein, yet I do not wish to be understood as limiting my invention to that material or to that process of manufacture.

The advantages alleged to be incident to the inventions set forth in the patents hereinbefore referred to are equally conspicuous in the present invention.

What I claim is—

1. A combined top chord or compression member and gusset, for a built-up or composite side frame for railway-car trucks, constructed of one piece and substantially in the form shown.

2. A side frame for railway-car trucks, comprising the outer jaws of the pedestals, a connecting medium, and a gusset for union with the transom, the said outer jaws, connecting member, and gusset being formed of a single piece of metal, substantially as described.

3. A side frame for railway-car trucks, comprising a combined upper chord or tensile member and gusset, having a uniform outer flange extending from end to end and inner flanges extending from the ends and dying out at or near the gusset, and all constructed of pressed steel, substantially as described.

4. As an improved article of manufacture, a combined spring-cap and reinforce adapted to be riveted in the upper angles and to the jaws of a pedestal of a railway-car truck, substantially as described.

5. In a side frame for railway-car trucks, the combination with the pedestals, of the combined spring-caps and reinforces, each constructed of a single piece, and riveted to the inner and outer jaws and tops of the pedestals, substantially as described.

6. A combined spring-cap and pedestal-reinforce, comprising a substantially circular base, flat sides, and vertical flanges connecting the base and sides, substantially as described.

7. A combined spring-cap and pedestal-reinforce, comprising a substantially circular base, having flat sides, and vertical flanges connecting the base and its sides around the circular edge of the base, the whole formed of steel plate pressed to shape, substantially as described.

In testimony whereof I have hereunto set my hand this 18th day of August, A. D. 1896.

CHARLES T. SCHOEN.

Witnesses:

ALICE G. FRAMBES,

WILLIAM V. MASSEY.