

No. 672,510.

Patented Apr. 23, 1901.

J. F. McELROY.  
FRICTION ROLLER.

(Application filed June 27, 1898.)

(No Model.)

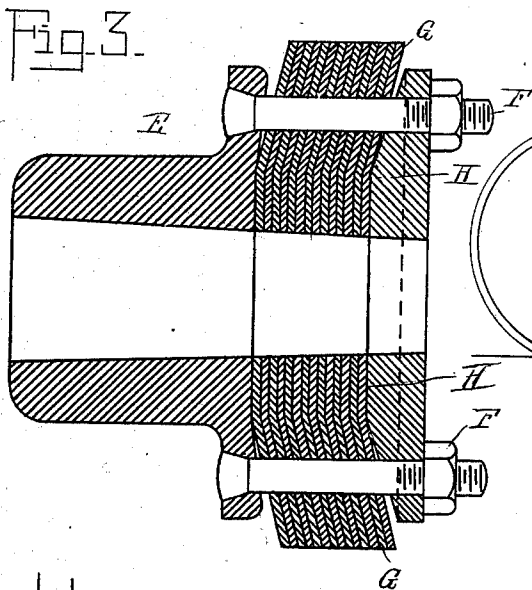
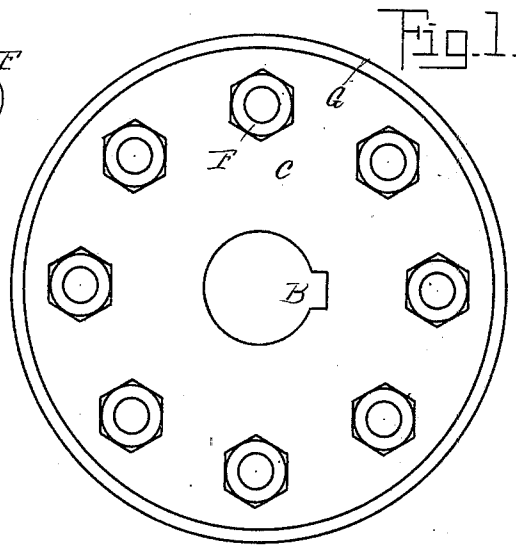
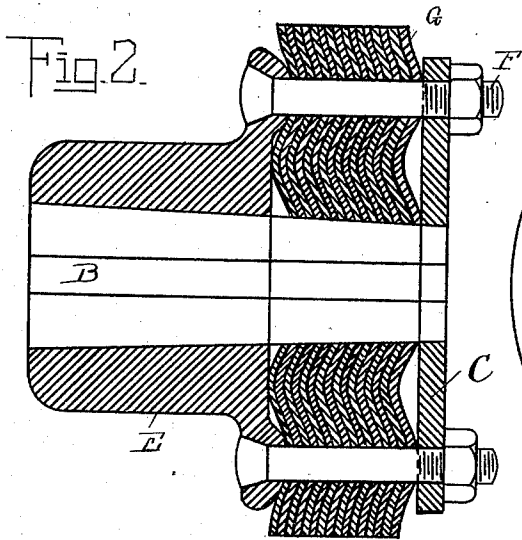
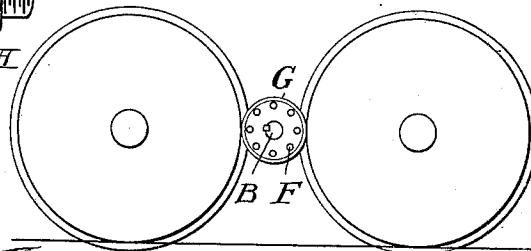


Fig. 4.



Witnesses  
 Mary Agnes Burke.  
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Inventor  
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# UNITED STATES PATENT OFFICE.

JAMES F. McELROY, OF ALBANY, NEW YORK, ASSIGNOR TO CONSOLIDATED  
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## FRICITION-ROLLER.

SPECIFICATION forming part of Letters Patent No. 672,510, dated April 23, 1901.

Application filed June 27, 1898. Serial No. 684,551. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. McELROY, a citizen of the United States of America, and a resident of Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Friction-Rollers, of which the following is a specification.

My invention relates to devices for imparting rotary motion to the wheels of friction-driven trucks; and the object of my invention is to provide a roller which shall operate noiselessly. I attain this object by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an end elevation. Fig. 2 is a section. Fig. 3 is a section similar to Fig. 2, but of a modified form thereof. Fig. 4 is an end elevation of a friction-roller, showing the roller in contact with the drive-wheels of the truck.

Similar letters refer to similar parts throughout the several views.

The friction-roller is made up of the casting E, a series of layers of wood, paper, rawhide, or metal plates G, forming a core, and the disk C.

G G represent a series of layers of wood, rawhide, paper, or metal plates, secured together in any suitable manner and cut out at B to permit of the passage of the axle. For the purpose of securing the disk to the casting E, I preferably use a series of bolts F. The periphery of the roller extends slightly above the casting E and the disk C and engages with the driving-wheels of the truck when placed in position for use. The layers G are preferably made of compressible material, such as paper, rawhide, or wood, the material being sufficiently yielding to prevent the vibrations from one side of the roller being communicated to the drive-wheels on the opposite side, the strain upon the opposite sides of the roller being taken up by the compressible

material of which it is composed. When I use metal plates, I preferably arrange the plates in a corrugated form, as shown in Fig. 1, in such a manner that the pressure on opposite sides of the periphery of the plates will be transmitted radially and tend to cause them to give upon themselves, the convolutions allowing for this action, or I may arrange the plates, as shown in Fig. 3, in the form of a series of saucers, the pressure upon the opposite sides of the periphery causing the roller to give slightly radially, and thus preventing the vibrations from being carried across from one drive-wheel to the other. The friction-roller being designed for use between drive-wheels, the pressure on the roller will be transmitted radially rather than tangentially, as is the case in gear-wheels.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A friction-roller, consisting of a series of bent and radially-yielding layers, a means for securing the layers together, a casing in which they are mounted, substantially as described.

2. A friction-roller, consisting of a series of corrugated radially-yielding plates secured together, a casing in which said layers are mounted, a disk, a means for securing said casing and layers and disk together, substantially as described.

3. A friction-roller, consisting of a series of radially-yielding metal layers, said layers so arranged that pressure upon opposite sides thereof will cause them to yield slightly, a casing upon which said layers are mounted, a means for securing said layers and casing together, substantially as described.

Signed by me at Albany, New York, this 17th day of June, 1898.

JAMES F. McELROY.

Witnesses:

CHAS. B. MITCHELL,  
W. W. ERWIN.