

(No Model.)

T. GINGRAS.
PULLEY.

No. 446,567.

Patented Feb. 17, 1891.

FIG. 1.

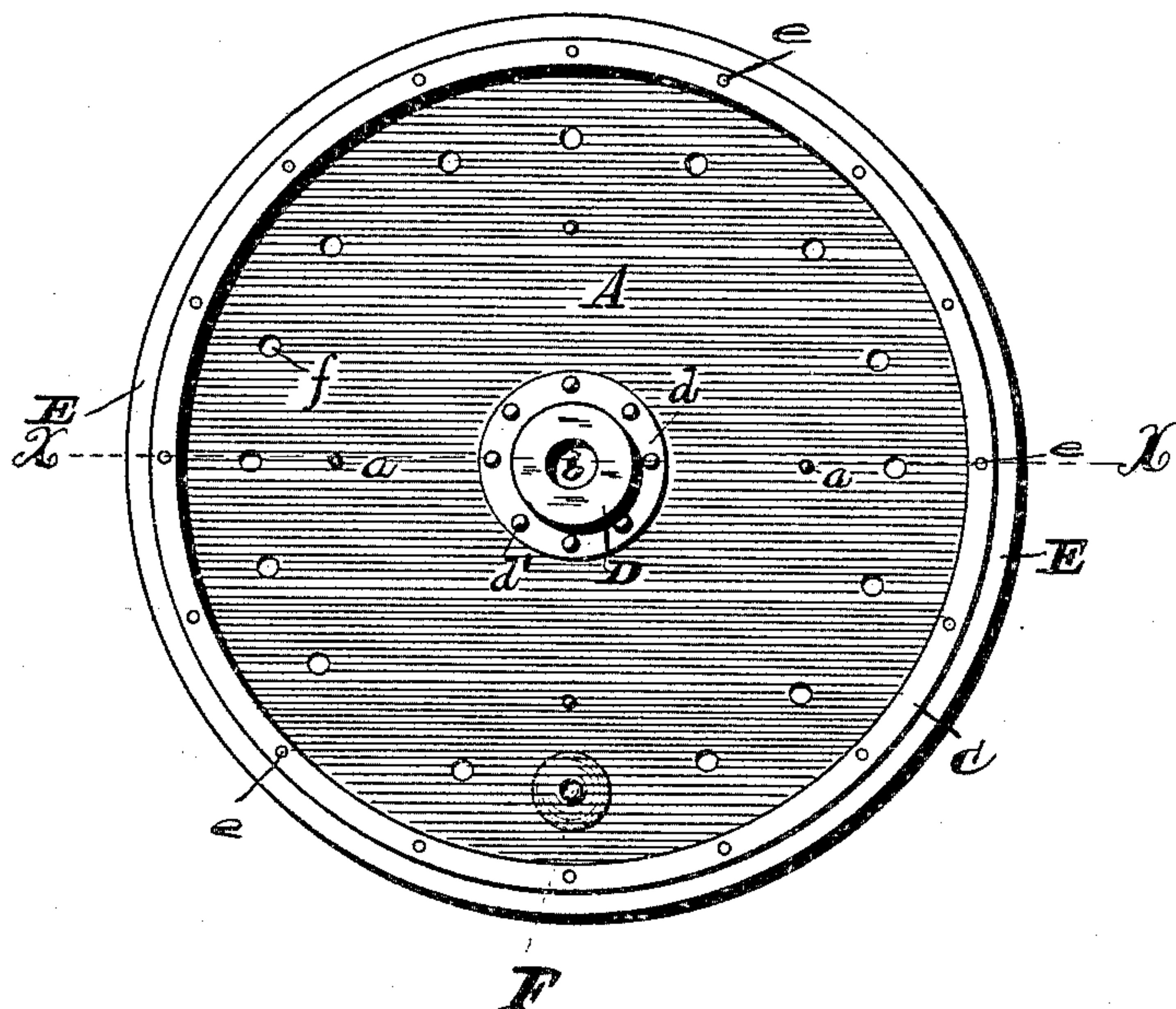


FIG. 2.

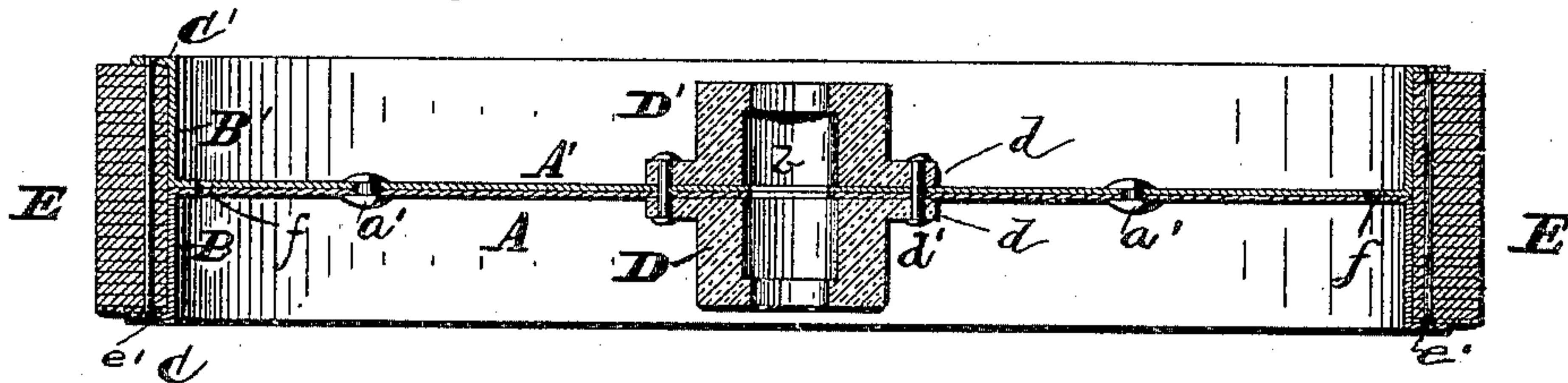
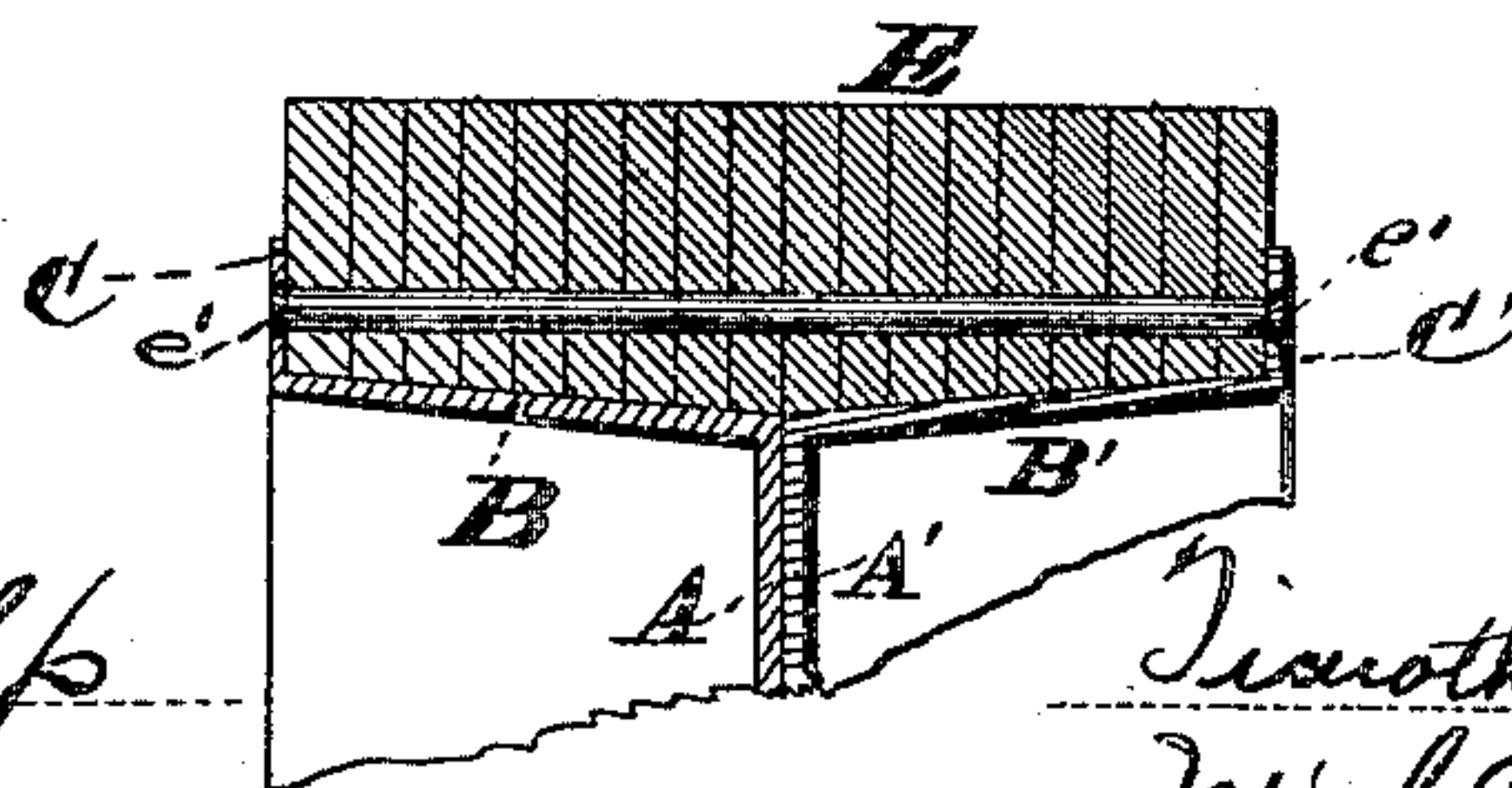


FIG. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

TIMOTHY GINGRAS, OF BUFFALO, NEW YORK.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 446,567, dated February 17, 1891.

Application filed November 17, 1890. Serial No. 371,673. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY GINGRAS, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Pulleys; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is the production of an efficient and durable pulley, emery-wheel, truck-wheel, or the like; and to attain this result my invention consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claim.

In the drawings already referred to, which serve to illustrate my said invention more fully, Figure 1 is a plan of my improved pulley or emery-wheel. Fig. 2 is a longitudinal sectional elevation in line $x x$ of Fig. 1. Fig. 3 is a similar view of a portion of the pulley, drawn on a slightly-enlarged scale, like parts being designated by corresponding letters of reference in all the figures.

This pulley, emery-wheel, or truck-wheel consists, essentially, of a web composed of two similar dish-shaped halves $A A'$, formed of sheet-metal disks, having on their outer circumference rims $B B'$ and flanges $C C'$, formed in the process of draw-stamping, said rims being slightly tapering, with the increase in diameter toward the outside, and together forming the complete pulley-rim. These two halves are secured together at their centers by means of hub-sections forming the hub $D D'$ and each section having perforated flanges d , through which screw-bolts d' , rivets, or similar fastenings are passed to firmly attach the hub-sections to the web-sections and the web-sections to each other. The hub-sections $D D'$ have recessed bore b for attachment to a shaft, axle, mandrel, or other similar object in the usual manner.

In the web-sections $A A'$ there is a series of apertures e , through which rivets e are passed to secure the webs further together about midway between their hub-sections and rims, while near these rims is a further se-

ries of apertures f for the reception of balancing-weight F , as shown in Fig. 1, whenever it should be found that the wheel when completed is out of balance, there being a sufficient number of these apertures f to insure locating the balance-weight, or several of them, at the proper place.

The pulley or wheel thus far described forms a marketable article of manufacture, which, while being light, is very strong and durable and well adapted for the transmission of power; but for the purpose of an emery-wheel or for transmitting power in peculiar situations where belts are liable to slip I cover this pulley with a covering of leather, rubber, or other analogous material E , the first named of which being the most desirable for my purposes. This covering I form as follows: Upon a previously-arranged block or mandrel having a diameter slightly less than the outer diameter of the pulley to be covered I place strips of leather of proper width side by side, placing them around the periphery of said block and cementing the layers together. The ends of these strips may abut, which, owing to the fact that scarcely two joints will ever come side by side, does not affect the covering, using pegs occasionally, if necessary, to secure the layers together. The leather strips being placed side by side, the periphery of the wheel will have an even grain, and when a sufficiency of these strips have been placed upon the mandrel to form the proper width of the covering the (now) band is removed from the block, the two halves of the pulley inserted therein, and then forced together, thus pressing the rims into the covering. The covering being slightly less in diameter than the rims, it will be expanded in forcing the rims into the same, thereby producing a very strong and stiff covering. Now I drill through the rims and the covering a series of holes e , Fig. 1, and push through the same rivets e' , Fig. 2, which will draw the rims slightly together, and thereby securely unite the parts and prevent creeping of the cover upon the rims. Now the covering is turned to a correct shape, either straight or crowning, as the case may be, when it is ready for use. When coated with emery or other usual abrading substance, this wheel will be found to be the best polishing-wheel that has heretofore been introduced in the

market. Without such a coating it is an excellent driving-pulley, which will secure perfect adhesion of the belt, and which will transmit the largest percentage of power possible
5 to be transmitted by belting.

In manufacturing these pulleys I prefer to form the covering separately, as described. This does not preclude the possibility of forming the covering directly upon the rim; nor
10 need this covering be produced from strips of leather or of strips of leather placed side by side, although for efficient service the method of procedure heretofore described will be found to produce the most desirable article.

15 A pulley of the kind described, of proper diameter and width, will be found an excellent warehouse-truck wheel, being perfectly noiseless and very easy on floors, while, if the covering is subjected to a waterproofing process,
20 it may also be used out of doors.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States—

The improved pulley herein described and shown, consisting of two web-sections, each
25 having an outwardly-extending rim-section and an outer flange, the web-sections being provided with a series of perforations *f* and the flanges with perforations *e*, rivets *e'*, passed through the web-sections, hub-sections at the
30 center of the web-sections, provided with annular flanges *d*, rivets *d'*, passed through the flanges *d* and the web-sections, a covering-ring composed of strips of leather cemented together and forced upon the rim-sections,
35 rivets passing through the said covering-ring and the perforations *e*, and the balance-weight secured in one of the perforations *f*, as specified.

In testimony that I claim the foregoing as
40 my invention I have hereto set my hand in the presence of two subscribing witnesses.

TIMOTHY GINGRAS.

Attest:

MICHAEL J. STARK,
WM. O. STARK.