

C. WITTKOWSKY.
WOODEN SPLIT PULLEY.

(Application filed July 27, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

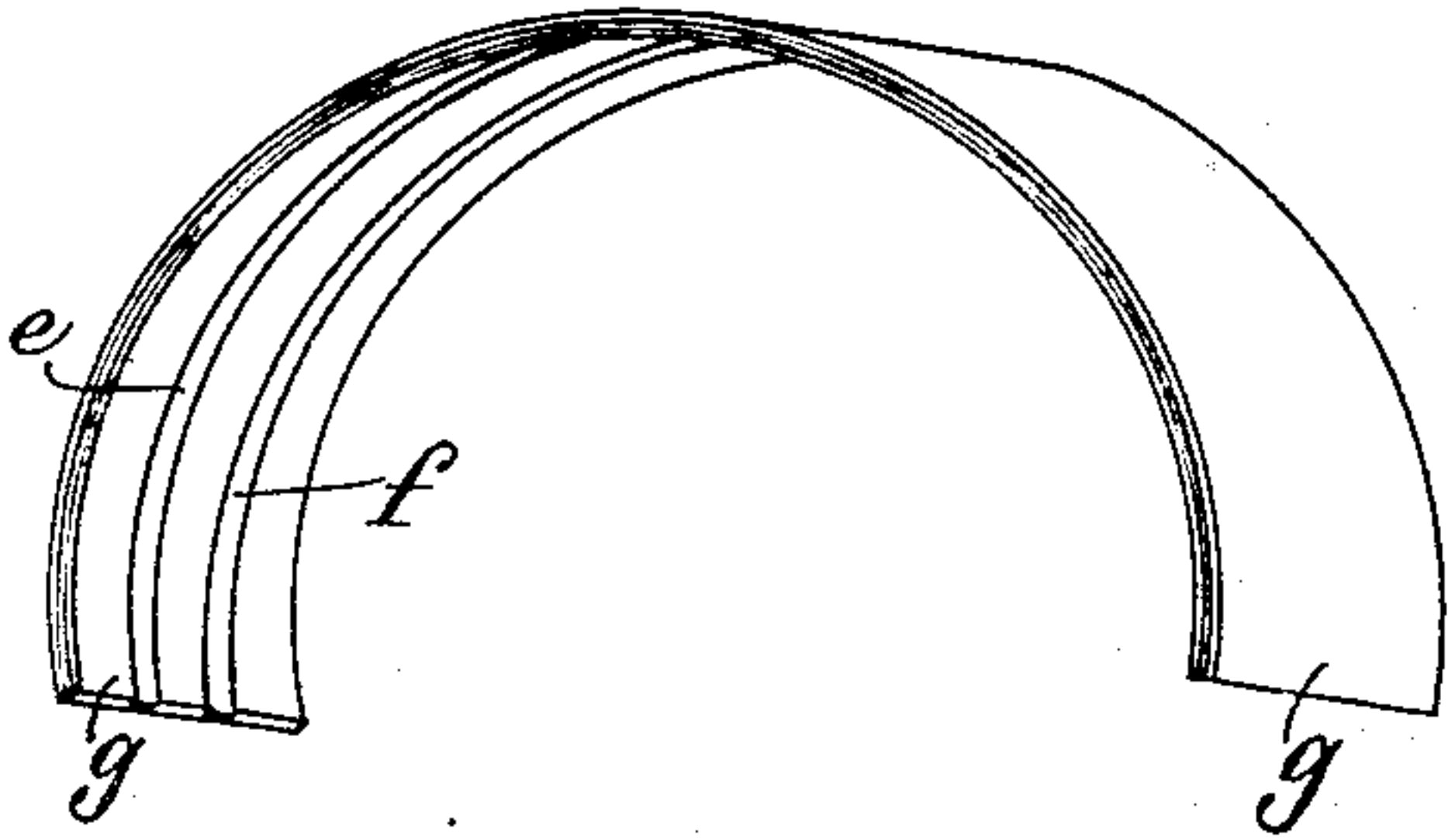


Fig. 2

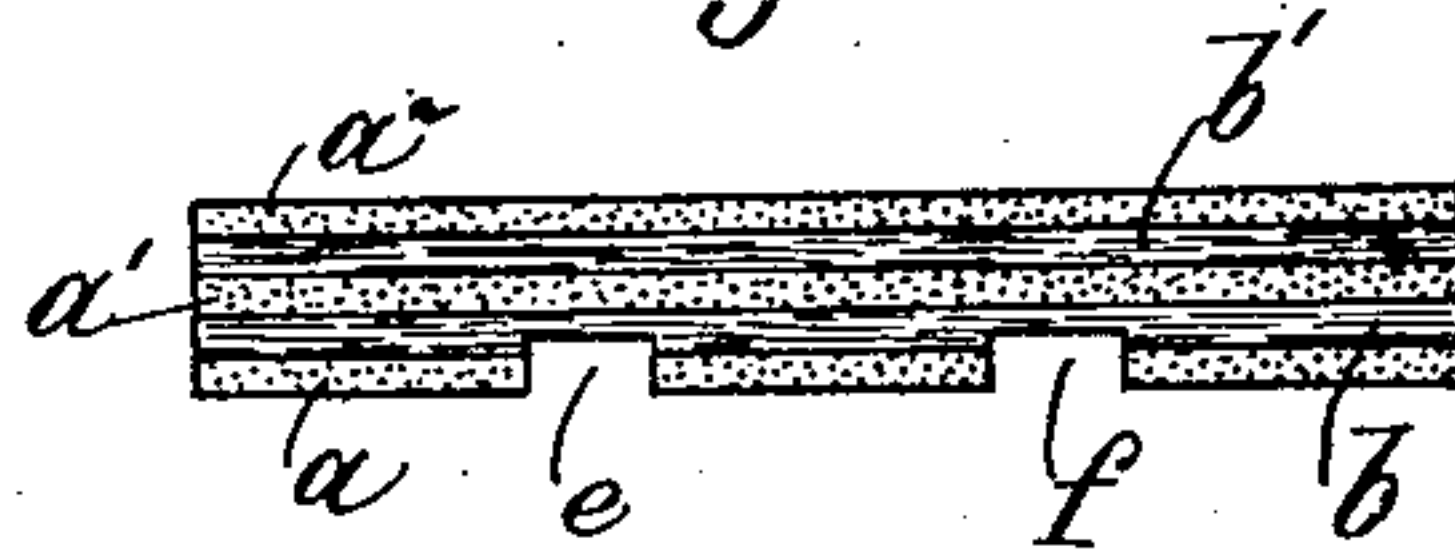


Fig. 3

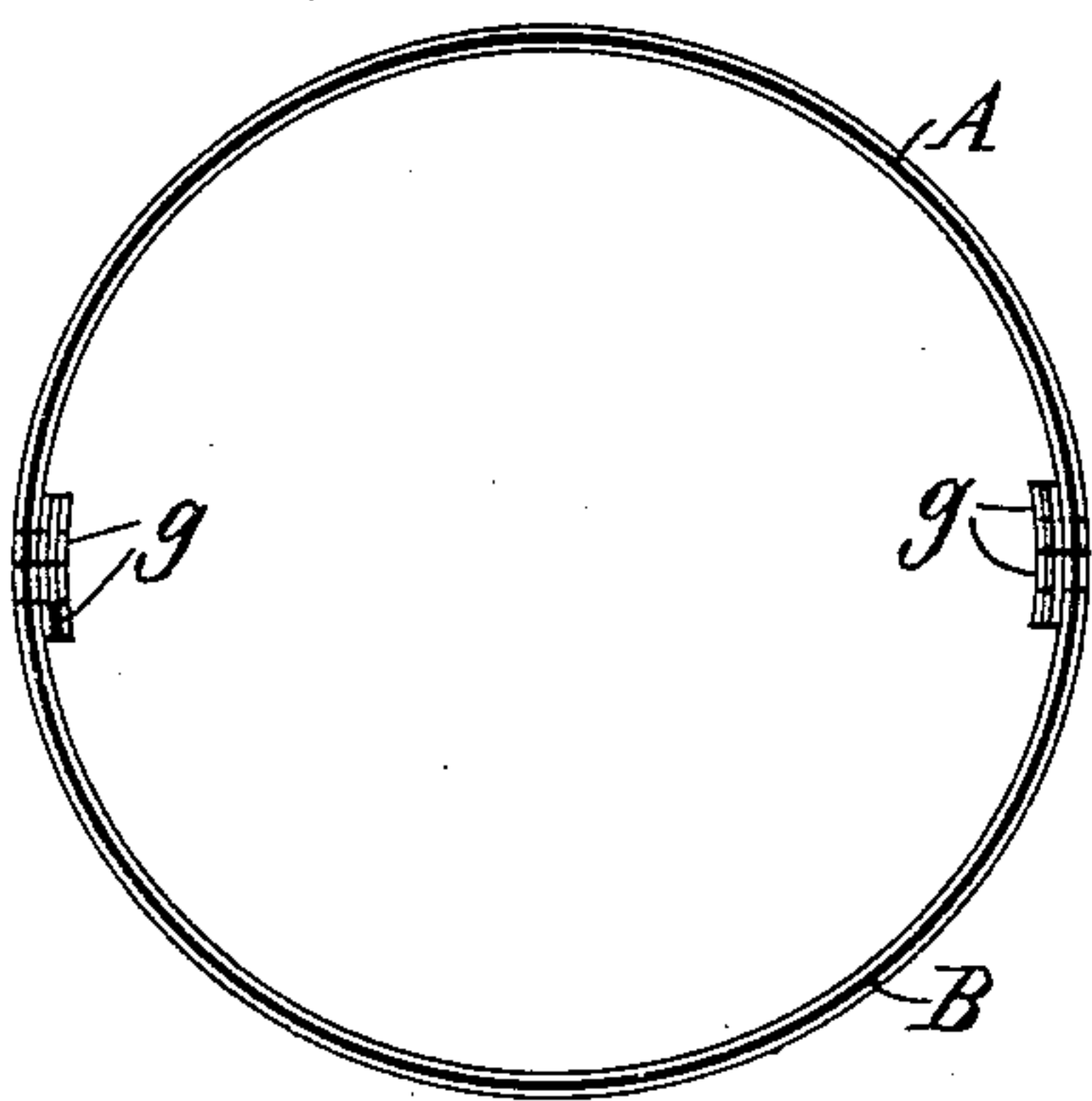


Fig. 4

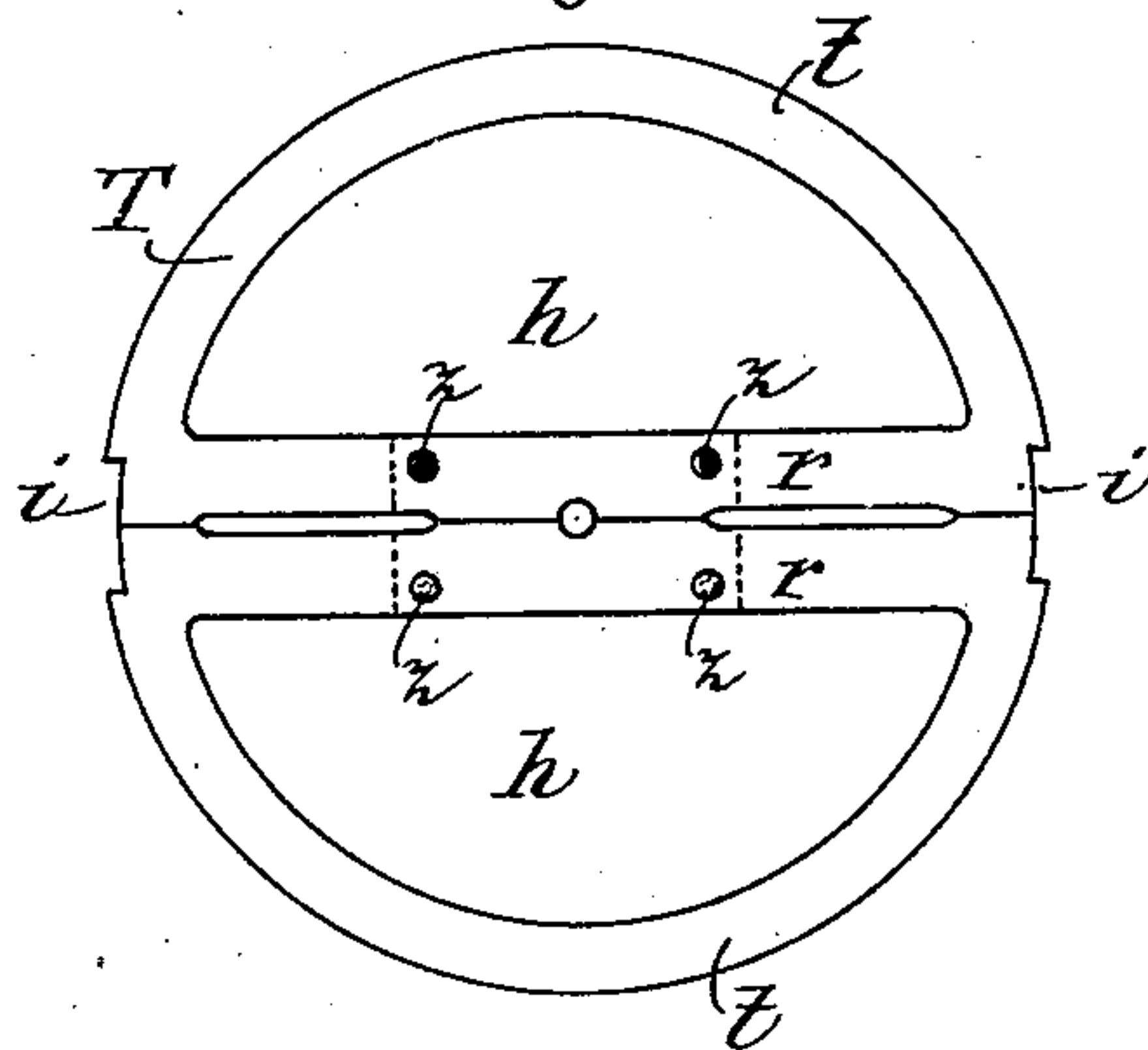


Fig. 5

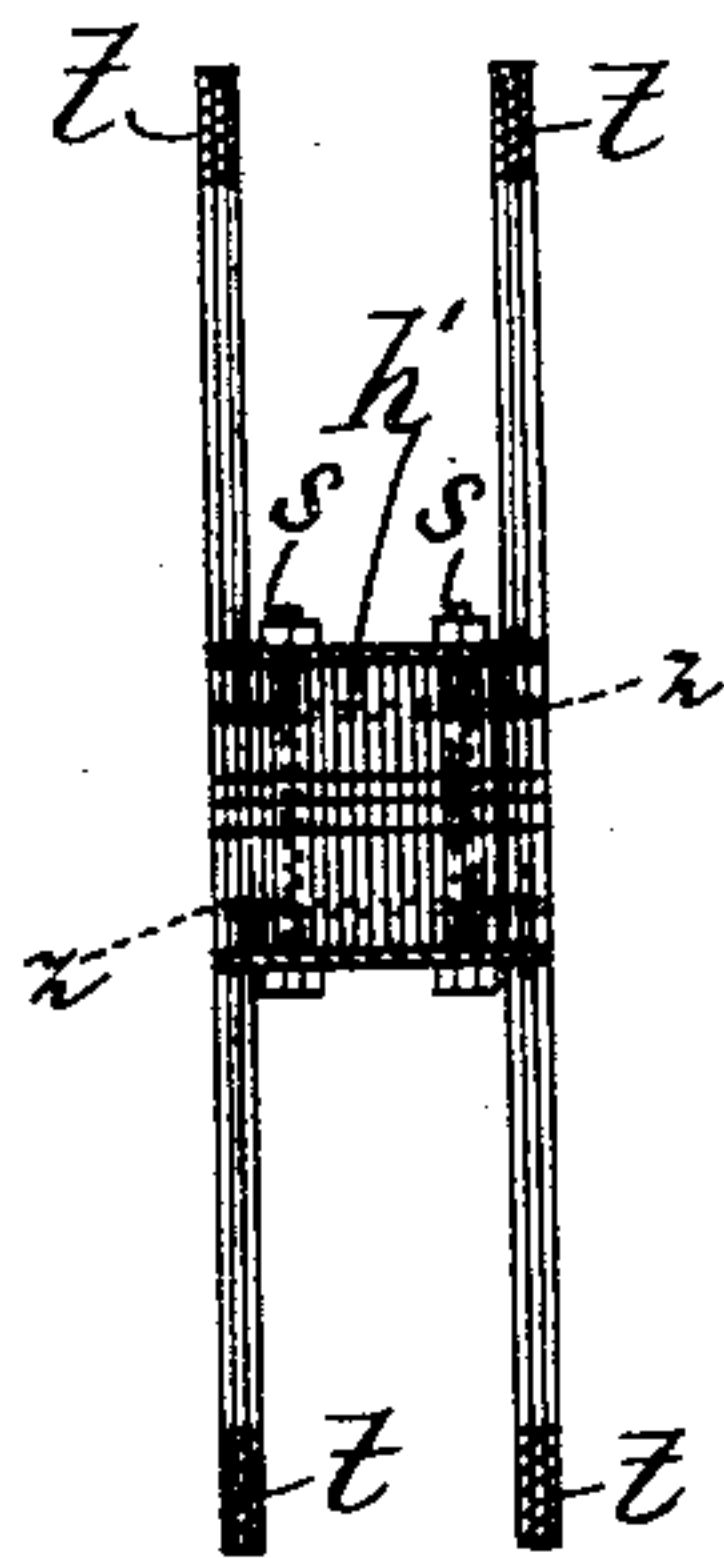
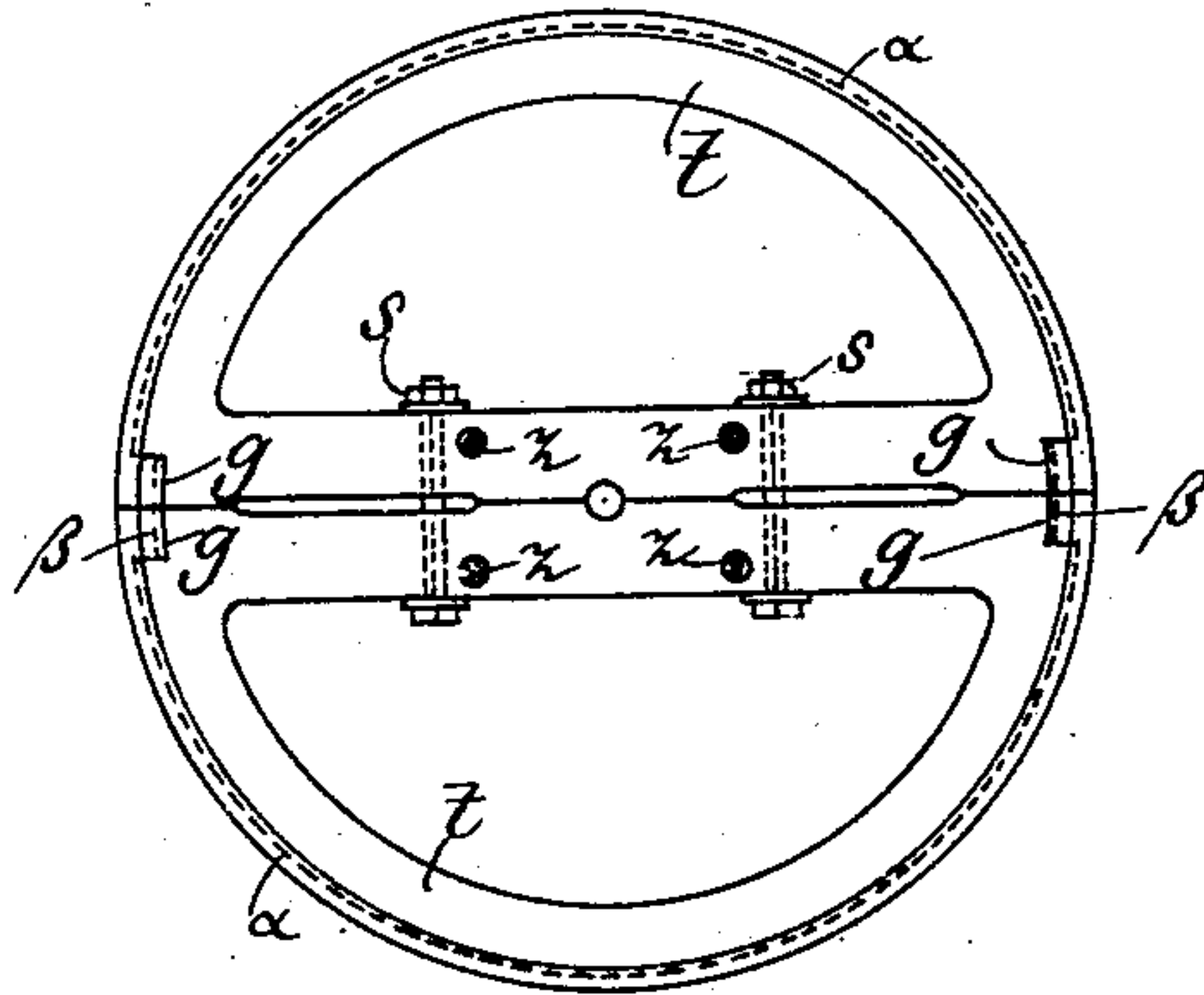


Fig. 6



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No. 703,031.

Patented June 24, 1902.

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2 Sheets—Sheet 2.

Fig. 7.

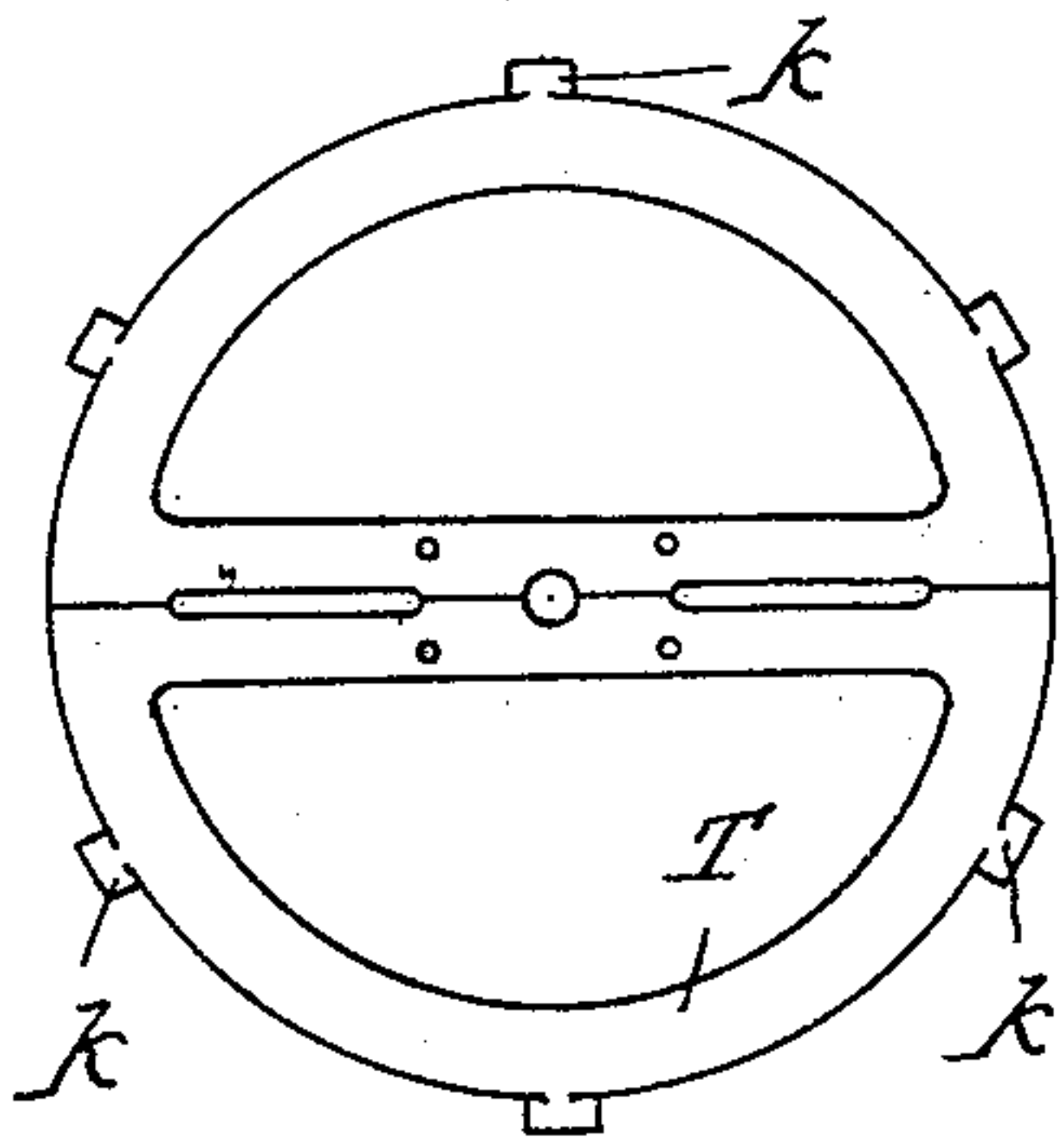


Fig. 8.

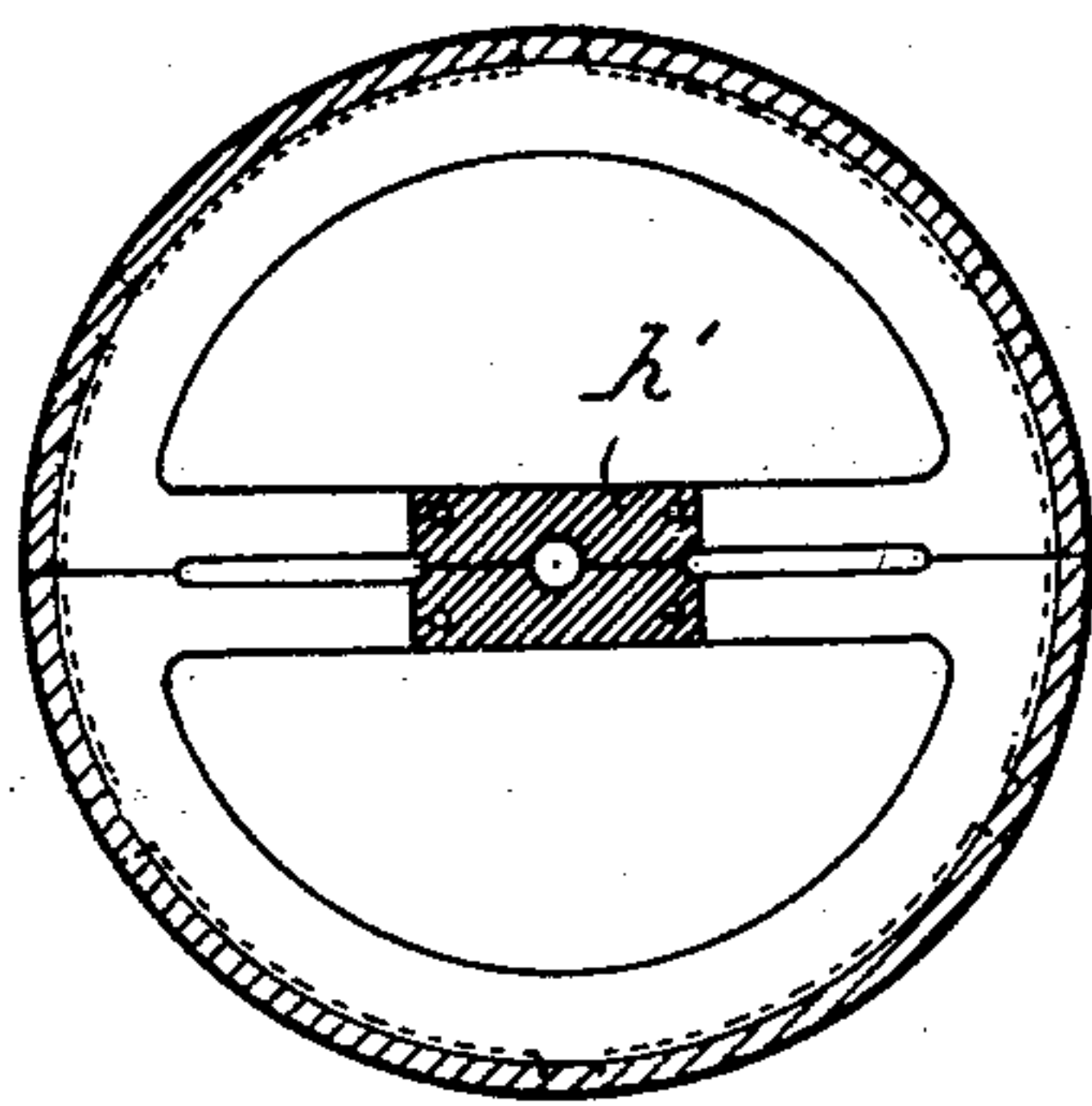


Fig. 9.

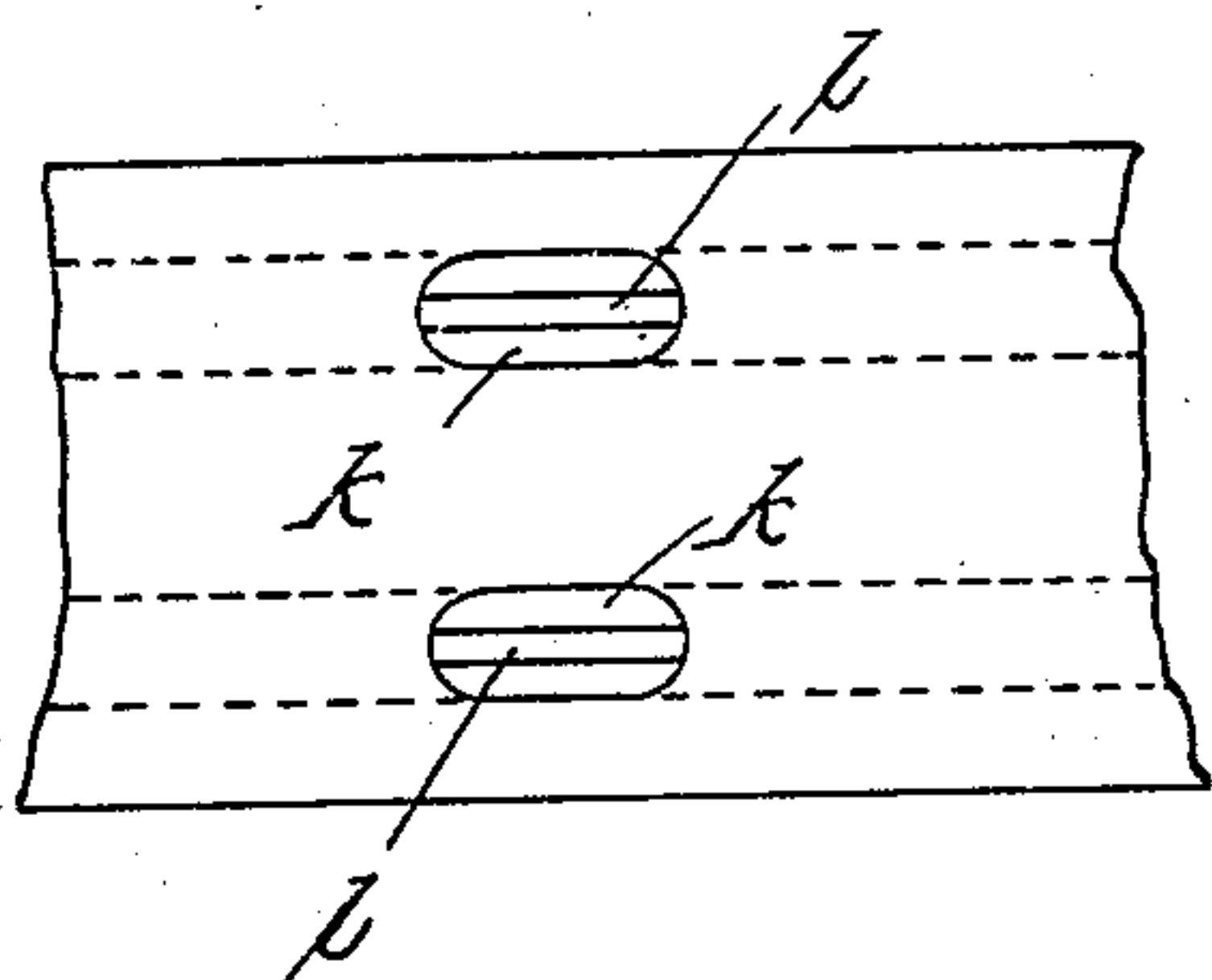


Fig. 10.

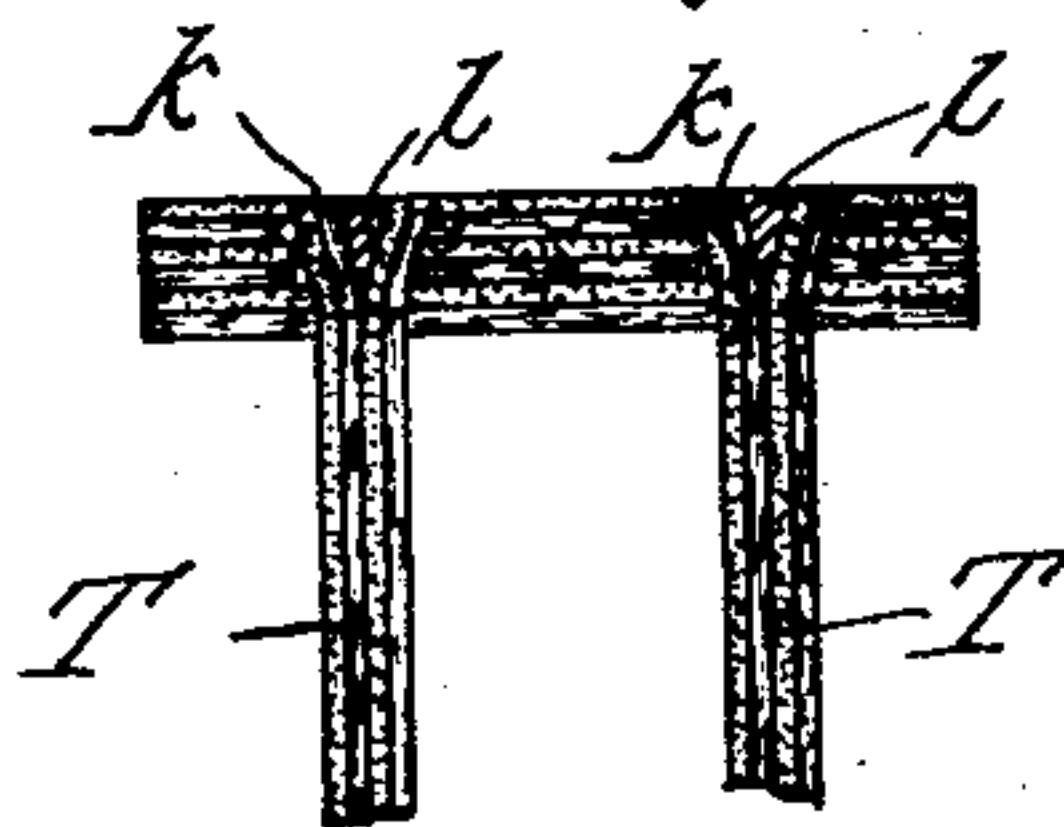
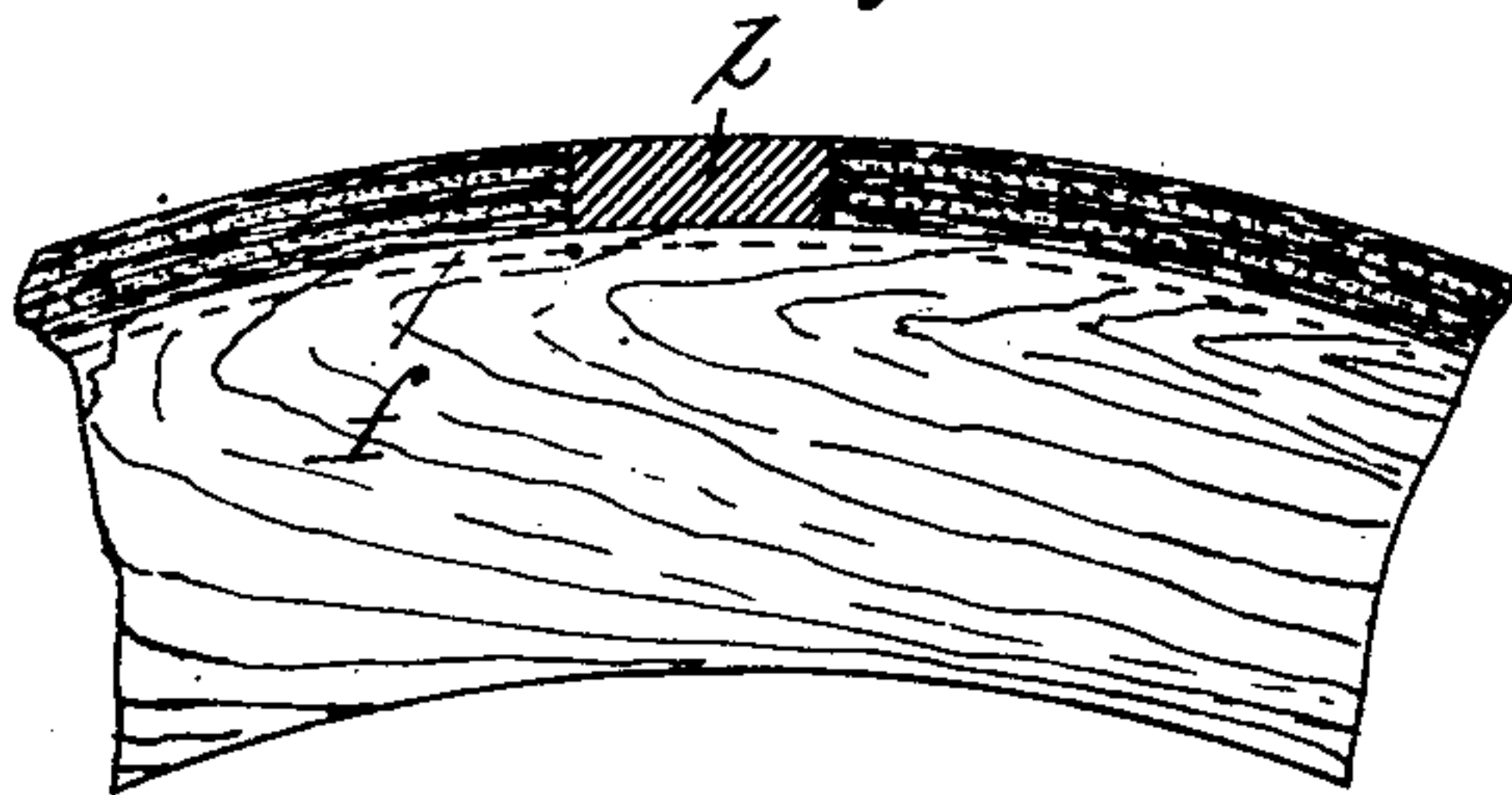


Fig. 11.



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UNITED STATES PATENT OFFICE.

CARL WITTKOWSKY, OF BERLIN, GERMANY.

WOODEN SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 703,031, dated June 24, 1902.

Application filed July 27, 1901. Serial No. 69,966. (No model.)

To all whom it may concern:

Be it known that I, CARL WITTKOWSKY, a subject of the King of Prussia, German Emperor, and a resident of 121^a Potsdamerstrasse, Berlin, Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Wooden Split Pulleys, of which the following is an exact specification.

My invention relates to a wooden split pulley by the construction of which very thin rims and a very light construction can be used for manufacturing very strong pulleys and by means of which construction shrinking of the wood, loosening of the spokes, and warping of the rim are perfectly avoided. I attain this object by the construction illustrated in the accompanying drawings, in which similar letters refer to similar parts throughout the several views, and in which—

Figure 1 is a perspective view of one-half of a rim. Fig. 2 is a cross-section of the rim in an enlarged scale. Fig. 3 is a side view of the entire rim with both halves joined together. Fig. 4 is a side view of the pulley with the rim taken off. Fig. 5 is a vertical section of the parts shown in Fig. 4. Fig. 6 is a side view of the entire wood pulley. Fig. 7 is a side view of the pulley with the rim taken off, showing modified means for fixing the disks to the rim. Fig. 8 is a vertical longitudinal section of the pulley provided with this modified means for fixing the disks to the rim. Fig. 9 is an upper view of part of the rim of this modified construction in an enlarged scale. Fig. 10 is a section on line X X of Fig. 9. Fig. 11 is a section on line Y Y of Fig. 9.

As may be seen from Fig. 2, the outer rim consists of several layers of veneer glued together, the grains of which run alternately in the longitudinal and in the cross direction. The grains of the last outside veneer preferably run in the longitudinal direction. In the drawings five veneers are shown, the grains of two of which, *b* and *b'*, run in the cross, while the grains of the others, *a*, *a'*, and *a''*, run in the longitudinal direction. It will be understood that two or more adjacent veneers may be glued together, so that their grains run parallel, while the grains of the others run crosswise, without changing the nature of my invention.

The pulley-rim is formed of two halves, A' B. These two halves are kept together by means of one or more disks, the construction of which is shown in Fig. 4. These disks, which generally two are used, replace at the same time the spokes of the pulley and consist also of several wood veneers glued together with their grains crossed, as shown in Fig. 5. It will be understood that by the outer rim of these disks forming a supporting-rib for the pulley-rim this rim is greatly strengthened and can be manufactured much lighter. The disks are divided in halves, as may be seen from Figs. 4 and 7, having pieces *h* of any convenient form cut out, so that two or more supporting-spokes are formed thereby. In order to fix the disks within the rim, grooves *e f* are provided on the inner surface of the rim, into which grooves the disks fit. Between the disks several wood veneers, also glued together with their grains crossed and serving for the nave of the pulley, are situated, which veneers are connected to each other and to the disks *t* by means of the bolts *z*. Both halves of the disks and the wood veneers situated between the same are pressed together by means of bolts *s*. By the disks *t* forming at the same time the spokes and a stiffening-ring for the pulley the whole construction is very strong and yet light.

In order to strengthen the joining ends of both halves of the rim, it has been found advisable to fix several pieces of wood veneers *g*, Fig. 3, to these ends, which pieces are curved according to the curve of the rim and in which also similar grooves are provided into which the edges of the disks fit. In this case the two halves A and B of the outer rim are kept together by means of recesses *i*, provided in both halves of the disks, which recesses engage the strengthening-ribs *g*. Advantageously the strengthening-ribs as well as the recesses may be dovetailed.

The outer rim may be fixed to the disks in any convenient manner. So, for instance, instead of holding the two halves A and B of the outer rim together by means of the recesses *i* engaging with the strengthening-ribs *g* and herewith fixing the rim to the disks the following construction may be provided, which is illustrated in Figs. 7 to 11 of the accompanying drawings.

In the outer rim of the pulley slots or holes are provided, in which slots plugs *k*, provided on the periphery, are fixed by splitting these plugs *k* and driving wedges *l* into the splits. 5 It will be understood that the plugs may be fixed in the holes or slots in any other convenient manner.

By the whole pulley being manufactured of wood veneers the grains of which run in different directions a shrinking of the same is 10 perfectly avoided. Besides this advantage, by the special arrangement of the disks instead of the spokes a good support of the whole rim is obtained and the whole pulley 15 is stiffened. Also the nave of the pulley is greatly strengthened by being manufactured of veneers glued together with their grains crossed, and a wearing out of the nave is diminished as far as possible.

20 Having thus fully described the nature of my said invention, what I desire to secure by Letters Patent of the United States is—

1. In a wooden split pulley, the combination of a pulley-rim consisting of two parts, 25 each of which consists of several wood veneers glued together with their grains crossed, with several disks situated within the rim so as to support the same, said disks consisting of several wood veneers glued together with their grains crossed, and several wood veneers 30 glued together with their grains crossed situated between the disks in the center of the same, so as to form the nave of the pulley, substantially as set forth.

35 2. In a wooden split pulley, the combination of a pulley-rim consisting of two parts, each of which consists of several wood veneers glued together with their grains crossed, with several disks situated within the rim so 40 as to support the same, said disks consisting of several veneers glued together with their grains crossed, and several veneers glued together with their grains crossed, situated between the disks in the center of the same, so 45 as to form the nave of the pulley, means for fixing the disks to the rim, there being grooves

provided on the inner surface of the rim, substantially as set forth.

3. In a wooden split pulley, the combination of a pulley-rim consisting of two parts, 50 each of which consists of several wood veneers glued together with their grains crossed, with several disks situated within the rim so as to support the same, said disks consisting of several veneers glued together with their 55 grains crossed, and several veneers glued together with their grains crossed situated between the disks in the center of the same, so as to form the nave of the pulley, means for fixing the disks to the rim, there being grooves 60 provided on the inner surface of the rim, and strengthening-ribs provided on the joining faces of both halves of the rim, substantially as set forth.

4. In a wooden split pulley, the combination of a pulley-rim consisting of two parts, 65 each of which consists of several wood veneers glued together with their grains crossed, with several disks situated within the rim so as to support the same, said disks consisting 70 of several veneers glued together with their grains crossed, and several veneers glued together with their grains crossed situated between the disks in the center of the same, so as to form the nave of the pulley, means for 75 fixing the disks to the rim, there being grooves provided on the inner surface of the rim, and strengthening-ribs provided on the joining faces of both halves of the rim, bolts for connecting both halves of the rim, said bolts being 80 situated so as to connect the veneers situated between the disks and so that the nuts of these bolts can be reached through cut-outs provided in the disks, substantially as set forth. 85

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

CARL WITTKOWSKY.

Witnesses:

HENRY HASPER,
FRITZ SPIRLING.