(No Model.)

W. H. DODGE.

WOODEN PULLEY COVERING.

No. 348,270. Patented Aug. 31, 1886.

Fig. 5.

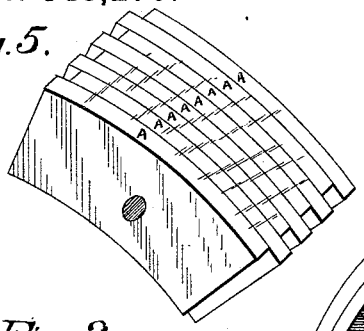


Fig. 6

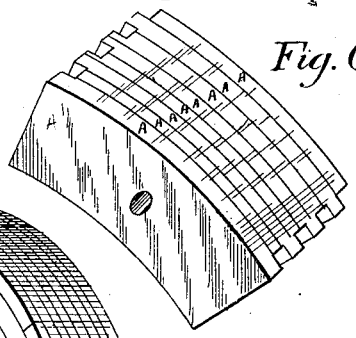


Fig. 1.

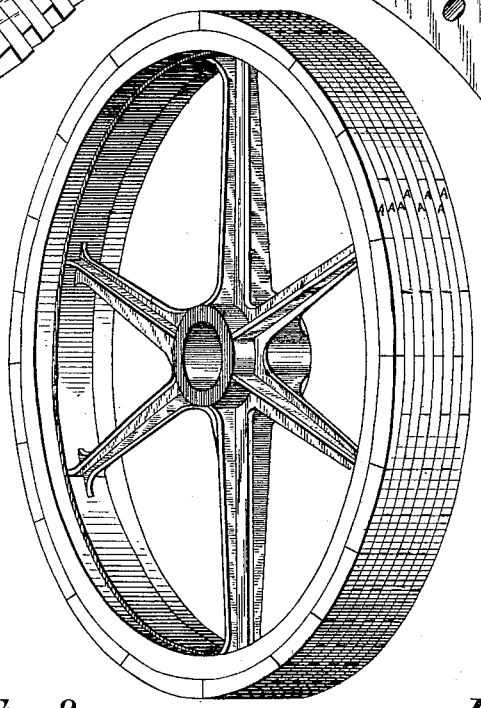


Fig. 2.

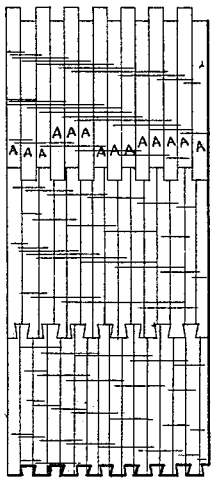


Fig. 7.

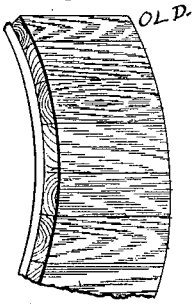


Fig. 3.

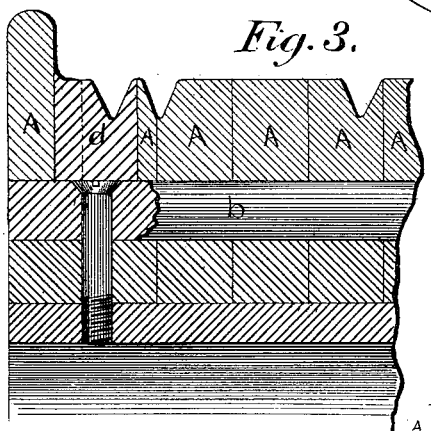


Fig. 4.

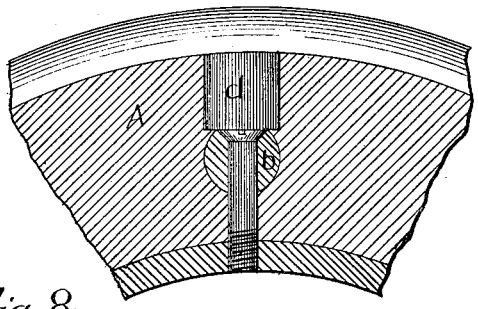
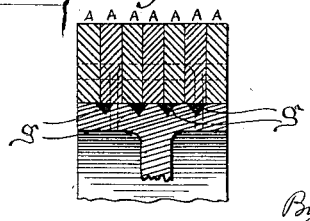


Fig. 8.



Witnesses:

J. B. McGirr.

R. W. Smith.

Inventor.

Wallace H. Dodge

By his Atty R. D. Smith

UNITED STATES PATENT OFFICE.

WALLACE H. DODGE, OF MISHAWAKA, INDIANA.

WOODEN PULLEY-COVERING.

SPECIFICATION forming part of Letters Patent No. 348,270, dated August 31, 1886.

Application filed June 25, 1886. Serial No. 206,248. (No model.)

To all whom it may concern:

Be it known that I, WALLACE H. DODGE, of Mishawaka, in the county of St. Joseph and State of Indiana, have invented new and useful Improvements in Lagging or Wooden Pulley-Covering, and that the following is a full and accurate description of the same.

It is frequently necessary to provide iron pulleys with a covering or "lagging" of wood. Heretofore such lagging has been put on in the form of staves laid transversely on the pulley-face—*i. e.*, parallel with the axis—and usually fastened with bolts or screws. I have discovered, however, that when such lagging is employed with rope-belts the pressure of the same on the side grain of the wood crushes and frays the fiber and soon wears the lagging out. Differences in quality of wood in the different staves also causes some staves to wear out faster than others, and this speedily destroys the circular contour of the pulley. To obviate this, I have devised the herein-described lagging, which uniformly presents end wood to the belt, and thereby secures uniformity in surface and greatly increased durability; and my invention therefore consists in a pulley-lagging built up of circular segments, preferably arranged with the end wood outward, said segments being also preferably secured together in sections adapted to interlock when put in place upon the pulley, and capable of constituting a self-sustaining solid wooden rim around the iron pulley.

That my invention may be fully understood, I will particularly describe it, having reference to the accompanying drawings, wherein—

Figure 1 is a perspective view of a pulley having my invention. Fig. 2 is a plan of the same, showing several ways of interlocking. Fig. 3 is a transverse section of my lagging in position. Fig. 4 is a longitudinal section. Figs. 5 and 6 represent different ways of jointing. Fig. 7 is a perspective view representing the old way.

I provide a sufficient number of curved segments, A, cut from boards of suitably-hard wood, and preferably the curved edges are cut transverse to the direction of the grain. The curved edges are cut on concentric curves, the smaller being of radius equal to the radius of the pulley to be covered. The end edges of said segments are cut truly radial to the peripheral curve of the pulley, and all the segments should include the same angular arc, which must be on their inner curve when finished, some equal division of the peripheral circumference of the pulley. These segments may be applied to the faces of the pulley in a variety of ways, dependent upon the size of the pulley and the duty required. For instance, if the diameter of the pulley is to be largely increased by the lagging and the duty light, the segments may be put in position and glued together solidly. If the pulley is large, and it is undesirable to greatly increase its diameter, or if the duty is heavy, it must be more firmly secured; and the principal objects of my improvement are, first, to provide a lagging with wearing-surface of end wood; second, solid and self-sustaining; third, capable of being manufactured in sections fitted for the pulley before leaving the shop. Therefore I do not wish to limit myself to the specific details hereinafter described. A number of these segments A, sufficient to extend across the face of the pulley, are assembled, side by side, and a metal rod, *b*, is inserted through them all, the segments A forming one section thus built up, all solidly cemented together by glue or other suitable cement. Two or more holes, *d*, are then bored from the convex side down to the rod *b*, and said rod is then drilled to receive a screw-bolt, which, when the lagging is in place, will pass down into or through the rim of the pulley to firmly connect the sections of the pulley. After the lagging has been attached to the pulley the peripheral holes *d* may be stopped with plugs. These sections may be closely fitted on their radial surfaces and glued together as they are put in place; but I prefer to interlock said radial surfaces, so as to practically make the whole lagging cover one solid coherent mass. This interlocking may be accomplished in various ways. If the boards are of sufficient uniformity in thickness they may be set alternately out and in, as in Fig. 5, so that when the sections are placed together they will interlock, or they may be assembled without reference to this, and afterward the radial edges may be grooved plain or dovetailed, as shown in Fig. 6. This grooving insures more

perfect joints than dependence upon the thickness of the boards.

It is of importance that the lagging shall have a uniform contact with the pulley-face, and it is easy to secure such contact when thin staves are applied to a substantially flat-faced pulley, because each stave will independently yield under the strain of the lagging-screws; but my solid segments will not yield so readily. I therefore, as the sections are put in place, apply a cement or filling of some suitable kind, Fig. 8, between the lagging and the pulley-face. This filling may be of any suitable hard material, which can be applied in a fluid or plastic state—such as plaster, glue, cement, sulphur, &c. The best material for this purpose is melted sulphur, and I am in that way also enabled to apply my lagging to a grooved pulley as perfectly as to a flat-faced pulley, because when the spaces in the old grooves under the lagging are filled with melted sulphur the lagging is as firmly seated as though the pulley were flat faced, and the sulphur may be poured in through suitable openings after the lagging is in place, thus securing perfect bearing at all points.

When the lagging has all been applied and the cementing substance thoroughly hardened, the exterior surface is to be turned off and be finished to the desired face, whether plain, crowning, or grooved. This mode of lagging may be employed to adapt any flat or crowning faced pulley, however large, to the rope belting now extensively used in place of flat belts.

Having described my invention, I claim as new—

1. A lagging for covering pulleys, composed of curved segments cut from suitable boards, adapted to fit the peripheral curvature of the pulley, with radial ends cemented together and screwed to the pulley by lagging-screws, as set forth.

2. A lagging covering for pulleys, composed of curved segments A, cut from suitable boards, with the curved edges transverse to the grain, and the other edges radial to the curve, provided with the rods *b*, pierced to receive the lagging-screws, and all firmly cemented together, as set forth.

3. A lagging covering for pulleys, composed of curved segments A, cut from suitable boards cemented together in sections, adapted to the curve of the pulley to be covered, their radial surfaces grooved and adapted to interlock, as set forth.

4. A pulley and a lagging covering composed of wooden segments secured to its exterior surface, combined with a filling or bedding of liquid or plastic material, which will afterward solidify, as set forth.

WALLACE H. DODGE.

Witnesses:
WILL W. DODGE,
R. D. O. SMITH.