

(No Model.)

F. J. FORSTER.
WOODEN PULLEY.

No. 469,517.

Patented Feb. 23, 1892.

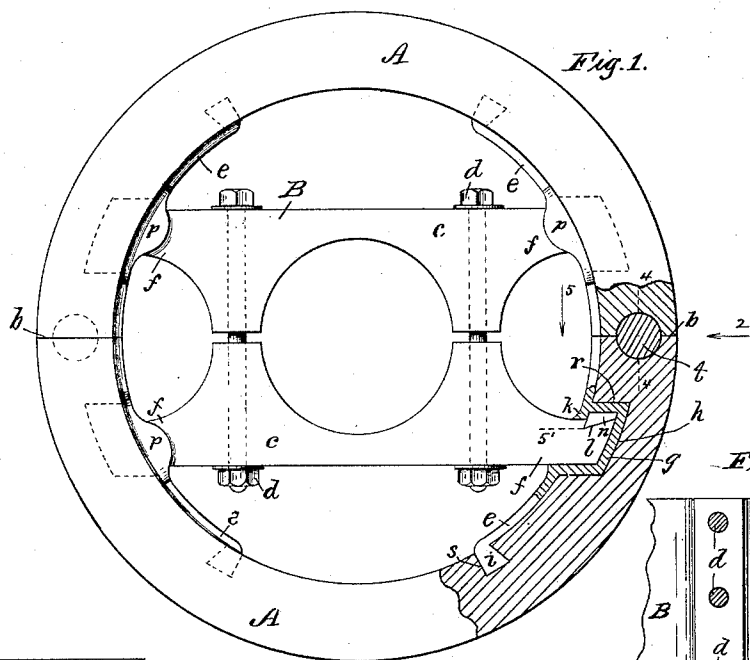


Fig. 2.

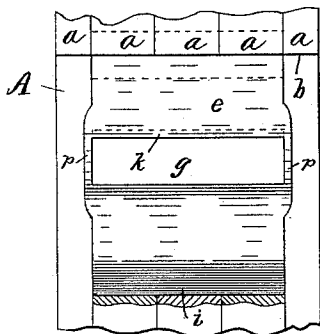
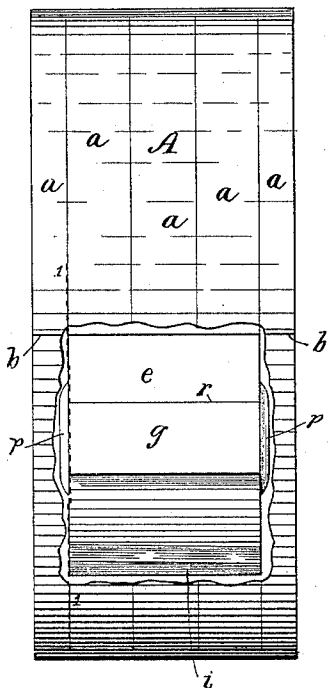


Fig. 3.

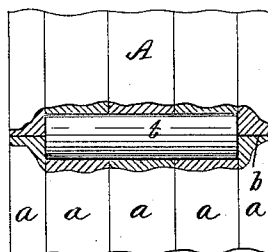


Fig. 4.

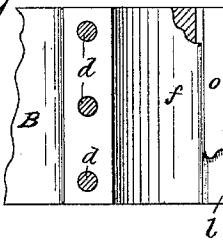


Fig. 5.

Attest:

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UNITED STATES PATENT OFFICE.

FREDERICK J. FORSTER, OF ROCHESTER, NEW YORK.

WOODEN PULLEY.

SPECIFICATION forming part of Letters Patent No. 469,517, dated February 23, 1892.

Application filed November 2, 1891. Serial No. 410,638. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. FORSTER, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Wooden Pulleys, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention relates to the class known as "divided" or "split" pulleys; and it has for its object, mainly, the improvement in the method of connecting the hub with the rim.

The invention is hereinafter fully described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of the pulley, parts being transversely sectioned as on the dotted line 1 1 in Fig. 2. Fig. 2 is a face view of the pulley indicated by arrow 2 in Fig. 1, a part being broken out to show one of the iron rests for the hub. Fig. 3 is a view of a portion of the inner face of the rim, seen in a direction opposite that indicated by arrow 2. Fig. 4 is a portion of the face of the pulley, seen as indicated by arrow 2, the rim being in part longitudinally sectioned, as on the dotted line 4 4 in Fig. 1. Fig. 5 is a view of a portion at one end of the hub, seen as indicated by arrow 5 in Fig. 1, parts being broken away and sectioned on the dotted line 5' in Fig. 1.

Referring to the parts shown in the drawings, A is the rim of the wheel, which may be built up substantially in the usual manner of segments of wood *a*, longitudinally divided at *b* into two equal parts.

B is the hub, the same being formed of two equal opposing pieces *c c*, held by bolts *d* to clamp onto the shaft upon which the pulley is placed.

The rim is provided at its inner face with four rests *e*, preferably of cast-iron, which are occupied by projecting ends *f* of the hub, as shown. These rests are formed with longitudinal chambers *g*, into which the ends of the hub enter. The rests consist of broad plates curved to correspond to the form of the inner face of the rim, the chambers *g* projecting into longitudinal recesses *h*, formed in the rim. These plates are formed to meet each other and abut together in pairs at the dividing-line *b* of the rim of the pulley. At the opposite ends the

plates are formed with tapering or wedge-shaped longitudinal ribs or parts *i*, which also project into recesses formed in the rim. Thus formed, these rests are slipped sidewise into their places in the respective halves of the rim, they fitting snugly to place on account of the tapered form of the parts *i* and the chambers *g*. As shown in Figs. 2 and 3, the lengths of these rests (measured in a direction parallel with the shaft) are less than the width of the face of the pulley, the outside segments of the latter being put to place after the rests (with the respective parts of the hub) are put to place within the central portion of the rim. The rests are each formed with a projecting lip *k*, Figs. 1 and 3, partially covering the chamber *g*, and the end *f* of the hub is formed with a corresponding slanting recess or rabbet *l*, which, with the part of the chamber back of the lip, forms a cavity *n*, in which to drive a wooden draw-key *o* to hold the rim and the hub together. When the keys are driven to place, the resulting stress, so far as the rim is concerned, is confined to the metal about the chambers, and there is no tendency from the action of the keys to strain or bend the rim. This is one important advantage in this construction of the rests and manner of fastening the parts together. The plate portions of the rests extending a considerable distance each way from the respective chambers and the tapered parts *i* being distant from the dividing-line *b* of the pulley gives the rests a broad bearing and firm hold upon the rim. Furthermore, the planes of the respective outer faces *r* and *s* of the parts *g* and *i* of each rest converge toward a line within (and parallel with the axis of) the pulley, on account of which the parts *g* and *i*, taken together, form a dovetail entering the rim. This effectually prevents the ends of the halves of the rim (or the parts of the rim near the joints) from springing outward or away from the rests, these parts being held thereby to conform to a circle, as shown. I also form the rests with projecting flanges *p* at the sides of the hub, giving them breadth by curving them inward toward the center of the wheel. These flanges lie against the outer faces of the respective ends *f* of the hub and serve to give said ends broader bearings in the rests. The chambers *g* open out

at each end, and consequently these flanges constitute the only side bearings for the hub.

I prefer to construct these pulleys with dowels *d*, Figs. 1 and 4, embedded in the rim at the joint, each dowel being one-half in each half of the rim, as shown, to prevent the meeting ends of the rim from slipping by each other in any direction. This, however, is not an essential part of my invention.

What I claim as my invention is—

1. A wooden pulley consisting of a divided rim and hub, the latter being formed with projecting ends, the rim having metal rests for said ends of the hub at its inner face, said rests consisting of curved plates resting against the inner surface of the rim and formed with chambers occupying recesses in the rim, and tapering or wedge-shaped ribs projecting into recesses formed in the rim, substantially as described and shown.

2. A split pulley having a hub formed with projecting ends, with chambered rests for said ends secured to the inner face of the rim, and lips projecting over the respective chambers in the rests, in combination with draw-keys for the hub and rim inserted in the chambers back of the lips, the ends of the hub be-

ing rabbeted to form seats for the keys, substantially as shown and described.

3. A split pulley having a hub formed with projecting ends, chambered rests for said ends secured to the inner face of the rim, and keys to bind said ends of the hub in the rests, the latter being formed with flanges at the sides of the hub-extensions and projecting inward toward the center of the wheel, substantially as and for the purpose set forth.

4. A wooden pulley consisting of a divided rim and hub, the latter being formed with projecting ends, the rim having metal rests for said ends of the hub at its inner face formed with parts projecting into recesses formed in the rim, the planes of the sides or faces farthest apart of said projecting parts converging toward a line within the wheel, substantially as shown and described.

In witness whereof I have hereunto set my hand, this 29th day of October, 1891, in the presence of two subscribing witnesses.

FREDERICK J. FORSTER.

Witnesses:

ENOS B. WHITMORE,
M. L. McDERMOTT.