(No Model.)

E. B. MARTINDALE.

PULLEY.

No. 266,709. Patented Oct. 31, 1882.

Fig. 1.

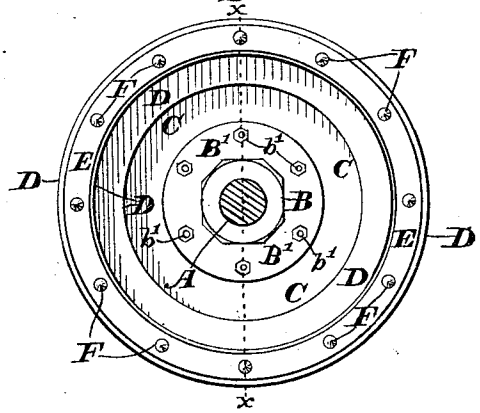


Fig. 2.

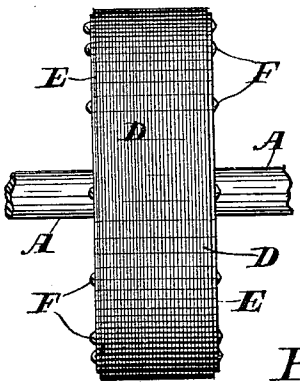


Fig. 3.

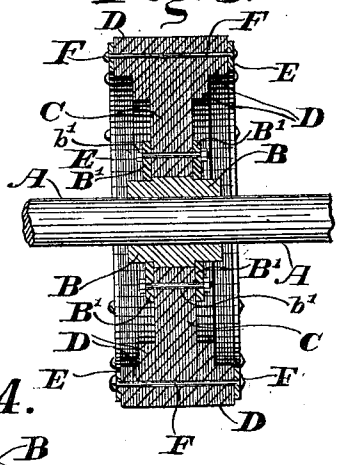
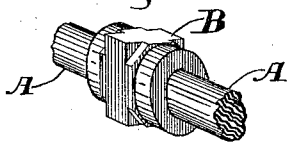


Fig. 4.



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UNITED STATES PATENT OFFICE.

ELIJAH B. MARTINDALE, OF INDIANAPOLIS, INDIANA.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 266,709, dated October 31, 1882.

Application filed August 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH B. MARTINDALE, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Wheels or Pulleys, of which the following is a specification.

The object of my said invention is to produce a strong and durable wheel or pulley from sheets of paper or pasteboard; and it consists of a web or central portion consisting of disks of paper or pasteboard laid together, extending from the hub to the periphery of the wheel, and a rim consisting of rings of a similar substance laid around the outer edge of said web, with a ring of iron upon each outer surface, the whole being pressed into a compact mass, and secured firmly together by means of an adhesive substance being spread over the several sheets or layers before they are placed together, and bolts or rivets passing through the completed structure, all as will be hereinafter more specifically described.

I am aware of the construction shown in combined iron and paper car-wheels, in which layers of paper form the internal portion of the body of the wheel, and I therefore disclaim such a construction.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of my improved wheel; Fig. 2, a front elevation thereof; Fig. 3, a central vertical section on the dotted line *x x* in Fig. 1, and Fig. 4 a perspective view of the hub.

In said drawings, the portions marked A represent the shaft on which the wheel is mounted; B, the hub to said wheel; C, the web or central portion of said wheel; D, the rim thereto; E, the iron rings by which the rim is strengthened; and F, bolts or rivets for securing said rings to said rim, and also strengthening said rim and the pulley generally.

The hub B is preferably formed as shown in Fig. 4. The central portion on which the web C is mounted is square, octagon, or similar form, to prevent said web from turning thereon. The center may be continued in the same form far enough to receive the removable flanges B′, or the form may be changed, as shown in the drawings; but in any event the form should be such as will effectually prevent said flanges from turning on said hub. The ends of the hub are preferably formed round, for the sake of appearance. When the hub is constructed as shown in the drawings a shoulder is formed, against which the flanges B′ rest. Said flanges are secured to the wheel by the bolts *b′*, as shown.

The web C is formed of numerous sheets of paper or pasteboard, coated with some adhesive substance and laid together, and said sheets also extend through to the periphery of the wheel, thus forming a part of its operating surface or face.

The rim D is composed of rings of sufficient width to give the required strength, which are secured to the sides of the central portion, C, enough being used to give the pulley the required width of face.

The iron rings E are preferably nearly as large as the outer of the rings which compose the rim, and are secured to said rim by the bolts or rivets F. They are made of somewhat less diameter than the wheel, as shown, so that the belt (or, if a friction-pulley, the other wheel) shall not come upon the iron, but only on a paper surface.

The bolts or rivets F are used to secure the rings E to the rim of the wheel, and to aid in holding the several layers of which the rim is composed together, thereby strengthening the entire wheel.

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

1. The combination of the hub B, web C, rim D, said rim and said web being composed of layers of paper or pasteboard, arranged as specified, metal rings E, and bolts or rivets F, all substantially as set forth.

2. The combination, in a pulley, of the hub B, the central portion of which is shouldered and of a form to hold the pulley from turning thereon, and flanges B′ B′, which come against the shoulders on said hub, and are secured to said wheel by bolts *b′*, thus also holding said pulley fixedly on said hub, substantially as shown and specified.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 26th day of August, A. D. 1882.

ELIJAH B. MARTINDALE. [L. S.]

In presence of—
C. BRADFORD,
E. W. BRADFORD.