April 10, 1934. J. P. MAHONEY 1,954,532

BRAKE DRUM AND METHOD OF MAKING SAME

Filed April 7, 1930

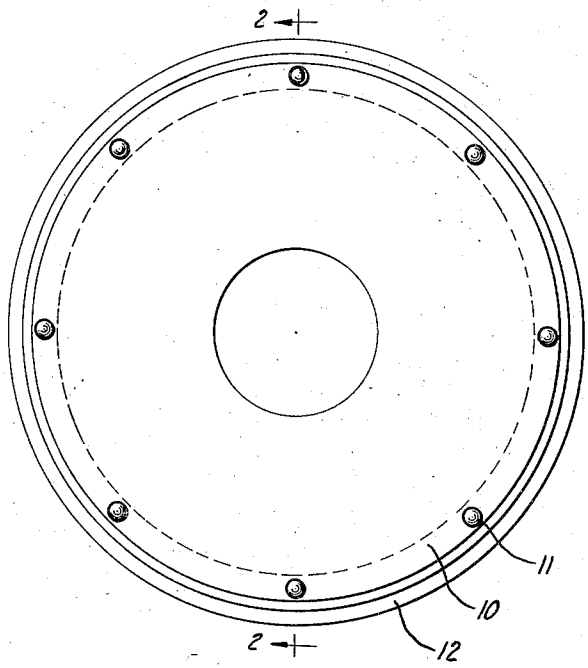


FIG. 1

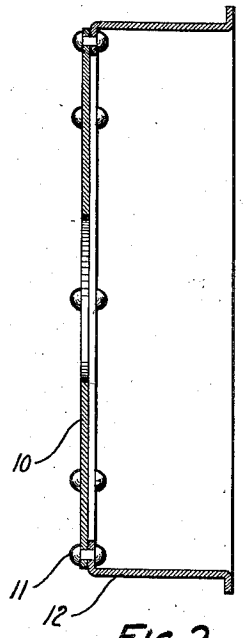


FIG. 2

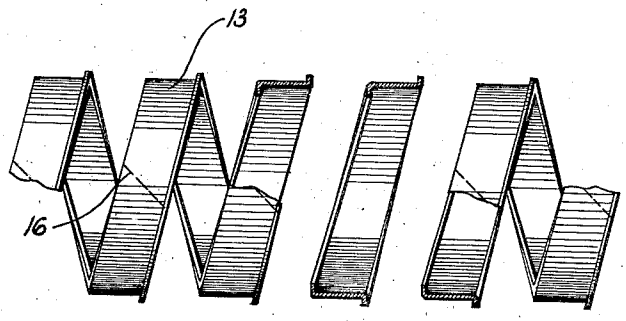


FIG. 3

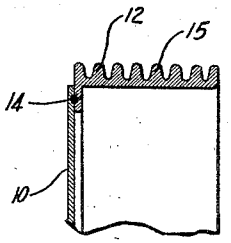


FIG. 4

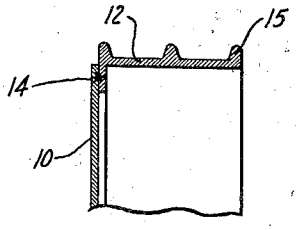


FIG. 5

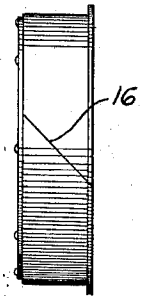


FIG. 6

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BRAKE DRUM AND METHOD OF MAKING SAME

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Application April 7, 1930, Serial No. 442,095

4 Claims. (Cl. 29—152.2)

This invention relates to brake structures and more particularly to improved brake drums.

Brake drums in general use consist of a blank of low carbon steel stamped or pressed into the desired shape. Deformable metal of this character is chosen on account of the stamping operation. The resulting brake drum is not entirely satisfactory because it does not possess as high a wear resistance and resistance to deformation as may be desired.

Heretofore, considerable difficulty has been experienced in brake drums due to the scoring thereof. This is especially so with the hard molded linings at present in use. It may be alleviated to some extent by the use of drums having a high carbon content or formed of special alloys designed to resist scoring. Such drums, however, are difficult to form and are costly. It is the aim of the present invention to overcome these difficulties by the provision of a drum which will meet with the present day requirement.

The major object of the invention is to provide a drum having a flange formed of high carbon steel and a disk portion of ordinary mild steel.

An important object of the invention is to provide a brake drum having a flange made up from a rolled section of high carbon steel welded or otherwise secured to a disk of ordinary mild steel.

Other objects and features of the invention will appear from the following description taken in connection with the drawing, which forms a part of this specification, and in which:

Figure 1 is a side elevation of a drum embodying the invention,

Figure 2 is a section substantially on line 2—2, Figure 1,

Figure 3 is a side elevation of a coil of high carbon steel,

Figure 4 is a sectional view illustrating a modification of the rim or flange,

Figure 5 is a sectional view illustrating another modification of the flange, and

Figure 6 is a plan view illustrating a bias cut in the flange.

Referring to the drawing for more specific details of the invention, 10 represents a disk of ordinary mild steel having secured thereto as by bolts 11 or otherwise a flange or rim 12 of high carbon steel. Preferably, the rim is rolled in a spiral or coil 13 and sections are cut therefrom and deformed to provide a continuous uniform flange or rim.

The flange may be of any preferred type and may be secured to the disk by spot welding, as shown at 14. It will, of course, be understood that the flange or rim may be provided with heat dissipating flanges 15 which also materially strengthen the structure.

In practice, the disk 10 is stamped from a blank of ordinary mild steel in the desired form and size and the rim or flange is made up in rolled sections of high carbon steel. These sections are rolled in the form of a spiral as clearly indicated in Figure 3 and are subsequently cut to the desired length and the resulting lengths sprung or deformed to permit their assembly with disks 10 and provide a uniform braking surface which will not be affected by the hard molded linings, such as are in general use.

If greater accuracy than usual is required in drum diameter, the high carbon steel flange or rim may be cut on the bias as indicated at 16 and the abutting ends of the flange or rim sprung into position, so that the inherent tendency to spring apart due to the spiral convolution of the coil substantially locks the ends together, hence the liability of the rim having a tendency to warp, twist or otherwise distort the disk may be avoided.

It will thus be seen that by utilizing different material for the disk and flange of the drum, and assembling these parts in the manner set forth, all of the advantages of the present type of structure with other advantages and features not heretofore possible, may be attained. It will, of course, be understood that various forms, other than those described may be used without departing from the spirit and scope of the invention.

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

1. A brake drum comprising a disk, a normally spiral sheet metal rim having heat dissipating flanges and bevelled ends held together by the tension of the spiral characteristics of the rim and means securing the flange to the disk.

2. The method for constructing a brake drum which comprises stamping a disk, rolling a flange in a spiral, cutting the spiral on the bias into sections, springing a section into a cylinder with the biased edges in abutment and securing the section to the disk.

3. A brake drum comprising a cylindrical rim of high carbon steel having diagonally cut ends tensioned in opposite directions axially of the drum to urge said ends together, and a soft metal disk forming the head of the drum secured to the rim.

4. The method of constructing a brake drum which comprises rolling a hard metal flange member into spiral form, cutting the spiral on diagonal lines into sections, springing a section into cylindrical form with the diagonal edges in abutting relation, and securing to the section a soft metal disk to form the head of the drum.

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