

April 5, 1932.

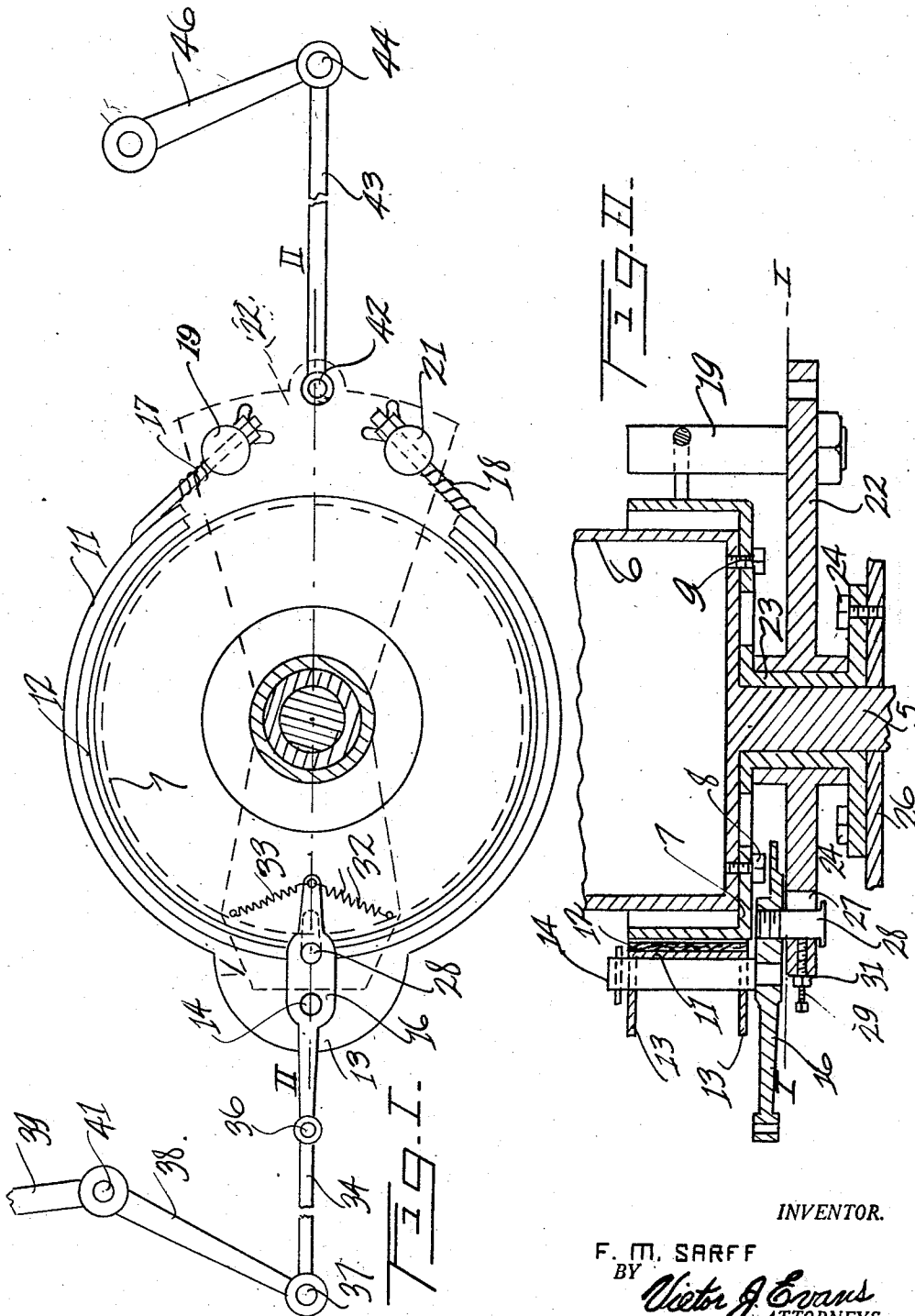
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1,852,904

BRAKING DEVICE

Filed Feb. 26, 1930

2 Sheets-Sheet 1



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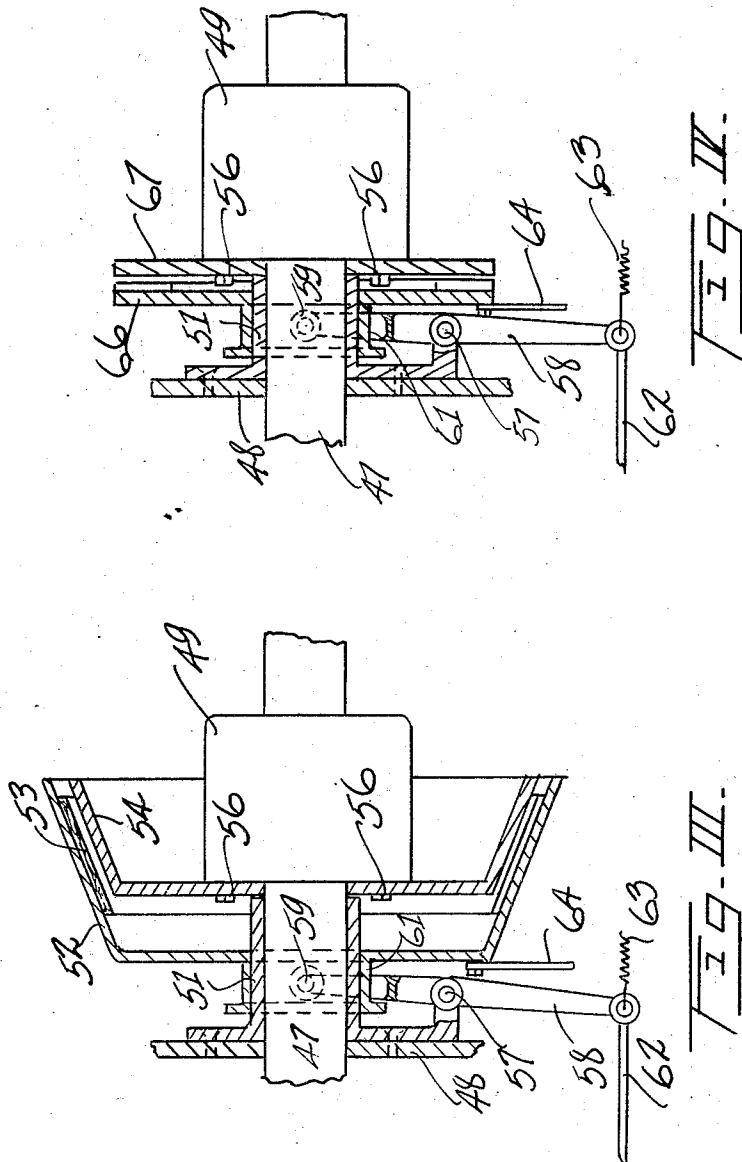
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2 Sheets-Sheet 2



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BRAKING DEVICE

Application filed February 26, 1930. Serial No. 431,533.

This invention relates to improvements in braking devices and has particular reference to a booster arrangement whereby increased braking power may be readily obtained without undue effort upon the part of the user.

Another object is to produce a device wherein mechanical braking power may be obtained through the movement of the vehicle upon which the device is positioned.

10 A further object is to produce a device which may be attached to the ordinary motor vehicle, railroad car or any device using brakes.

15 A still further object is to produce a device which is simple in construction and positive in operation.

Other objects and advantages will be apparent during the course of the following description.

20 In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

25 Figure I is a cross sectional view taken on the line 1—1 of Figure II, and showing the rocker plate in dotted lines,

Figure II is a cross sectional view taken on the line 2—2 of Figure I,

30 Figure III is a modified cone type of my device involving the same principle, and

Figure IV is a similar modified form showing a disc type.

35 In order to apply the brakes of a motor vehicle it has been customary to manipulate a foot pedal or lever and depending upon the amount of pressure the braking is controlled. Furthermore it has been often necessary to apply excessive pressure with the result that many operators found it difficult to brake a vehicle in traffic without necessitating extreme effort. Applicant has therefore produced a device which will eliminate this difficulty.

45 In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates the propeller shaft at a point between the transmission and the universal housing 6. To the universal housing 50 is secured a drum 7 as by bolts 8 and 9. This

drum is surrounded by a brake band 11 carrying a brake lining 12. In order to mount this brake band I provide a pair of offset ears 13 through which a pivot pin 14 passes. This pivot pin is carried in an actuating arm 16. The opposite ends of the band are connected through the medium of threaded bolts 17 and 18 to pins 19 and 21 respectively. The pins 19 and 21 are carried in a rocker plate 22 which is rotatably positioned upon a collar 23 which is secured by bolts 24 to the transmission housing 26. The actuating lever 16 is slidably held in a slot 27 formed in the rocker plate by a pin 28. The position of this pin may be adjusted by a set screw 29 having a lock nut 31.

The actuating lever 16 has springs 32 and 33 connected to the end thereof for the purpose of maintaining the lever in its normal position of Figure I. A link 34 is pivoted as at 36 to the actuating lever 16 and in turn is pivoted at 37 to the lower portion 38 to the foot brake 39 which is fulcrumed as at 41. The rocker plate has pivoted thereto as at 42 a link 43 which is pivoted as at 44 to the brake actuating arm 46.

In the modified form shown in Figures III and IV the propeller shaft is shown at 47 the transmission housing at 48, the universal joint housing at 49 and corresponds to the one shown in Figures I and II. To the housing 48 is secured a collar 51 upon which is rotatably supported the female member 52 of a cone clutch to the inner surface of which is secured a friction material 53. The male member is shown at 54 and is secured by bolts 56 to the universal housing so as to rotate with the shaft 47. Pivoted at 57 is an actuating yoke 58 having rollers 59 which engage the collar 61 formed upon the clutch member 52. The link 62 is connected to the back pedal and is normally held in retracted position by the spring 63. A link 64 is connected to the clutch member 52 and corresponds to the link 43 of Figure I.

The construction shown in Figure IV is exactly the same as that shown in Figure III with the exception that the clutch members are of the disc type instead of being cone-shaped. These clutch members are given

the numerals 66 and 67 which correspond to the clutch members 52 and 53 respectively. As the other parts are identical both in construction and operation the same numerals apply thereto.

The operation of my device is as follows:—

Assuming that the same has been secured upon a motor vehicle and that the same is under movement so as to rotate the shaft 5 and consequently the drum 7 and it is desired to apply the brakes the foot pedal is pushed so as to cause rearward movement of the pivot point 37. The action will move the actuating lever 16 rearwardly through its sliding connection with the rocker plate 22 and will bring the center portion of the brake lining 12 against the drum 7 and assuming that the drum 7 is moved in a counter-clockwise direction the brake band will tend to move in the same direction causing the rocker plate to rotate counter-clockwise. As a result the pivot point 42 will move upwardly drawing upon the link 43 and brake lever 46 thus it is merely necessary to push the foot pedal with a light pressure in order to accomplish a very positive braking action. As soon as the foot is removed by the brake pedal the springs 32 and 33 will return the parts to their normal position. The wear upon the brake band is taken up through wing nuts in a manner which is obvious. In the forms shown in Figures III and IV, action is the same with the exception that cone type and disc type clutches are employed instead of a drum.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. In a device of the character described, a rotating drum, a rocker plate positioned adjacent said drum, means for normally maintaining said plate in fixed position, a brake band having its ends carried by said plate, an actuating lever slidable in said rocker plate and secured to said brake band at its medial point, a link secured to said plate and having its opposite end secured to a brake lever and means for moving said actuating lever laterally for the purpose of bringing the medial portion of said brake band into engagement with said drum whereby said rocker plate will be given a partial rotation for the purpose specified.

2. In a braking mechanism for motor vehicles, the combination of a rotating drum mounted on said motor vehicle, of a rocker plate positioned adjacent said drum, means for normally maintaining said plate in a fixed position, a slot formed in said plate, a brake

band surrounding said drum and having its ends secured to one end of said rocker plate, a lever slidably mounted in said slot, said lever being pivotally connected to the medial portion of said band, a link secured to said rocker plate at a point midway between the connection of the end of said band and said plate, said link having its free ends secured to the braking mechanism of the motor vehicle and means for moving said lever in said slot whereby the medial portion of said band will contact said drum to cause rotation of said plate in the same direction said drum is rotating for the purpose specified.

In testimony whereof I affix my signature.
FOREST M. SARFF.

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