Nov. 15, 1949 H. A. KNOX 2,487,813

ENDLESS BAND TRACK

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Fig. 7.

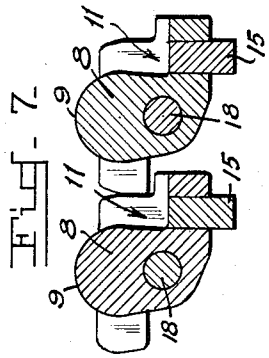


Fig. 1.

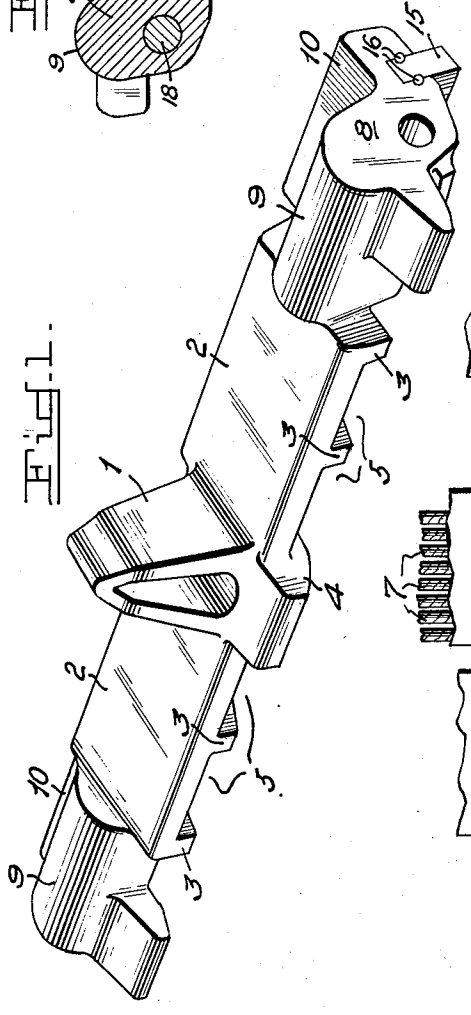
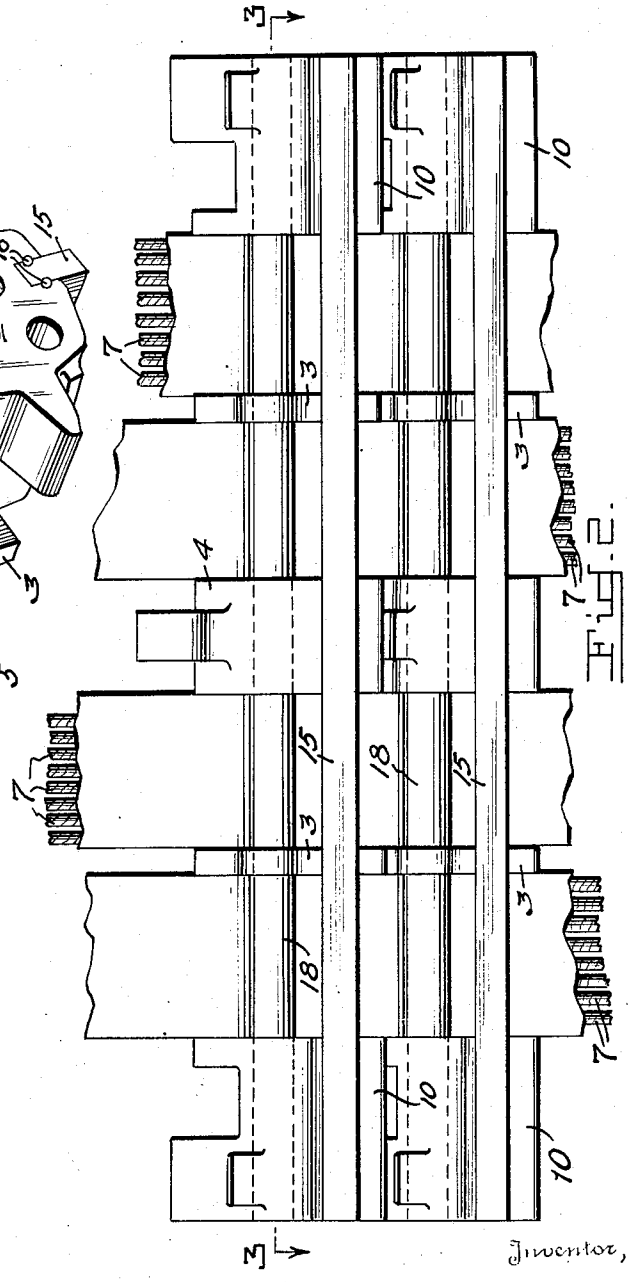


Fig. 2.



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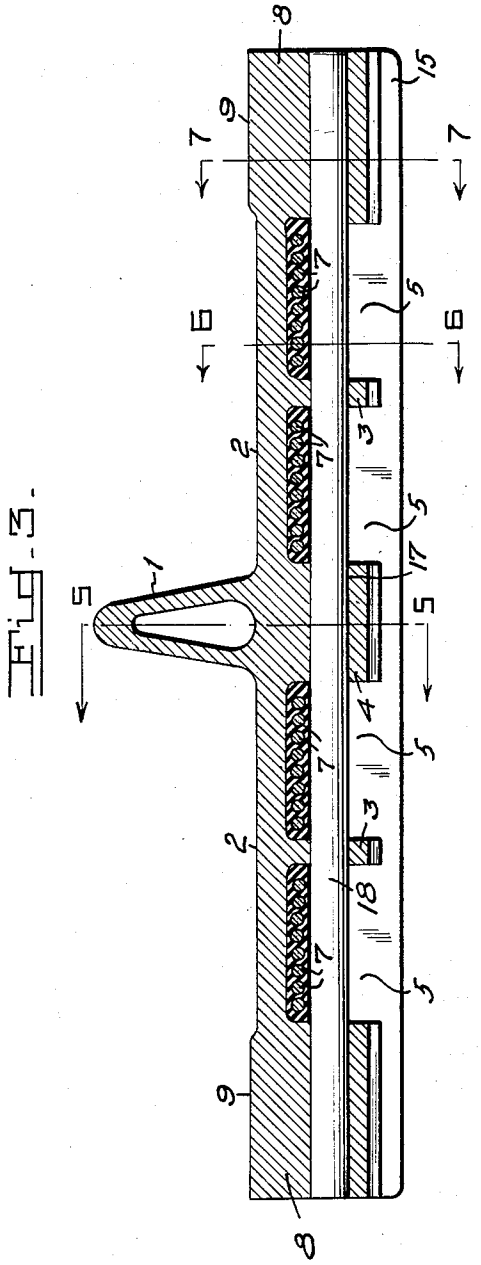


Fig. 3.

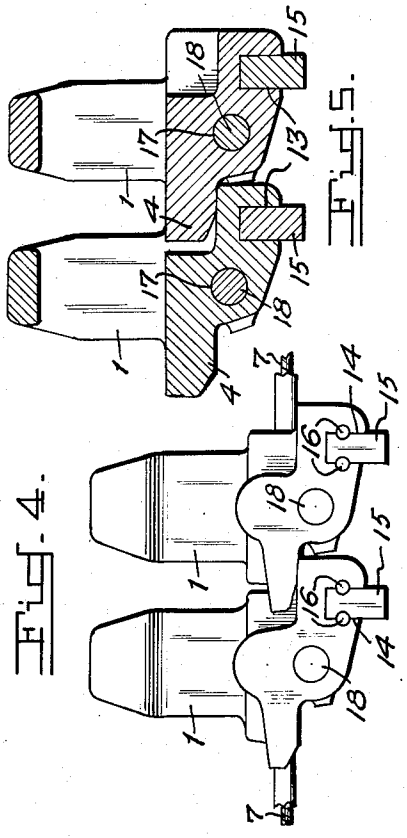


Fig. 4.

Fig. 5.

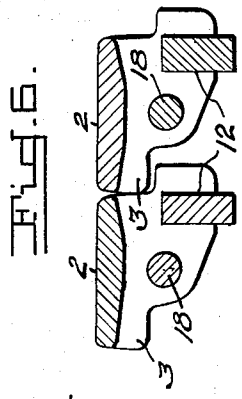


Fig. 6.

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ENDLESS BAND TRACK

Harry A. Knox, Washington, D. C.

Application August 26, 1947, Serial No. 770,701

9 Claims. (Cl. 305—10)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

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The invention described herein may be manufactured and used by or for the Government for governmental purposes without the payment of any royalty thereon.

This invention relates to a track for tracklaying vehicles, and in particular to a track of the endless type wherein individual track shoes are assembled upon an endless belt of flexible design or material.

It is an object of the invention to provide a track of this nature, wherein the endless belt is carried intermediate the wheel engaging and ground engaging portions. It is a further object of the invention to provide a track as just described in which assembly is readily effected and a minimum number of component parts are required. A further object is to provide an endless track in which the resilient element is limited to the function of integrating the tractive elements.

These and other ends will be apparent from the accompanying specification taken in conjunction with the drawings in which like reference characters represent like parts throughout, and in which:

Fig. 1 is a view in perspective of a track shoe unit,

Fig. 2 is a fragmentary bottom view of a pair of track shoes connected through the endless belt,

Fig. 3 is a section on the line 3—3 of Fig. 2,

Fig. 4 is an end view of a pair of track shoes, and Figs. 5, 6, and 7 are sections taken on the lines 5—5, 6—6 and 7—7 respectively of Fig. 3.

The track shoe in the embodiment illustrated is of the center guide type, having a raised guide member 1 medially of a flat portion 2 which is designed to engage the bogie and idler wheels of a vehicle. Beneath the flat portion, vertical ribs 3 and a wide central rib 4 define channels 5 which serve to accommodate the endless belt 6. The belt is preferably of rubber or like material and includes reinforcing cables 7.

End pieces 8, integral with the shoe have a domed portion 9 and a depressed portion 10 which define a sprocket well 11 (Fig. 7).

The ribs 3, 4 and the end pieces 8, have rectangular slots 12, 13, 14 respectively which accommodate a grouser 15 secured at its ends to the shoe by pins 16.

The ribs and end pieces are bored coaxially with a bore 17 in the central rib 4 to receive a pin 18 which serves to hold the endless belt in the shoe channels, and preferably with a slight compression of the belt to prevent creep of the shoe along the belt.

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Assembly is effected merely by placing the shoe over the belt sections so that each of the latter is received in a channel 5. Driving in of the pin 18 completes assembly. The grouser may be added before or after attachment of the shoe to the belt.

It is thus seen that there is provided an endless track having ground gripping elements which are separately attached or removed and with minima of parts and of effort. The shoes are readily fabricated by casting or drop forging, and the only machining required is to rough grind the surface against which the bands lie, and the drilling of the holes. The novel shoe and method of attaching provides a longer length than usual for the bands to bend, and the bending action of the bands on the underside will tend to loosen any packed mud, sand or snow.

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

1. A track for tracklaying vehicles comprising a shoe having a flat, upper, wheel-engaging portion, an under portion having ribs defining a channel longitudinally of the shoe and said ribs having coaxial bores transversely of the shoe, an endless, flexible belt received in the channel, a pin in the bore under the belt, securing the belt in the channel, and ground-engaging means secured to said under portion.

2. The invention of claim 1, said ground-engaging means comprising a grouser secured at the lateral ends of the shoe, and slots in said ribs receiving the grouser.

3. A track for tracklaying vehicles comprising a shoe having a flat, upper, wheel-engaging portion, an under portion having ribs defining a channel longitudinally of the shoe and said ribs having coaxial bores transversely of the shoe, an endless, flexible belt received in the channel, and a pin in the bore under the belt, securing the belt in the channel.

4. A track shoe for tracklaying vehicles comprising a flat, upper, wheel-engaging portion, and an under portion, constructed and arranged for attachment of a ground-engaging portion, said under portion having ribs defining a channel longitudinally of the shoe, said ribs having a bore transversely of the shoe and parallel with said flat wheel-engaging portion and spaced from the bottom of the channel and a pin passing through said bore to provide with said channel, a passageway for a belt for connecting a series of said shoes.

5. A track component for a tracklaying vehicle comprising a shoe having a wheel-engaging flat first portion on one side and a second portion having ground-engaging means on the opposite side, means on said second portion defining a flat-bottom channel opening outwardly of said side and having a through-opening transversely of the shoe and parallel to and spaced from the flat bottom of said channel, an endless belt fitted in said channel, and a removable locking member received in said through-opening and confining said belt between itself and said channel bottom.

6. A track for tracklaying vehicles comprising a shoe having a wheel-engaging, flat upper portion, and a lower portion having ground-engaging means, means on said lower portion defining a channel extending longitudinally of and opening downwardly of the shoe, an endless belt fitted in said channel, and pin means extending transversely of the shoe in spaced relation with the bottom of the channel to confine the belt in place in the channel.

7. In a component for the track of a tracklaying vehicle, a shoe having a wheel-engaging surface on a first side, and spaced parallel longitudinally and outwardly extending projections on the opposite side, said projections defining a channel between them, there being aligned apertures through the respective projections spaced outwardly from the bottom of said channel, and removable rod means passing through all said

apertures whereby said shoe may be removably secured to a belt in said channel.

8. In a component for the track of a tracklaying vehicle, a shoe body having a wheel-engaging surface on one side and spaced parallel longitudinally-extending projections extending outwardly from the other side, said projections defining between them a plurality of channels having flat bottoms parallel with said wheel-engaging surface, transversely aligned apertures in said projections and spaced outwardly of the bottoms of said channels, and pin means passing through said aligned apertures and removably secured therein whereby said shoe body may be removably secured to a plurality of belts each passing through a respective channel.

9. A track component as recited in claim 8, there being aligned transverse channels in each said projection, each channel being offset outwardly and longitudinally of its respective aperture, and a grouser removably secured in said transverse aligned channels.

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The following references are of record in the file of this patent:

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