

PATENT SPECIFICATION

679,896



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COMPLETE SPECIFICATION.

Improvements in endless track vehicles

I, JOSEPH ARMAND BOMBARDIER, a Canadian Citizen of Valcourt, County of Shefford, Province of Quebec, Canada, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention pertains to endless track vehicles and is more particularly concerned with an attachment unit for a vehicle to be propelled. The vehicle is of the type embodying endless tracks, one at each side thereof.

It has been found in practice that it is desirable to have a choice of three different spacings between track centres. One or another of these sizes is preferred by the user either at the time of original purchase or in adapting the vehicle for various jobs.

The principal object of the invention is to provide an attachment unit incorporating improved means for adjustment of the track width. Another object is to provide a construction wherein the adjustment requires no specially made tools or spare parts.

Adjustment of the track width for endless track vehicles, by means of displaceable collars has been previously proposed.

The invention consists in an endless track vehicle including a driving axle, a wheel thereon, a swivel assembly on the housing of said axle, an arm extending transversely of said axle and being at one end swivellingly mounted on said assembly, means for adjusting the swivelled end of said arm lengthwise of said axle, and a wheel supported by said arm, the last named wheel and said arm being free for lateral adjustment with respect to said axle.

The invention further consists in an endless track vehicle including a driving axle, a wheel thereon, a U-shaped member fixed on the housing of said axle, a stub shaft mounted on said member, a slidable sleeve and a pair of removable collars on said shaft and substantially filling the space between

the sides of said member, an arm extending radially from said sleeve, and a wheel supported by said arm, the last named wheel and said arm being free for lateral adjustment with respect to said axle.

Further features of the invention are more particularly pointed out in the appended claims.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Fig. 1 is a side elevation of the tractor, partly broken away;

Fig. 2 is a detail section;

Fig. 3 is a plan view;

Figs. 4 and 5 are detail sections on the lines 4-4 and 5-5 of Fig. 3; and

Figs. 6 and 7 are detail elevations showing different adjustments.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Fig. 3 is shown the rear axle housing 1 of a tractor and a differential casing 2, the track being arranged for driving a suitable vehicle 3, Fig. 1, as known in the art. The axle carries rear wheels 4, and the arrangement also includes forward wheels that will hereinafter be described.

On each end of the axle housing 1 is mounted a pair of blocks 5 to which is secured by bolts 6 a U-shaped member 7 having a pair of forwardly extending spaced limbs 8. Between the limbs is mounted a stub shaft 9 held by a pair of screws 10 at the ends. On each shaft 9 is rotatably mounted a sleeve 11 and a pair of removable collars 12, and an arm 13 extends from each sleeve for carrying a forward wheel. The collars are split as shown in Fig. 5, and the sections thereof are secured together by screws 14. Thus, the collars are removable and can be positioned differently on the shaft 9 for a purpose that will hereinafter be described.

Each of the arms 13 carries a bearing block 15 adjustable by means of a screw 16

extending therefrom through a bracket 17 fixed on the arm. Each block 15 carries a trunnion 18 on which is mounted the forward wheel 19. At each side of the attachment, an endless track 20 passes over one wheel 4 and one wheel 19.

The arrangements of the sleeve 11 and collars 12 provides for various widths of tread, as shown in Figs. 3, 6 and 7. The wheel 4 is adjustable toward and from the rear axle by means already known in the art. It then becomes necessary to adjust the wheel 19 correspondingly.

This adjustment is accomplished by the setting of the collars 12. In Fig. 3 both collars are at the outer end of each sleeve 11, thereby affording the minimum centre distance between the tracks. In Fig. 6 there is a collar at each end of the sleeve to provide a larger centre distance between the tracks. Finally in Fig. 7 both collars are at the inner end of the sleeve for the maximum centre distance. In practice the centre distances may be 52", 56" and 60" respectively. These are the three sizes most preferred by the users.

It is apparent that no specially made tools or spare parts need be carried to change from one spacing to another according to the needs of the purchaser on the service to which the vehicle is put.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as defined by the appended claims.

What I claim is:—

1. An endless track vehicle including a driving axle, a wheel thereon, a swivel assembly on the housing of said axle, an arm extending transversely of said axle and being at one end swivellingly mounted on said assembly, means for adjusting the swivelled end of said arm lengthwise of said axle, and a wheel supported by said arm, the last named wheel and said arm being free for lateral adjustment with respect to said axle.

2. An endless track vehicle including a driving axle, a wheel thereon, a U-shaped member fixed on the housing of said axle, a stub shaft mounted on said member, a slidable sleeve and a pair of removable collars on said shaft and substantially filling the space between the sides of said member, an arm extending radially from said sleeve, and a wheel supported by said arm, the last named wheel and said arm being free for lateral adjustment with respect to said axle.

3. A vehicle according to claim 1 or 2 in which the arm has a bearing block with a trunnion thereon, and in which the last named wheel is carried by said trunnion.

4. A vehicle according to claim 2 or 3 in which a pair of blocks are clamped on the housing of said axle, and the U-shaped member is fixed to said blocks.

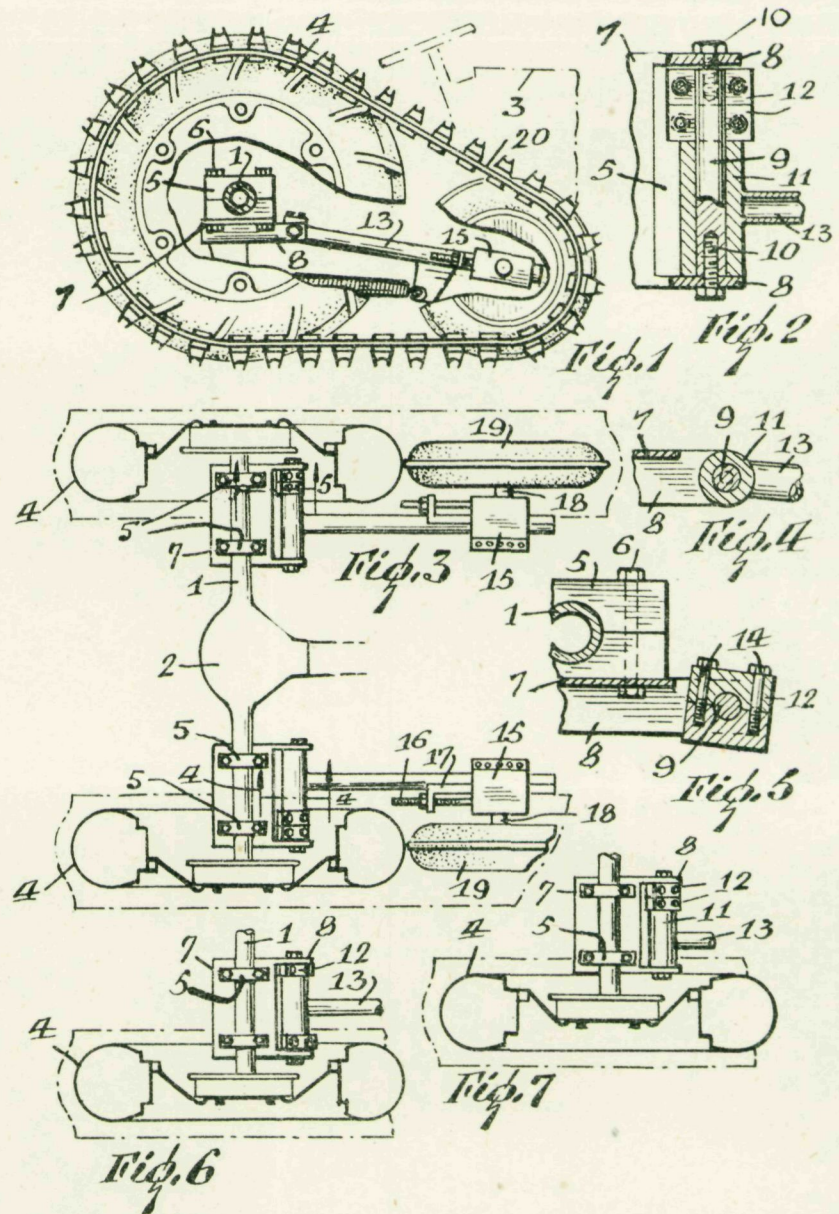
5. An endless track vehicle substantially as herein described and illustrated in the accompanying drawings.

Dated this 31st day of October, 1950.

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Waterloo House, Waterloo Street,
Birmingham, 2,

Patent Agent, Patent Attorney and
Chartered Engineer.



(6-442) VALCOURT, (Shefford) P.Q.

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ENCAISSABLE SANS FRAIS SI NEGOCIE A NOS SUCCURSALES.
COLLECTIBLE WITHOUT CHARGE IF NEGOTIATED AT OUR BRANCHES

BANQUE CANADIENNE NATIONALE

(6-442) VALCOURT, (Shefford) P.Q.

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PAYEZ À L'ORDRE DE
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Albert Fournier

\$ 60.00

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100 DOLLARS

RE: Renouvellement

679,896 et 687,438

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JA Bombardier

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RIPEAU TECHNIQUE FOURNIER

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Chapman

(6-442) VALCOURT, (Shefford) P.Q.

7 septembre

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(6-442) VALCOURT, (Shefford) P.Q.

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PAYABLE AU ORDRE DE Albert Fournier
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\$105.00

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RE: Facture 31 aout (350,426)
et aussi renouvellement
pour 679,896 et 687,438.

J. L. Bombardier

(6-442) VALCOURT, (Shefford) P.Q.

13 aout

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442-A

ENCAISSABLE SANS GRAIS SI NEGOCIE A NOS SUCCURSALES.
 COLLECTIBLE WITHOUT CHARGE IF NEGOTIATED AT OUR BRANCHES.

BANQUE CANADIENNE NATIONALE



AOU 27 1956

(6-442) VALCOURT, (Shefford) P.Q.

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 PAY TO THE ORDER OF
 (Shefford) P.Q.

Albert Fournier

\$ 80.00

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Renouvellement
 Brevets anglais 679896 et 687438

Cher payeur

Pour dépôt seulement

au crédit de

BANQUE TECHNIQUE FOLIOURTE



PATENTS ACT, 1949
The Patent Office,
25, Southampton Buildings,
LONDON, W.C.2.

CERTIFICATE OF PAYMENT OF RENEWAL FEE

This is to certify that Letters Patent, as numbered below, were renewed for a further period of one year as from the due date, the payment of the requisite fee having been made.

Letters Patent No. **679896** Due Date **1ST . NOV . 1957** Fee Paid **£10-0-0**

J.A.BOMBARDIER,
% MESSRS.ARTHUR SADLER & SON,
44, WATERLOO STREET,
BIRMINGHAM, 2.