

No. 864,568.

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A. SCHIEPPATI & E. IZAR.

VEHICLE.

APPLICATION FILED MAY 20, 1905.

Fig. 1.

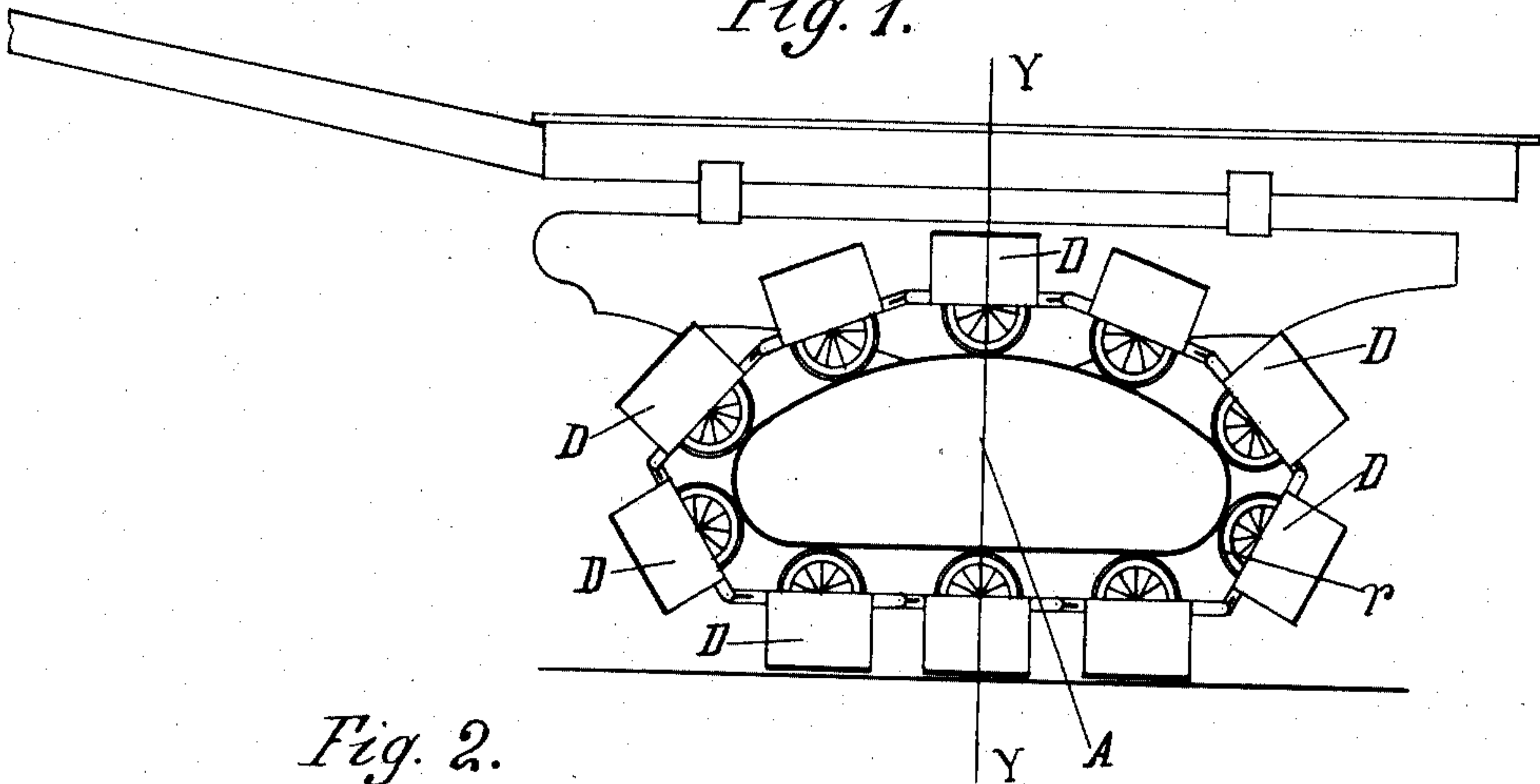


Fig. 2.

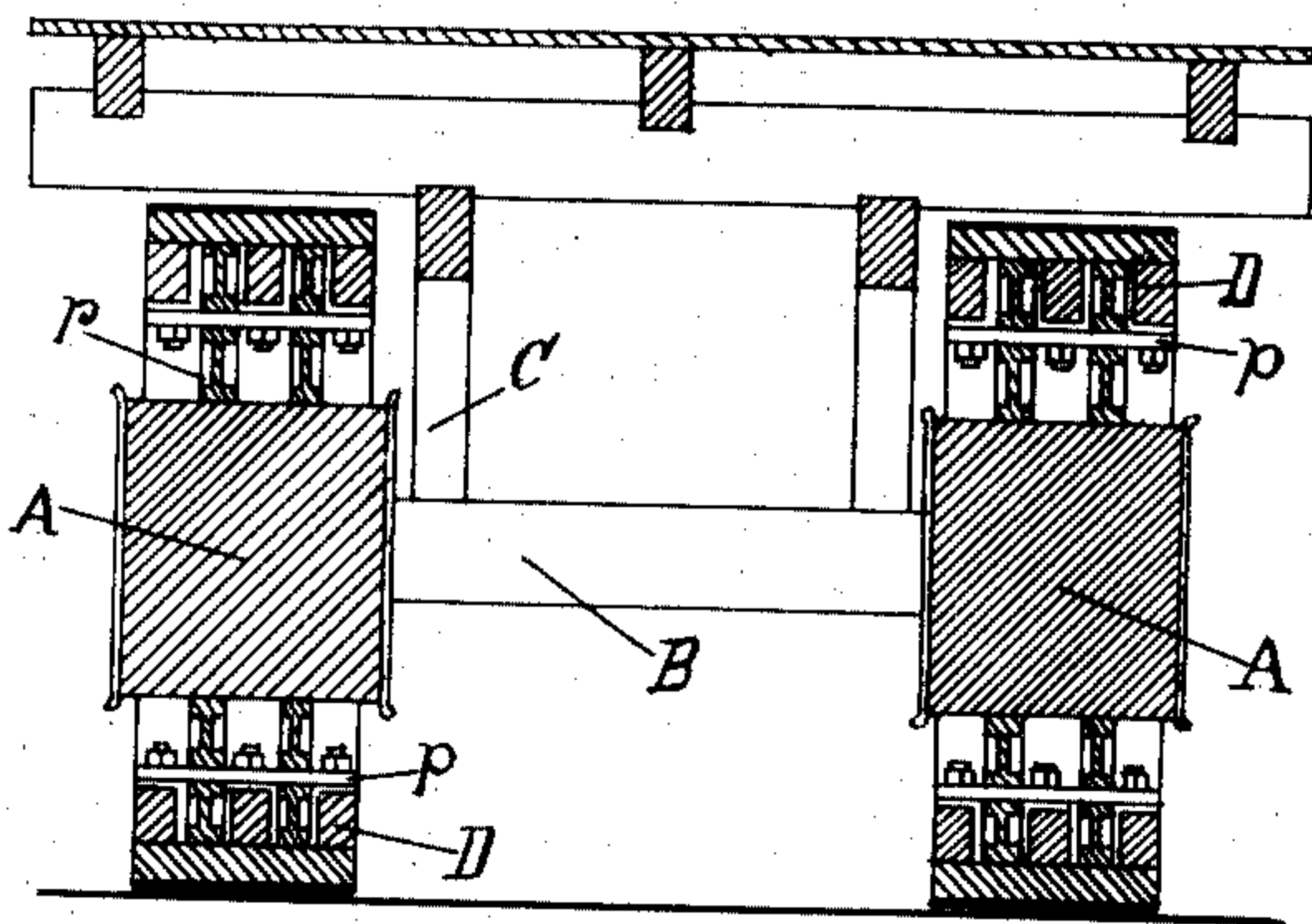


Fig. 3.

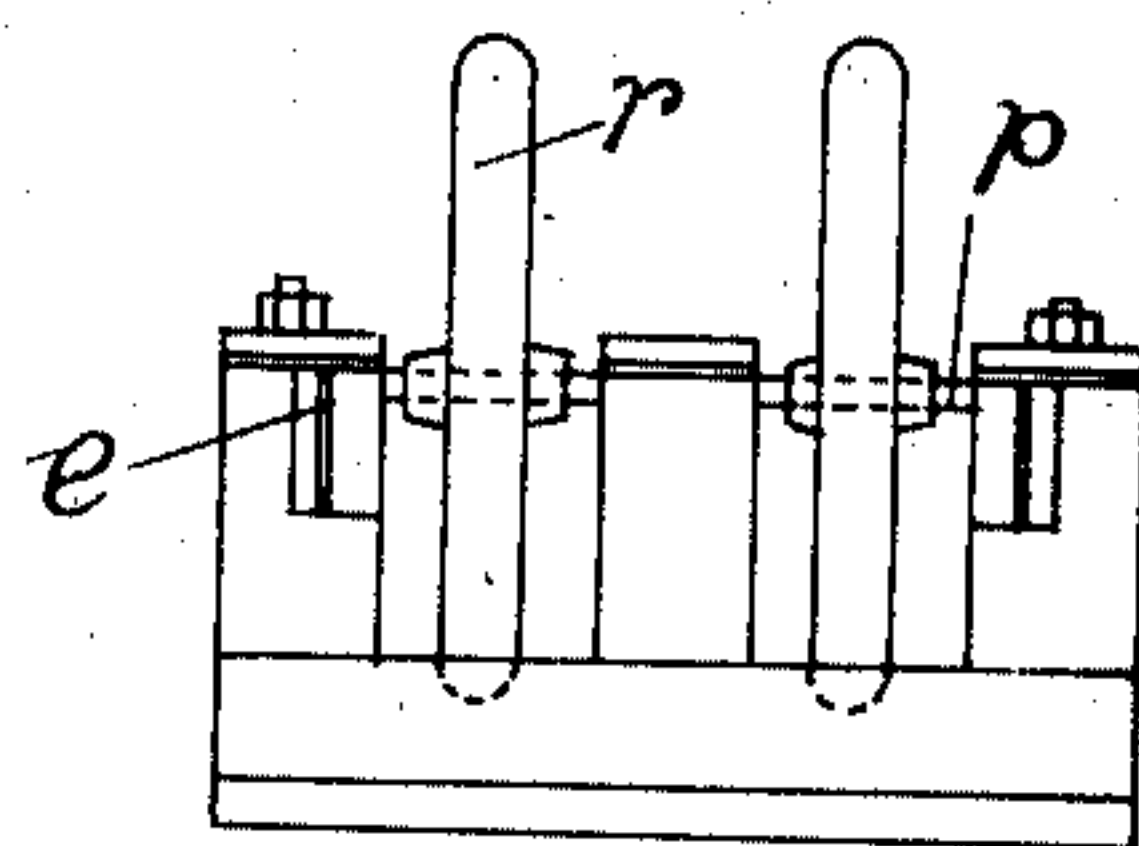


Fig. 4.

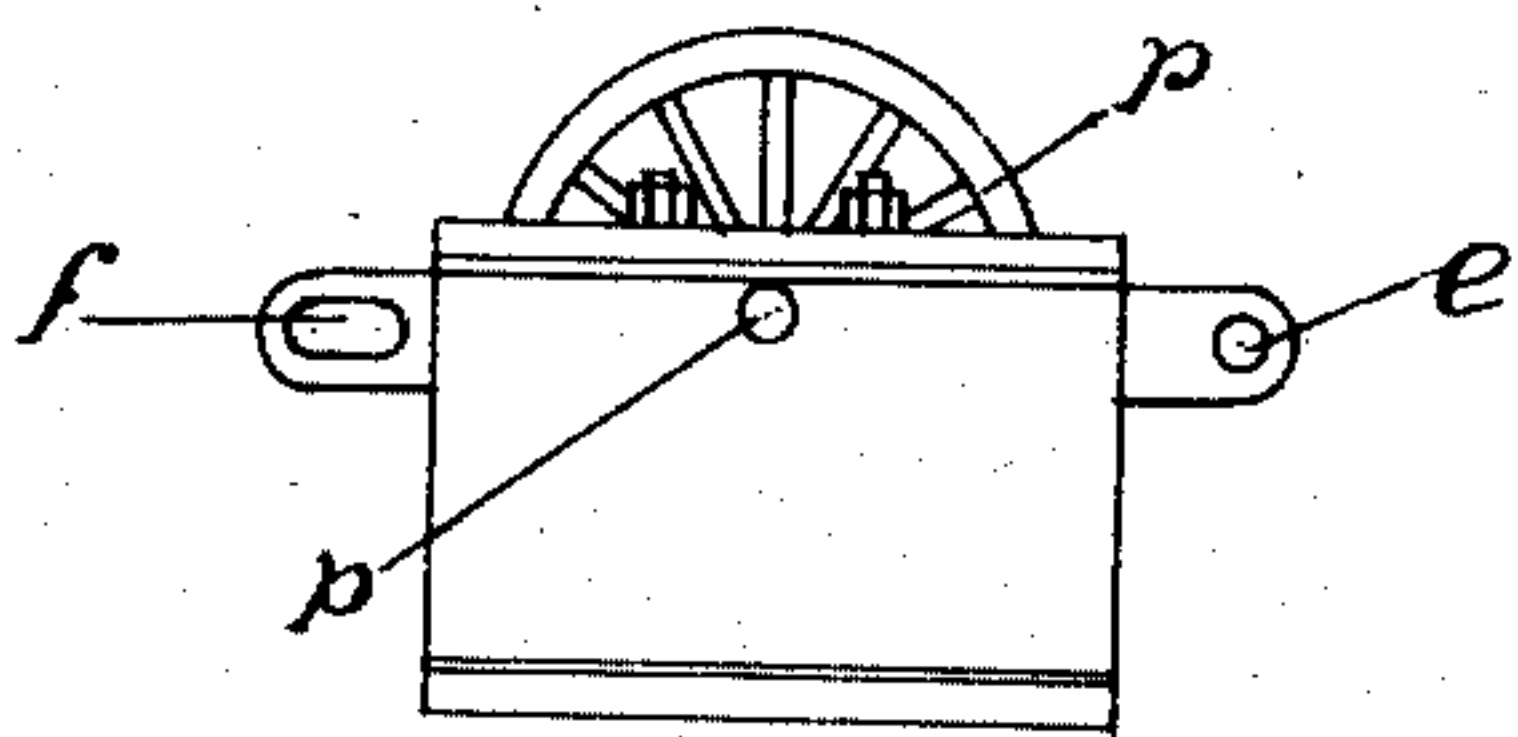


Fig. 5.

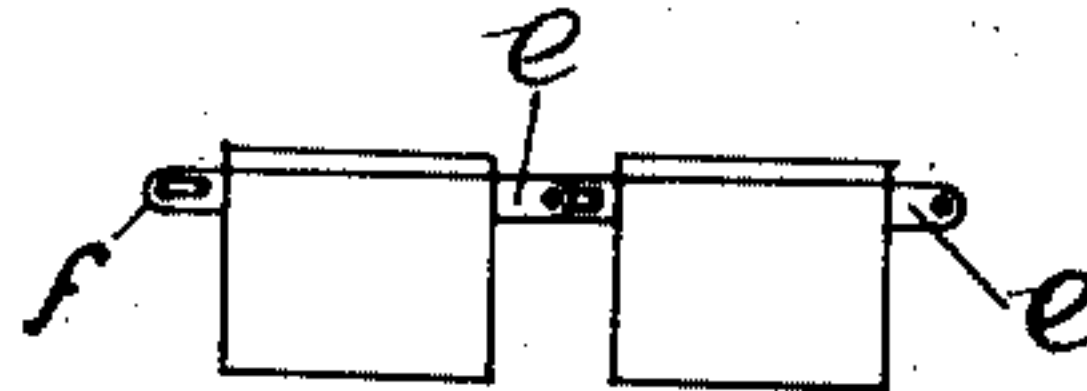


Fig. 6.

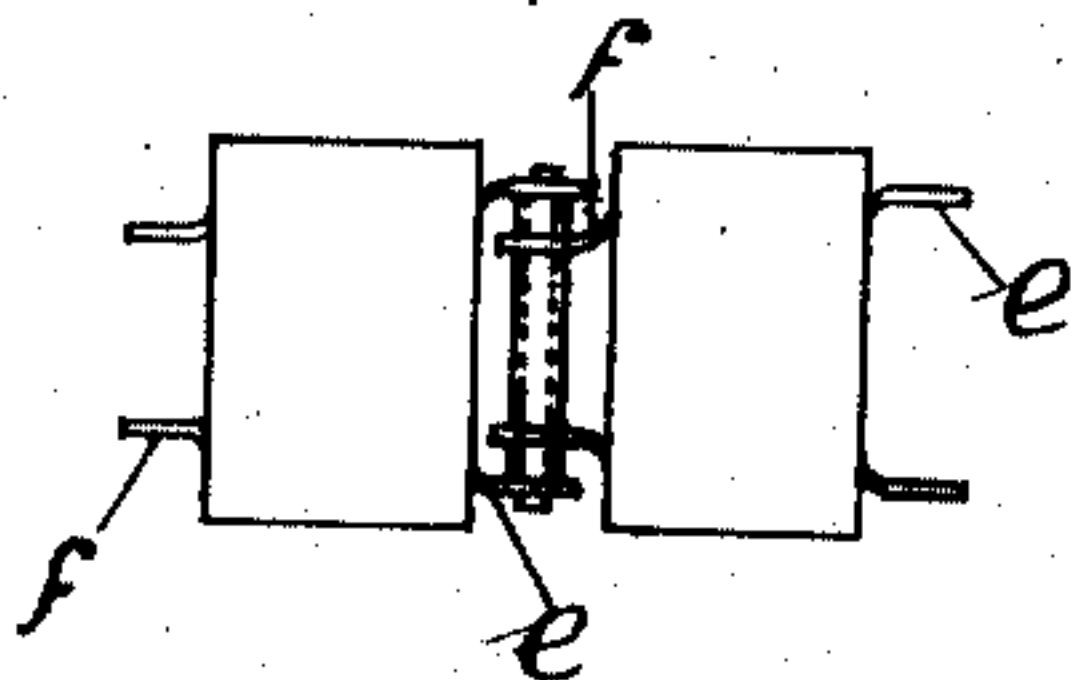


Fig. 7.

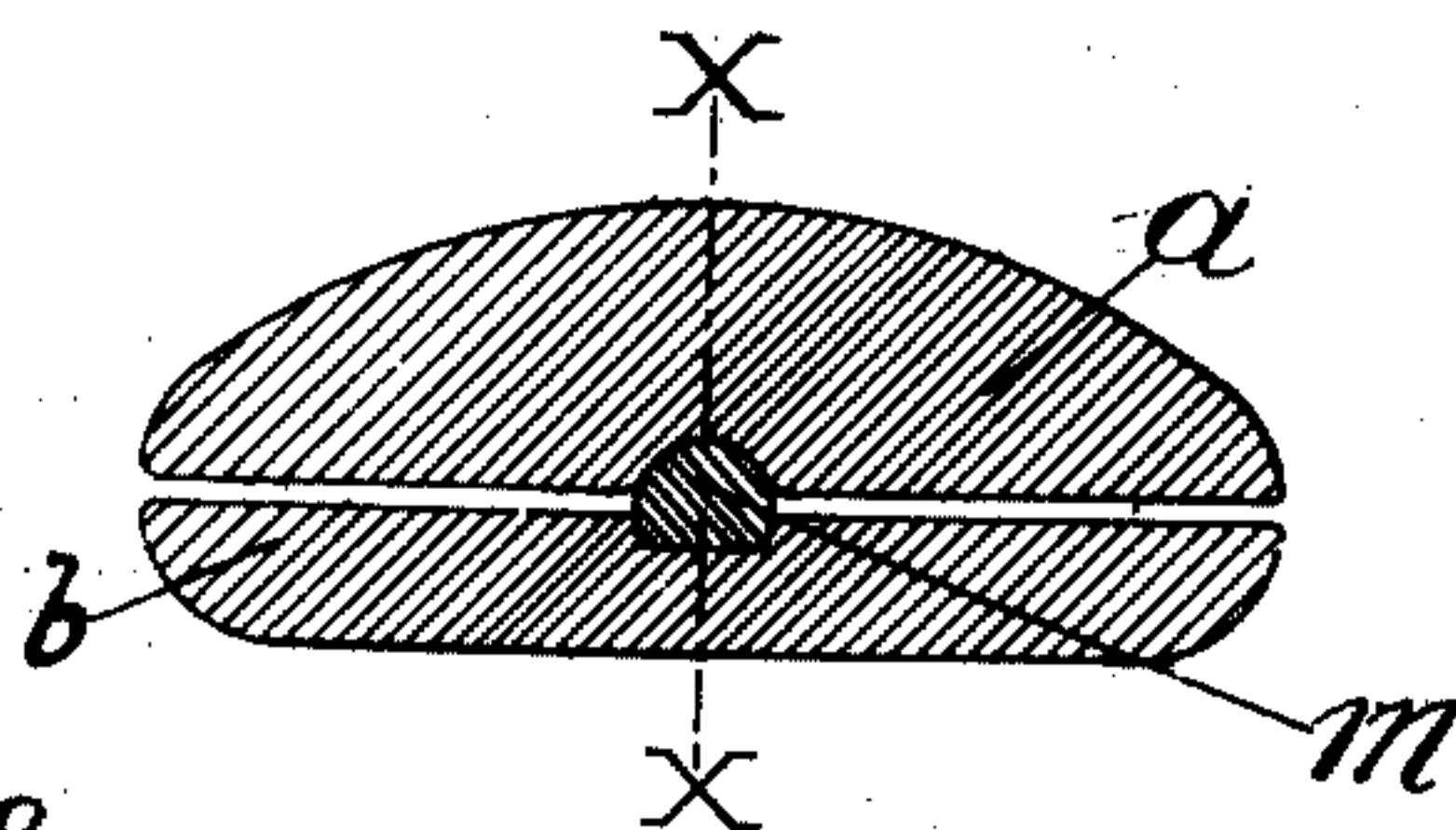
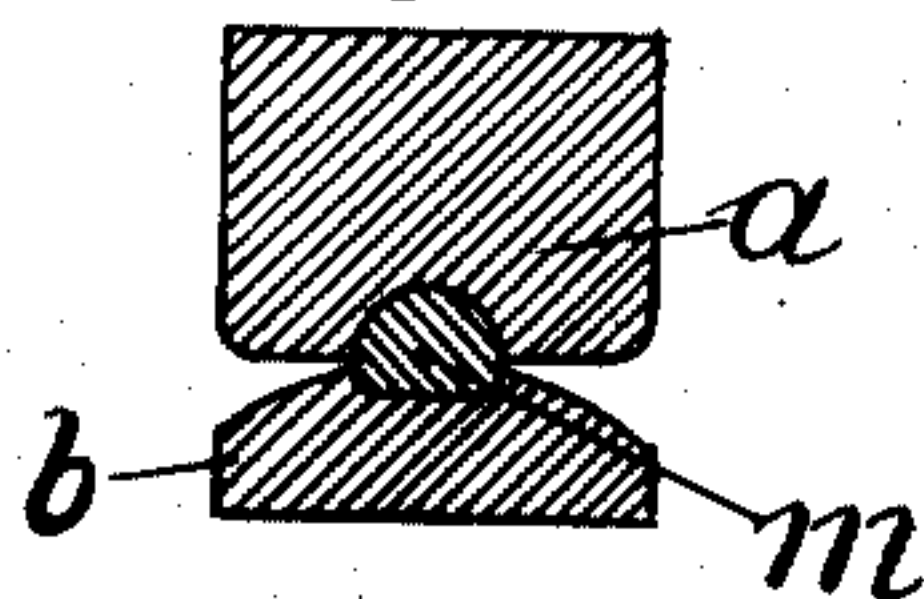


Fig. 8.



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UNITED STATES PATENT OFFICE.

ANGELO SCHIEPPATI, OF MILAN, AND EDOARDO IZAR, OF INVERUNO, ITALY.

VEHICLE.

No. 864,568.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed May 20, 1905. Serial No. 261,481.

To all whom it may concern:

Be it known that we, ANGELO SCHIEPPATI, of Foro Bonaparte 25, Milan, Italy, and EDOARDO IZAR, of Inveruno, Italy, have invented certain new and useful
5 Improvements in Vehicles with Portable Foundations for the Wheels; and we do hereby declare the following to be a full, clear, and exact description of the same.

The vehicle, which forms the subject matter of the present invention, and which will be hereinafter called
10 a "sledge wagon", is shown in the accompanying drawing wherein

Figure 1 shows a side elevation, Fig. 2 a section corresponding to the line $y-y$ of Fig. 1, Figs. 3 and 4 a support seen from the front and the side, Figs. 5 and 6
15 each a detail view of the connection of the supports with one another, Fig. 7 a detail view of a block, and Fig. 8 a section on the line $x-x$, Fig. 7.

Each sledge wagon has two or more blocks A, which are of the form shown in the drawing or any other similar form. They may be in twos as in the special case of
20 the drawing, or also in threes or fours and incidentally have the cross section of an ellipse, which is flattened on one side. Upon the upper surface of these blocks glide the wheels and for this reason the upper surface
25 must be perfectly smooth, without any projections or the like whatever. The blocks consist of wood with a metal sheathing or of metal only or other suitable material.

The blocks may be either rigidly connected with one another, as in the particular case here drawn, where
30 a beam B is located between them, (Fig. 2) or they may be also independent of one another. In the present case the bed of the wagon rests by means of the bearer C upon the beam B, so that in this way the frame of the
35 wagon is supported.

A series of supports or shoes, D, which are joined up into an endless chain and each of which carries a pair of wheels of steel or other suitable material, surrounds
40 each block A. The wheels rotate about a fixed point of rotation which is present on each support or shoe and which may be formed by a transverse shaft or rod, as at p , upon which the wheels turn freely, the relative arrangement and construction being preferably such that
45 the wheels have also a lateral play or movement upon the shaft. When the wagon moves therefore each pair of wheels comes in contact with the surface of the block A.

Figs. 1 and 2 show the arrangement described clearly and it will be seen therefrom that the supports of the chain which are located underneath the block A, bear
50 the entire load. The supports D with the wheels r belonging thereto, are shown in Figs. 3 and 4 from which it will be seen that the wheels rotate about fixed points of rotation between grooves. These grooves are
55 made in the supports themselves. Each of them car-

ries at one end an elongated ring and at the other end a pair of small plates, which are provided with an opening. These parts serve to connect the supports with one another. The supports may consist entirely of hard wood and be partially sheathed with metal or
60 they may also consist of metal or other suitable material. The supports and their wheels r are of course sufficiently strong to bear the entire load.

For connecting the supports with one another the arrangement which is shown in Figs. 5 and 6 is very convenient. A strong metal bar traverses the holes in the small plates e . The interior space of the elongated ring
65 f is so proportioned that the bars cannot come out of these rings. This kind of connection offers the advantage that when the wagon has to pass round a curve the supports can freely adjust themselves to correspond to
70 the direction of movement.

It should be remarked that where the streets are crooked and irregular the supports when they come in contact with the ground must fit themselves thereto,
75 whereby the parallelism which they had with the lower flattened portion up to this point would be lost. From this would follow that one wheel of each support which was located on the underside, would maintain the contact with the flattened lower portion of the block and
80 the load would thus bear upon a single wheel for each support, whereby naturally the danger of the axles breaking would be greatly increased. To obviate this evil, the blocks or side pieces A are made movable in
85 such a manner that their flattened portion may always be kept parallel with the ground, and rest therefore upon all the rollers that are in contact with the ground. This is obtained by dividing block or side piece A into two parts a and b of which a is fixed, and b is movable,
90 being connected with said part a by a shaft or pivot m , so that it is free to rotate and adjust itself parallel thereto on precipitous ground.

We are aware that prior to our invention, vehicles with portable foundation for the wheels have been made, with side pieces or blocks running over an end-
95 less chain of wheels supported by shoes or guards gliding over the ground. We therefore do not claim such a combination broadly.

Having thus described our invention, we claim and desire to secure by Letters Patent:

1. A vehicle of the class described, comprising blocks, as at A, respectively arranged opposite each other on the transverse plane of the vehicle and constituting a support for the bed or body of the vehicle and each having a continuous unobstructed peripheral bearing surface, a distinct
105 series of supports or shoes relative to each of said blocks, the supports or shoes comprising each of said respective distinct series being pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding and operating solely upon
110 one of the blocks and adapted to contact at their outer surface with the ground, whereby each of said blocks is

independently supported by its distinct series of said supports or shoes, and rotatable friction wheels carried by the respective supports or shoes of each distinct series and projecting from the inner sides thereof to contact with the continuous peripheral surface of the respective block, the wheels of each of said distinct series of supports or shoes contacting only with the respective block which is surrounded by that series, substantially as and for the purpose set forth.

2. A vehicle of the class described, comprising blocks, as at A, respectively arranged opposite each other on the transverse plane of the vehicle and constituting a support for the bed or body of the vehicle and each having a continuous unobstructed peripheral bearing surface, a distinct series of supports or shoes relative to each of said blocks, the supports or shoes comprising each of said respective distinct series being pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding and operating solely upon one of the respective blocks and adapted to contact at their outer surface with the ground, whereby each of said blocks is independently supported by its distinct series of said supports or shoes, and a plurality of rotatable friction wheels carried by each of the respective supports or shoes of each distinct series and projecting from the inner sides thereof to contact with the continuous peripheral surface of the respective block, the wheels of each of said distinct series of supports or shoes contacting only with the respective block which is surrounded by that series, substantially as and for the purpose set forth.

3. A vehicle of the class described, comprising blocks constituting a support for the bed or body of the vehicle and having a continuous unobstructed peripheral bearing surface and divided into an upper and lower part pivotally connected so that the lower part can vary position with relation to the upper part, a series of supports or shoes pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding the blocks and adapted to contact at their outer surfaces with the ground, and rotatable friction wheels carried by said supports or shoes and projecting from the inner sides thereof to contact with the continuous peripheral surface of the blocks, substantially as and for the purpose set forth.

4. A vehicle of the class described, comprising blocks, as at A, respectively arranged opposite each other on the transverse plane of the vehicle and constituting a support for the bed or body of the vehicle and each having a relatively-broad continuous unobstructed peripheral bearing surface, a distinct series of supports or shoes relative to each of said blocks, the supports or shoes comprising each of said respective distinct series being pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding and operating solely upon one of the blocks and adapted to contact at their outer surface with the ground, whereby each of said blocks is independently supported by its distinct series of said supports or shoes, and a plurality of rotatable friction wheels carried by each of the respective supports or shoes of each distinct series, the plurality of wheels on each of said supports or shoes being located at different points on the transverse or lateral plane of the shoe and projecting from the inner side thereof to contact at different points on the transverse or lateral plane of the relatively-broad continuous peripheral surface of the respective block, and the wheels of each of said distinct

series of supports or shoes contacting only with the respective block which is surrounded by that series, substantially as and for the purpose set forth.

5. A vehicle of the class described, comprising blocks, as at A, constituting a support for the bed or body of the vehicle and having a continuous unobstructed peripheral bearing surface, a series of supports or shoes pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding the blocks and adapted to contact at their outer surfaces with the ground, and rotatable friction wheels carried by said supports or shoes and projecting from the inner sides thereof to contact with the continuous peripheral surface of the blocks, said wheels having a lateral play or movement with respect to their bearing-mounting upon the support or shoe whereby a variable positional contact with respect to the transverse or lateral plane of the peripheral surface of the blocks is permitted, substantially as and for the purpose set forth.

6. A vehicle of the class described, comprising blocks constituting a support for the bed or body of the vehicle and having a relatively-broad continuous unobstructed peripheral bearing surface and divided into an upper and lower part pivotally connected so that the lower part can vary position with relation to the upper part, a series of supports or shoes pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding the blocks and adapted to contact at their outer surfaces with the ground, and rotatable friction wheels carried by said supports or shoes and projecting from the inner sides thereof to contact with the continuous peripheral surface of the blocks, said wheels having a lateral play or movement with respect to their bearing-mounting upon the support or shoe whereby a variable positional contact with respect to the transverse or lateral plane of the peripheral surface of the blocks is permitted, substantially as and for the purpose set forth.

7. A vehicle of the class described, comprising blocks constituting a support for the bed or body of the vehicle and having a relatively-broad continuous unobstructed peripheral bearing surface of approximately elliptical contour with a flattened under side and divided into an upper and lower part pivotally connected so that the lower part can vary position with relation to the upper part, a series of supports or shoes pivotally connected together to have independent positional movement or play and constituting an endless chain surrounding the blocks and adapted to contact at their outer surfaces with the ground, each shoe being provided with a plurality of rotatable friction wheels at different points on the transverse or lateral plane of the shoe and projecting from the inner side thereof to contact with the continuous peripheral surface of the blocks, said wheels having a lateral play or movement with respect to their bearing-mounting upon the support or shoe whereby a variable positional contact with respect to the transverse or lateral plane of the peripheral surface of the blocks is permitted, substantially as and for the purpose set forth.

In witness whereof we have hereunto set our hands in presence of two witnesses.

ANGELO SCHIEPPATI.
EDOARDO IZAR.

Witnesses:

FRED N. SALERNON,
MICHELE DE DRAGO.