

(No Model.)

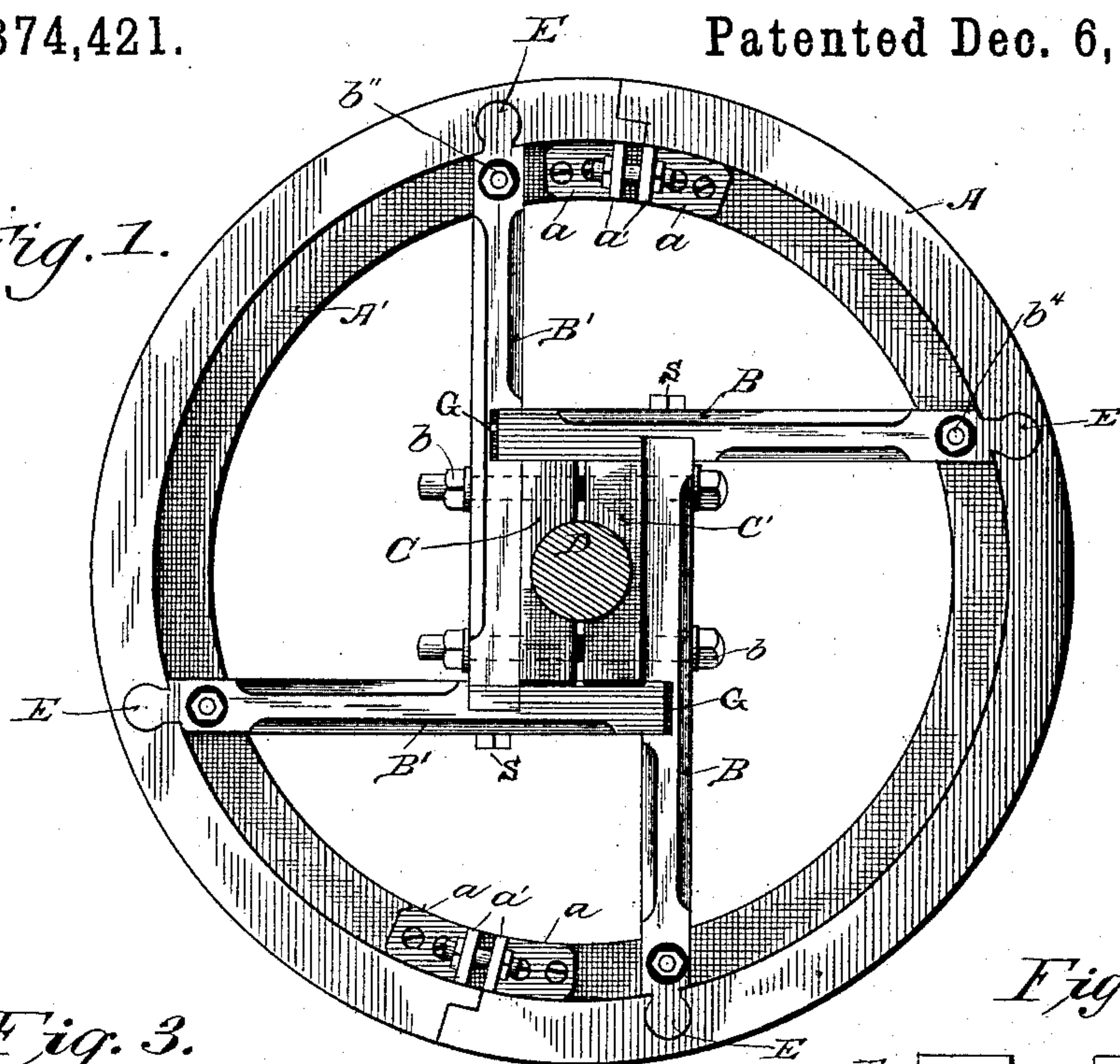
W. A. MOORE.

SPLIT PULLEY.

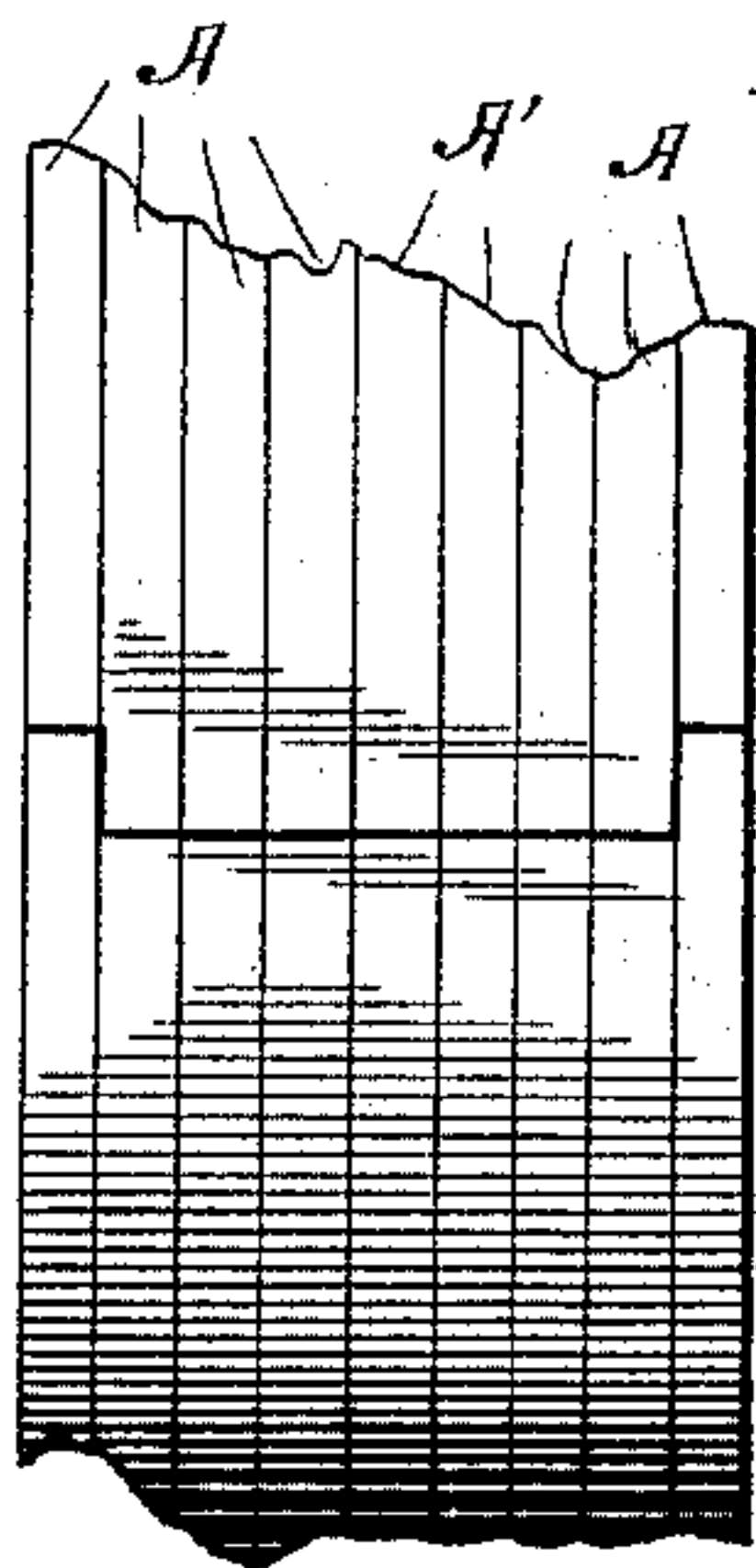
No. 374,421.

Patented Dec. 6, 1887.

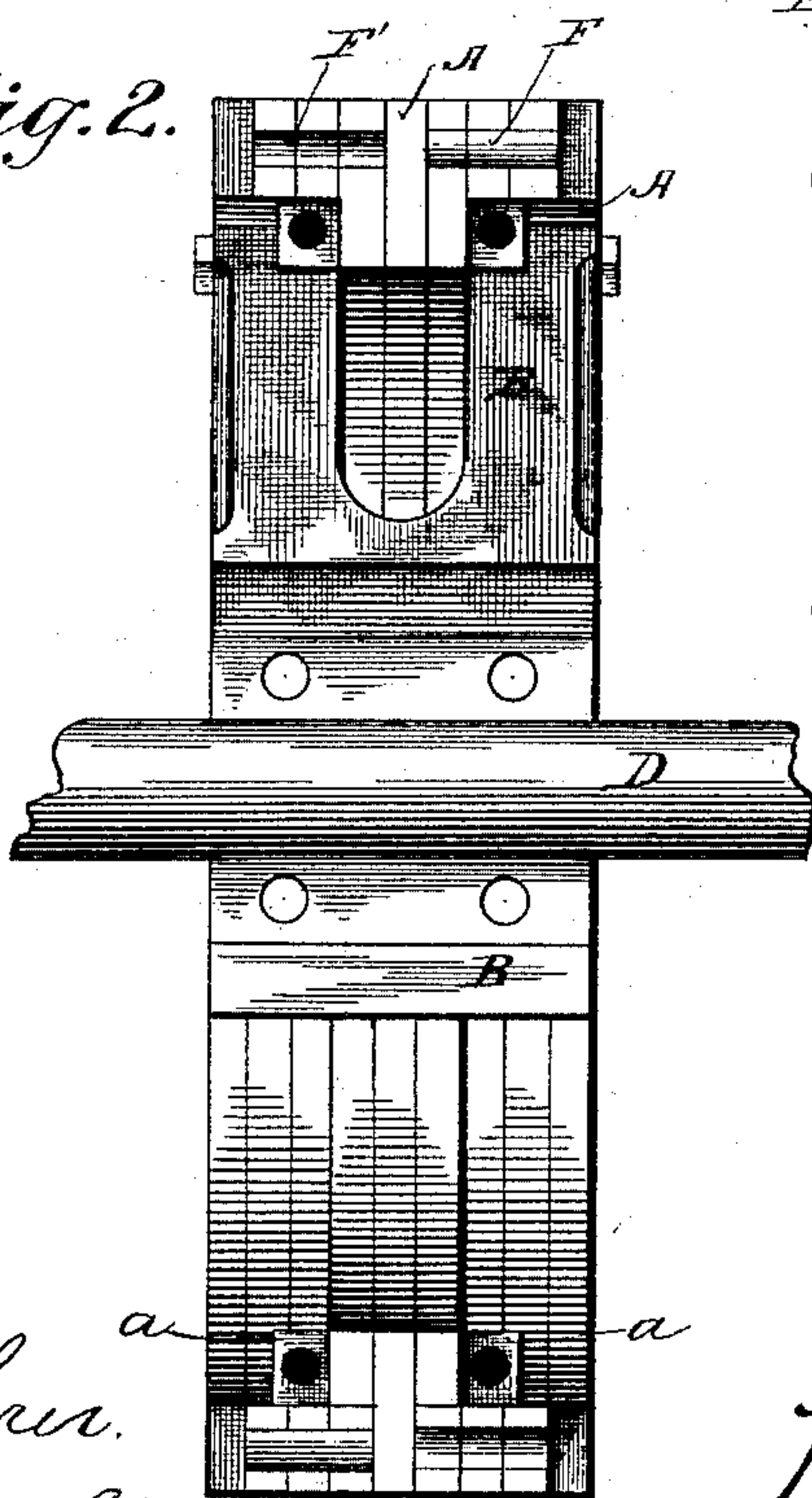
*Fig. 1.*



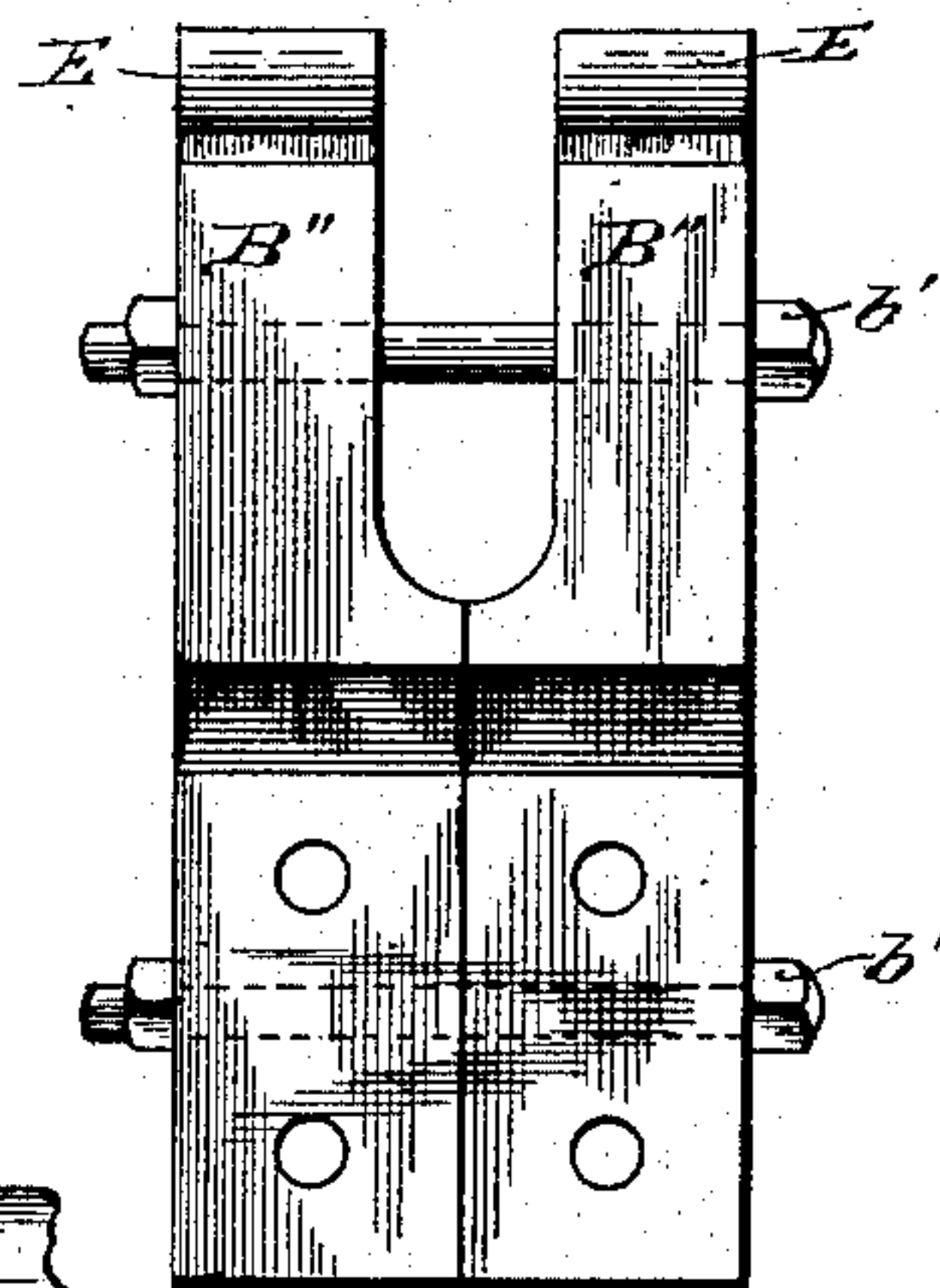
*Fig. 3.*



*Fig. 2.*



*Fig. 4.*



Witnesses  
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By his Attorneys

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# UNITED STATES PATENT OFFICE.

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## SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 374,421, dated December 6, 1887.

Application filed June 8, 1887. Serial No. 240,626. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. MOORE, a resident of Chattanooga, in the county of Hamilton and State of Tennessee, have invented certain new and useful Improvements in Split Pulleys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in split pulleys having rims of wood and arms or spokes of either wood or metal, the object of this invention being to provide a strong, cheap, and durable pulley of such simplicity of construction that it is not liable to get out of order.

The invention is fully described and explained in this specification, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation of the completed pulley. Fig. 2 is an internal elevation of one-half the pulley, and Figs. 3 and 4 are detail views illustrating the construction of the parts of the pulley.

In these views, A is the rim of the pulley, and A' an internal flange forming the central portion of the rim, the entire rim, including the flange, being made up of any desired number of annular sections of wood glued or otherwise securely fastened together.

As shown in the drawings, and particularly in Figs. 2 and 3, the central flange, A', is made up of three annular sections placed side by side, and the remainder of the rim of six similar sections, lying three on either side of the central flange. These proportions are such as I have found it advisable to use in the practical construction of the pulley; but they are evidently not essential and may be varied at pleasure. The rim is divided into two equal parts, which are connected by clamps *a a*, rigidly fastened to the contiguous ends of the parts and provided with ears *a'*, which are connected by suitable bolts.

In order to prevent lateral movement of the ends of two parts of the rim with reference to each other, I have found it advisable to lengthen the outer layers at one end of each part of the rim and shorten the outer layers at the opposite end thereof, so that the outer layers of one

part of the rim overlap the end of the other part, as shown in Figs. 1 and 3, and in order to prevent radial movement of the end of one part with reference to the contiguous end of the other part of the rim I form in each of the ends recesses *F'*, preferably semicircular in shape, and insert in these ends keys *F*, which may be either detachable or permanently fastened to the rim, and which when in place prevent relative movement of the parts.

Each of the two parts of the rim is provided with two arms fastened together and preferably at right angles to each other, as shown, the arms attached to one part of the rim being designated by the letters *B B*, and those attached to the other part of the rim by the letters *B' B'*. Each of the arms is formed with a transverse groove or gain, *G*, adapted to receive the inner end of the arm at right angles to it, and one end of one arm of each permanently-united pair is set firmly in the gain of the arm connected with it and secured therein by bolts or screws *S*, as shown in Fig. 1. In the polygonal space between the inner ends of the arms are placed blocks *C C'*, formed with a suitable central bearing adapted to receive a shaft, and bolts *b* pass through the arms and through the blocks *C C'*, and serve to clamp together the blocks and secure them firmly upon a shaft when placed in working-position. The outer ends of the arms *B B'* are bifurcated to receive the flange *A'*, and are provided with locking-tenons *E*, adapted to enter corresponding mortises in the rim *A*. The tenon on the end of each of the arms may have any form adapted to lock the arm to the rim; but I prefer to give it substantially the form shown, in which the working-faces of each tenon are curved. This form gives much greater strength than the ordinary dovetail, as it presents no sharp angles.

Each of the arms *B B'* may be made in a single piece, or may be formed in two pieces, *B'' B''*, as illustrated in Fig. 4, the two pieces being connected by bolts *b'*, and in either case each of the arms is preferably fastened to the rim by means of a bolt, *b''*, passing through the end of the arm and through the flange *A'*. When the arm *B* or *B'* is made in a single piece, it is first attached to the flange *A'* by means of the bolt *b''*. The sections of the rim



A, having been formed with the mortises, are then attached to the central flange by lateral pressure, the mortises passing over the locking-tenons in the ends of the arms. When the arms are each made in two pieces, however, as shown in Fig. 4, the entire rim, including the central flange, may be fastened together and turned in a lathe, and the two parts of each arm may then be fastened to the rim by a lateral movement, the tenons on the ends of the parts entering the mortises in the rim and the two parts of each arm being fastened together by the bolts *b'* after such insertion.

It is evidently somewhat cheaper to make each of the arms in a single piece than to make it in two pieces connected by bolts, as shown in Fig. 4; but, on the other hand, it is a considerable advantage to form the entire rim before the attachment of the arm. In the manufacture of the pulleys I have employed both methods, and I do not intend to limit the invention specifically to either.

When it is desired to disconnect the parts of the pulley, it is only necessary to take out the bolts *b*, which connect the arms *B B'*, and the bolts which connect the flanges *a'* at the ends of the two parts of the rim, and by the insertion of these bolts the parts may be again securely connected. I have found it desirable to leave a slight space for adjustment between the blocks *C C'*, and also a similar space in the gain *G* in the arm *B* or *B'*, which receives the corresponding arm *B' B* of the other half of the wheel.

I prefer to make the arms *B B'* of wood; but it is evident that they may be formed of metal and connected with the rim in the same manner illustrated in the drawings. When made of metal, each pair of arms *B B* or *B' B'* may

be formed of a single piece, instead of in two parts, as shown.

The combination, with the wheel-rim, of a series of arms attached to the rim and surrounding a central polygonal space and a polygonal split bushing inclosed by said arms forms no part of my invention, nor do I intend to lay any claim to that construction or combination, broadly; neither do I consider such construction and arrangement of the arms with reference to the rim and bushing as an essential feature of my improved pulley.

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

1. The combination, with the two-part wooden rim *A*, having the internal flange, *A'*, of the arms having their outer ends bifurcated to receive said flange and provided with locking-tenons entering corresponding mortises in the inner face of the rim, substantially as and for the purpose set forth.

2. The combination, with the two-part rim *A*, having the flange *A'*, of the fastenings *a a'*, attached to the ends of the two parts of the rim and adapted to connect the same, the bifurcated arms connected by suitable locking tenons and mortises to the rim and by bolts *b''* to the flange, the blocks *C C'*, and the connecting-bolts *b*, substantially as shown and described, and for the purpose set forth.

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

WILLIAM A. MOORE.

Witnesses:

WM. M. HAINES,  
W. P. MCBROOM.