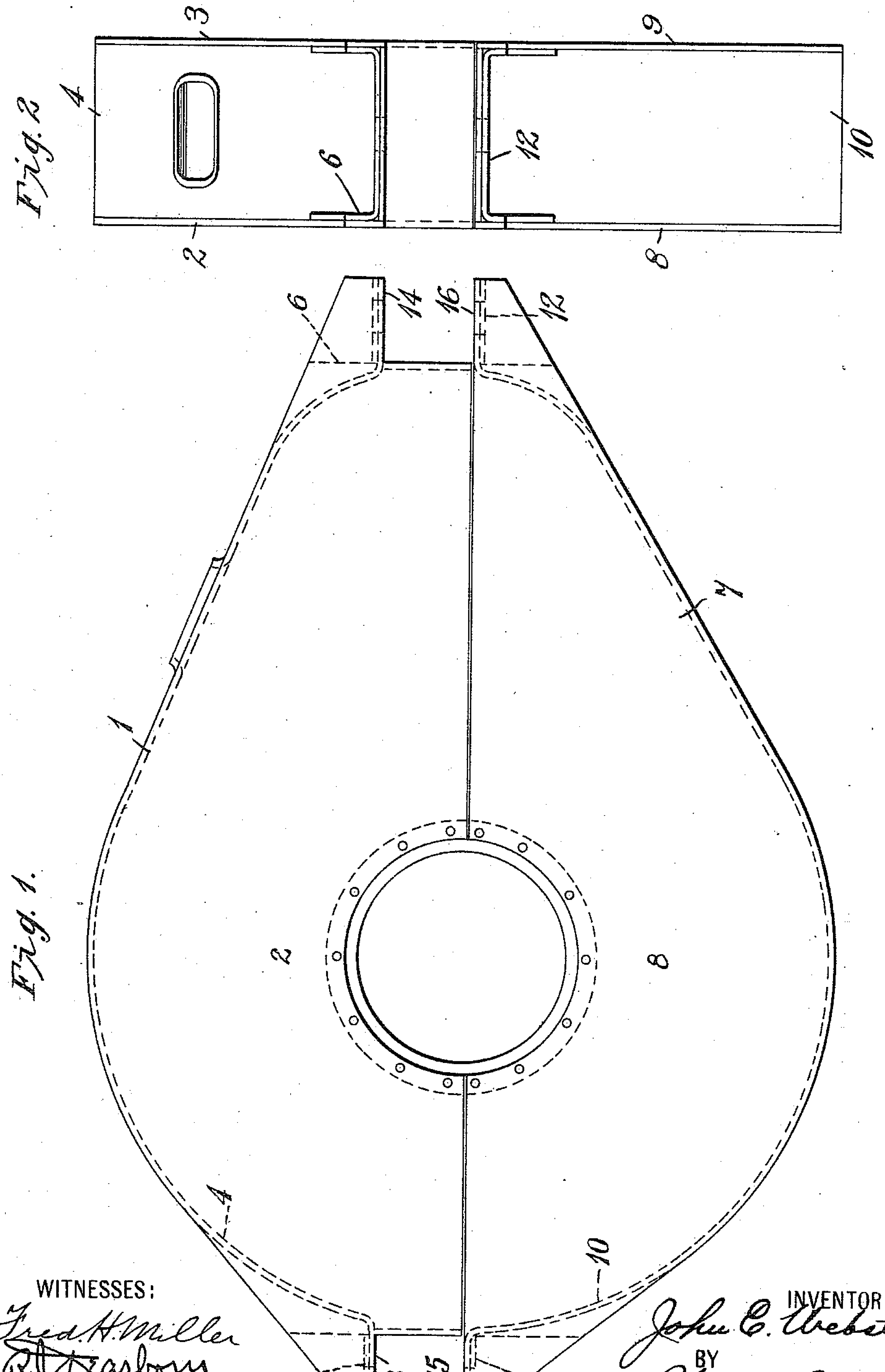
J. E. WEBSTER.

GEAR CASE.

APPLICATION FILED JULY 8, 1909.

985,481. Patented Feb. 28, 1911.



WITNESSES:

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GEAR-CASE.

985,481. Specification of Letters Patent. Patented Feb. 28, 1911.

Application filed July 8, 1909. Serial No. 506,602.

To all whom it may concern:

Be it known that I, JOHN E. WEBSTER, a citizen of the United States, and a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gear-Cases, of which the following is a specification.

My invention relates to gear cases, and it has for its object to provide a device of this character that shall be specially adapted for the protection of the driving gears which are ordinarily interposed between the motor shafts and the axles of electrically propelled vehicles.

Such gear cases as are ordinarily employed on electric cars and other electrically propelled vehicles, are secured to, and supported by, the motor frame and are divided to allow access to the gears, they being generally made of cast metal, but being sometimes built of sheet metal parts riveted together. Cast metal gear cases are very heavy and are liable to be broken, while riveted gear cases are relatively expensive to manufacture, and, as heretofore constructed, they have exhibited a tendency to buckle.

According to my present invention, I provide a novel gear case, the parts of which are so formed and arranged as to make a very rigid and durable structure which is relatively light, and I weld the parts together by a simple and inexpensive process. In this way, I provide a gear case which has many advantages over those heretofore suggested and which, at the same time, is sufficiently inexpensive to make it practical.

Figure 1 of the accompanying drawings is a side elevation and Fig. 2 an end elevation of a gear case constructed in accordance with my invention.

Referring to the drawing, the structure here shown is horizontally divided and comprises an upper half 1 built up of two side plates 2 and 3, an edge plate 4 and corner braces 5 and 6; and a lower half 7 which is similarly built up of side plates 8 and 9, an edge plate 10 and corner braces 11 and 12.

As shown in Fig. 1, the side plates 2 and 3 are joined together at their edges, by the edge plate 4, except at the ends of the plate, where they project beyond the edge plate and constitute nose projections which are adapted to rest on a supporting projection on the frame of the motor for which the case is intended. It will thus be observed that the weight of the gear case is carried directly to the support, the nose projections being bolted or otherwise secured to a projection of the motor frame (not shown), without passing through any joints in the gear casing structure. The nose projections are reinforced by the corner braces 5 and 6, that are welded to the side plates and to the edge plate, the ends of which extend outwardly at 13 and 14, so that they materially stiffen the upper segment of the casing. The plane of the extensions 13 and 14 is parallel to and somewhat above the plane of division of the gear case, thereby forming notches at the ends of the upper section. The lower section is not notched in this way, but corresponding extensions 15 and 16, of the edge plate 10, lie in the plane of division. The corner braces 11 and 12 are welded to the side plates 8 and 9 and to the edge plate 10 in the same manner as that described in connection with the corresponding parts of the upper section.

The edge plates 4 and 10 are bent to correspond, in general, to the peripheries of the gear and pinion which the case is intended to protect, and the side plates are so cut that their edges may be readily welded to the edge plates, except at the nose projections where the edge plate is welded to the bodies of the side plates, as already pointed out.

It is evident that structural modifications may be effected within the spirit and scope of my invention.

I claim as my invention:

1. A gear case comprising metal side plates having nose projections, edge plates welded to the side plates, and reinforcing brackets welded to the side plates and to the edge plate at the nose projections.

2. A case for a gear and a pinion comprising an upper and a lower section, each of which consists of two side plates, an edge plate to which the side plates are welded at their edges, and reinforcing corner brackets welded to the side and edge plates.

3. A case for a gear and a pinion comprising an upper and a lower section severally consisting of two side plates having nose projections, and an edge plate to which the side plates are welded at their edges and reinforcing brackets for the nose projections.

In testimony whereof, I have hereunto subscribed my name this 30th day of June, 1909.

JOHN E. WEBSTER.

Witnesses:
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