Aug. 19, 1924. 1,505,519

B. I. YOUNG ET AL

FORD TRANSMISSION LINING

Filed June 18, 1923

Fig. 1

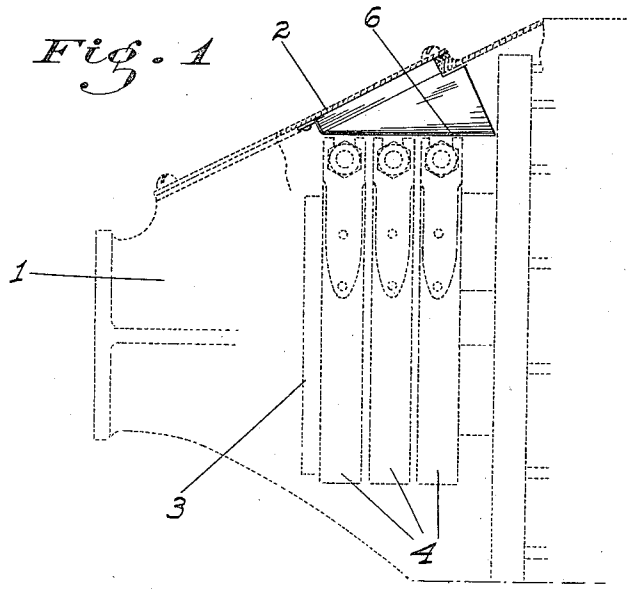


Fig. 2

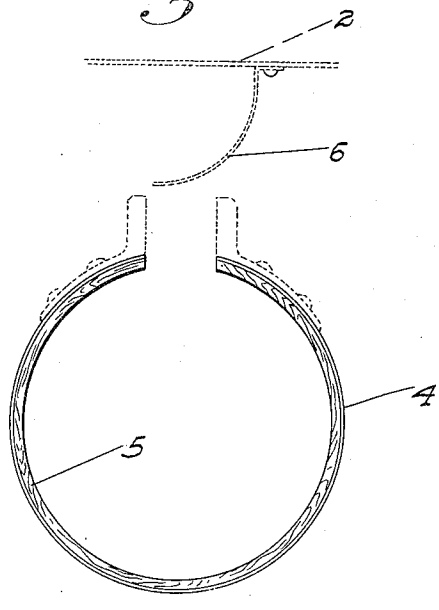
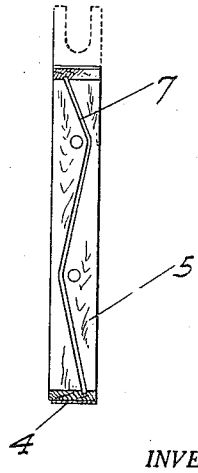


Fig. 3



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UNITED STATES PATENT OFFICE.

BENJAMIN IRA YOUNG AND HARRY R. HAYWOOD, OF PETALUMA, CALIFORNIA.

FORD TRANSMISSION LINING.

Application filed June 18, 1923. Serial No. 646,082.

To all whom it may concern:

Be it known that we, BENJAMIN IRA YOUNG and HARRY R. HAYWOOD, citizens of the United States, residing at Petaluma, in the county of Sonoma, State of California, have invented certain new and useful Improvements in Ford Transmission Linings: and we 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 linings for the transmission bands which form part of the transmission system of Ford automobiles, the principal object of our invention being to produce a lining for the purpose which while very inexpensive to make and apply, will we believe outwear any lining now available.

To work successfully and to the best advantage, the lining should be kept well lubricated at all times, and another object of our invention is therefore to provide a special type of oiler to feed a constant supply of oil to the linings, the oil being fed to this oiler itself by the ordinary splash system with which such engines are equipped. but which of itself does not supply sufficient oil for our purpose.

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

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

Fig. 1 is a sectional outline of a Ford transmission casing, showing our oiler as installed therein to feed oil to the transmission bands.

Fig. 2 is an edge view of one of the transmission bands, showing our improved lining therein.

Fig. 3 is a sectional view of the band and its lining.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the casing of the transmission mechanism, having a removable cover 2. This casing contains the usual transmission mechanism and drum 3, about which pass the various bands 4.

In each of these bands we rivet or otherwise secure our special lining 5, hereinafter fully described.

As before explained, it is essential that the wearing or inner faces of these linings shall be well oiled, and to insure this a curved baffle or oil deflector plate 6 is mounted on the cover 2 and extends above the bands 4, this plate being so shaped and arranged as to catch some of the oil thrown up in the usual manner with the operation of the engine, and then distribute it onto the upper surface of the drum 3, from which it will of course run onto the linings 5.

The band-linings 5 are each made as a continuous and single strip of wood, of the normal width and thickness, and before being placed in the bands, are treated as follows: The strips, having been cut to size, are placed in a solution consisting of eight pounds of half-ground common salt (sodium chloride) dissolved in one gallon of water-glass and six and one-half gallons of water. The quantity or volume of this solution may of course be varied as long as the same proportions are maintained. This solution, with the strips therein, are then boiled for twelve hours, when the strips, then of course thoroughly soaked and pliable, are removed while still hot and placed in a shaper to cause them to assume a curvature the same as that of the bands into which they are to be placed. After being left in the shaper for about 72 hours they are removed and placed in a bath of lubricating oil, being left to soak therein for about four weeks. They are then ready for mounting in the bands.

In the above described treatment of the wood the sodium chloride and water glass fill into all the pores of the wood and when the liquid evaporates such pores are substantially closed. The salt acts as a preservative and the silicate of soda of the water glass reduces the combustibility of the wood. Also since the pores are all filled up this keeps out any air and thus lessens the amount of oxygen present in the wood which further reduces its liability to combustion due to frictional heat.

Previous to being so treated the inner faces of the strips are grooved in a zig-zag manner for their entire length, as shown at 7, so that when in place in the bands 4 these grooves will catch and distribute the

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oil thrown on the drum 3 from the plate 6.

The chemical elements above described, in addition to the properties already described, also seem to toughen and harden the wood, and by oil saturating the bands and keeping them well oiled in service we have found they will function excellently over a much greater period of time than other bands now commonly used.

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

Having thus described our invention, what we claim as new and useful and desire to secure by Letters Patent is:

1. A friction brake band lining comprising wood chemically treated to preserve the same and reduce its combustibility.

2. A friction brake band lining comprising wood chemically treated to preserve the same and reduce its combustibility, and being oil saturated.

3. A transmission lining consisting of a continuous strip of wood, chemically treated, and provided on its wearing face with a continuous and zig-zag oil groove.

4. A transmission lining consisting of a strip of wood treated in an aqueous solution of sodium chloride and water-glass, and then soaked in lubricating oil.

5. A transmission lining consisting of a strip of wood boiled in an aqueous solution of sodium chloride and water-glass, then left to soak for a predetermined time in a bath of lubricating oil, and finally bent to the shape of the band it is to fit before being placed in the latter.

6. A friction brake band lining comprising wood impregnated with a preservative element and an element to reduce the combustibility of the wood.

7. A friction brake band lining comprising wood impregnated with a preservative element, an element to reduce the combustibility of the wood, and a lubricating element.

8. A friction brake band lining impregnated with sodium chloride and silicate of soda.

9. A friction brake band lining impregnated with sodium chloride, silicate of soda, and a lubricating element.

In testimony whereof we affix our signatures.

B. IRA YOUNG.
HARRY R. HAYWOOD.

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