J. MALLIGAN AND C. R. LYTLE.

BAND FOR FORD CARS.

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1,382,305.

Patented June 21, 1921.

Fig. 1.

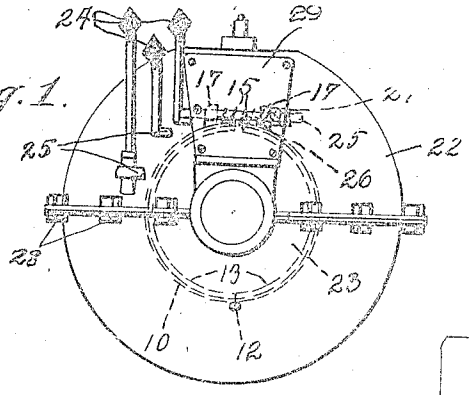


Fig. 2.

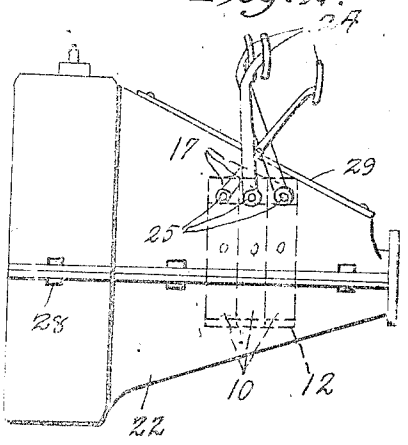


Fig. 3.

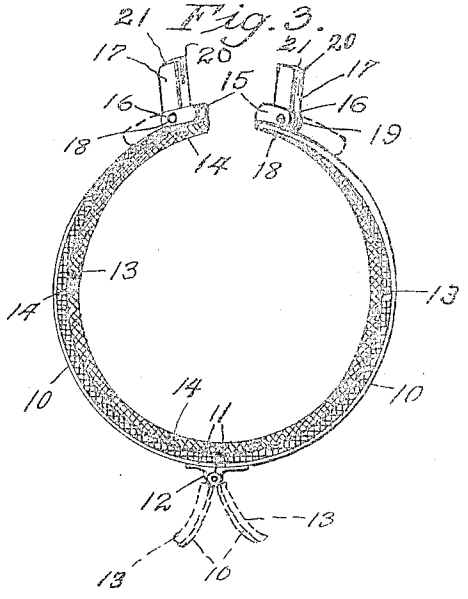
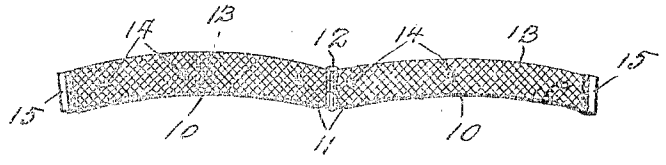


Fig. 4.



WITNESSES

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BAND FOR FORD CARS.

1,382,305. Specification of Letters Patent. **Patented June 21, 1921.**

Application filed June 25, 1920. Serial No. 391,643.

To all whom it may concern:

Be it known that we, JOSEPH MALLIGAN and CHARLES R. LYTLE, citizens of the United States, and residents of Point Marion, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Bands for Ford Cars, of which the following is a specification.

This invention relates to an improved clutch band, and more particularly to bands employed in connection with automobiles for controlling the driving action or for checking the motion of the car.

The invention resides more particularly in a band especially adapted for use in connection with Ford cars to control the reverse and slow speed drives and the brake, and the invention comprehends an improved construction of band designed to facilitate the replacement of new linings and to permit such operation to be carried out and bands applied and removed to and from the drums without disassembling the transmission assembly and casing or housing, but simply by removing the housing cover or door, thus rendering the cost of replacement less expensive and permitting the relining of bands much more quickly and efficiently.

Other and further objects of the invention will become readily apparent to persons skilled in the art, from a consideration of the following description when taken in conjunction with the accompanying drawings, wherein:—

Figure 1 is a diagrammatic sectional view showing a band in accordance with the invention applied,

Fig. 2 is a side elevation,

Fig. 3 is an enlarged perspective view of the band in a closed position and showing the adjustable lugs in operative and inoperative positions, and

Fig. 4 is a face view of the band in an open position.

Referring to the drawings in detail, in which like reference characters designate corresponding parts throughout the several views, the improved band is shown as embodying a pair of semi-circular hinged sections 10 of proper malleable or spring steel of relatively flat stock and proper width and thickness. The sections are disposed with their ends 11 adjacent to each other and connected for movement toward and away from each other by a pivot or hinge 12, the hinge plates or leaves of which are preferably riveted or otherwise secured to the outer faces of the sections adjacent to said extremities in order that the sections may swing into positions in alinement when open, or in arcs of 90° from their normal closed positions when in use. The sections are provided with the usual linings 13 of "raybestos" or other similar friction material in the form of composite interwoven fabric and asbestos or the like, and these linings may be made in one or more sections riveted to the semi-circular sections 10 of the band, as indicated at 14.

At the free extremities of the band sections, there are disposed lugs 15 which are formed integral therewith, riveted thereto or otherwise secured in position. These blocks are arranged to extend lengthwise of the sections and they have their outer ends bifurcated to form apertured ears 16 between which the lugs 17 are pivoted transversely as shown at 18 in order to allow the lugs to move to positions in alinement with the outer ends of the blocks or parallel to each other and at right angles to the blocks, as clearly shown in the drawings. The pivots 18 are preferably in the form of rivets extended transversely through the bifurcated ends of the blocks 15 and the adjacent ends of the lugs 17 are reduced in thickness for engagement between the serrations of the block and apertured to receive the pivots 18 as indicated at 19, while the free ends of the lugs are preferably bifurcated as indicated at 20 and the corner portions 21 rounded in order to be properly accommodated within the clutch housing or casing, especially when employed in connection with the Ford transmission assembly.

By way of illustration, there is shown a transmission housing or casing 22 having the usual clutch mechanism and drums 23 controlled by pedals in the usual way, the pedals being designated at 24 and connected to the shafts 25 suitably journaled in the housing for receiving the lugs of the clutch bands with interposed springs 26 tending to normally expand the bands by forcing the lugs apart, in order that tension will be relieved tending to cause frictional engagement of the band with the drum. Nuts 27 are provided for adjusting the tension of the springs and the gripping action of the bands on the peripheries of the drums.

The housing or casing 22 is preferably

made in two sections bolted together as shown at 28, and in addition, is provided with an opening in the top portion closed by a cover or door 29 rendering accessible the springs and adjusting nuts heretofore described.

Usually, the lugs of the friction bands are rigidly secured to the extremity of the one-piece resilient split rings forming the bands, the lugs being apertured at one side and slotted at the other. It is necessary to remove the top of the transmission housing or casing in order to make replacement of new linings, and necessitating detachment of numerous parts and disassemblage of the driving mechanism generally, with much expense and with much trouble and consumation of considerable time. In the present instance, by hinging the sections of the bands in the center of the band which is disposed at the bottom, and having the lugs adjustable to suit conditions in alinement with and at right angles to the band ends or blocks disposed thereat, the re-lining and assembling of the bands is facilitated without the removal of the top of the transmission casing or housing, but simply by removing the cover or door 29. Furthermore, it is unnecessary to disturb other mechanical parts of the transmission as is ordinarily necessary, thus making the replacement of new linings less expensive and permitting a band to be relined much quicker. In practice, the nuts 27 are loosened or slackened up from the bands, the springs 26 acting to expand the band on the drums. The screws of the cover 29 are removed in order to permit displacement of said cover or door from the sloping top portion of the transmission housing or casing. The nuts are then loosened as specified but not entirely unscrewed or taken off. A cord is then passed around the drum and the corresponding band opened and the lugs folded down. The cord is then attached to the end of the bands which may be drawn out through the opening in the top of the housing between the outside of the transmission drums and the inside of the transmission casing. When the bands are applied, the hinged connection will allow for the necessary relative movements of the sections with respect to each other in order that they may be accommodated between the drums and the housing, at which the lugs are raised into position, one lug being first raised to engage its shaft, the spring compressed, and then the other lug raised in position. The tension of the spring may then be adjusted through the medium of the nut in order that the frictional engagement between the lining and the periphery of the drum may be properly regulated.

In view of the foregoing, it is thought that the operation of the device will be readily understood and in view of the simplicity and practical value that it will commend itself to those skilled in the art.

Having thus described our invention, what we claim is:

1. A friction or clutch band comprising hinged sections having a lining, and lugs pivoted to the ends of the sections diametrically opposite to said hinged connection.

2. A band of the class described comprising resilient semi-circular sections pivoted for movement in a common plane toward and away from each other, and bifurcated lugs pivoted to the free extremities of said sections opposite to the pivotal connection and adapted for movement rearwardly in contact with and forwardly to project outwardly from said extremities.

3. A band of the class described comprising a pair of semi-circular band sections disposed when arranged with their ends in abutting relation to form a circular band, a hinge connection between two abutting ends of said sections, lining sections for the band sections, blocks at the outer faces of the extremities of said band sections, and bifurcated lugs pivoted to said blocks for movement in alinement with the blocks against the band sections at their peripheral faces and at right angles to said blocks for engagement with an actuating shaft.

4. The combination with a transmission housing and a drum therein; of an actuating shaft, a band comprising hinged sections engaged on the drum, a lining for said sections, hinged lugs at the free extremities of said sections and detachably engaged by said shaft, tensioning means between said lugs and mounted on the shaft, and means for adjusting said tensioning means.

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