

(No Model.)

H. W. BELDSMEIER.

BELT PULLEY.

No. 355,294.

Patented Jan. 4, 1887.

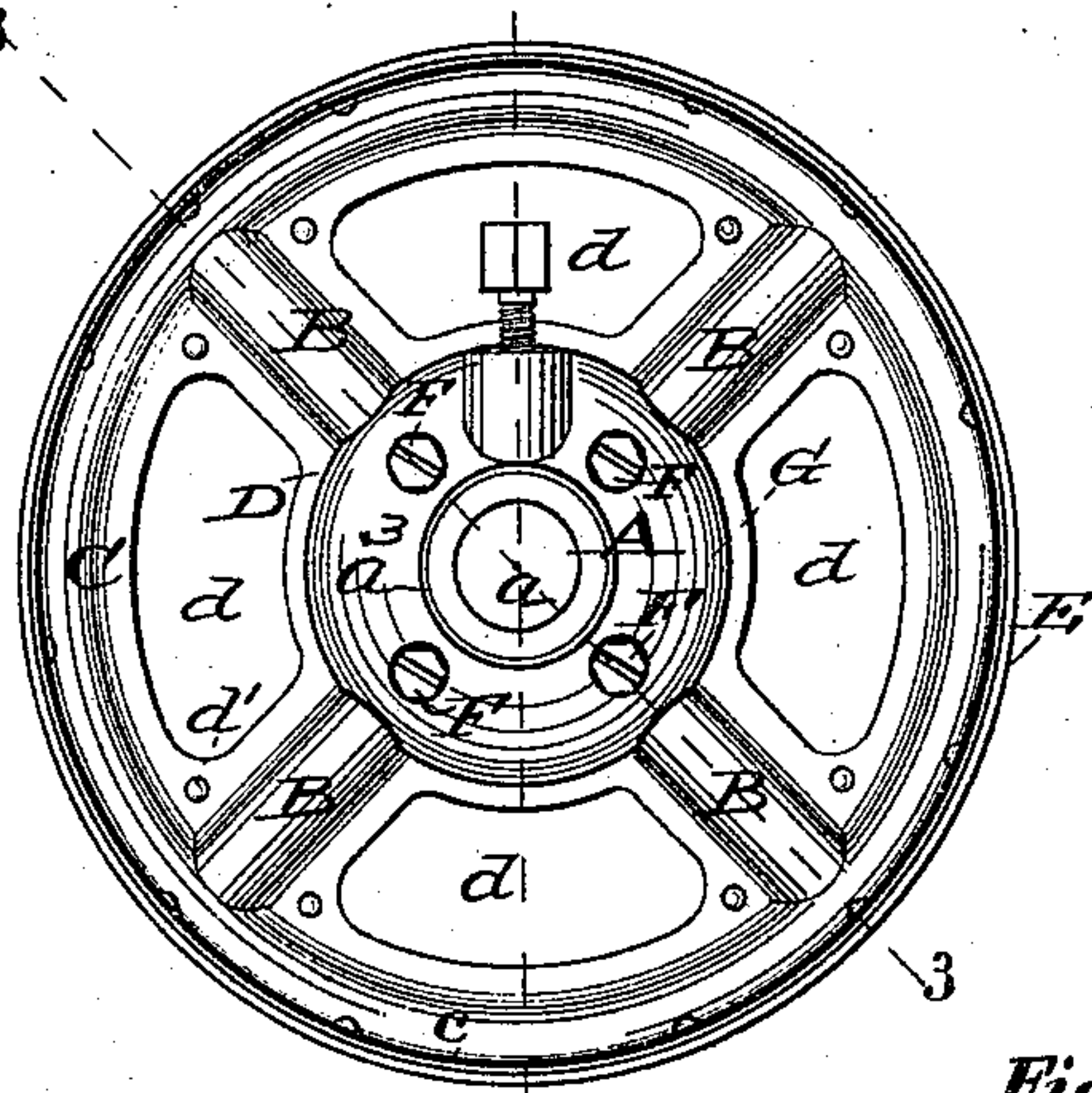


Fig. 1

Fig. 2.

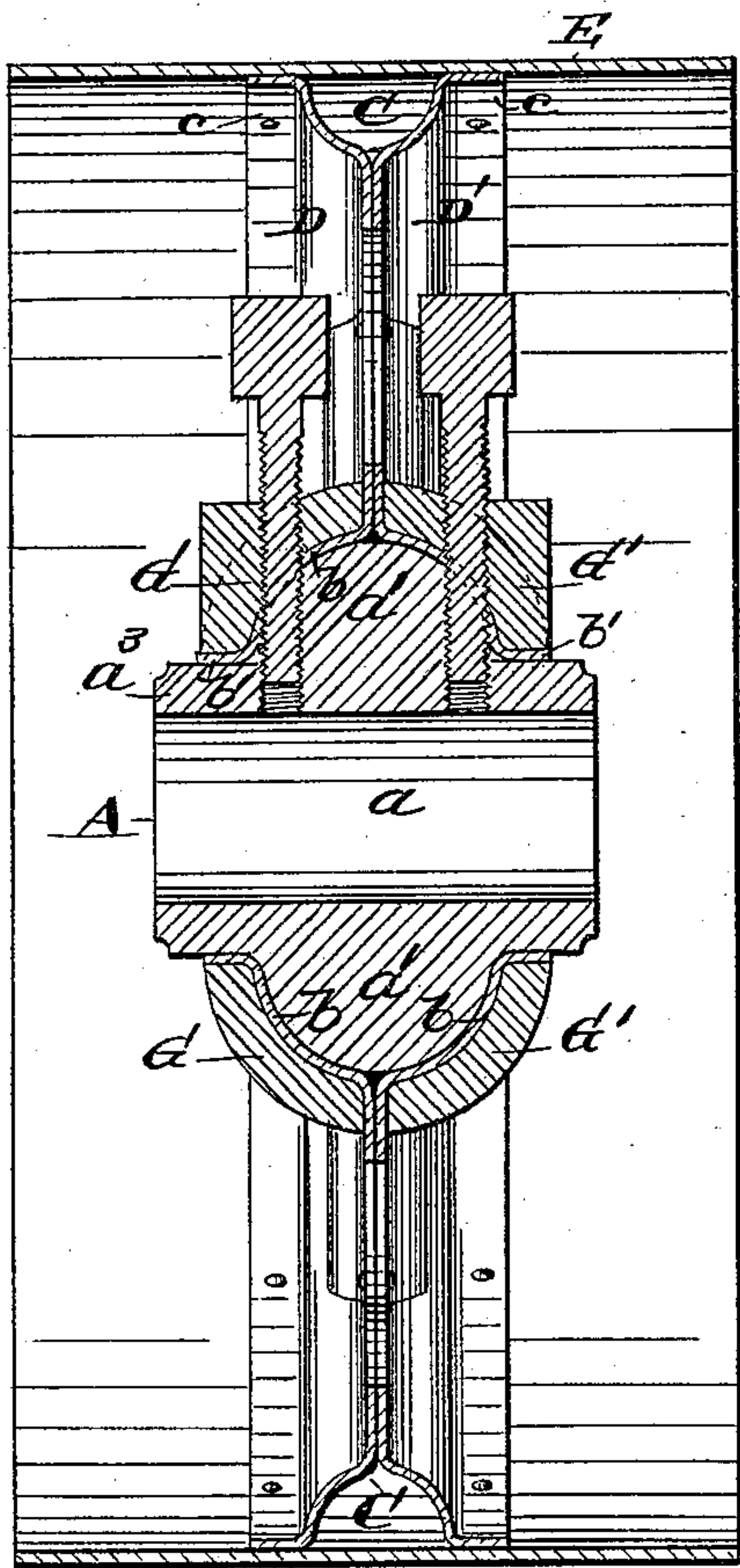
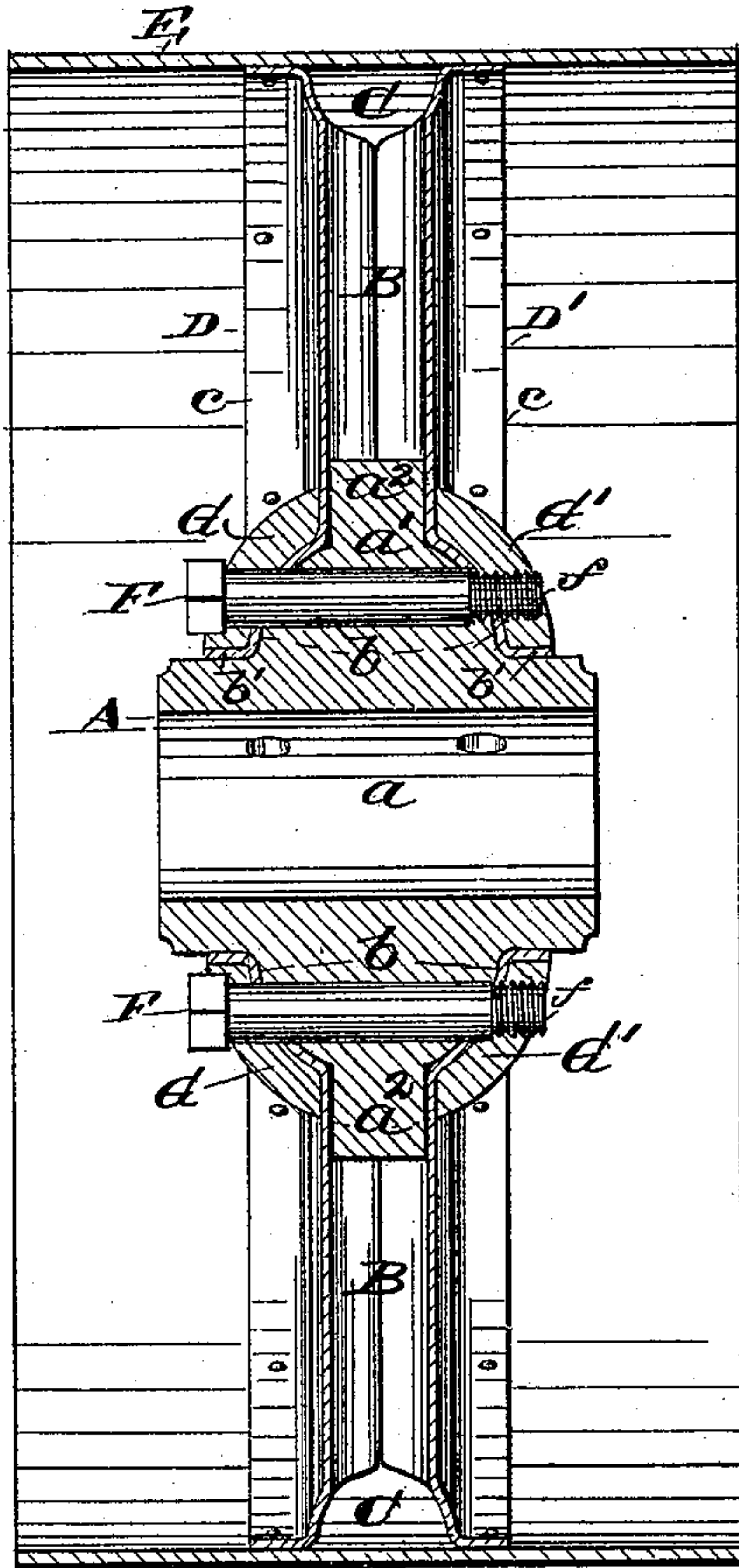


Fig. 3.



Witnesses:

W. B. Anderson  
B. F. Rey

Inventor:

Henry W. Beldsmeier  
by C. P. Moody  
att'y



# UNITED STATES PATENT OFFICE.

HENRY W. BELDSMEIER, OF ST. LOUIS, MISSOURI.

## BELT-PULLEY.

SPECIFICATION forming part of Letters Patent No. 355,294, dated January 4, 1887.

Application filed April 2, 1886. Serial No. 197,581. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. BELDSMEIER, of the city of St. Louis, Missouri, have made a new and useful Improvement in Belt-Pulleys, of which the following is a full, clear, and exact description.

The improvement relates to belt-pulleys whose construction is composite—that is, having the rim, spokes, and hub made separately and united to form a pulley. In the present instance the rim and spokes are of wrought metal, and the hub is of cast metal.

The improvement, however, relates rather to the mode of constructing the pulley parts and of uniting the hub and spokes.

In the annexed drawings, making part of this specification, Figure 1 is a side elevation of the improved pulley. Fig. 2 is a cross-section on the line 2 2 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 1. The last two views are upon an enlarged scale.

The same letters of reference denote the same parts.

A represents the pulley-hub. It is perforated centrally at *a*, in the customary manner, is enlarged in the plane of the pulley to form a boss, *a'*, and at the points where the spokes connect with the hub the boss is preferably extended to form projections *a''*, which enter the spokes a short distance, and thus serve as an additional means for connecting the hub and spokes.

The spokes B are hollow, as is also the rib C. These parts B C are in practice formed together out of two similar pieces, D D', of sheet metal, which, by means of suitable dies or stamping-tools, are shaped to form, when turned toward each other and fastened together, the spokes and rib, substantially as is shown—that is, beginning at that portion which connects immediately with the hub, the pieces D D' are shaped at *b* to fit upon opposite sides, respectively, of the hub. The boss *a'*, and, if desired, the extreme inner portion, *b'*, may be extended upon the cylindrical portion *a''* of the hub.

To form the spokes, the pieces D D' open apart from each other, in order to form the spokes hollow. At each side of the spokes the pieces D D' come together. Between the spokes the pieces D D' are preferably cut away at *d*. In the vicinity of the rim E the pieces D D' open apart, to form, in conjunction with

the rim, the rib C, and the outer edge of the pieces is extended to form the flange *c*, which is laid against and riveted or attached to the rim, thereby serving to connect the rim with the interior portion of the pulley. The pieces D D' are connected with the hub partly by reason of the pieces being riveted together, as at *d'*, so as to clasp the hub-boss laterally and to inclose the boss projections *a''*, and partly by means of the bolts F, which pass laterally through the pieces D D' and hub boss; and to more effectually unite the pieces D D' with the hub the parts or washers G G', of some such material as cast-iron, are laid against the parts *b*, and the bolts F are passed through the washers, pieces D D', and hub-boss, the threaded end *f* of the bolts engaging in the farther washer, G', as shown in Fig. 3.

The present pulley, by reason of its spokes and rim-rib being made hollow, as described, is notably strong, stiff, and light.

The improvement is adapted to wheels as well as to pulleys. When the washers G G' are not used, the bolts, by means of nuts or other suitable means, can be made secure in the hub, and so as to fasten the pieces D D' to the hub; and a further modification of the construction is casting the washers in one piece with the hub, and so as to cast the pieces D D' into and thereby secure them to the hub, and thus dispense with the bolts F.

I claim—

1. The combination of the hub A, having the extensions *a' a''*, with the pieces D D', shaped, as described, to inclose the extensions *a' a''*, and to form the hollow spokes and rib, and the pulley-rim, substantially as described.

2. The combination of the hub A, having the extensions *a' a''*, the pieces D D', shaped, as described, to fit said extensions and form the hollow spokes and rib, the washers G G', the bolts F, and the rim E, substantially as described.

3. The combination of the cast-iron hub A, the sheet-iron pieces D D', shaped to form the hollow spokes and rim-rib, and attached to each other and to the pulley-rim and pulley-hub, and the wrought-iron rim, substantially as described.

Witness my hand this 27th March, 1886.

HENRY W. BELDSMEIER.

Witnesses:

C. D. MOODY,  
B. F. REX.