

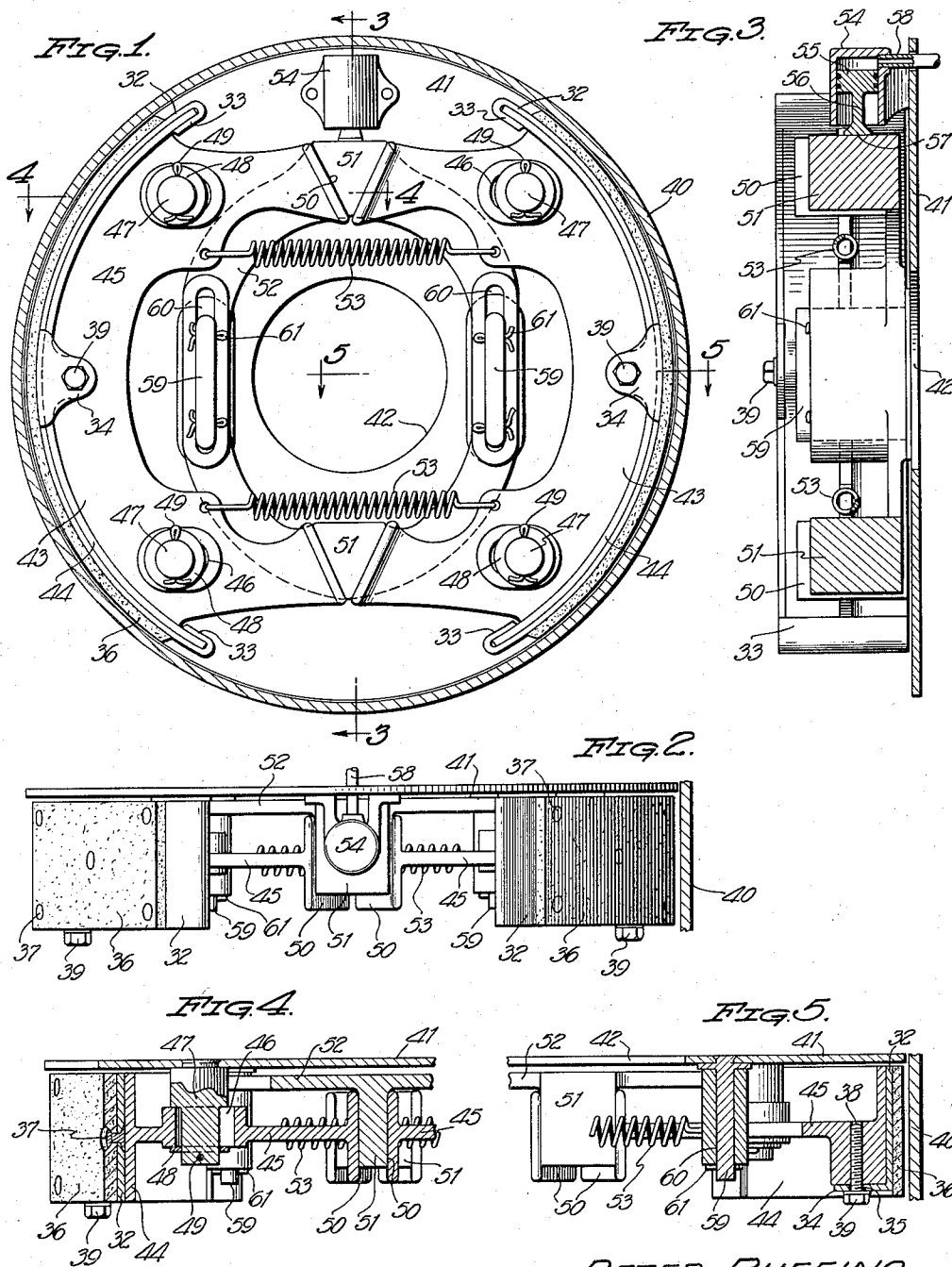
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BRAKE

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BRAKE

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Original application March 22, 1935, Serial No. 12,345. Divided and this application January 13, 1937, Serial No. 120,327

2 Claims. (Cl. 188-78)

This application is a divisional application of my pending application Serial No. 12,345, filed March 22, 1935, and the invention relates to improvements in brakes, and more particularly to brake mechanisms for automobiles.

One of the main objects of the invention resides in a brake mechanism embodying a pair of slidable diametrically opposed brake shoes adapted to be expanded by wedge means into braking contact with the brake drum of a wheel, the wedge means being of such construction as to effect a positive diametrical expansion of the brake shoes to cause an even pressure throughout the length thereof to obtain maximum braking efficiency and an even wear upon the brake lining.

A further feature of the invention is the provision of a simple and inexpensive construction of brakes wherein the parts are readily accessible for repair or replacement purposes.

With these and other objects in view, the invention resides in the certain novel construction, combination and arrangement of parts, the essential features of which are hereinafter fully described in the specification, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:

Figure 1 is a front elevational view showing the brake drum in section.

Figure 2 is a top plan view with a fragmentary position of the brake drum in section.

Figure 3 is a vertical sectional view on the line 3-3 of Figure 1.

Figure 4 is a detail horizontal sectional view on the line 4-4 of Figure 1; and

Figure 5 is a horizontal sectional view on the line 5-5 of Figure 1.

Referring to the drawing by reference characters, the numeral 40 designates a brake drum, and 41 the anchor plate closing the open side of the drum, the anchor plate being provided with a central axle opening 42. Diametrically opposed brake shoes 43 are disposed on opposite sides of the opening 42 and each includes an arcuate shaped flange 44, a substantially C-shaped web 45, the web being provided with horizontally disposed elongated slots 46 for receiving guide posts 47 extending inwardly from the anchor plate 41. Washers 48 fit over the free end of the posts 47 and cotter pins 49 pass through the posts for preventing lateral movement of the brake shoe during use.

The top and bottom ends of the webs 45 of the brake shoes are provided with downwardly

and inwardly inclined wedge surfaces 50 so that the adjacent surfaces 50 of the respective shoes 45 coact to provide V-shaped spaces for the reception of V-shaped wedges 51 which are integral with an elliptical shaped frame member 52. The wedges 51 are disposed in vertical alignment with respect to each other and with respect to the axis of the opening 42, whereby downward movement of the frame member 52 will cause the converging sides of the wedges 51 to wedgingly engage the downwardly and inwardly inclined wedge surfaces 50 of the brake shoes. This downward movement effects a uniform expansion of the brake shoes 43 whereas springs 53 which have their ends respectively connected to the webs of the brake shoes 43 act to return the brake shoes to normally retracted position.

Whereas the frame member 52 may be moved downwardly by a cam such as shown in my prior application Serial No. 12,345, I have illustrated hydraulic means for actuating the wedge means. Secured to the anchor plate 41 directly above the upper wedge 51, is a cylinder 54 in which a piston 55 is slidably mounted, the piston 55 being formed with a stem 56 extending below the lower end of the cylinder and terminating in a head 57 which flatly engages the flat top of the upper wedge 51. Fluid pressure supply pipes 58 enter the cylinder 54 adjacent the top thereof whereby pressure admitted therethrough to the cylinder causes the piston 55 to be moved outwardly and accordingly exerting a pressure upon the top of the frame 52 and setting up a wedge action between the wedge 51 and the adjacent wedge surfaces 50 of the brake shoes.

Each brake shoe 43 is provided with a brake liner unit which includes a metal arcuate shaped strip 32, the ends of which are turned inwardly to provide hook portions 33. The intermediate portion of the strip 32 is formed with an inwardly extending ear 34 having an opening 35 therein for a purpose to be presently explained. Fixedly secured to the outside of the arcuate shaped member 32 is a layer of lining material 36, the same being fastened in position by rivets or like fastening elements 37. The ends of the lining material 36 terminate adjacent the hook ends 33 of the member 32.

The lining unit is inserted laterally upon each of the brake shoes 43, the hook ends 33 engaging the ends of the arcuate flange 44 of the shoe, while the opening 35 in the ear 34 registers with a threaded opening 38 provided in the flange 45 while a threaded bolt 39 threads into the threaded opening 38 and secures the brake lining unit

in position against lateral movement. The hook ends 33 serve to prevent creeping of the liner unit in a circumferential direction. It will be noted that when the lining material 36 becomes worn, the lining unit may be removed by merely removing the bolt 39 and sliding the unit from the brake shoe, whereupon the worn unit may be replaced by a new one.

For the purpose of guiding the frame member 52 during its vertical sliding movements, I provide elongated guide posts 59 extending inwardly from the anchor plate 41 and which posts are disposed in parallel relation and are respectively arranged on opposite sides of the opening 42. The posts 59 are received in elongated slots 60 provided in opposite sides of the elliptical shaped frame 52, whereas cotter pins 61 pass transversely through the posts 59 for retaining the frame member 52 in position.

By reason of the construction and arrangement of the parts herein shown and described, it will be appreciated that the mechanism may be readily assembled and that the parts are accessible for repair or replacement purposes. In fact, the brakes may be relined by the use of the brake lining units without the aid of a skilled mechanic.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In a brake, a drum, an anchor plate, a pair of opposed brake shoes slidably mounted on said anchor plate for movement toward and away from each other, a yoke member slidably mounted on said anchor plate within said drum for movement at right angle to the sliding movement of

said shoes, a pair of diametrically aligned V-shaped wedges fixedly carried by said yoke member, inclined wedge surfaces provided on the opposed adjacent ends of said shoes with which the inclined surfaces of said V-shaped wedges respectively engage, spring means acting upon said shoes to normally hold the same in a retracted position, and actuating means for sliding said yoke member in a direction at a right angle to the direction of sliding movement of said brake shoes to cause said wedges to slide said shoes to an extended position into braking engagement with said brake drum against the tension of said spring means.

2. In a brake, a drum, an anchor plate, a pair of horizontally opposed brake shoes slidably supported upon said anchor plate within said drum and having inwardly extending C-shaped webs, adjacent ends of said C-shaped webs being disposed in spaced relation and provided with downwardly and inwardly inclined wedge surfaces to define V-shaped notches therebetween, a yoke member slidably mounted upon said anchor plate for movement in a direction at a right angle to the sliding movement of said brake shoes, V-shaped wedges fixedly carried by said yoke member and respectively disposed in said V-shaped notches, spring means acting to move said shoes to a retracted position with the inclined surfaces thereof in contact with said V-shaped wedges, and means for sliding said yoke member to cause the wedges thereof to wedge said shoes into braking engagement with said drum against the action of said spring means.

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