

(No Model.)

C. W. McELROY.
PULLEY.

No. 534,755.

Patented Feb. 26, 1895.

Fig. 1

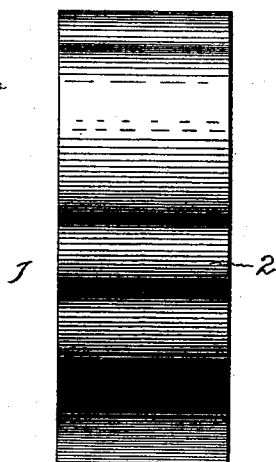


Fig. 2

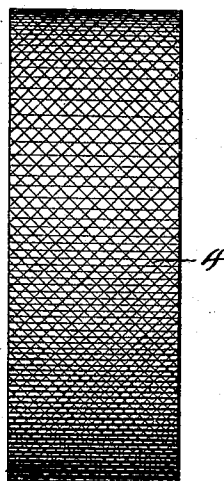


Fig. 3

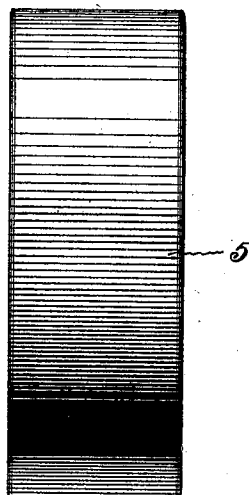


Fig. 4

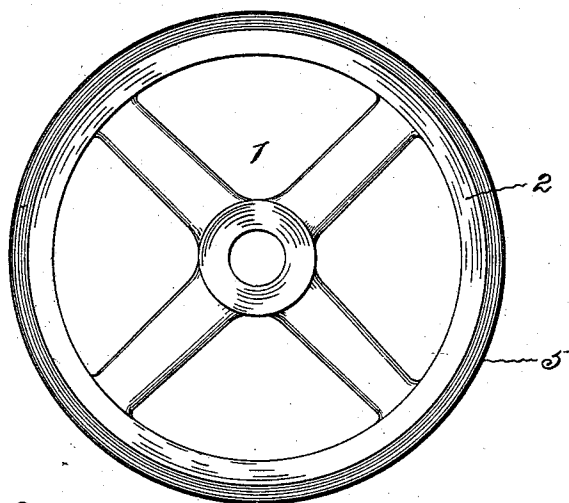
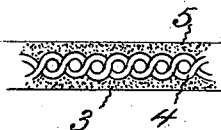


Fig. 5



Witnesses:

E. J. Hyde.
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Inventor,
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Harry P. Williams,
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UNITED STATES PATENT OFFICE.

CHARLES W. McELROY, OF MERIDEN, ASSIGNOR TO THE JEWELL BELTING COMPANY, OF HARTFORD, CONNECTICUT.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 534,755, dated February 26, 1895.

Application filed December 24, 1894. Serial No. 532,799. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. McELROY, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Pulleys, of which the following is a specification.

The invention relates to the class of pulleys that are used in the transmission of power, which are provided with an exterior skin or covering to increase the traction of the belting, and it also relates to the process of building up or covering such pulleys; and the object is to provide a complete pulley or a covering which can be applied to any common pulley, that is simple, cheap, and easily constructed and which shall have a surface that can be readily renewed any time if it becomes worn or filled with oil, which surface will be smooth, tenacious and hard, yet somewhat elastic and adhesive whereby a superior contact is insured between the pulley and the belt and the tractive power is considerably increased.

Referring to the accompanying drawings which illustrate the invention: Figure 1 is a view of the face of an ordinary polished pulley. Fig. 2 is a view of the face of such a pulley at one stage during the operation of building it up or covering it. Fig. 3 is a face view of the finished pulley. Fig. 4 is a side view of the same; and Fig. 5 is an enlarged section through a portion of the cover representing the manner of building it up.

In the views 1 indicates the body of any common form of driving or shaft sheave or pulley wheel which may be made of iron, brass, wood, paper or similar materials. The driving face of the rim 2 of the pulley may, of course, be flat, curved, grooved, conical or any other common shape. To the face of the pulley after it has been properly cleaned to remove oil and dirt is applied a cement 3 containing a strongly adhesive substance, such as glue or a similar material, incorporated with a small quantity of gelatine, pitch or gum, for instance such as rubber or tar, which will keep the adhesive substance in a tenacious and somewhat elastic condition and prevent it from so hardening as to become glassy or brittle. This cement is preferably applied with a brush in a heated semi-liquid

state. Outside of this layer of cement is placed a cushioning layer 4, preferably a band of canvas but which may be any common woven fabric, as cloth, or any fibrous animal or vegetable material, as leather, paper, wood or cork. When this cushioning layer or filler has thoroughly adhered to the interior layer, an outer layer or shell 5 of cement, having similar characteristics to the inner layer, is applied to the face of the cushioning layer to fill its pores, making it smooth and providing a hard, tenacious and attractive working surface.

When pulleys are built up or covered in this manner or when a pliable cover formed of an inner elastic cementing material, a band of cushioning material and an outer adhesive surface layer is applied to the face of the pulley, a working surface is provided that is very smooth and without air spaces, thus insuring perfect contact between the pulley and the belting so that there will be no slip. The working surface of this cover being hard as well as somewhat elastic has long life and does not break away, for it is not brittle and the interior filling or cushioning layer yields enough to prevent any cracking of this outer skin or layer which, of course, permeates between the fibers or pores of the filling and is thus very strongly held in position. Of course, the inner layer of adhesive cement which is tenacious yet slightly yielding permeates the interstices of the filling also and holds it firmly in position on the face of the pulley; and further, the cushioning layer which holds strongly to the interior adhesive layer and to the exterior surfacing layer of cementing material, being between them, relieves the interior or holding layer from the direct strain and wear of the belt so that there is not a direct pull tending to tear the filling from the pulley. When the cement is formed with a quantity of animal glue the exterior face of the outer layer will have considerable tractive force, that is, it is somewhat sticky when the belt runs around it but of course it does not stick enough to allow the belt to adhere when standing idle for any time, nor is it sticky enough to cause the belt to adhere so as to follow around the pulley; but it has been found in practice that with pulleys having surfaces built as above described belts

can be run slack even when running at high speed or can be run directly in oil without slipping. If the surface of the pulley embodying the within described improvement
5 has become worn it can be quickly renewed at any time by cleaning with warm water, then smoothing off the surface and applying an exterior layer of the cementing material.
I claim as my invention—

A pulley covering, consisting of an inner 10 layer of cementing material, a filling or cushioning band of flexible material, and an exterior skin of an elastic, adhesive or sticky cementing material, substantially as specified.

CHARLES W. MCELROY.

Witnesses:

CHARLES E. NEWTON,
HARRY R. WILLIAMS.