(No Model.) 2 Sheets—Sheet 1.

J. M. DODGE.

PULLEY.

No. 464,795. Patented Dec. 8, 1891.

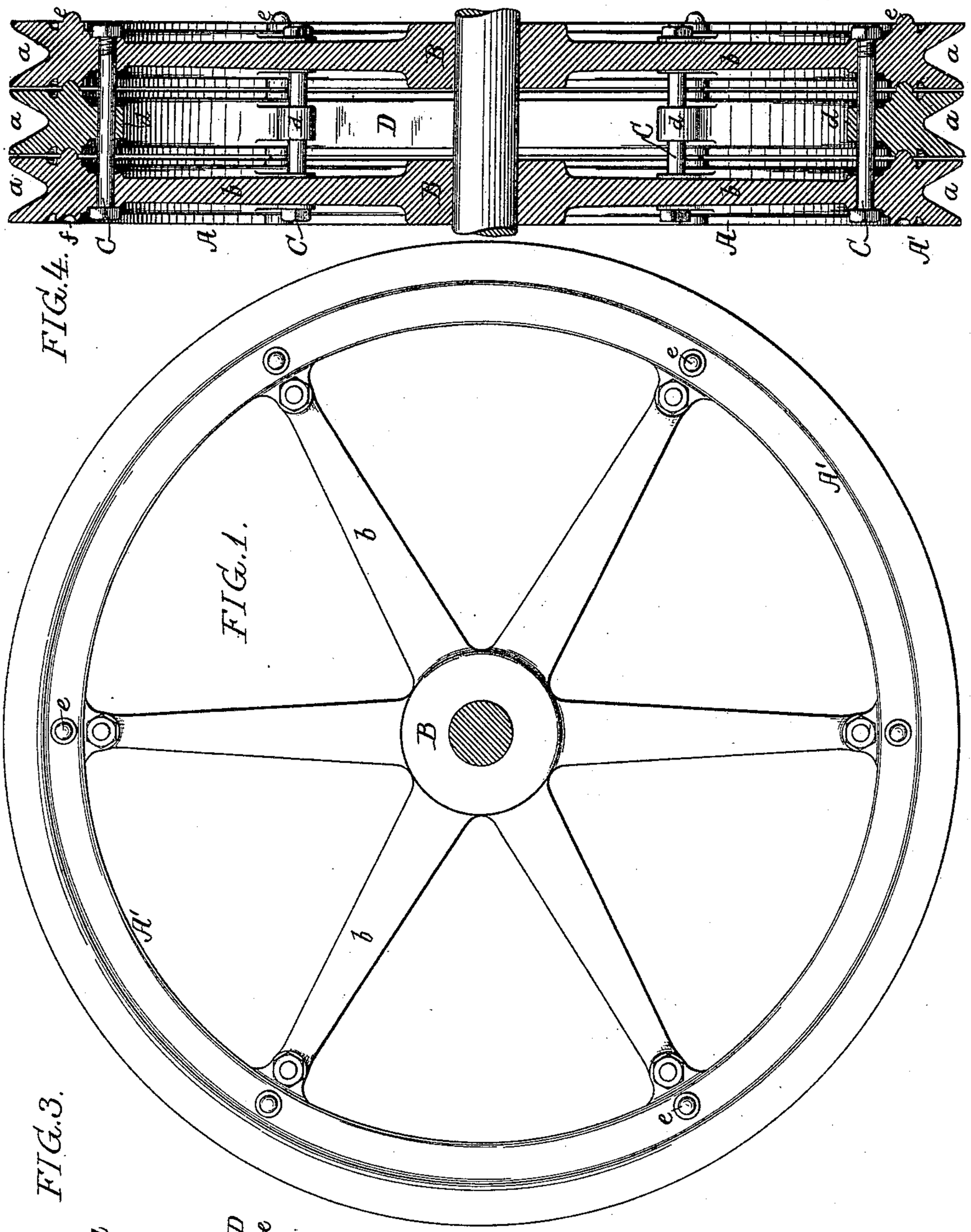

FIG. 4.

FIG. 1.

FIG. 3.

FIG. 2.

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(No Model.) 2 Sheets—Sheet 2.

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PULLEY.

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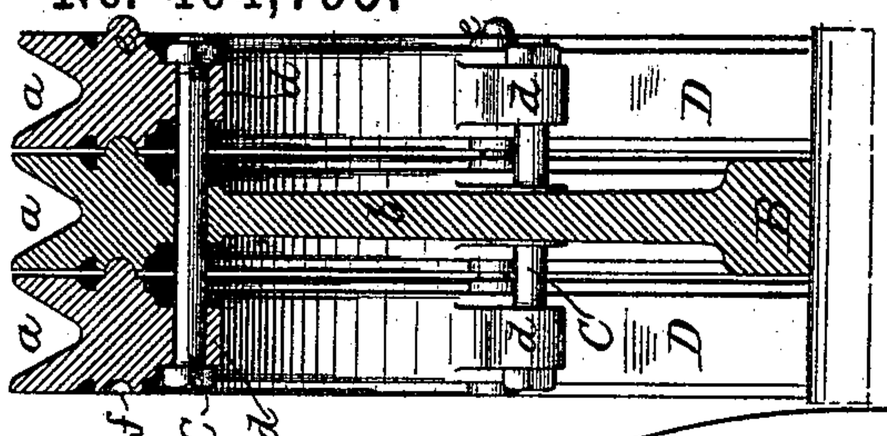

FIG. 8.

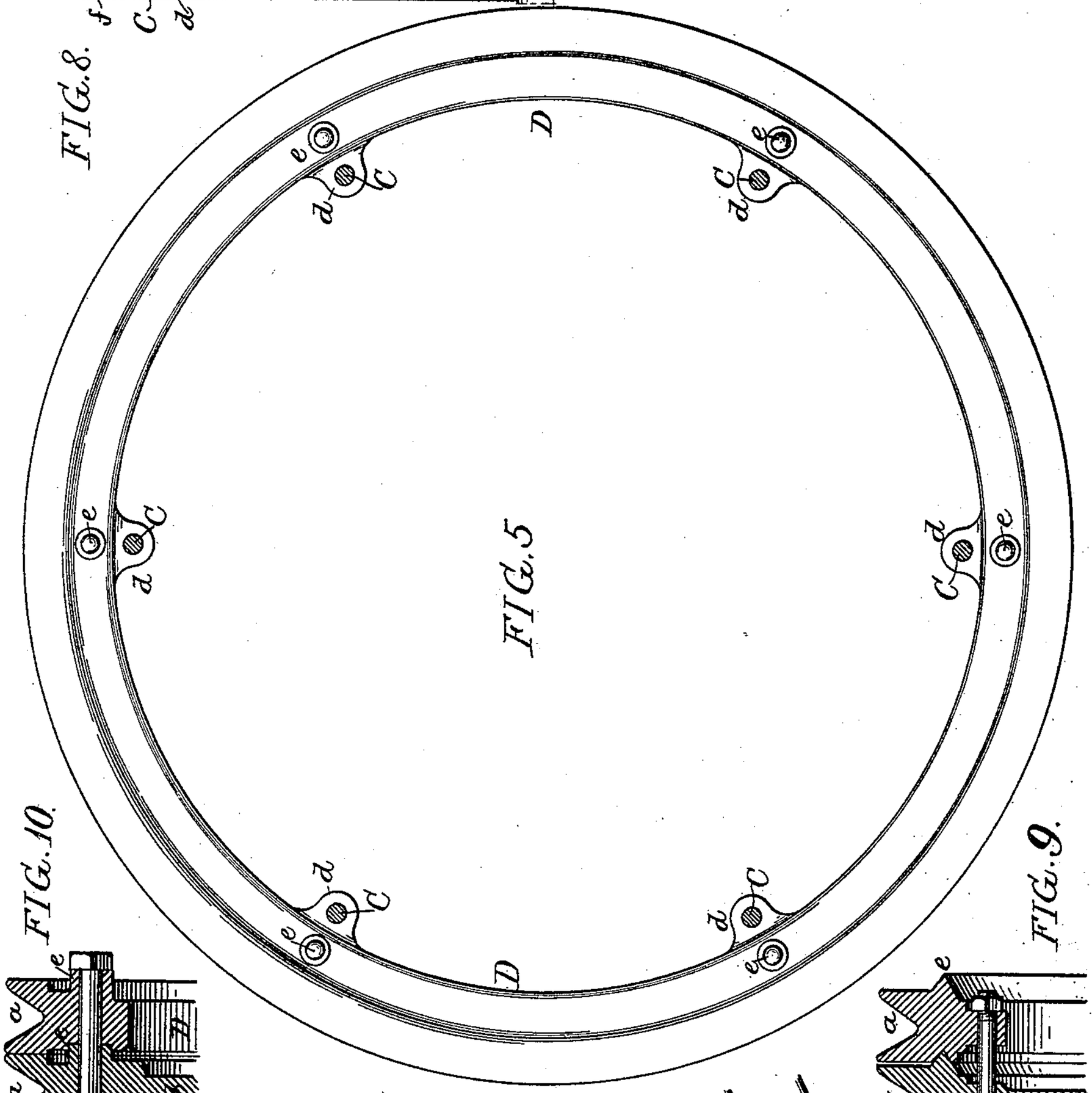

FIG. 5

FIG. 10.

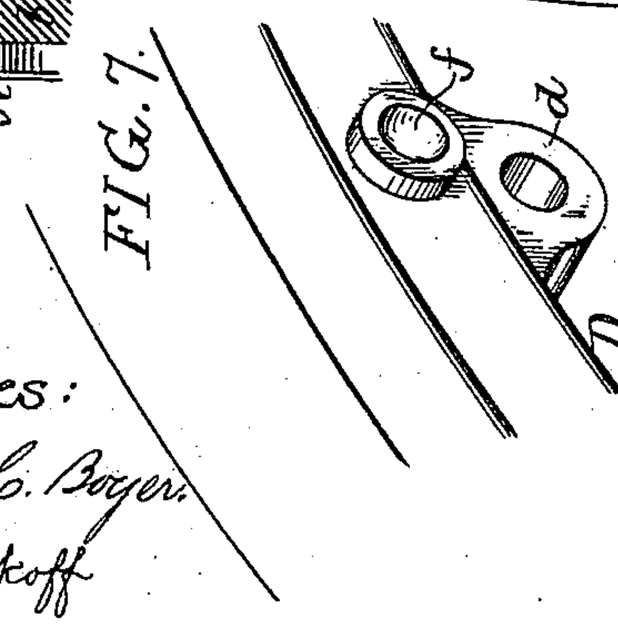

FIG. 7.

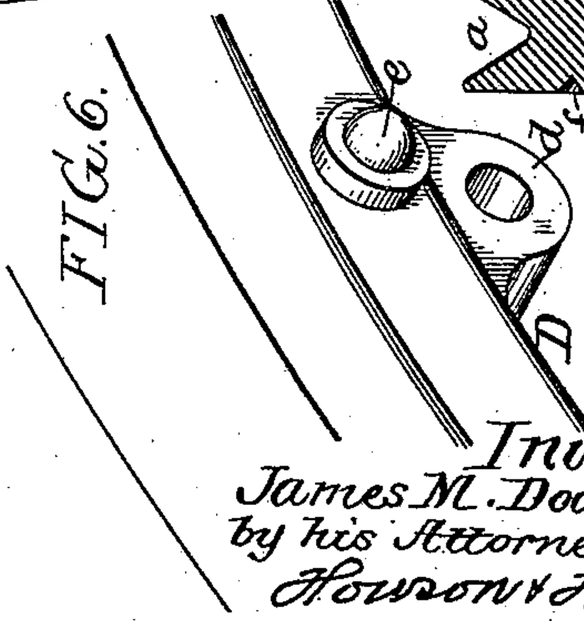

FIG. 6.

FIG. 9.

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UNITED STATES PATENT OFFICE.

JAMES M. DODGE, OF PHILADELPHIA, PENNSYLVANIA.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 464,795, dated December 8, 1891.

Application filed February 6, 1891. Serial No. 380,463. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. DODGE, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Sheaves and Pulleys, of which the following is a specification.

The object of my invention is to construct a wheel or pulley for drive ropes or belts in which the face can be increased or diminished. The main object of my invention is to so construct the parts that wheels having one or more grooves can be readily built up from stock in hand, avoiding the necessity of making patterns or turning a special wheel for every odd order, a further object being to so combine the several parts composing the finished wheel that wheels for light and heavy work can be built up from the sections.

In the accompanying drawings, Figure 1 is a side view of a rope-pulley. Fig. 2 is a view of the hub-section. Fig. 3 is a view of one of the ring-sections. Fig. 4 is a view of a built-up wheel having three grooves. Fig. 5 is a side view of one of the rings. Fig. 6 is a detached perspective view of portions of one of the sections, showing the lug for aligning the several sections. Fig. 7 is a view showing a recess into which the lug extends. Fig. 8 is a view of a light wheel having three grooves with one spoke-section and two rings. Figs. 9 and 10 are views of modifications of my invention.

A is the hub-section of a complete wheel, having a single groove *a*, as clearly shown in Fig. 2. This section has a hub B, spokes *b*, and rim A′.

D, Fig. 3, is the ring-section. The spokes and hub in this case are omitted, as clearly shown in Fig. 5, the ring having lugs *d* at intervals through which pass the securing-bolts. On one side of each section is a series of pins or lugs *e*, and on the opposite side of each section is a series of orifices *f*, the pins and orifices being so arranged that when the sections are placed together, as shown in Figs. 1 and 4, the pins are in line with and pass into the orifices, thereby aligning the several sections, so that the grooves in each section will be true with the axle-line of the wheel.

In making the wheel and sections I may chill the surface of the wheel at the groove *a*, and also the pins and the recesses. These several parts are preferably chilled at one operation.

Passing through orifices *c*—in the present instance through the spokes *b* of the spoke-section—is a series of bolts C, these bolts also passing through orifices in the lugs *d* on the ring D. The bolts are provided with nuts, and when tightened hold the sections together, as clearly shown in Figs. 4 and 8.

Heretofore in the manufacture of grooved pulleys it has been customary to make a single casting and turn grooves therein. Consequently a pattern had to be made for every different order, and this was expensive, and often the spokes and the general outline of the wheel had to be reduced and strengthened according to the work for which the wheel was intended. Now by simply making for one diameter pulley the pattern for a ring-section and pattern for a hub-section a pulley having a face of any width can be built up and of any number of grooves. For instance, in Fig. 4 I have shown a wheel having three grooves made up of two spoke-sections and one ring-section. A wheel of this character is intended for heavy work, owing to the fact of the use of the two hub-sections, and if it is desired to make it still heavier three hub-sections may be used. The several projections *e* enter their several orifices, and, together with the transverse securing-bolt C, lock the several sections together, making a perfectly true and substantial wheel or pulley.

In Fig. 8 I have shown a built-up wheel having three grooves made from two ring-sections and one hub-section. This wheel is intended for light work. It will be understood that if only two grooves are necessary only one ring-section can be readily secured to the hub-section, and the number of rings or hub-sections can be increased according to the number of grooves or the width of the face desired. It will be understood that the sections may be either cast, forged, or otherwise produced.

In Fig. 10 I have shown the tongue and groove at the sides of the sections extending around the ring instead of merely lugs and recesses, while in Fig. 11 I have shown the lugs and recesses at the bolt-holes.

I claim as my invention—

1. The combination, in a built-up rope wheel

or drum, of a hub-section comprising a hub, spokes, and grooved rim, all made in one piece, a ring-section likewise grooved and disposed at the side of the hub-section, and securing-bolts passing through the hub and ring sections, substantially as specified.

2. The combination of the hub-section having a hub and a grooved rim adapted to receive the drive-rope, a ring-section having a grooved face adapted to receive the drive-rope and situated at the side of the hub-section, the ring-section being centered upon the hub-section, and clamping devices securing the ring-section rigidly to the hub-section, substantially as set forth.

3. The combination of the hub-section having a hub and a grooved rim adapted to receive the drive-rope, a ring-section having a grooved face adapted to receive the drive-rope and situated at the side of the hub-section, one section interlocking with the other section, so as to align the faces of the two sections, and securing-bolts for attaching the ring-section fixedly to the hub-section, substantially as described.

4. The combination, in a built-up rope-wheel, of the hub-section and ring-section of the same diameter and situated side by side, rope-grooves in the faces of both sections to receive the drive-rope, and lugs at the side of one section near the periphery, the other section having recesses in its side near the periphery in line with the lugs, with securing-bolts passing through the two sections, whereby the sections are locked together, the lugs taking the strain off the bolts, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES M. DODGE.

Witnesses:
E. A. TURNER,
H. F. REARDON.