

# PATENT SPECIFICATION



Convention Date (France): Aug. 12, 1920.

167,773

Application Date (in United Kingdom): Aug. 11, 1921. No. 21,381 / 21.

Complete Accepted: June 22, 1922.

## COMPLETE SPECIFICATION.

### Improvements in or relating to Trench Traversing Mechanism for Vehicles.

I, ADOLPHE KEGRESSE, citizen of the French Republic, of 28, Avenue de Tourville, Paris, France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

To enable vehicles mounted on wheels to negotiate trenches and holes in the ground, the use has been often advocated of channel rails or beams which are carried on the machine and placed across the trench to be negotiated at the time and spot selected.

The use of such rails or beams is rather unpractical, since, in order to position the beams, the machine has to be stopped while the positioning itself has to be effected with very great care.

Furthermore its wheels having to engage on the narrow gangway, the steering of the machine is awkward and often considerably difficult. Furthermore again, once the trench or hole has been negotiated, another stoppage is required for removal of the beams and stowing them on the machine again.

This invention comprises a device permanently secured under the vehicle carrying axle, which may also be the steering axle as, for instance, the front axle of a motor vehicle fitted with front or a front and rear drive. The said device is applicable also to all wheeled trailers, each carrying axle of which is fitted with a complete apparatus.

In the drawings:

Figure 1 is an elevation of a device constructed according to this invention.

Figure 2 is a plan view of the same.

[Price 1/-]

Figure 3 shows a modification of the ends of the described device.

The axle 1 (Figures 1 and 2) is shown here of tubular section, but it may be of H-section, but in the latter case, should be sleeved or provided at its lower part with a parallel shaft permitting the two beams 2 to swing or oscillate (Figures 1, 2 and 3).

A collar or ring in two pieces 3 (Figures 1 and 2) is journalled on the axle 1. The said ring carries on its lower part a laminated spring 4, the ends of which are connected with the beams 2, by means of suitable links 5 and shafts 6.

The two beams 2 are connected with each other by means of the shafts 6 and also by small axles 7 round which can freely rotate rollers 8, the number of these varying according to the length of the device. In the embodiment shown, there are three of them. A fourth roller of larger diameter, is adapted to rotate freely on the fore-end of the device. Its axle is supported by two springs 9 (Figures 1 and 2) of suitable shape.

The front and rear of the beams, or only one of these parts, may be adapted to receive a bogie device shown for example in Figure 3. In this case, rollers 8 and 10 are connected by two smaller beams 11, (one on each side of the rollers), adapted to rock round an axle 12 carried by the end of the beams 2 provided for the purpose. Rigid beams 11 may be replaced by springs without any modification of the general device. When the question of weight is practically immaterial, rigid beams 2 may be replaced by large plate springs. In such

a case, the laminated springs 4 and the springs 9 may be done away with, and the beams directly secured to the ring 3, adapted for the purpose by means of a slight modification.

The rollers may serve as pulleys permitting belts 13 to be used. In this case, such pulley rollers are provided with flanges 14 (Figure 2) to prevent the belt from slipping off.

Line A—A indicates the longitudinal axis of the vehicle.

The working of the whole arrangement is automatic. The moment a wheel runs into a trench, the rollers bear on the ground and ensure the vehicle running on. The width of the negotiable trenches depends on the distance of the end rollers from the vertical axis of the wheel.

The purpose of belts 13 is to prevent the wheels from sinking in particularly soft grounds.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A trench traversing mechanism for

vehicles comprising an arrangement of beams, articulated symmetrically beneath the axle of a vehicle, such beams being maintained at a suitable height from the ground so as not to hinder the movement of the wheels of the vehicle on normal ground, and rollers, the number and arrangement of which may vary, being arranged between the beams.

2. A trench traversing mechanism as claimed in Claim 1, in which the rollers carry belts to serve as a bearing surface on soft grounds.

3. A trench traversing mechanism as claimed in Claim 1, in which the ends of the beams are fitted with springs or are adapted to receive a bogie device.

4. The complete trench traversing mechanism for vehicles, substantially as described or substantially as illustrated in the accompanying drawings.

Dated this 5th day of August, 1921.

BOULT, WADE & TENNANT,  
111 & 112, Hatton Garden, London,  
E.C. 1,  
Chartered Patent Agents.

Fig.1.

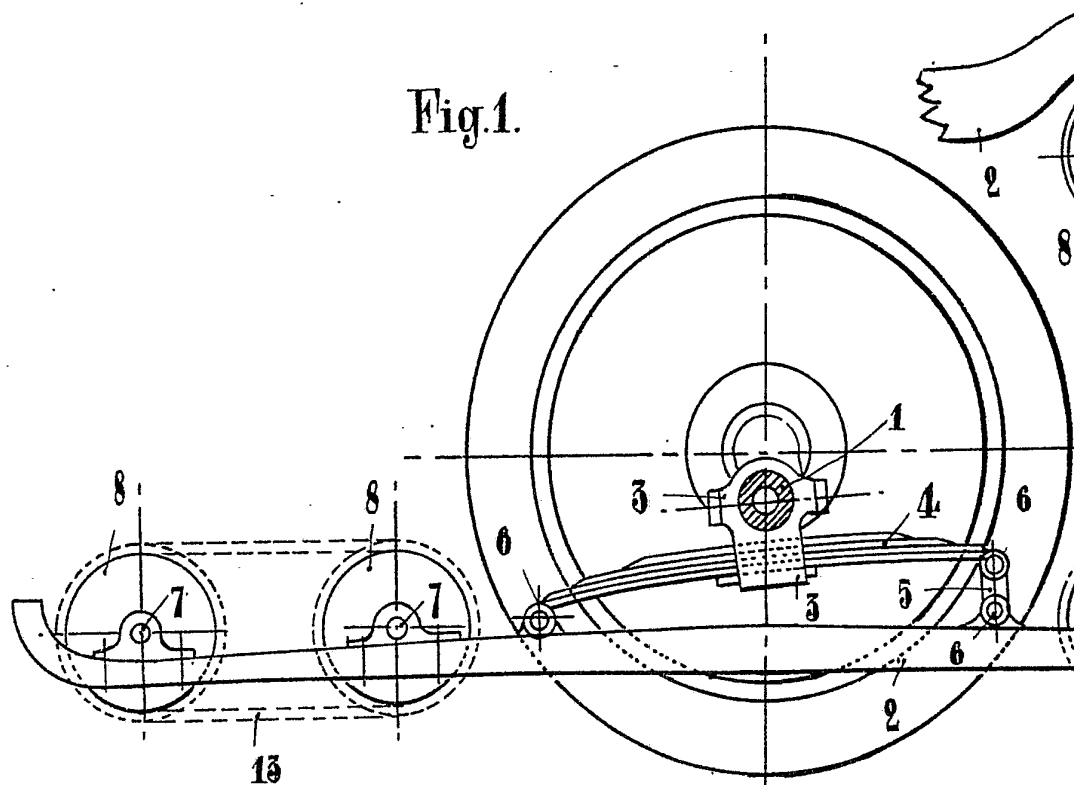
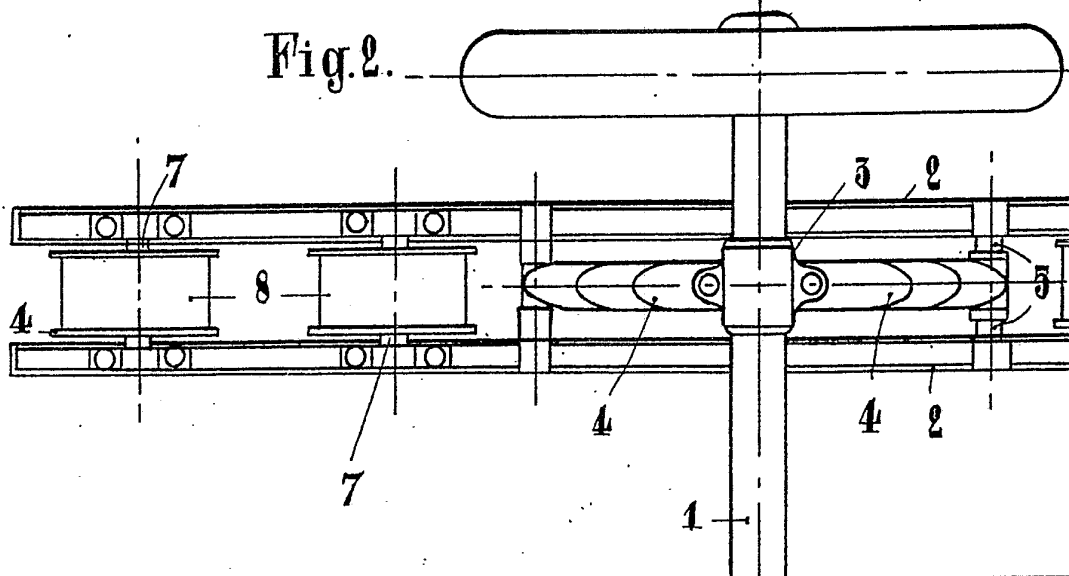


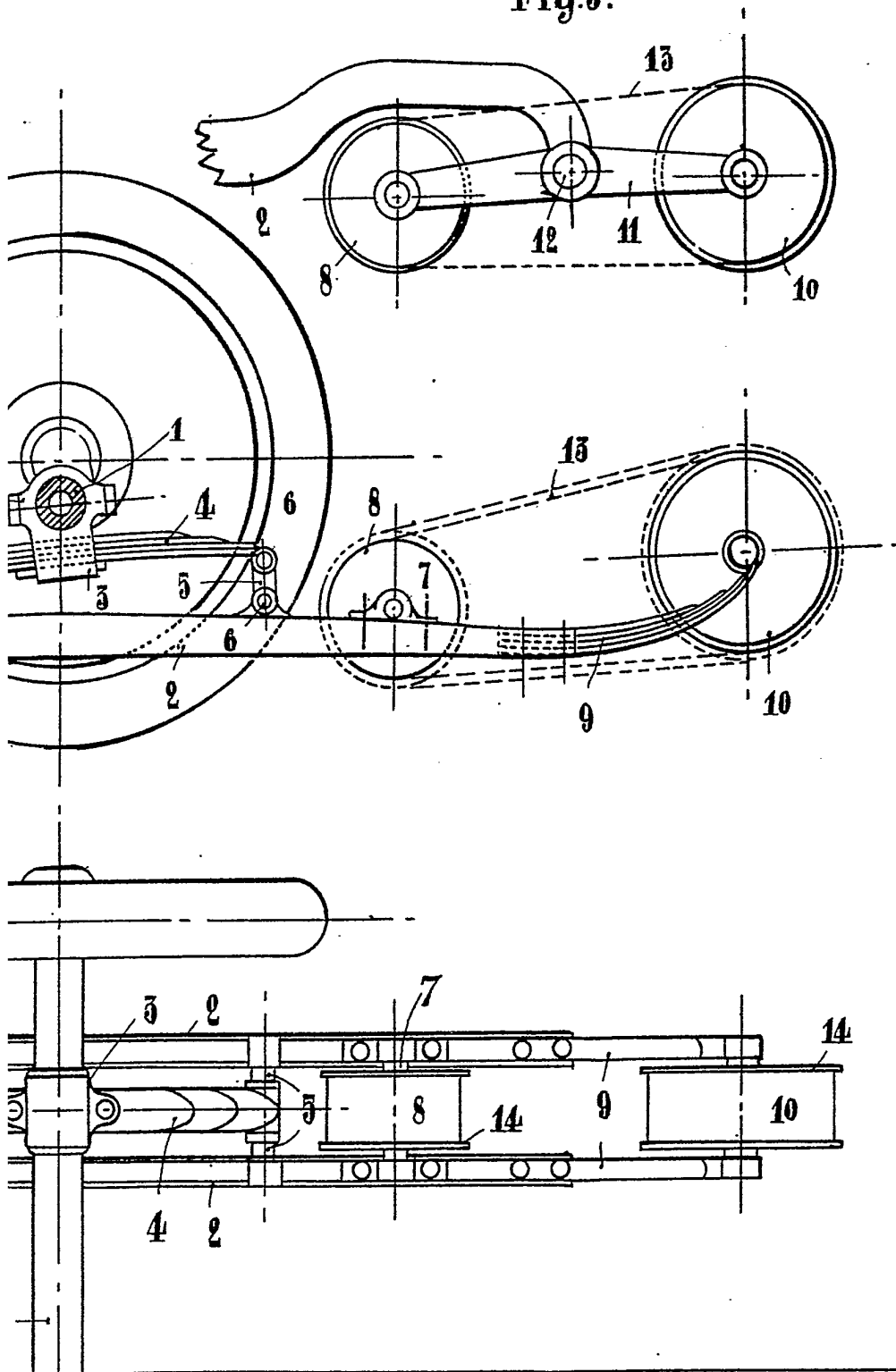
Fig.2.



A

[This Drawing is a full-size reproduction of the Original.]

Fig. 3.



A

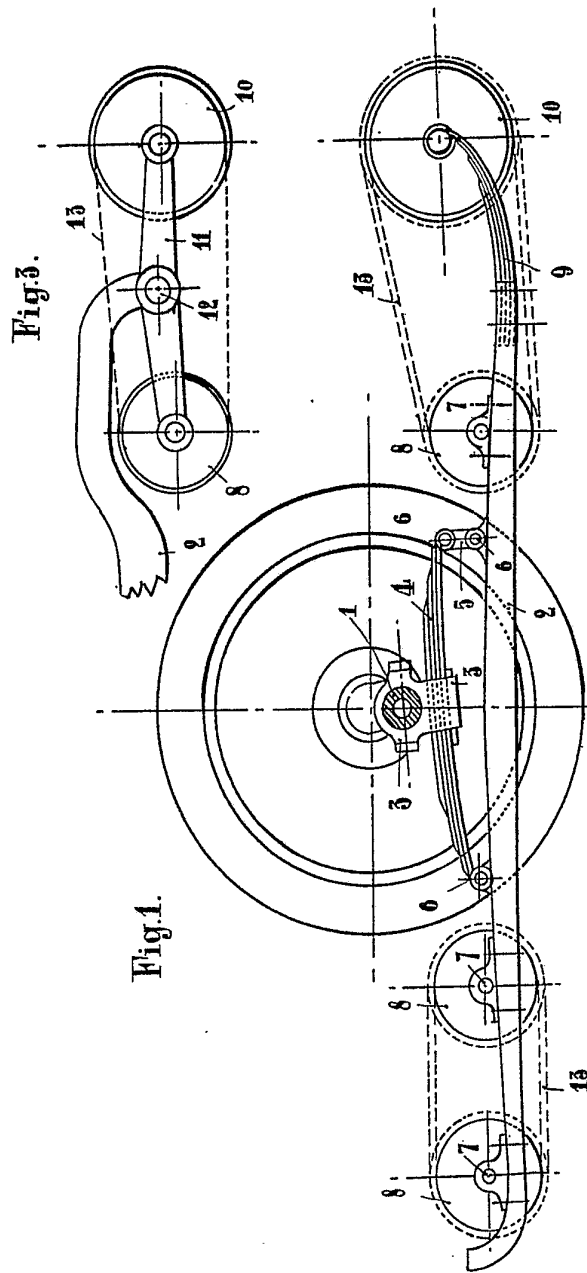


Fig. 1.

Fig. 3.

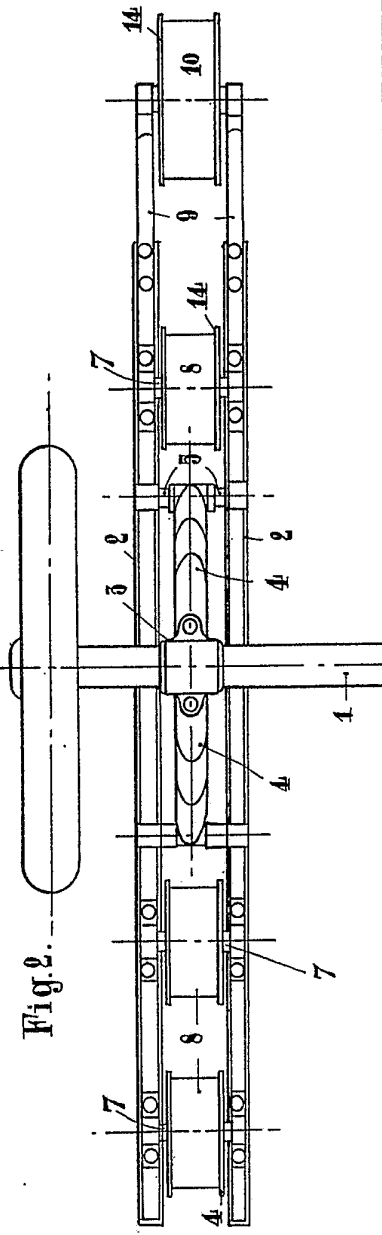


Fig. 2.

[This Drawing is a full-size reproduction of the Original]

A

A