No. 886,738. PATENTED MAY 5, 1908.

A. TEDESCHI.

TRANSMISSION GEAR CASING.

APPLICATION FILED JULY 10, 1907.

2 SHEETS—SHEET 1.

Fig. 1.

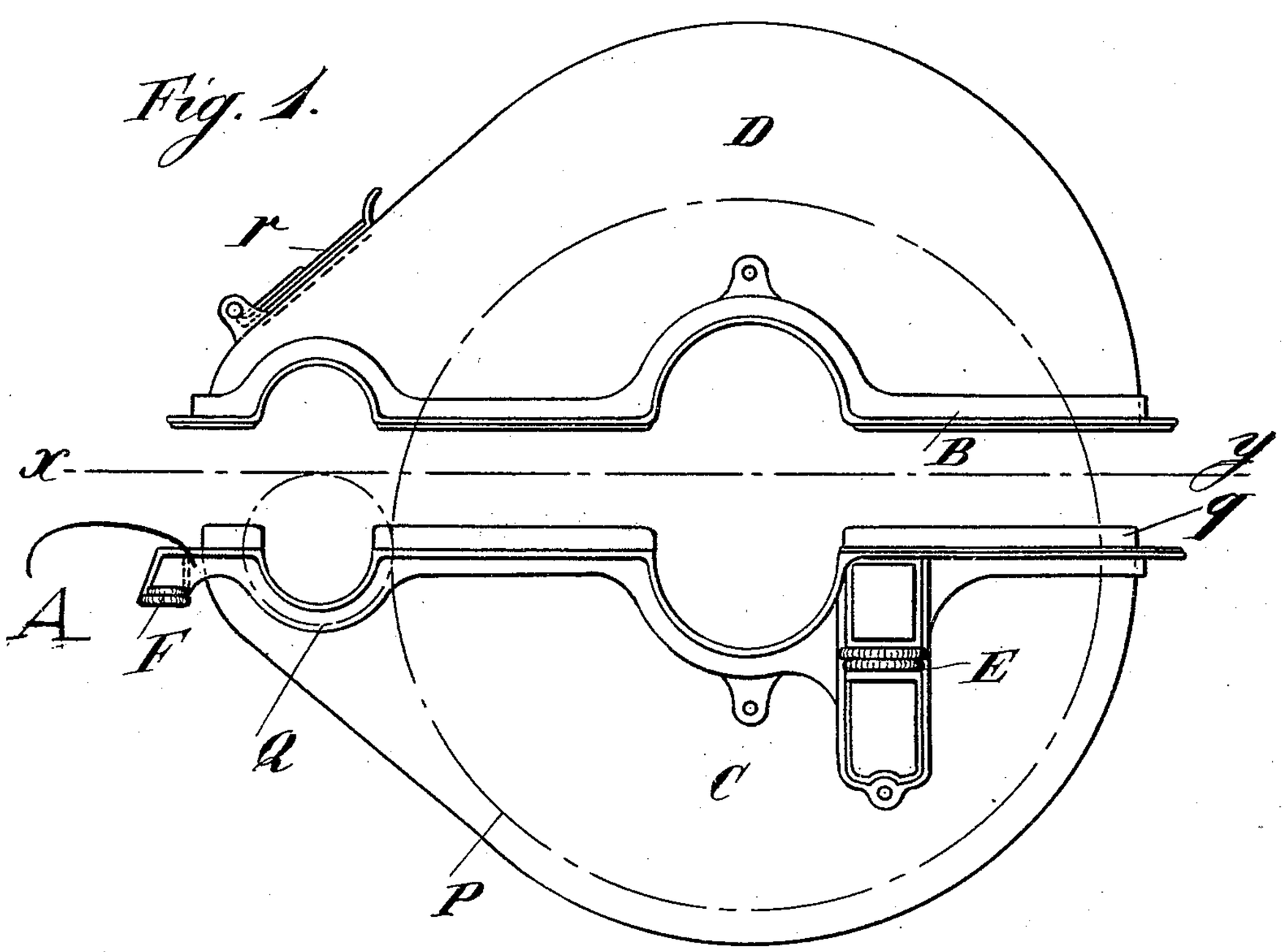
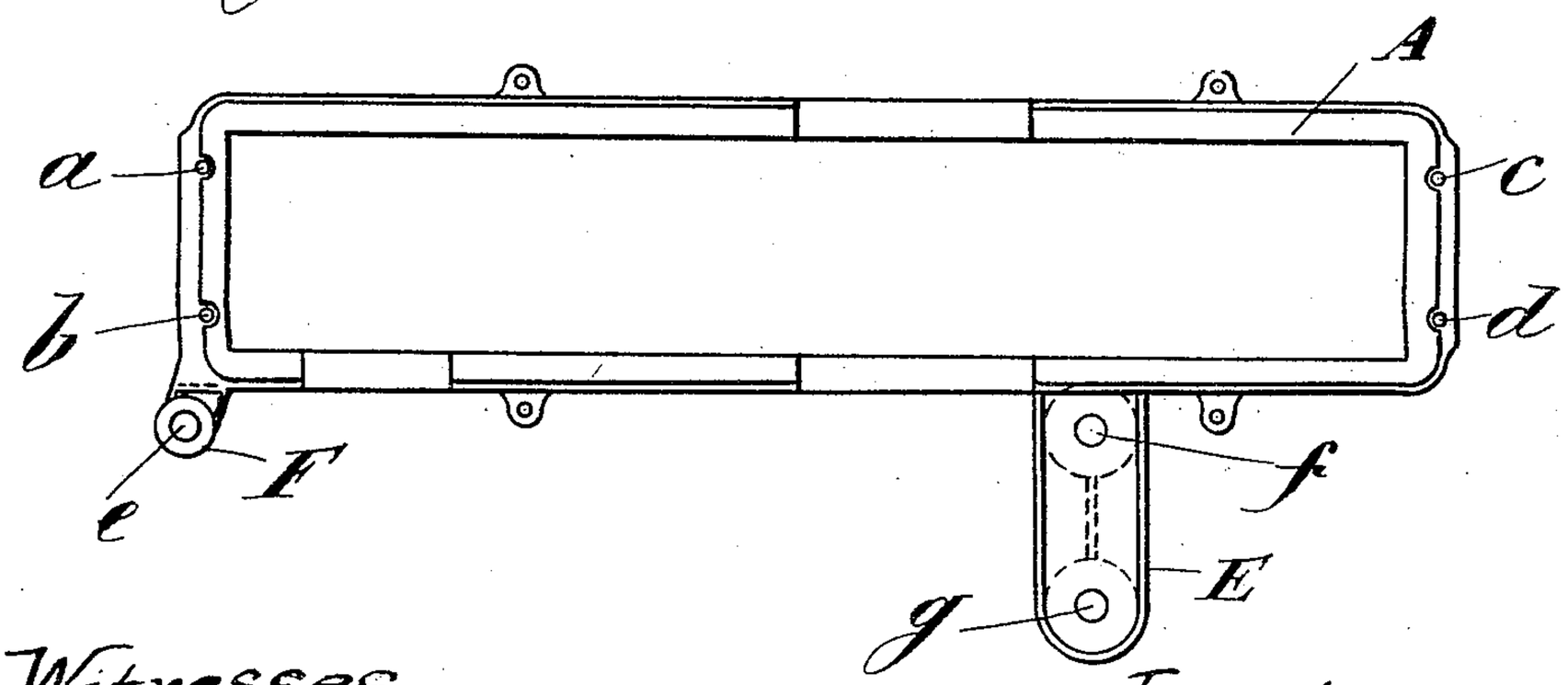


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3

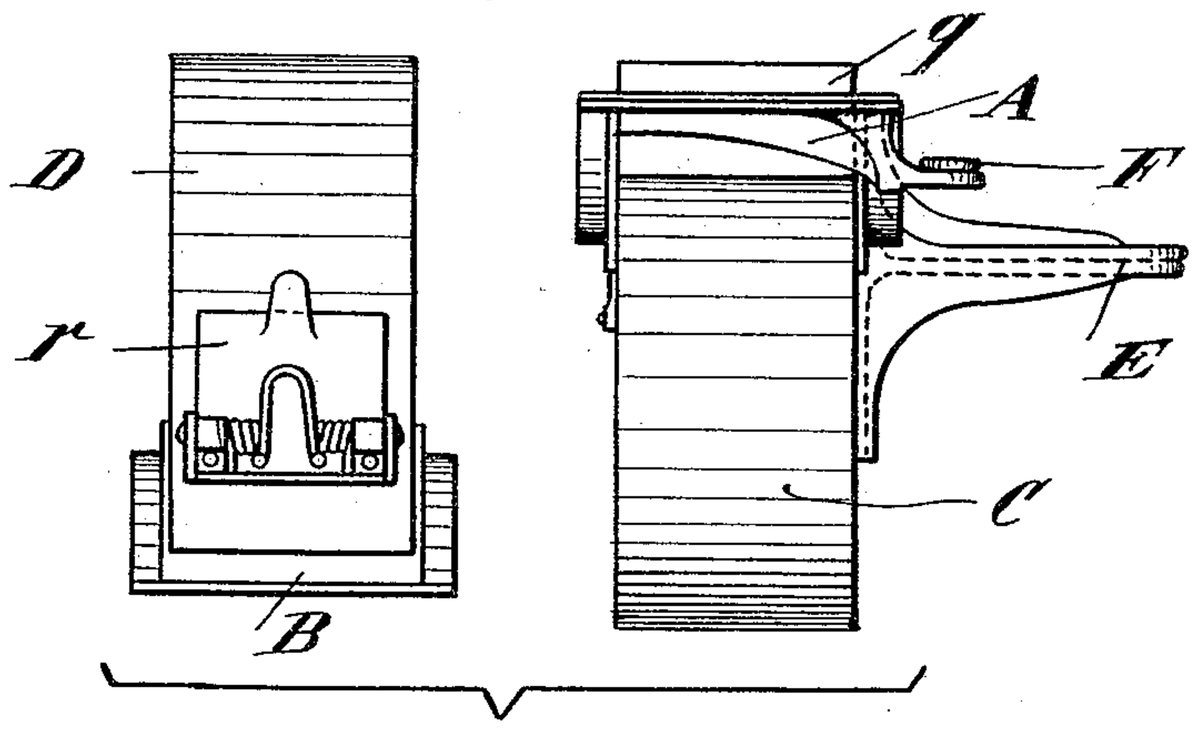
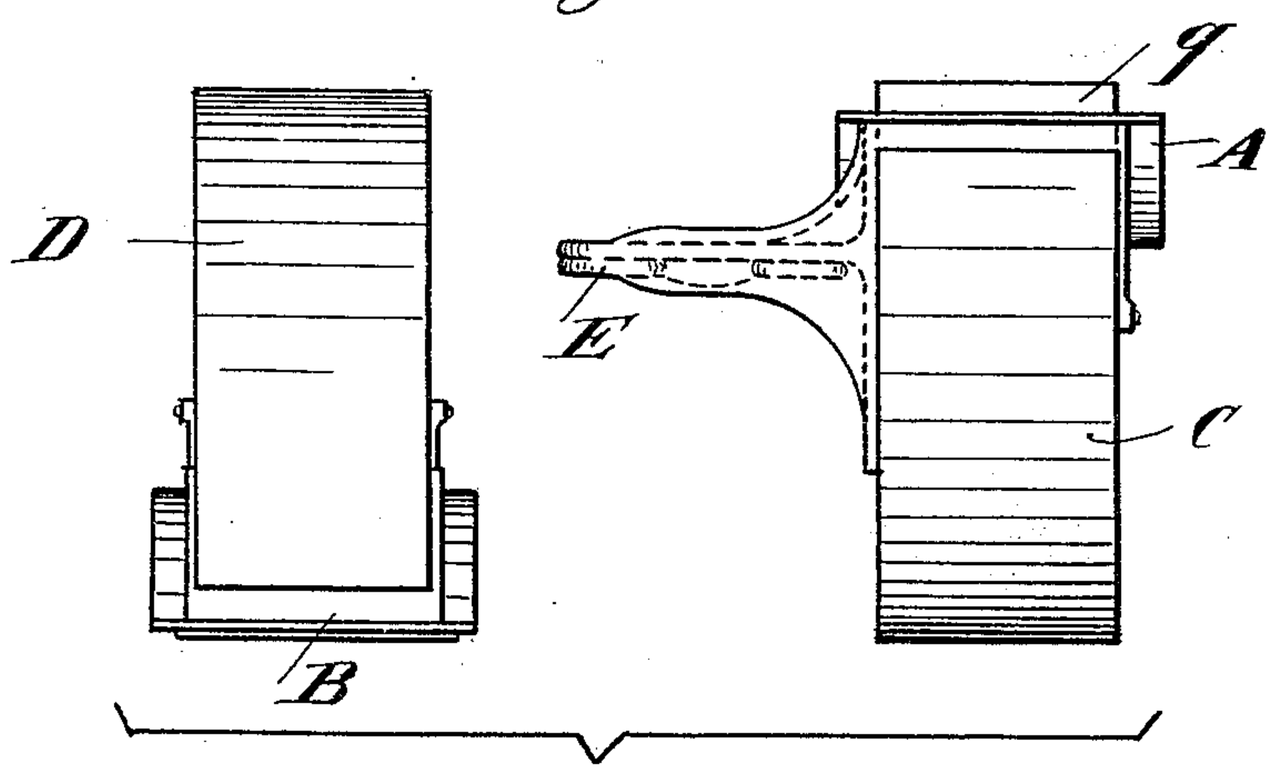


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANGELO TEDESCHI, OF MILAN, ITALY.

TRANSMISSION-GEAR CASING.

No. 886,738. Specification of Letters Patent. Patented May 5, 1908.

Application filed July 10, 1907. Serial No. 383,085.

To all whom it may concern:

Be it known that I, ANGELO TEDESCHI, a subject of the King of Italy, residing at Milan, Italy, No. 5 Via Messandro Tadino, have invented new and useful Improvements in Transmission-Gear Casing, of which the following is a specification.

It is known that in the most of the cases the axles of the electro-motors in railway and tramway cars transmit the motion to the axles of the vehicles by means of spur wheels, which are protected by a casing which also serves as a grease-box, and by means of suitable supporting ribs rests upon the frame of the motor.

The casings (of malleable cast-iron, cast-steel, or of several superposed plates connected together) heretofore made use of for this purpose, have a common fault, they consist of only two main pieces, viz: of a lower receptacle and an upper lid, the thickness of which is substantially uniform throughout. As such a casing is held in a projecting position upon the supporting ribs resting upon the frame of the motor, and therefore exposed to a very considerable stress, the two parts of the casing have to be made rather thick, and consequently the weight of the whole is very great, notwithstanding this, it happens that these casings sometimes break. Although an excess of material is used, it is not properly distributed, because the covering parts are too heavy, and the carrying parts too light, so the latter part is uselessly subjected to a very high strain, in order to support the superfluous weight of the covering part.

Now the object of the present invention is the production of a casing of a special construction, lighter and much cheaper, but at the same time much stronger than those at present used. The upper lid, as well as the lower receptacle, is divided into two parts, viz: a frame, the extent of which is by far the smallest, consisting of malleable cast-iron or steel of considerable thickness and therefore very strong, and a cover or protecting part, which is not subjected to any stress, and made of very thin sheet iron.

The drawing shows an embodiment of the invention.

Figure 1 is a side view. Fig. 2 a top plan of the lower supporting frame of Fig. 1. Fig. 3 a front view of the upper and lower members separated. Fig. 4 a rear view of the same.

As already stated, the casing consists of four different pieces. A and B are the lower and upper supporting frames respectively. From the first one the lower grease receptacle C of sheet iron depends, while the latter one supports the upper lid (D) of sheet iron. These four pieces, which are put together and kept together by means of the bolts (*a, b, c, d*) form the casing, which is the subject of the present invention.

In the example shown, the lower supporting frame (A) is of hollow, rectangular, horizontal cross-section, and provided with projecting ears (E, F) which rest upon corresponding projecting ribs of the motor frame; said ears (E F) are provided with holes (*e, f, g*) for being fixed to the motor. The upper supporting frame (B) has the same angular cross-section, and the same form and size as A, but no projecting ears.

The lower part C of the cover, consists of a box of thin sheet iron, inclosed by the frame A, and at the upper part has a bent rim (*q*) by means of which it rests upon the frame A (and which serves as a side wall for tightly closing the upper part of the casing upon the lower one.) The upper lid (D) inclosed by the frame B, is also made of thin sheet iron in the same way, and is provided with a port (*r*) for introducing the grease. The periphery of the driving wheels to be protected, is shown in the drawing by the circular lines P Q.

It has to be remarked, that the improvement is confined neither to the special form of the casing shown in the drawing, nor to any other single outline, but these particulars can be changed indefinitely according to the construction of the motors and frames of the cars, as the invention refers generally and independently of these particulars to a casing for protecting and greasing the toothed gearing, which transmits the motion from the motor, or the motors of an electric car to the axles of the wheels, which casing consists in a strong carrying part, and in another light covering part, which together form a lighter, cheaper and more resistant whole than the casings employed up to the present time.

Having now described this, my invention,

and how the same is to be carried out, what I claim is:

1. In a gear casing for draft gears, a continuous frame adapted to encircle the gears, and a light sheet metal cover inclosed and supported by the frame.

2. In a gear casing for draft gears, a continuous integral frame adapted to encircle the gears on their common center line, and a light sheet metal cover inclosed and supported by the frame.

3. In a gear casing for draft gears, a continuous integral frame of comparatively heavy material adapted to encircle the gears, and a light sheet metal cover inclosed and supported by the frame.

4. In a gear casing for draft gears, a continuous integral frame of comparatively heavy material adapted to encircle the gears on a line of their common diameters, and a light sheet metal cover inclosed and supported by the frame.

5. In a gear casing for draft gears, two continuous integral frames of comparatively heavy material adapted to encircle the gears on a line of their horizontal diameters, and a light sheet metal cover inclosed by each and supported by the frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANGELO TEDESCHI.

Witnesses:
B. CARLO SALVALEI,
M. SUNDORFEN.