

(No Model.)

J. A. MILLER.  
CAR WHEEL.

No. 572,556.

Patented Dec. 8, 1896.

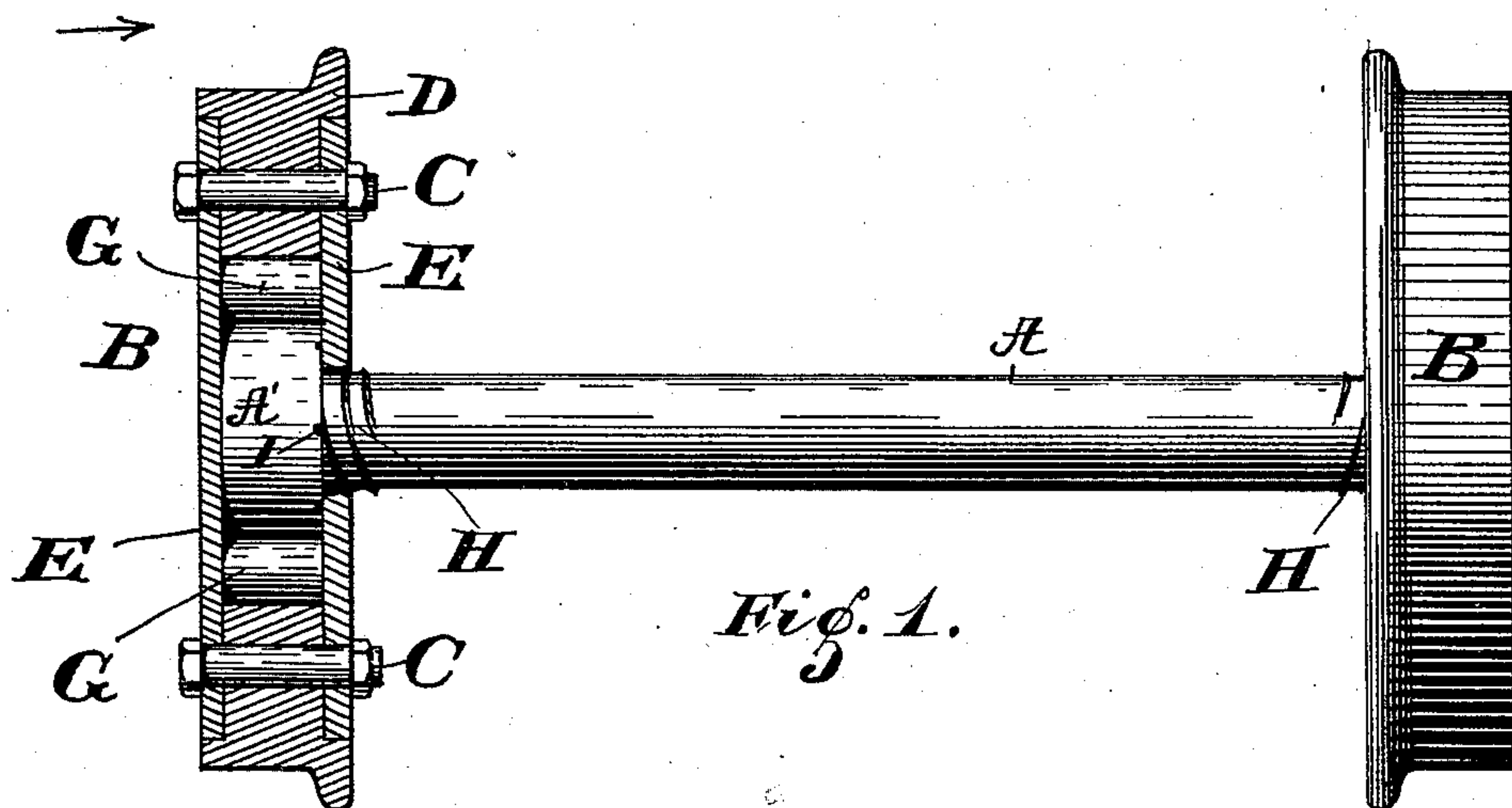


Fig. 1.

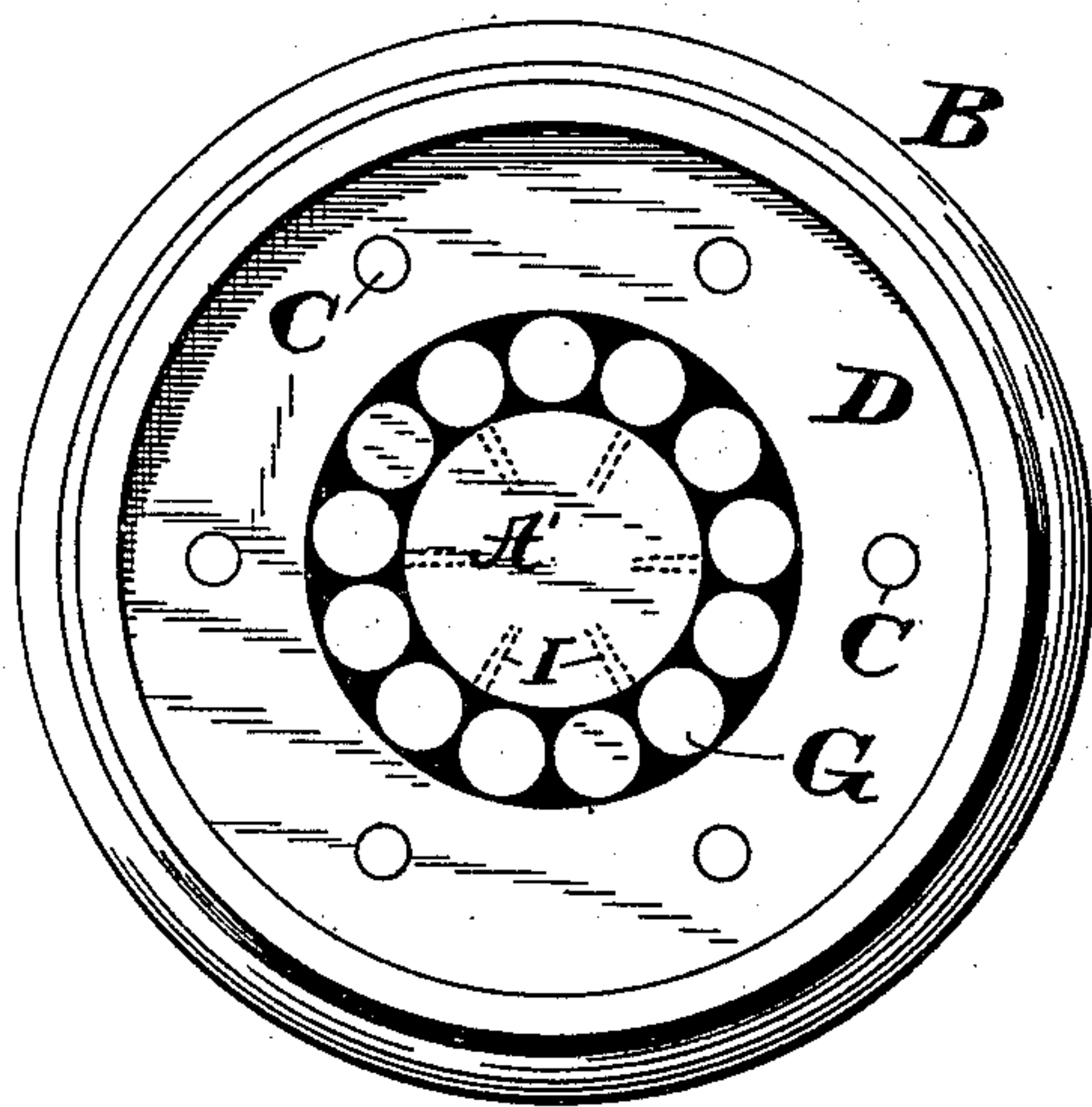


Fig. 2.

Witnesses,  
Will. Hafer.  
F. W. Noerner.

Inventor,  
John Arthur Miller  
By Joseph A. McIntire  
ATTORNEY.



# UNITED STATES PATENT OFFICE.

JOHN A. MILLER, OF INDIANAPOLIS, INDIANA.

## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 572,556, dated December 8, 1896.

Application filed May 11, 1896. Serial No. 591,024. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN ARTHUR MILLER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Car-Wheels; and I do hereby 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.

This application relates to improvements in car wheels and axles, and has for its objects the construction of a substantial device whereby the application of friction-rollers will be permitted and such rollers applied so as to lessen the friction and make the lubrication of the running parts practically unnecessary.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in side elevation of a pair of car-wheels and an axle connecting the two. One of the wheels is shown in vertical section to illustrate the inside construction. Fig. 2 is a view in side elevation of one of the wheels with the outside plate removed, the view being in the direction of the arrow in Fig. 1.

Similar letters of reference indicate like parts throughout both the views of the drawings.

A is the axle terminating at each end with the cylindrical enlargement or head A', one of which will consist of a collar which is made separable in order that the inside disks of the wheels may be inserted on the axles. The head on the other end may be integral with the axle, but preferably it, too, will be made first as a detached collar and applied in much the same manner as adopted at the present time in securing car-wheels to their axles. The object in making the head in the form of a collar detached from the axle is to enable this wearing-surface to be of case-hardened steel while the axle is of softer metal.

B are the wheels, which consist of an annular rim D and an inside and an outside disk E, between which the rim D is impinged, and the disks and rim held together by the bolts C.

G are cylindrical rollers placed between the head A' and the rim in the manner as shown

in the drawings. The opening in the rim is just large enough in diameter to receive the head A' and the annular series of rollers. The rollers are kept from longitudinal displacement by means of the disks E, as clearly shown in Fig. 1, and the said disks also serve to hold the wheel, by engagement against the head A', from longitudinal displacement on the axle. The outside disk and the rim might be made solid, but the two-part construction, as shown, is preferred, because it affords facilities for access to the interior of the wheel from the outside, which would not be possible with the disk and rim in one piece.

The only lubricant required will be graphite in a powdered state, which will be deposited in the friction-cylinder runs, and as this by long and hard usage often develops hard and gritty particles I will provide means for automatically removing same. This means consists of a series of grooves I, running either in straight or spiral paths from the rim of the head on the inner side of same to the axle in a radial direction and the formation of the thread H on the axle. The direction of the thread is such that the forward movement of the axle will cause all loose particles deposited in the thread to be carried outwardly from the wheel. This thread on the axle, besides removing the grit from the inside of the wheel, will also prevent outside dust from entering the chamber for the rollers formed by the disks and rim.

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

The combination, with the rim D, the two disks E bolted to the rim, one on each side thereof and the cylindrical roller G, of the axle A having the ends or heads A' of greater diameter than the axle, said heads having grooves on their inner sides running from the periphery of the heads toward the axial line of the axle and said axle having threaded portions next to the heads substantially as described and for the purposes specified.

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

JOHN A. MILLER.

Witnesses:

JOSEPH A. MINTURN,  
F. W. WOERNER.