Aug. 30, 1927. 1,640,378

F. C. SCHOENTHAL

DISK WHEEL

Filed Aug. 23, 1919 2 Sheets-Sheet 1

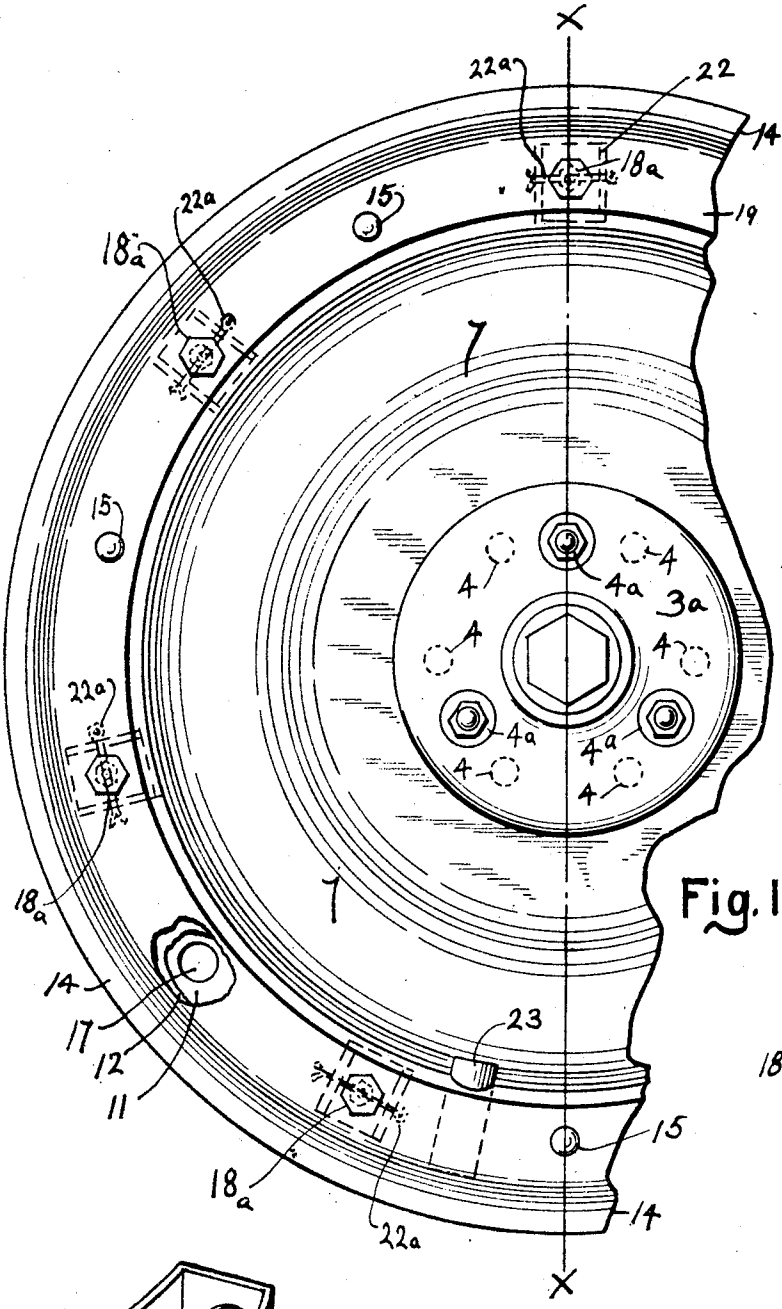


Fig. 1.

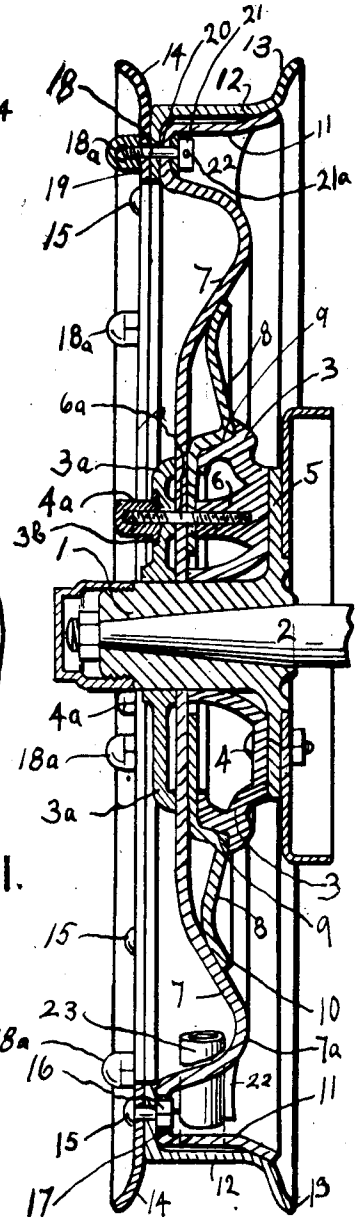


Fig. 2.

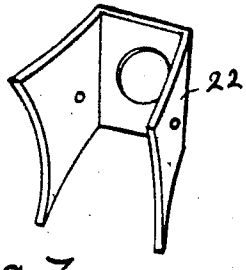


Fig. 7.

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DISK WHEEL

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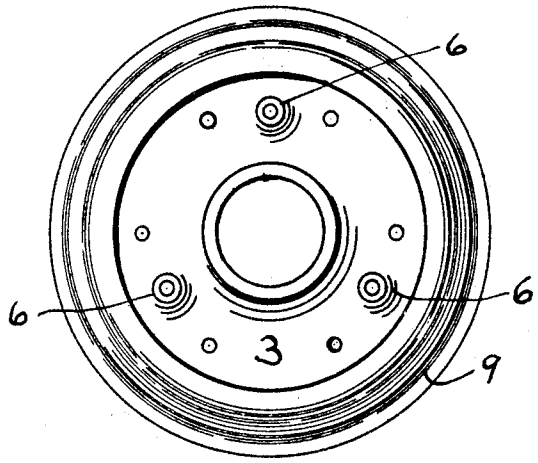


Fig. 5.

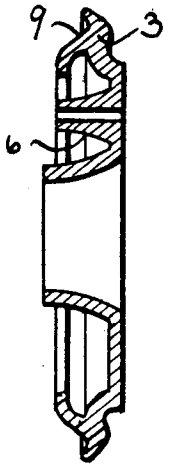


Fig. 6.

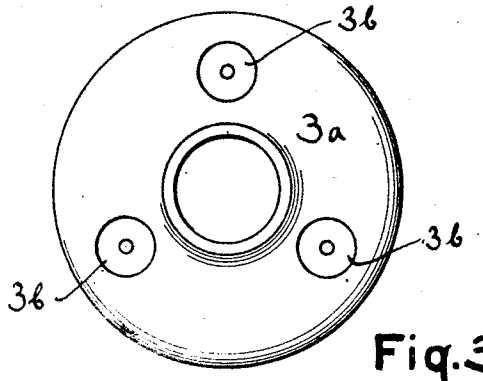


Fig. 3.

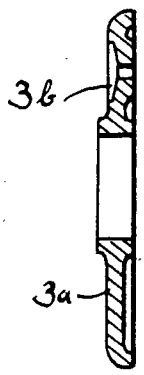


Fig. 4.

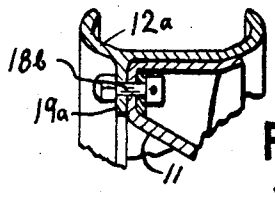


Fig. 8.

INVENTOR

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Patented Aug. 30, 1927. 1,640,378

UNITED STATES PATENT OFFICE.

FRED C. SCHOENTHAL, OF BUFFALO, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO STEEL WHEEL CORPORATION, OF LANSING, MICHIGAN, A CORPORATION OF MICHIGAN.

DISK WHEEL.

Application filed August 23, 1919. Serial No. 319,396.

Reference is had to the accompanying drawings, and to figures of reference marked thereon, which form part of this specification.

Like figures of reference refer to like parts.

This invention relates to disk wheels, particularly to reinforced single disk wheels.

One of the objects of my invention is to provide a disk wheel of a single plate disk concentrically bent to give the disk resilience, and having a felloe portion at the periphery of the plate formed by bending the same to give a circumferential shoulder and foundation to the demountable wheel rim.

Another object is to provide a wheel of a single plate disk having a smaller disk concentrically welded in contact therewith and diverging from the same to form a reinforcing brace to the larger disk.

Another object is to provide a wheel and sectional rim, having the rim of simple construction and demountable and at the same time separable, using only bolts to hold the parts together and to the felloe.

Another object is to provide a single disk wheel, which will replace the present wood wheel on a given standard hub.

With these and other objects my invention resides in certain construction, one embodiment of which is illustrated in the drawings, as adapted to the present Ford type of hub and is hereinafter described and what I claim is set forth.

In the drawings,

Figure 1 is a fragmentary front elevation of a wheel embodying my invention.

Figure 2 is a section taken on the line X—X of Figure 1.

Figure 3 is a plan of a clamping outside hub disk.

Figure 4 is a medial section of the clamping hub disk shown in Figure 3.

Figure 5 is a plan of the backing plate formed to concentrically fit a hub and flange of the Ford type.

Figure 6 is a section of the backing plate shown in Figure 5.

Figure 7 is a perspective view of one of the reinforcing pieces which bridge the felloe at the bolt holes.

Figure 8 is a section of clincher rim to be used as an alternate form of rim to that shown in Figures 1 and 2.

In the figures, there is shown a hub 1 journaled upon a shaft 2. Mounted on the hub 1 is a backing plate 3, secured by three bolts 4, to the flange 5 of the hub 1. Positioned between pairs of bolts 4 are outstanding posts 6, integral with the plate 3. Mounted upon the hub 1, is the single bent disk 7, having a reinforcing plate 8, bent to lie in the annular groove 9, of the plate 3 and spaced at this point from the disk 7. The periphery 10, of the plate 8, is welded to the disk 7. The disk 7 is bent circumferentially toward the back of the wheel and then curves outward toward the front of the wheel in the plane thereof and has its peripheral zone formed into an angular felloe portion 11, the edge of which is conically bent outward to conform to the back of the rim ring 12.

To the rim ring 12, a rim ring 14 is secured by bolts 15, having nuts 16 which pass through holes 17 in the felloe portion 11.

Between the bolts 15, are bolts 18 passing through the flanges 19 of the rim rings 12 and 14, and through holes 20, in the felloe portion 11, which holes are not large enough to allow the heads 21 to pass, so that the rim rings 12 and 14 are clamped as one piece to the felloe portion 11.

The felloe portion 11 is reinforced about the bolt holes by bridging pieces 22, which are welded in place. The heads 21 are held from turning by means of cotter pins 21 passing through the bridging pieces 22.

The disk 7, is secured to the backing plate 3 by means of nuts 4^a, threaded on the studs 6^a, secured in the post 6; the nuts 4^a bear against the plate 3^a, in pockets 3^b, and cause the plate 3^a to clamp the disk 7 against the backing plate 3.

Radially fixed in the felloe portion 11, is the tire valve tube 23.

It will be noticed that the bend 7^a, of the disk 7 permits of the inner end of the tube 23, being exposed on the outside of the wheel.

The clincher rim 12^a, shown in Figure 8, has an inturned flange 19^a, similar to the flange 19, of the separable rim shown in Figure 2. The rim 12^a with its flange 19^a is

adapted to fit upon the felloe portion 11, of the wheel. In this case one set of bolts 18^b and nuts are required to hold the rim upon the felloe.

While the wheel above described and illustrated is designed to be detachably mounted upon a Ford type of hub, changes in its construction can be made to adapt the same to other types of hubs without departing from the spirit and scope of my invention; I therefore do not wish to be confined to the one embodiment herein illustrated and described.

Having described my invention I claim,

1. In a disk wheel, a hub, a disk having a felloe portion, an auxiliary disk fixed to said first mentioned disk having a seating portion, a seating plate adapted to receive said seating portion of said auxiliary disk, means for fixing said seating plate to said hub, and other means for fixing said disk to said seating portion.

2. In a disk wheel, a hub, a disk of sheet metal having a felloe portion, an auxiliary disk fixed to said first mentioned disk, having a seating portion, a seating plate adapted to receive said seating portion of said auxiliary disk, means for fixing said seating plate to said hub, a circular plate on said hub outside of said first mentioned disk, and means for clamping said disks to said seating plate.

3. A disk wheel comprising a hub, a single sheet metal disk on said hub, having its periphery formed into a felloe portion, a smaller disk peripherally and concentrically contacting and fixed to said first mentioned disk and spaced near the hub from said first mentioned disk, a circular plate concentrically fixed upon said hub and forming a seat for said smaller disk and means for holding the parts of said wheel together.

4. In a disk wheel, a hub, a disk having a felloe portion, an auxiliary disk having its periphery rigidly secured to said first mentioned disk and having a seating portion, a seating plate adapted to receive said seating portion of said auxiliary disk, means for fixing said seating plate to said hub, and other means for fixing said disk to said seating portion.

5. In a disk wheel, a hub, a disk of sheet metal having a felloe portion, an auxiliary disk having its peripheral portion rigidly secured to said first mentioned disk, having a seating portion, a seating plate adapted to receive said seating portion of said auxiliary disk, means for fixing said seating plate to said hub, a circular plate on said hub outside of said first mentioned disk, and means for clamping said disks to said seating plate.

6. A disk wheel comprising a hub, a single sheet metal disk on said hub, having its periphery formed into a felloe portion, a seating plate fixed upon said hub, and a disk smaller than the first mentioned disk peripherally and concentrically contacting and rigidly secured to the first mentioned disk, and seating upon said seating plate, and spaced from the first mentioned disk between its periphery and its seat upon said plate, and means for holding the specified parts together.

7. In a disk wheel, a hub, a disk body member mounted on said hub and having a felloe portion, a seating member secured upon the hub, and a reinforcing disk less in diameter than said body member seated upon said seating member and inclined toward the disk body member and peripherally rigidly secured to said body member.

8. In a disk wheel, a hub having a radial flange, a disk body member mounted on said hub and having a felloe portion, a reinforcing disk less in diameter than said body member peripherally engaging said body member and extending toward the hub in a divergent relation to said body member, and a member mounted on said hub between said body member and said hub flange, having a peripheral portion extending between said hub flange and reinforcing disk and spacing the same.

9. In a disk wheel, a hub, a disk body member, an auxiliary disk having its periphery rigidly secured to said body member and having a seating portion, a seating plate adapted to receive said seating portion of the auxiliary disk, means for fixing said seating plate to said hub, and other means for fixing said body member to said seating plate.

10. In a disk wheel, a hub, a sheet metal disk forming a body member, an auxiliary disk having its peripheral portion rigidly secured to said body member, and having a seating portion, a seating plate adapted to receive said seating portion of the auxiliary disk, means for fixing said seating plate to said hub, a circular plate on said hub outside of said body member, and means for clamping said disks to said seating plate.

11. A disk wheel comprising a hub, a single sheet metal disk on said hub, a seating plate fixed upon said hub, a disk smaller than the first mentioned disk peripherally and concentrically contacting and rigidly secured to the first mentioned disk, and seating upon said seating plate, and spaced from the first mentioned disk between its periphery and its seat upon said plate, and means for holding the specified parts together.

12. In a disk wheel, a hub, a disk body member mounted on said hub and having a felloe portion, a seating member secured upon the hub, and a reinforcing disk less in diameter than said body member seated upon said seating member and inclined toward the disk body member and periph-

erally rigidly secured to said body member.

13. In a disk wheel, a hub having a radial flange, a disk body member mounted on said hub, a reinforcing disk less in diameter than said body member peripherally engaging said body member and extending toward the hub in a divergent relation to said body member, and a member mounted on said hub between said body member and said hub flange, having a peripheral portion extending between said hub flange and reinforcing disk and spacing the same.

FRED C. SCHOENTHAL.