(No Model.)

A. ROWAN.

VEHICLE WHEEL.

No. 424,577. Patented Apr. 1, 1890.

Fig. 1.

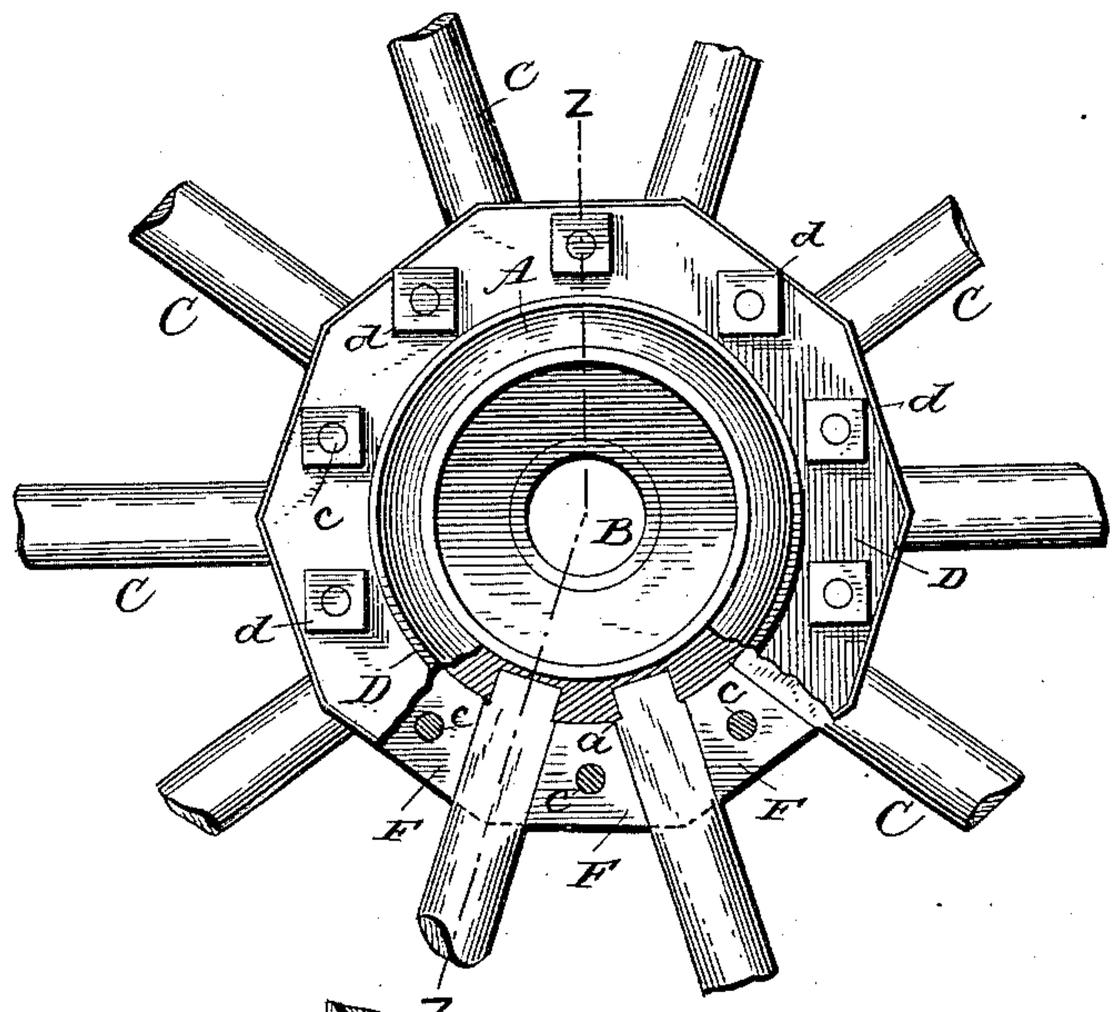


Fig. 2.

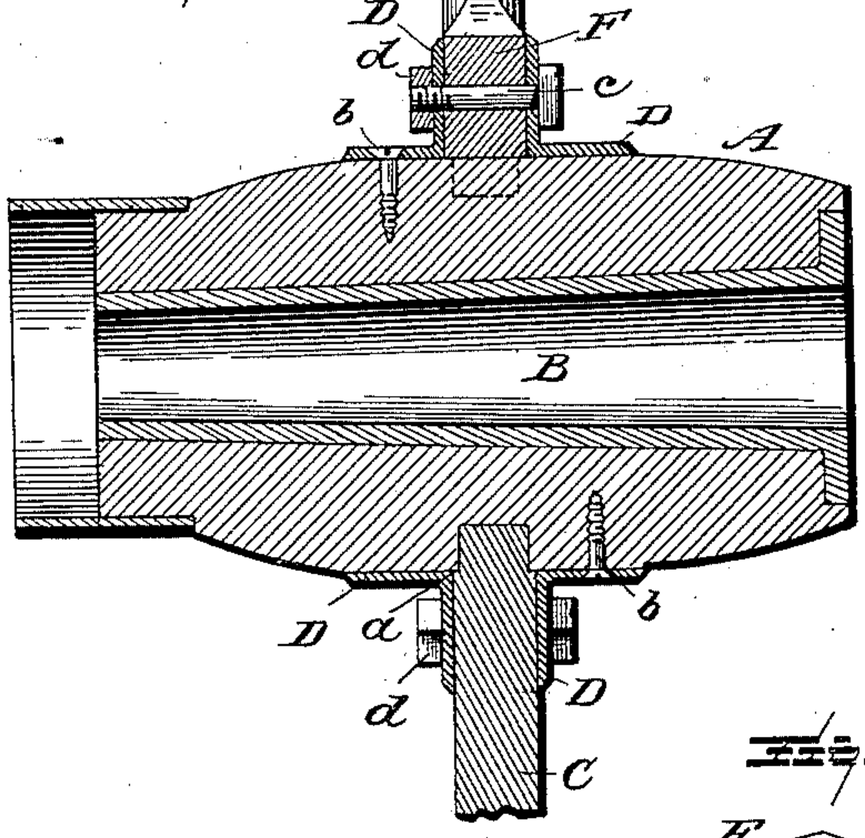


Fig. 3.

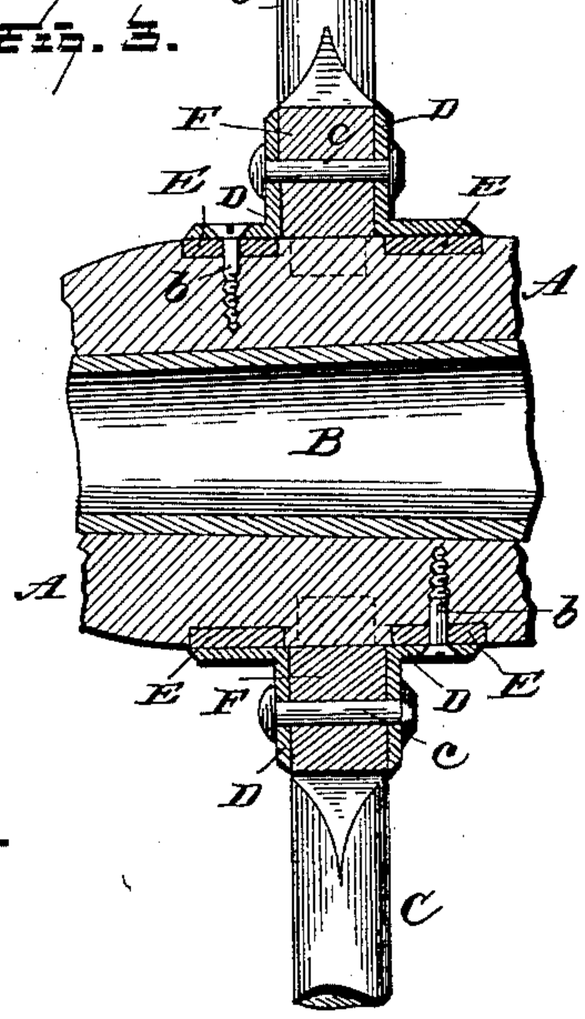
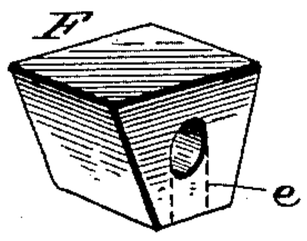


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

ANDREW ROWAN, OF BUFFALO, KANSAS.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 424,577, dated April 1, 1890.

Application filed November 30, 1889. Serial No. 332,113. (No model.)

To all whom it may concern:

Be it known that I, ANDREW ROWAN, a citizen of the United States, residing at Buffalo, in the county of Wilson and State of Kansas, have invented certain new and useful Improvements in Vehicle-Wheels; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in vehicle-wheels; and it has for its object, among others, to provide an improved wheel which shall be strong and durable, the parts constituting my invention being applicable to wheels of ordinary construction now in use, enabling me to apply my improvements to such wheels to increase their usefulness. I provide a band upon each side of the spokes, said bands being used either in connection with the ordinary metal hub-bands or without them, as most desirable.

The novelty resides in the peculiar combinations, and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side view of a portion of a wheel embodying my invention, with parts broken away. Fig. 2 is a section on the line Z Z of Fig. 1. Fig. 3 is a longitudinal section through a wheel provided with the usual metal hub-bands. Fig. 4 is a perspective view of one of the filling-blocks removed.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a hub of any known construction, provided with axle-skein B.

C are the spokes, which may be of any approved form and secured in the hub in any well-known manner, preferably, as shown, with a tenon at the inner end fitting in a corresponding socket in the hub, leaving a shoulder *a* bearing against the outer periphery of the hub, as shown in Fig. 1.

My improvement consists in the employment of the bands D, one upon each side of the spokes, as shown. These bands are each in the form of a right angle in cross-section, as shown in Figs. 2 and 3, one portion being adapted to embrace the hub and the other to have a bearing on the spokes and the filling-blocks placed between the spokes, as hereinafter described. These bands may be of any suitable metal and of a size to correspond with the wheel upon which they are to be employed. They may be of polished metal, if desired, to give the wheel an ornamental appearance, although the bands are designed for strength rather than beauty; but the two may be combined, if desired. One of these bands is placed upon each side of the spokes, and the horizontal portion may be made to fit snugly the hub, being shrunk on, preferably, or it may be secured by means of screws *b*, as many being employed as deemed necessary, passed through the said horizontal portions into the hub, as shown in Fig. 2. When the bands are employed in connection with a hub provided with the usual metal hub-bands E, as shown in Fig. 3, the bands D are placed with their horizontal portions bearing directly upon the said bands E, as shown in said Fig. 3, and the screws *b* passed through the horizontal portions of the bands D, through the bands E, and into the hub, as shown in the said figure. These screws may also be employed when the bands are shrunk on, if desired, although they are not necessary.

Between the spokes I place the filling-blocks F, which may be of either wood or metal, as may be found most desirable, the blocks being tapered or wedge-shaped, as shown best in Fig. 4, and adapted to fit snugly between each two spokes, as shown in Fig. 1. These filling-blocks are driven into place either before or after the bands D are placed in position, and after the bands have been placed upon the hub bolts *c* are passed through the vertical portions of the two bands D and through holes in the blocks, as shown in Fig. 2, and nuts *d* secured upon the threaded ends of the said bolts, as shown in the said figure. This forms a very strong wheel and the bolts and nuts

provide for the ready drawing up or tightening of the parts in case of wear or shrinkage; and in case any of the spokes should be broken, by simply removing the nuts and bolts upon each side of the broken spoke and then removing the filling-block, the broken spoke may be removed and a new one put in its place without disturbing any of the others.

Instead of the bolts and nuts shown in Fig. 2, and above described, rivets may be employed, as shown in Fig. 3; but I prefer the bolts and nuts on account of their affording ready means for removal and replacing a spoke.

The filling-blocks F may be provided with elongated openings, as shown at *e* in Fig. 4, to provide for their being readily driven up in case of shrinkage of the parts, without removing the bolts or rivets.

The bands D may be made in sizes to suit the different sizes of wheels and be placed upon the market as new articles of manufacture to be applied to wheels for the purpose of strengthening the same by persons owning the wheels, either in connection with the blocks or without them. The vertical portions of the bands may be polygonal, as shown, or circular, as preferred; but I prefer the polygonal form shown, as it gives a better finish and leaves the outer edges flush with the outer faces of the filling-blocks.

I deem it important that the filling-blocks be in the form of a truncated wedge, as shown best in Fig. 4, as by this form I provide a stronger wheel, hold the spokes more securely against side movement, and in case any one of the spokes should be wrenched to one side the sharp corners of the blocks would bind against the sides of the spoke and prevent its being pulled out.

What I claim as new is—

1. The combination, with the hub, spokes, and filling-blocks of truncated-wedge form, of the metal bands on the hub, and the bands D embracing the hub, spokes, and blocks, and secured to the blocks, and the screws passed through the metal bands, through the bands D and into the hub, substantially as described and shown.

2. In wheels, a truncated-wedge-shaped filling-block, adapted to fit between two spokes and provided with an elongated slot, substantially as shown and described.

3. The combination, with the hub and spokes, of the tapered truncated filling-blocks between the spokes and having open slots, the bands D, one on each side of the spokes and each having a portion embracing the hub and another embracing the spokes and blocks, and bolts separate from the blocks and passed through the opposite portions of the two bands and through the blocks, and nuts upon the ends of said bolts, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW ROWAN.

Witnesses:

E. H. BOND,

M. P. CALLAN.