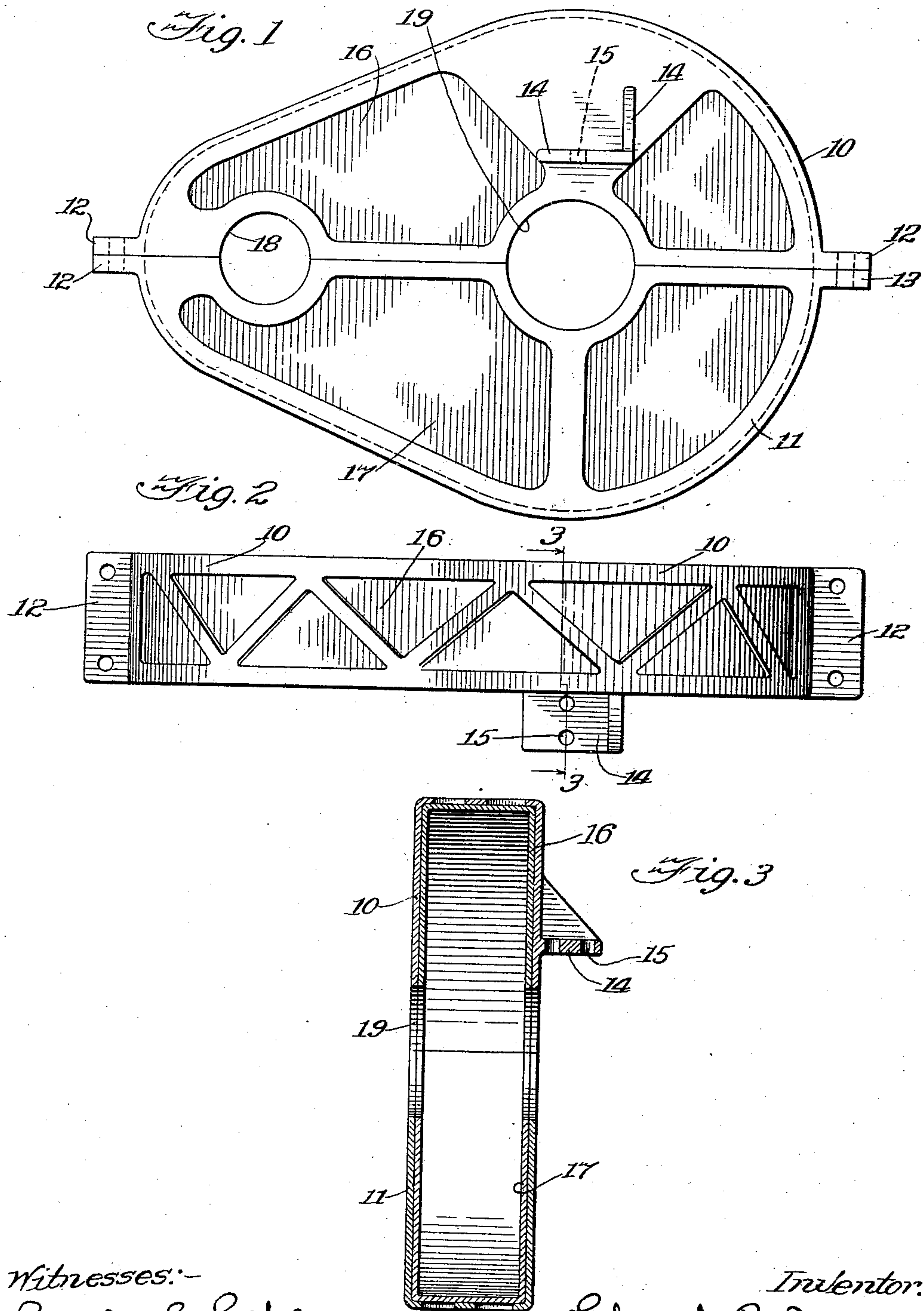


E. R. MASON.
GEAR CASING.
APPLICATION FILED APR. 5, 1909.

954,038.

Patented Apr. 5, 1910.



Witnesses:-
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UNITED STATES PATENT OFFICE.

EDWARD R. MASON, OF NEW YORK, N. Y., ASSIGNOR TO ELECTRIC SERVICE SUPPLIES COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

GEAR-CASING.

954,038.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed April 5, 1909. Serial No. 487,895.

To all whom it may concern:

Be it known that I, EDWARD R. MASON, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Gear-Casings, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to improvements in gear cases, and more particularly to such gear cases as are used on street railway cars and the like, and has for its object the obviation of certain disadvantages to which such devices have up to the present been liable.

Gear cases for the above and like purposes usually consist of a sheet metal shell adapted to inclose and protect the gear, to which shell supporting lugs, adapted to be bolted to the frame of the machine, are secured. Among the objections to this form of gear case is the fact that the live strain caused by the weight of the shell and the jolting of the car has to be borne by the metal of the shell itself at the parts where the latter is secured to the supporting lugs. The consequence of this is that the shell is liable to split near the supporting lugs after the gear case has been in use for some time.

In order to obviate the above and other disadvantages, I construct my improved gear case of an inner shell for protecting the gear, and an outer frame which incloses and supports the shell. Both the shell and the frame are preferably made in two separable parts, so that the gear may be inspected when desired, and in case of accident only those parts injured need be replaced.

In order that my invention may be fully understood, I have illustrated one form of gear case constructed in accordance therewith, in the accompanying drawings, in which—

Figure 1 is a side elevation of a gear case; Fig. 2 is a plan; and, Fig. 3 is a cross-section on the line 3—3 of Fig. 2.

In the gear case illustrated, the frame consists of an upper portion 10 and a lower portion 11, adapted to be secured together by bolts passing through corresponding lugs 12 and 13 which are provided at each end of both portions. It is desirable that the frame be as light as possible consistent with

the requisite strength, and it is therefore formed of skeleton side plates, connected by cross ribs, so that the whole frame presents the skeleton appearance seen in the drawings.

On the side of the upper portion 10 of the frame is formed the supporting lug 14, which is provided with bolt holes 15 adapted to receive the bolts for attaching the gear case to the machine. The frame, by reason of its skeleton form, can be made of thick metal without adding unduly to the weight of the gear case, and the lug 14 is consequently well able to support the weight of the gear case without any chance of fracture of the frame. The end lugs 12, 13 may also be used as supporting lugs, if desired.

The upper and lower portions 10 and 11 of the frame carry within them the upper and lower parts 16 and 17 of the shell, which may be constructed of thin sheet metal formed to the shape required, which parts may be made removable, if desired. The shell is thus firmly supported by the frame at a number of points.

Both the shell and the frame are, of course, provided with the requisite apertures, such as 18 and 19, for the passage of the gear spindles.

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

1. A gear case comprising a two-part shell formed of rigid material for inclosing and protecting the gears which the gear case is to contain, and a frame of corresponding shape to said shell for inclosing and supporting the latter.

2. A gear case comprising a continuous shell formed of rigid material for inclosing and protecting the gears which the gear case is to contain, and a two-part skeleton frame of a shape corresponding to that of said shell, for inclosing and supporting the latter.

3. A gear case comprising a two-part shell formed of rigid material for inclosing and protecting the gears which the gear case is to contain, and a frame for inclosing and supporting said shell, said frame being of corresponding shape to said shell and being detachable therefrom.

4. A gear case comprising a two-part shell formed of rigid material for inclosing and protecting the gears which the gear case is

to contain, and a two-part frame of corresponding shape to said shell, and arranged to surround and support said shell, said frame being formed with a supporting lug
5 thereon.

5. A gear case comprising a continuous shell formed of rigid material for inclosing and protecting the gears which the gear case is to contain, and a two-part frame of corresponding shape to said shell, and arranged
10 to surround and support said shell, said frame being formed with a supporting lug thereon.

6. A gear case comprising a two-part
15 shell formed of rigid material for inclosing and protecting the gears which the gear case is to contain, and a two-part frame of corresponding shape to said shell, and arranged to surround and support said shell, the parts

of said frame being detachably connected 20 together.

7. A gear case comprising a shell formed of rigid material for inclosing and protecting the gears which the gear case is to contain, said shell consisting of two separable
25 symmetrical halves, a frame for inclosing and supporting said shell, said frame consisting of two separable symmetrical halves of corresponding shape to those of said shell, and means for detachably connecting
30 the halves of said shell together.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

EDWARD R. MASON

Witnesses:

LAURA E. SMITH,
H. B. FULLER.