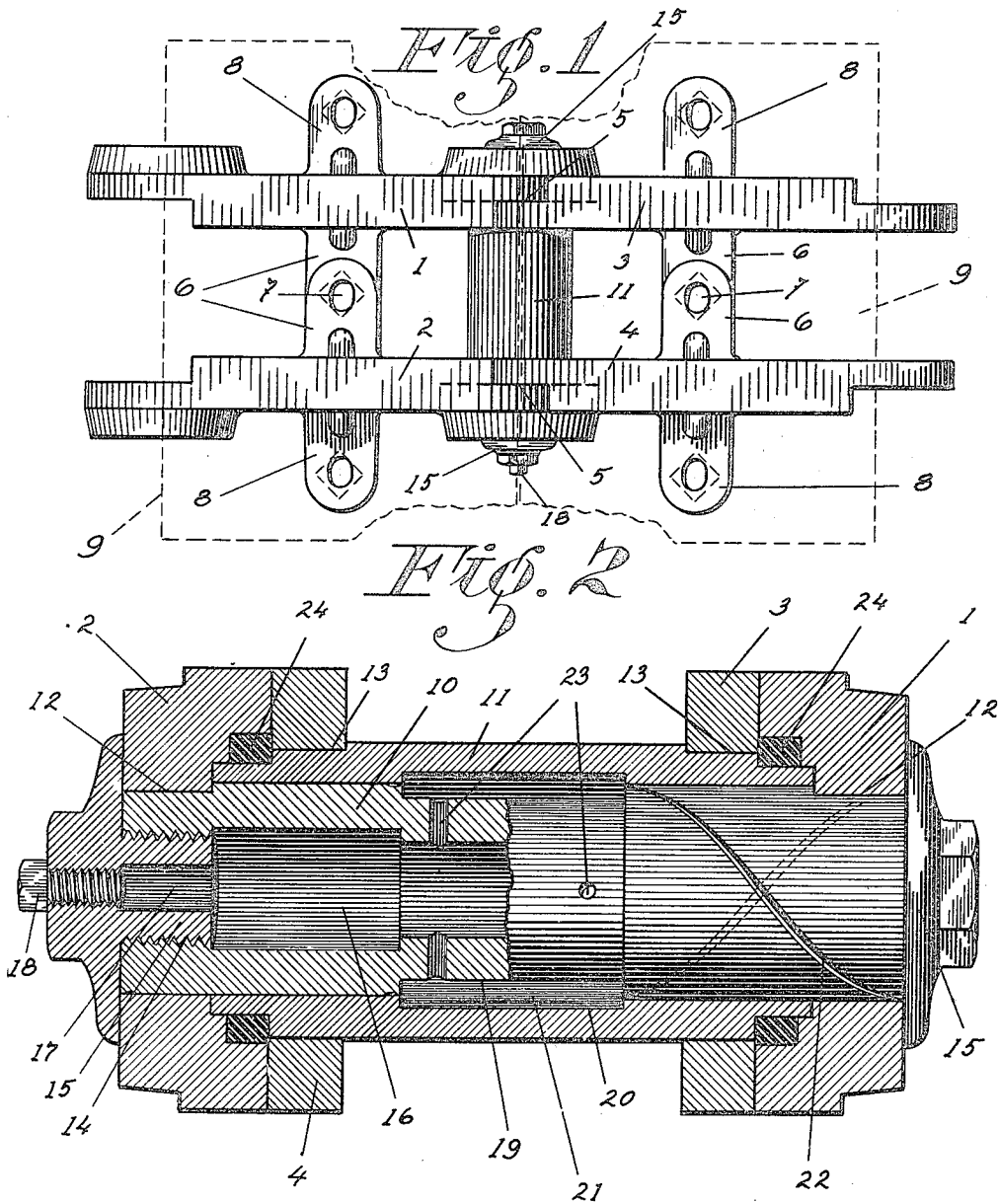


J. H. DAVIS.
LUBRICATING DUST PROOF ROLLER JOINT.
APPLICATION FILED MAY 24, 1917.

1,289,408.

Patented Dec. 31, 1918.



WITNESS:

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LUBRICATING DUST-PROOF ROLLER-JOINT.

1,289,408.

Specification of Letters Patent.

Patented Dec. 31, 1918.

Application filed May 24, 1917. Serial No. 170,677.

To all whom it may concern:

Be it known that I, JOHN H. DAVIS, a citizen of the United States, residing at Stockton, in the county of San Joaquin, State of California, have invented certain new and useful Improvements in Lubricating Dust-Proof Roller-Joints; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in the track sections of endless tracks used on tractors. The object of the invention is to produce a joint for connecting the adjacent ends of track sections which joint will be simple and effective in construction and at the same time provided with an efficient means for lubricating the same. In most of the joints between track sections now common in use, there is no lubricating means and the links and joints rapidly wear out. Also they are so constructed that they are not readily separated for replacement of worn parts and therefore another object of my invention is to provide a link that can be readily disassociated as it becomes necessary. A still further object of the invention is to provide a joint of such construction that it is substantially dust and grit proof whereby the tendency of wear on the parts is further lessened.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a plan view of a pair of track sections showing my improved joint connecting the same.

Fig. 2 is a vertical horizontal section through the adjacent ends of the track sections showing my improved lubricating dust proof joint therein.

Referring now more particularly to the characters of reference on the drawings the numerals 1 and 2 designate one pair of links which together make one track section while

the numerals 3 and 4 designate another pair of links which make the adjacent track section. The adjacent ends of the links of these track sections are cut out so as to mortise into each other as at 5 to make an alined track as is necessary to the successful operation of the tractor. In the now commonly used track sections each pair of links are held together by a cross bolt or bar which connects the adjacent ends of the links. In my improved form of links however I hold the members of each pair of the links together by means of projecting studs 6 which studs overlap each other and are joined together by means of a bolt or other securing members projected through alined holes 7 in the studs 6. I provide similar studs 8 on the outside of the links whereby the track plate or foot 9 may be secured thereto. Thus when it is desired to disassociate a pair of links from each other, all that it is necessary to do is to remove the bolt from the holes 7 and the links may then be taken apart. This structure is very desirable in connection with my improved form of joint for the adjacent ends of the track sections which joint consists primarily of a pivot pin 10 turnable on which is a sleeve 11, the ends of such outer sleeve 11 terminating short of the pivot pin 10 whereby the ends of the links 1 and 2 may be fitted over the ends of the pivot pin 10 and suitably fixed thereon against rotary motion either by means of a square shoulder fitted on the corresponding square place on the sleeve as at 12 or other suitable securing means. The links 3 and 4 are arranged to be first fitted over the sleeve 11 by the square shoulder as at 13 or by any suitable means whereby such links will not have any turning motion with respect to the said sleeve 11. Thus when the links 1 and 2 are mounted on the pivot pin 10 and the links 3 and 4 are mounted on the sleeve 11 as shown clearly in Fig. 2, they will be turnably connected with respect to each other for the reason that the sleeve 11 is freely turnable on the pivot pin 10. It will be noted however that the only bearing or friction surfaces of the joint are those between the said pivot pin 10 and sleeve 11.

The ends of the pivot pin 10 are provided with interior threads as at 14 into which are screwed caps 15, such caps being of greater diameter than the pivot pin 10 whereby they will fit against the links 1 and

2 and hold the links 1 and 2 and 3 and 4 in place on their respective pivot pin and sleeve.

The pivot pin 10 is hollow as at 16 to form an oil well and communication from the outside of the pivot pin into this oil well is had by means of a passage way 17 communicating through one of the caps 15 which passage way is normally held closed by means of a cap screw 18. The outside diameter of the pivot pin 10 is reduced centrally of such roller as at 19 and the inside diameter of the sleeve 11 at a corresponding point is increased as at 20, whereby there is formed between the pivot pin 10 and sleeve 11 an oil well 21. Oil grooves 22 radiate from the well 21 across the entire circumference and length of the pivot pin 10. In practice the well 16 is filled with oil through the passage way 17. This oil is held within such well 16 by means of a cap screw 18. Passage ways 23 radiate from the oil well 16 to the well 21 and the oil therefore passes from one to the other. From the well 21 it flows through the grooves 22 and furnishes lubrication for the bearing surfaces between the pivot pin 10 and sleeve 11.

Between the overlapping ends of the links 1 and 2 and 3 and 4 I provide pack washers or other suitable packing members 24 to prevent the grease working out from between the pivot pins.

From the foregoing description it will be readily seen that I have provided an efficient joint for the track sections and one which will be well and efficiently lubricated to prevent wear. The caps 15 and washers 24 will make these joints substantially dust and grit proof. By reason of this lubricating and anti-dust and grit feature it will be very seldom that the track sections will ever have to be taken apart. If however, necessity should require this, it can be every easily and quickly accomplished by removing the caps 15 and bolts from out of the holes 7. Thereupon the section links may be easily and quickly taken apart.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfils the object of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention as defined by the appended claims.

Having thus described my invention what

I claim as new and useful and desire to secure by Letters Patent is:

1. Track sections disposed end to end, a pivot pin fixed to one section, and a sleeve fixed to the adjacent section and mounted for turning movement on the pin, and projecting beyond the inner face of said first named section and turnably seated therein, the pivot pin being provided with an oil well having communication with the bearing surfaces of the sleeve, the outer face of the last named section having frictional contact with the inner face of the first named section, whereby oil cannot escape therebetween.

2. Track sections disposed end to end, a hollow pivot pin fixed to one section, a sleeve turnably mounted on the pin and projecting into the said track section and turnably seated therein and having its diameter reduced at this point, and a packing ring seated in the inner face of said track section and impinging against the outer surface of the reduced portion of the sleeve and the shoulder thereof, the adjacent track section fixed to the sleeve and having frictional contact with the first named section and the packing ring therein, whereby dirt is kept from working onto the bearing surface of the sleeve with the pivot pin, such pin being provided with an oil well having communication with the bearing surfaces of the sleeve.

3. Track sections disposed end to end, a pivot pin fixed to one section, a sleeve fixed to the adjacent section and mounted for turning movement on the pin, the pin being provided with an oil well having communication with the bearing surfaces between the pivot pin and the sleeve to lubricate the same, and caps mounted on the ends of the pivot pin and being of a greater diameter than said pin whereby they will overlap and engage the adjacent track section.

4. Track sections disposed end to end, a pivot pin fixed to one section, a sleeve fixed to the adjacent section and mounted for turning movement on the pin, the pin being provided with an oil well having communication with the bearing surfaces between the pivot pin and the sleeve to lubricate the same, and caps mounted on the ends of the pivot pin and being of a greater diameter than said pin whereby they will overlap and engage the adjacent track section, one of said caps being provided with a passageway communicating with said oil well.

In testimony whereof I affix my signature.

JOHN H. DAVIS.