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(54) **METAL AND RUBBER CATERPILLAR**

(57) **Abstract:**

(54) **CHENILLE EN METAL ET CAOUTCHOUC**

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In the known metal-and-rubber caterpillars, the endless band which forms the core of the belt and effects the traction serves also as a track for the rollers.

The latter, by ~~the~~ rolling upon the band, damage the same.

This invention concerns a novel metal-and-rubber caterpillar in which two endless strips form the cores of the belt and provide for the traction of the same without undergoing the action of the rollers.

Two embodiments of the invention are shown by way of example in the appended drawings.

Figure 1 is an elevational view of the recommended device.

Figure 2 is a cross sectional view of said device, and

Figure 3 is a cross sectional view of a modification.

1 designates the rollers throughout the several views.

The belt consists of two endless strips providing for the traction of the whole and arranged parallel with each other, a space being left free between them.

Arranged crosswise of the strips and in nearly contacting relation to one another are plates 3 by which the strips are connected to each other and maintained in the desired space relation. With this object in view, the endless strips 2 are secured upon the plates 3 by means of bolts 7 which, at the same

time, hold the positive drive prongs 8 in position upon the endless bands. The prong rows 8 occupy only part of the breadth of the endless strips 2; the surfaces which remain free (see Figures 2 and 3) serve as bearing surfaces for the belts upon the pulleys by which the structure is supported. The driving pulley 9 (see Figure 1) is formed with recesses 12 (see Figs. 1 and 2) suited to prongs 8.

Arranged between the endless strips 2 is the guiding means which may consist of a U-shaped member 5 cast integral with the plates or secured thereto as shown in Figure 2, for instance by means of rivets or countersunk bolts 10.

In the modification shown in Figure 3, the guiding means consists of one single rib either cast integral with plate 3 or secured thereto by known means.

Arranged upon the opposite face of plates 3 are the ground engaging blocks 4 which are made of a plastic material.

The track for the rollers is provided in the case of Figure 2 by the inner part of the U-shaped member. With this object in view, the dimension of the base of the U-shaped member lengthwise of the belt is equal to the pitch of the caterpillar, as may be seen by reference to Figure 1.

The result of such arrangement is that the ends of the bases of two consecutive U-shaped members engage each other, whereby the rollers may pass over without any impact from one belt element upon the other.

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In the modification shown in Figure 3 , the track for the rollers on either side of the guiding rib 6 is provided by plates 3 themselves . The breadth of the plates is equal to the pitch. On even ground , a smooth surface is thus formed whereby the rollers may pass over without any jar from one element of the caterpillar upon the next one .

In order to obtain a noiseless running , the track for the rollers may be covered with a layer of rubber or like non -metallic material . Also, it may be provided with one or more endless strip elements , for instance of rubber-lined fabric .

The guiding of the belt in the idle pulleys is provided for , as shown in Figure 2 , by the outer portion of the U-shaped member 5 for the guiding of the rollers . In the case of the modification according to Figure 3 , the guiding in the pulleys is afforded by the central rib 6 as in the known caterpillars .

In the modification shown in Figure 2, the endless strips 2 bear laterally against the bottom portion of the outer face of the U-shaped member flanges , whereby foreign matter is prevented from getting between the strips 2 and the guiding U-shaped member 5 . The effect of this feature is that the general structure of the belt is strengthened in that the plates are prevented from assuming a diagonal position .

As may be seen from the above description , the endless strips which effect the traction of the belt are no longer subjected to the destructive effects of the rollers and are thus capable of performing a much longer service.

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Having thus described my invention, I claim:-

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1. In a caterpillar traction system for motor-vehicles, an endless track comprising two endless flexible and parallel belts spaced apart a given distance, metallic elements secured to the outside of the belts and joining the same together, plastic thread blocks supported at the middle exterior face of the elements and adapted to contact with the ground, supporting rollers bearing on the face of the elements free from the belts, and toothed driving means engaging apertures provided on the inside face of the belts.

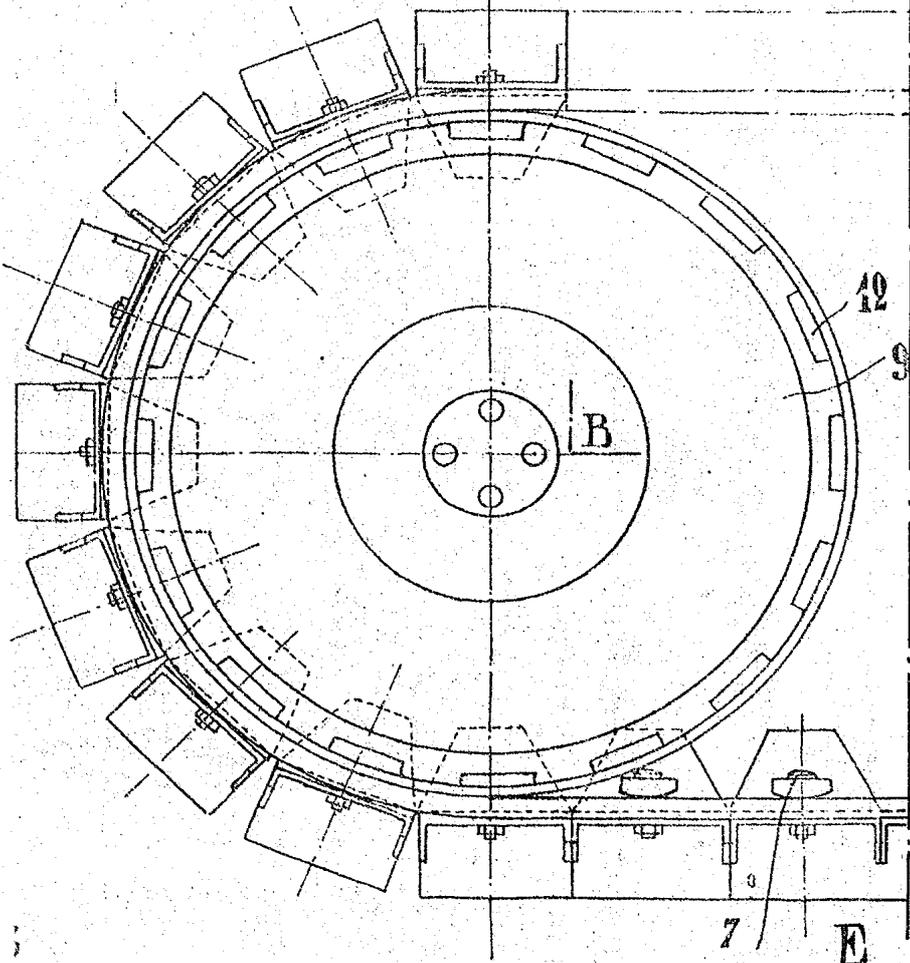
2. A caterpillar as claimed in claim 1, wherein the track is guided by means of a rib provided at inside the middle portion of the metallic elements engaging a channel on the periphery of the supporting rollers.

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MONTREAL APRIL 8th, 1929.

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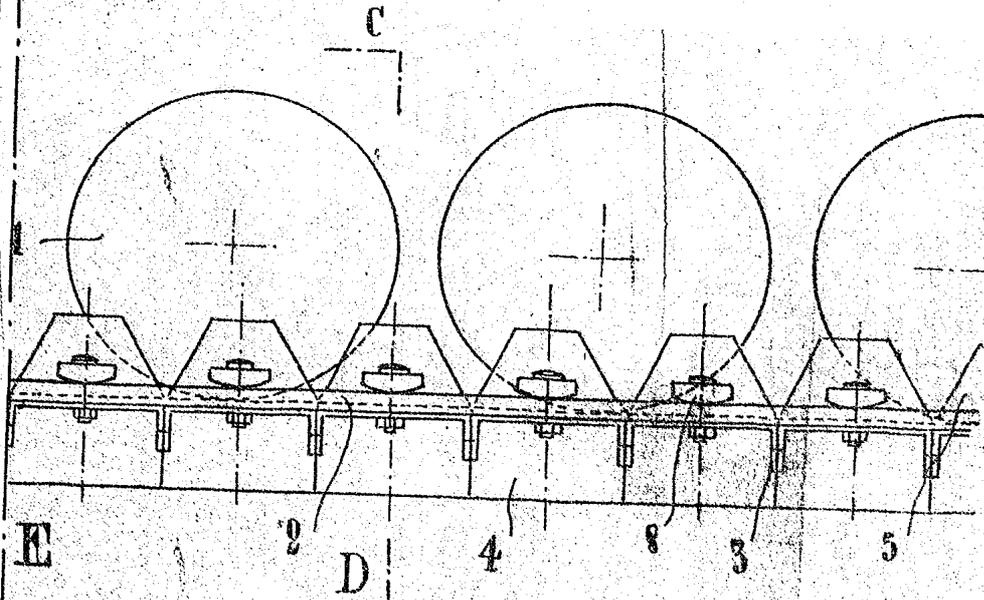
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Fig. 1



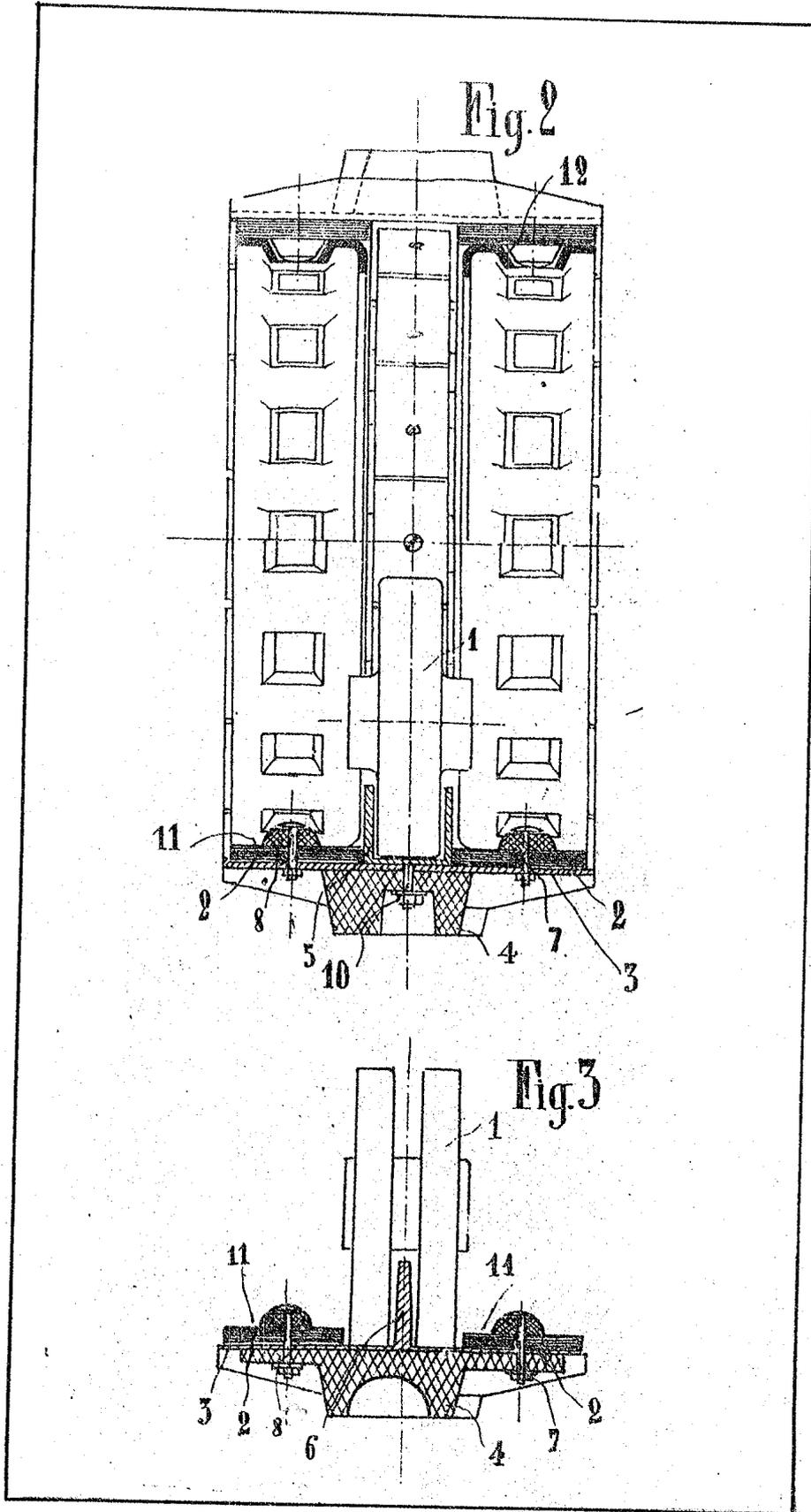
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