

(No Model.)

J. SHEPHERD.

PULLEY OR DRUM.

No. 306,538.

Patented Oct. 14, 1884.

Fig. 3.

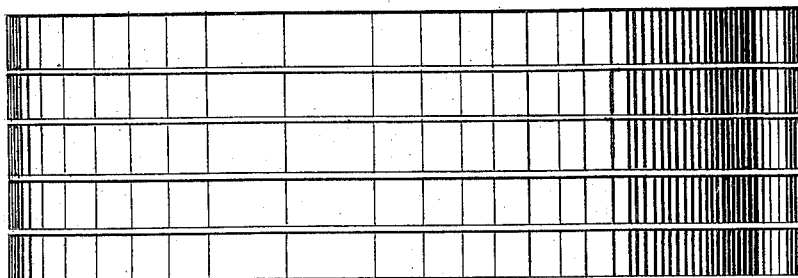


Fig. 2.

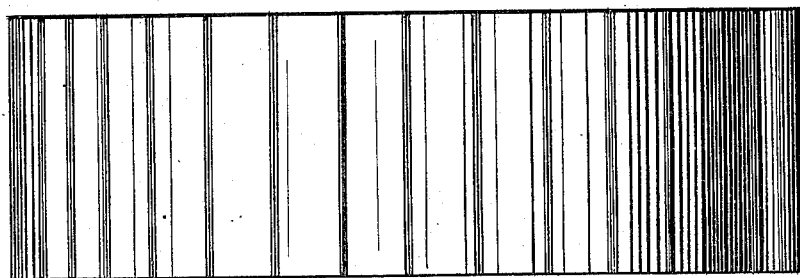
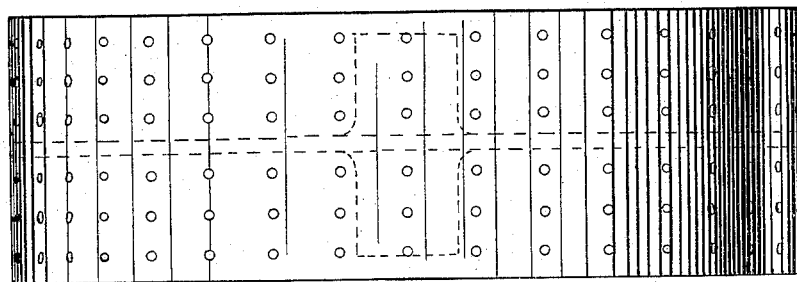


Fig. 1.



Witnesses:

Cercy White.  
Otho H. Rymer.

Inventor:

James Shepherd.  
By  
John F. Kallstedt & Son  
his Attys

# UNITED STATES PATENT OFFICE.

JAMES SHEPHERD, OF MANCHESTER, COUNTY OF LANCASTER, ENGLAND.

## PULLEY OR DRUM.

SPECIFICATION forming part of Letters Patent No. 306,538, dated October 14, 1884.

Application filed August 18, 1884. (No model.) Patented in England February 26, 1884, No. 3,932.

*To all whom it may concern:*

Be it known that I, JAMES SHEPHERD, a subject of the Queen of Great Britain, residing at Manchester, in the county of Lancaster, England; have invented new and useful Improvements in Pulleys and Drums for Driving Purposes, of which the following is a specification.

To increase the efficiency of pulleys for turning purposes, and to obtain close contact between the face of the pulley (whether of cast-iron, wrought-iron, steel, or other material) and the strap or belt running over it, I perforate the face or periphery of the pulley with holes or slots varying in size and number according to the size or diameter of the pulley and the width of the strap or belt to be used; or fine slots or channels may be cut across the face of the pulley in parallel or diagonal or circumferential lines; or the periphery may be formed of a number of narrow rings, leaving a small space between each.

The primary object of the invention is to enable the film of air that is carried in between the face or inside surface of the strap or belt and the outer face or surface of the pulley when running to be easily expelled, whereby closer contact between the two is obtained, the fault of slipping is reduced and the regularity and power of the turning is improved.

In order that the invention may be fully understood, I will, by the aid of the accompanying drawings, proceed to describe means pursued by me in carrying the same into effect.

Figure 1 shows the outer surface of an ordinary pulley in elevation, with holes through the periphery of the pulley. These holes are

varied in size, number, and order of distribution according to the size and character of the pulley. Figs. 2 and 3 are elevations of a similar pulley.

The periphery or outer face of No. 2 is crossed by a series of parallel grooves or channels varying in number, width, and depth according to the size and character of the pulley; or these grooves or channels may be crossed in a diagonal or circumferential direction. The periphery of No. 3 is composed of a series of narrow rings with a small open space between each. The primary object in each case is to allow of the rapid escape of air that is carried in between the face of the pulley and the inner surface of the band or strap when running.

Having thus described my improvements and the means that I adopt in carrying the same into effect, I would have it understood that I do not confine myself to the exact details shown and described, as variations may be made in them without departing from the peculiar character of my invention; but

What I do claim is—

A pulley or drum having its face or periphery perforated, spaced, grooved, or fluted to form exit-passages for the air that is taken in between the outer face of the pulley and the strap or band when running.

JAMES SHEPHERD.

Witnesses:

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