

(No Model.)

E. C. SOOY.

PULLEY.

No. 336,958.

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Fig. 1,

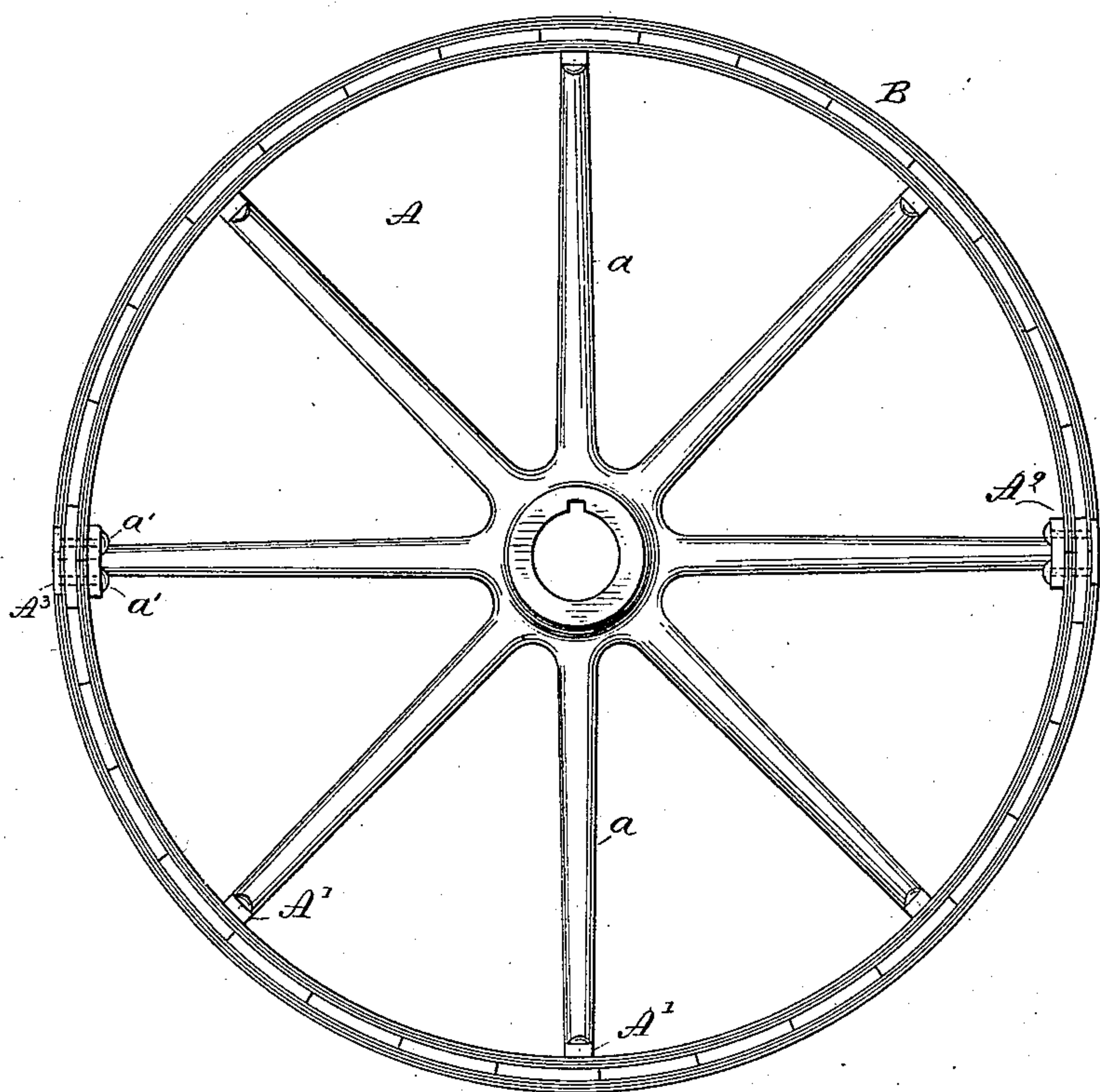


Fig. 2,

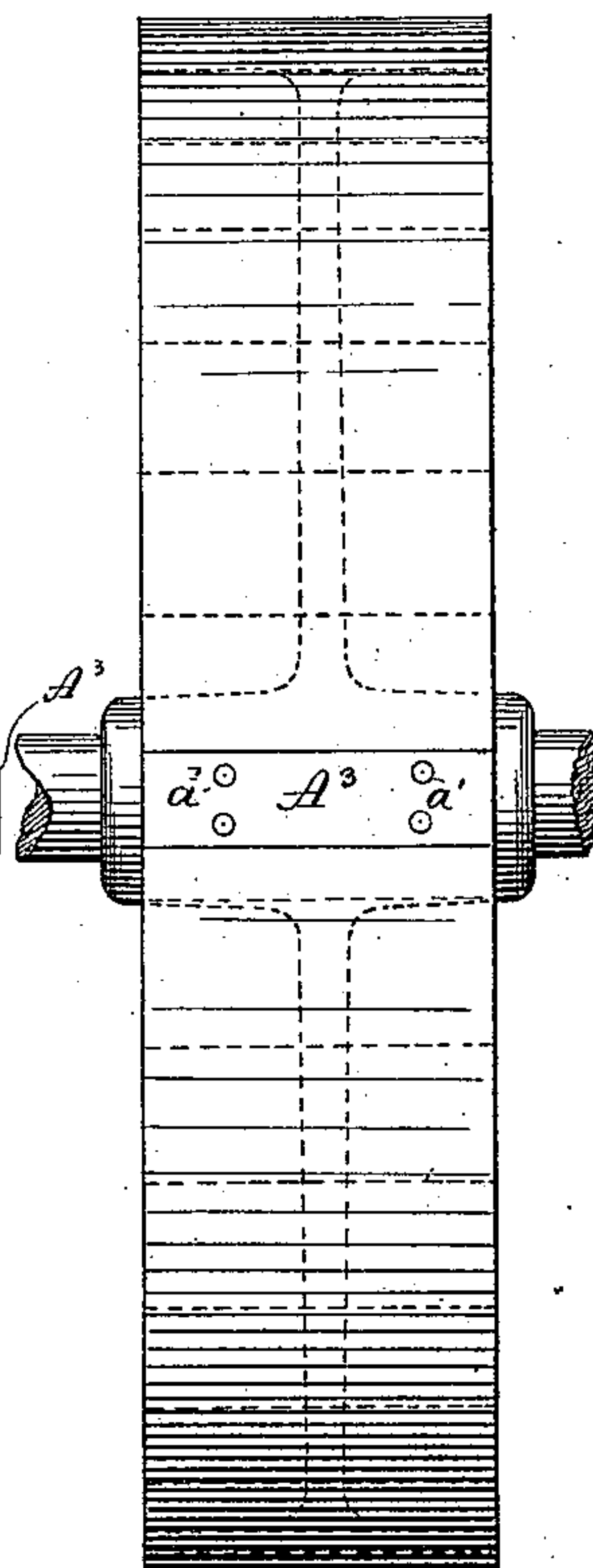


Fig. 3,

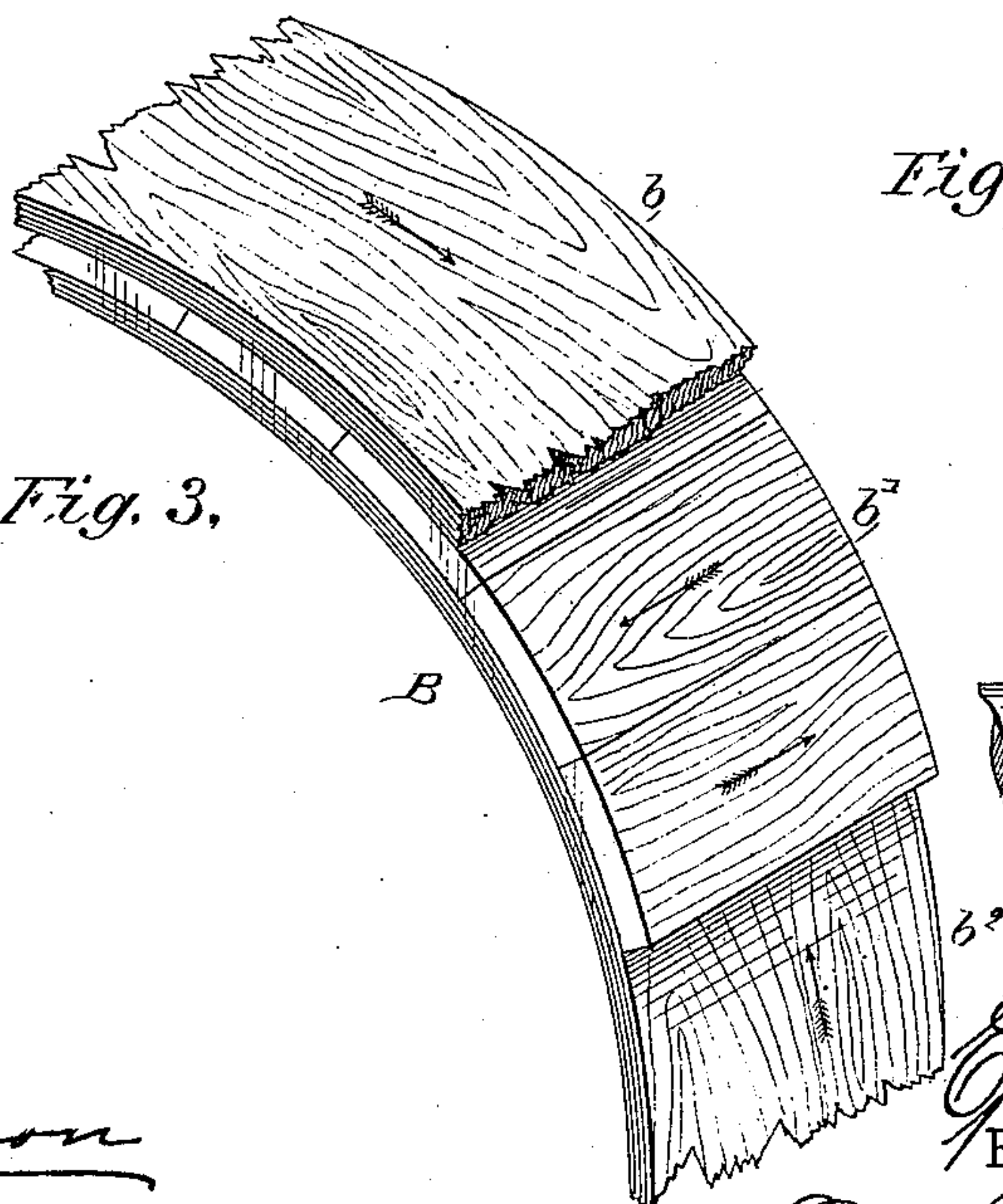
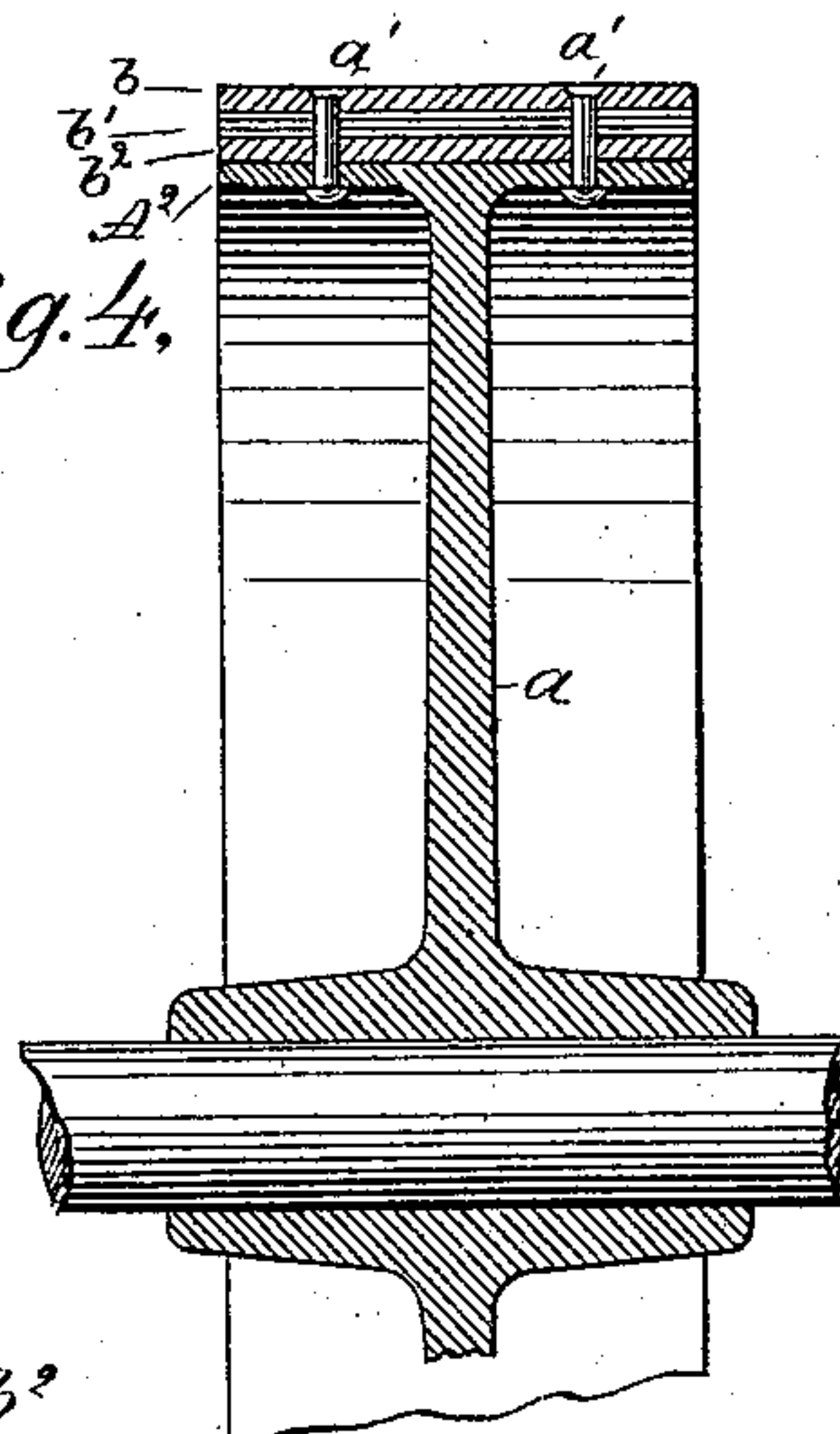


Fig. 4,



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PULLEY.

SPECIFICATION forming part of Letters Patent No. 336,958, dated March 2, 1886.

Application filed August 23, 1885. Serial No. 175,541. (No model.)

To all whom it may concern:

Be it known that I, EPHRAIM C. SOOY, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Pulleys; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to construct a pulley for mills or other suitable purposes in which the entire periphery is formed of separate layers of fibrous material, and the fibers or grain of alternate layers of said material is composed in a transverse direction; and it consists in the novel construction and arrangement of parts hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my improved pulley. Fig. 2 is a transverse view of the pulley as seen in Fig. 1, showing the covering-plate on the periphery of the pulley. Fig. 3 is view of a portion of the periphery of the pulley, showing the manner of construction. Fig. 4 is a vertical sectional view taken through the flanges on one of the arms of the pulley, and also through the covering-plate.

A represents the complete pulley. a are the radial arms. A' are the flanges on the arms a . A^2 are the flanges on the arms a , for securing the layers and covering-plate. A^3 is the covering-plate. $a'a'$ are the rivets through the flanges A^2 and covering-plate A^3 . B represents the periphery of the pulley. b is the outer layer, b' the alternately-composed layer, and b^2 the inner layer, of fibrous material.

In the construction of my improved pulley I form the web thereof preferably with the radial arms a , which contributes lightness to the pulleys and affords the requisite strength. Upon the ends of the arms a , near the periphery, I form the flanges $A' A^2$, which extend laterally from said arms the proportional distance required for the width of the periphery of said pulley, the flanges A^2 being made with increased dimensions circumferentially,

to permit the insertion of additional rivets through said flange and the covering-plate.

The entire periphery of the pulley I make of wood suitable for the purpose, and in separate layers, the layers being composed in the following manner: A single board, b^2 , of the desired thickness, and adapted to be easily bent, and of the proper width, is bent circumferentially around the arms a of the pulley, and laid breadthwise upon the flanges A^2 , upon the ends of the said arms a , the grain of the board b^2 running in the direction of said circumference. The board b^2 is then cut the requisite length, and the opposite ends brought together, so as to meet and fit closely together without overlapping upon one of the flanges A^2 , which ends are held in place temporarily by clamps. I then cut a board of corresponding thickness to the one first placed upon the flanges A^2 into short lengths, forming the layers $b' b'$, which are equal in length to the width of the layer b^2 , the said layer b' being cut from the board across the grain. The layers $b' b'$ are then laid in a transverse relation to and upon the outside of the layer b^2 , the sides of the said layers $b' b'$ suitably beveled to fit closely together, and the requisite number of layers $b' b'$ placed upon the layer b^2 and around the pulley, to form one continuous intermediate layer in separate parts, the grain running in a transverse direction to said layer b^2 . I then take a board of the similar width and thickness to that of the layer b^2 , with the grain running in the same direction, and cut said board the requisite length to extend around the pulley outside of the layers b' . This outer board forms the layer b , and is placed upon the layer b' breadthwise and bent, so as to fit closely to said layers b' and around the pulley circumferentially, and the opposite ends of said layer b brought together without overlapping, and the covering-plate A^3 , which is made of the proper width, placed over the joint formed by the meeting ends of the layer b . Perforations are then made through the covering-plate and extended through the layers b , b' , and b^2 , and also through the flange A^2 , and the rivets a' inserted through said perforations, and upset upon the inner side of the flange A^2 of said pulley. Near the joints formed by the meet-

ing of the ends of the layer *b*, the said ends are rabbeted in a transverse relation to the pulley equal to the width and thickness of the overlapping-plate, so that when the covering-plate is placed over the joint it will fit into the said rabbet, and its outer surface present an equally smooth conformation with the outer surface of the pulley.

It will be obvious that straw-board and the like material may be advantageously used with the best results. The alternate layers are riveted to the flanges *A'*, upon each of the arms *a* of the pulley, a rivet passed through the said flange and through the layers *b*, *b'*, and *b''*, on opposite sides of the arms *a*, being found sufficient.

The advantages of my invention consist in the production of a light, serviceable pulley of great durability and simplicity of construction.

Having fully described my invention, what I now claim as new, and desire to secure by Letters Patent, is—

1. A pulley having its periphery formed of separate layers of fibrous material composed in one direction, and the fibers or grain of al-

ternate layers of said material composed in a transverse direction, substantially as specified.

2. A pulley having its periphery formed of separate outer and inner layers of fibrous material, the grain of which is composed in one direction, and an intermediate layer in separate parts, the grain of which is composed in a transverse direction, as specified.

3. A pulley having its web constructed with radial arms, and flanges upon said arms, and a periphery formed of separate layers of wood, the grain of which is composed in one direction, and an alternate layer in separable parts, the grain of which is composed in a transverse direction, and all of said layers riveted to said flanges, as specified.

4. A pulley having its web constructed with radial arms, and flanges upon said arms, and a periphery formed of separate layers of wood, the joints of which are formed upon said flanges, and a covering-plate, as and for the purpose specified.

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