

(No Model.)

J. L. THOMSON & M. LE ROY JACK.

PULLEY.

No. 307,416.

Patented Oct. 28, 1884.

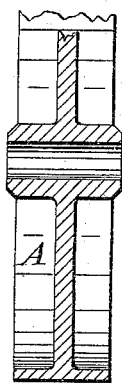
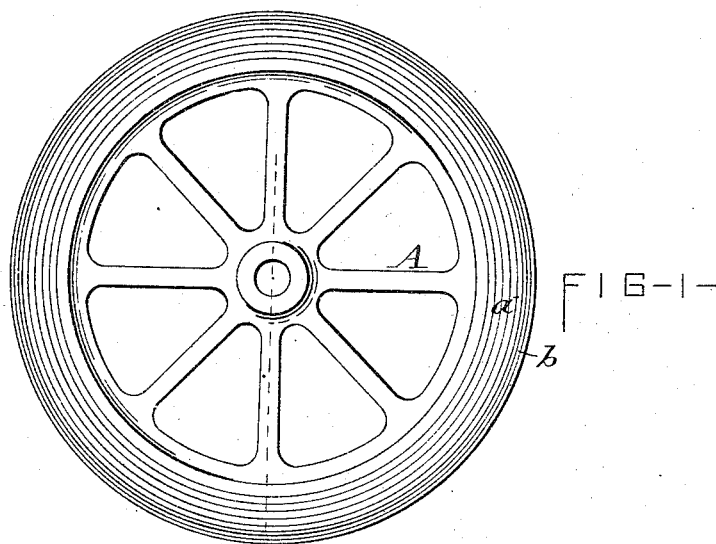


FIG-2-

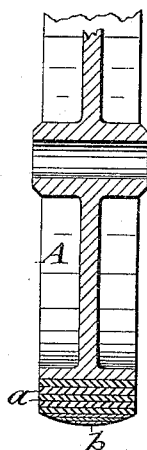


FIG-3-

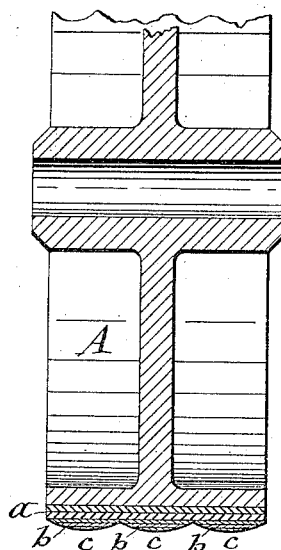


FIG-4-

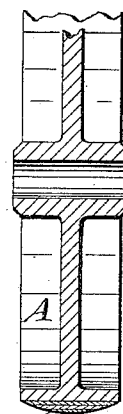


FIG-5-

ATTEST—
Wm. C. Raymond.
J. H. Gilbre

INVENTORS
Judson L. Thomson
and M. Le Roy Jack
per Daniel L. Loomis, Atty.

UNITED STATES PATENT OFFICE.

JUDSON L. THOMSON AND M. LE ROY JACK, OF SYRACUSE, NEW YORK;
SAID THOMSON ASSIGNOR TO SAID JACK.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 307,416, dated October 28, 1884.

Application filed August 22, 1884. (No model.)

To all whom it may concern:

Be it known that we, JUDSON L. THOMSON and M. LE ROY JACK, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Pulleys, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention has special reference to the application of paper facings to metallic pulleys, the object of the invention being to render said facings more durable, and to also impart to them the crowning form required to insure a true tracking of the belt on said facing; and to that end our invention consists in the novel construction of the facing and means of securing the same to the pulley, as hereinafter fully described, and set forth in the claims.

The invention is fully illustrated in the annexed drawings, wherein Figure 1 is a side view of a pulley provided with our improved facing. Fig. 2 is a transverse section of an ordinary metallic pulley. Fig. 3 is a transverse section of said pulley with our improved facing applied thereto. Fig. 4 is a transverse section of our invention as applied to a multiple belt-carrying pulley, and Fig. 5 illustrates modifications of our invention.

Similar letters of reference indicate corresponding parts.

A represents an ordinary metallic pulley.

In applying our invention to said pulley we employ a strip or strips of cloth or suitable textile fabric of the same width as the pulley and of proper length to reach around the periphery thereof. Said fabric we saturate with a suitable cement, for which we have successfully used a compound of flour, sal-soda, alum, borax, and glue thoroughly commingled and dissolved. The strip or strips of fabric thus prepared we wrap around the periphery of the pulley and apply thereto the requisite number of layers to increase the circumference of the pulley, as may be desired, and as represented at *a* in Fig. 1 of the drawings.

In applying the layers of textile fabric as aforesaid they become effectually cemented

together and to the pulley, and form a strong and permanent lagging or base for the reception of the facing of the pulley. The facing we construct of two or more layers of paper or other fibrous material formed in sheets and cut into strips of successively diminished widths, and after saturating said strips in cement similar to that before described we wrap them around the textile-fabric lagging *a*, and in so doing we apply the widest strip first and the other strips successively one over the other, each succeeding strip or layer being narrower than the preceding strip, thus bringing the narrowest layer at the outside and in the center of the face of the pulley, as illustrated at *b* in Fig. 3 of the drawings. Said layers of fibrous material become thoroughly cemented together and to the textile-fabric lagging *a* by the cement, which is thoroughly incorporated in said fibrous material, and the whole forms a solid and tenacious body when the cement has become set or solidified. The diminishing widths of the successive layers of fibrous material produce the requisite crown or convexity of the face of the pulley to insure true tracking of the belt running on said pulley.

In forming a multiple belt-carrying pulley we apply to the periphery of the pulley one or more layers of textile fabric, cemented thereon in the manner hereinbefore described, the fabric being of sufficient width to reach across the face of the pulley. On the textile-fabric wrapping we fasten the requisite number of crowning or convex belt-carrying faces *c c c*, each of which is formed of one or more layers of successively-diminishing widths cemented together and to the textile-fabric wrapping on the pulley, the textile fabric forming a tie which securely retains the respective faces *c c c* in their position, and each of said faces has the requisite crown to maintain the belt thereon and prevent the same from coming in contact with the belt running on the adjacent face of the pulley.

We are aware that wrappings of paper and textile fabric have been applied to the peripheries of pulleys; but in such cases the paper was applied first and the textile fabric placed

over the paper base, thus using the textile fabric as the facing for carrying the driving-belt; but such a construction does not attain the object of our invention, which is to obtain a strong and durable facing of paper or other analogous fibrous material, such facings having proved to be admirably adapted for carrying the belt.

In our invention the textile fabric is employed merely for forming a base by which to re-enforce the paper facing and to secure the same to the pulley; hence

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a pulley, of a crowned facing composed of two or more layers of fibrous material of successively-diminishing widths cemented together and to the periphery of the pulley, with the narrowest layer at the outside, substantially as described and shown.

2. The combination, with a pulley, of a lagging composed of one or more layers of textile fabric wrapped around the periphery of the pulley and cemented thereon, and a crowned facing composed of two or more layers of fibrous material of successively-diminishing widths cemented together and to the aforesaid lagging, with the narrowest layer of fibrous material at the outside, substantially as described and shown.

3. A multiple belt-carrying pulley having two or more crowned faces, each composed of two or more layers of fibrous material of successively-diminished widths cemented together and on the periphery of the pulley, each succeeding overlying layer being narrower than the preceding layer, substantially as described and shown.

4. The combination, with a pulley, of one or more layers of textile fabric wrapped around the periphery of the pulley, and covering the entire width thereof, and cemented thereon, and two or more crowned faces, each composed of two or more layers of fibrous material of successively-diminished widths cemented together and on the textile-fabric wrapping aforesaid, substantially as described and shown.

In testimony whereof we have hereunto signed our names and affixed our seals, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 16th day of August, 1884.

JUDSON L. THOMSON. [L. S.]
M. LE ROY JACK. [L. S.]

Witnesses:

FREDERICK H. GIBBS,
WILLIAM C. RAYMOND.