

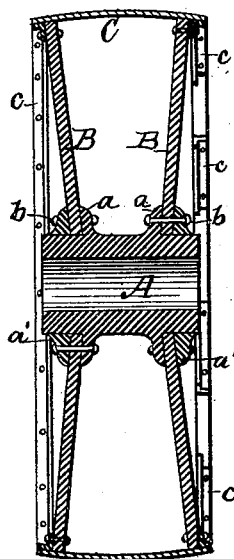
(No Model.)

W. J. INNIS.  
BELT PULLEY.

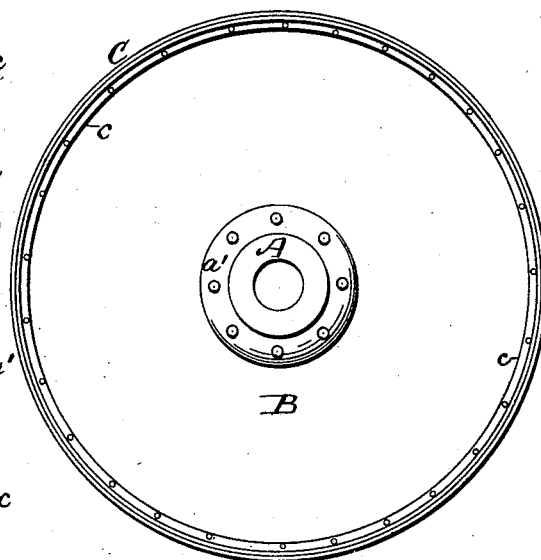
No. 342,910.

Patented June 1, 1886.

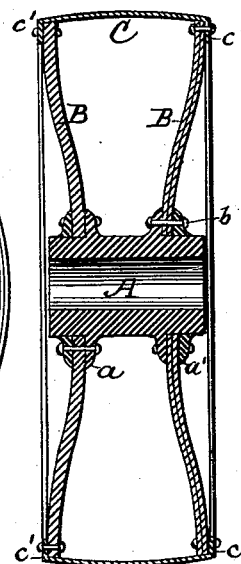
*Fig. 1.*



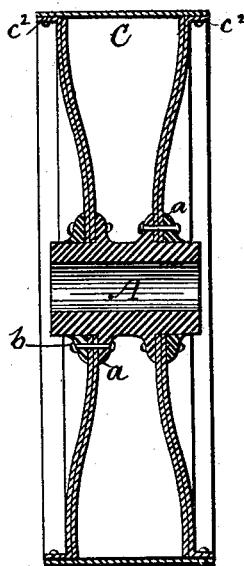
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
*L. C. Hills*  
*W. R. Masson*

*Inventor:*  
*William J. Innis,*  
*by E. E. Masson*  
*att'y.*

# UNITED STATES PATENT OFFICE.

WILLIAM J. INNIS, OF OIL CITY, PENNSYLVANIA.

## BELT-PULLEY.

SPECIFICATION forming part of Letters Patent No. 342,910, dated June 1, 1886.

Application filed September 8, 1883. Serial No. 105,918. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. INNIS, a citizen of the United States, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Band-Pulleys, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

10 Figure 1 is a vertical section; Fig. 2, a side elevation, and Figs. 3 and 4 are vertical sections showing modifications of a pulley constructed in accordance with my invention.

My invention relates to band-pulleys; and the object of my invention is to construct them of a cast hub, concavo-convex paper disks, and a metal rim, united together so that they shall be light and strong; and my invention consists in certain features of construction hereinafter described, and specifically set forth in the claims.

Similar letters refer to similar parts throughout the several views.

25 The hub A consists of a casting suitably bored to fit a shaft. Upon the periphery of the hub, and cast integral therewith, are one or two circular flanges, *a*, having one of their flanges dressed radially to receive the inner edge or circumference of the eye of the disks B. These disks are made of one or more thicknesses of paper used either separately or glued together, or not, and pressed between forms, or in such a manner as to take and retain a concavo-convex or dished form; but their inner and outer edges are preferably set at right angles to the axis of the hub and parallel to each other, to facilitate their attachment to the hub and to the rim of the wheel.

35 The disks B are secured to the circular flanges *a* of the hub by means of clamping-rings *a'* and bolts or rivets *b*. After being thus attached the rim C is secured to the disk's outer edges.

45 The rim is formed of metal. It may be cast; but I prefer to have it made of sheet metal and with a transversely convex face, as shown in Figs. 1 and 3.

To unite the paper disks to the metal rim, angle-iron *c* may be used, as shown in Fig. 1, either in a full circle or one piece, as shown on the left-hand side of said figure, or in short sections, as shown on the right-hand side of the same figure.

The rim C may also be made of sheet metal in one band or in segments, with the edges *c'* thereof flanged toward the center, as shown in Fig. 3, and said flanged portion may be continuous or indented into short lengths, to facilitate the flanging thereof, and riveted or cemented to the outer edge of the paper disks B. These disks may be made of paper in sheets superposed and cemented together or not, and a pulley may be made of this substance with a cast hub and metal ring, as shown in Fig. 4, in which case either the whole disks or the outer facing thereof is made of paper and the outer edge flanged outward at *c''* and riveted or cemented to the metal rim C adjoining its edges.

I am aware that pulleys and wheels have been made with a central web formed of flat disks of paper glued or otherwise united together and to the central portion of the rim, and I do not claim pulleys constructed in this manner.

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

1. A pulley constructed with a cast hub, a metal rim, and concavo-convex paper disks secured to said rim adjoining its edges, substantially as described.

2. The combination of a cast hub, concavo-convex paper disks, and a transversely-convex rim of metal having its edges secured to the disks, substantially as described.

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

WILLIAM J. INNIS.

Witnesses:

GEORGE ROSS,  
R. M. JACOBS.