

No. 788,185.

PATENTED APR. 25, 1905.

R. H. BOWEN.
SHEET METAL PULLEY.
APPLICATION FILED MAR. 23, 1904.

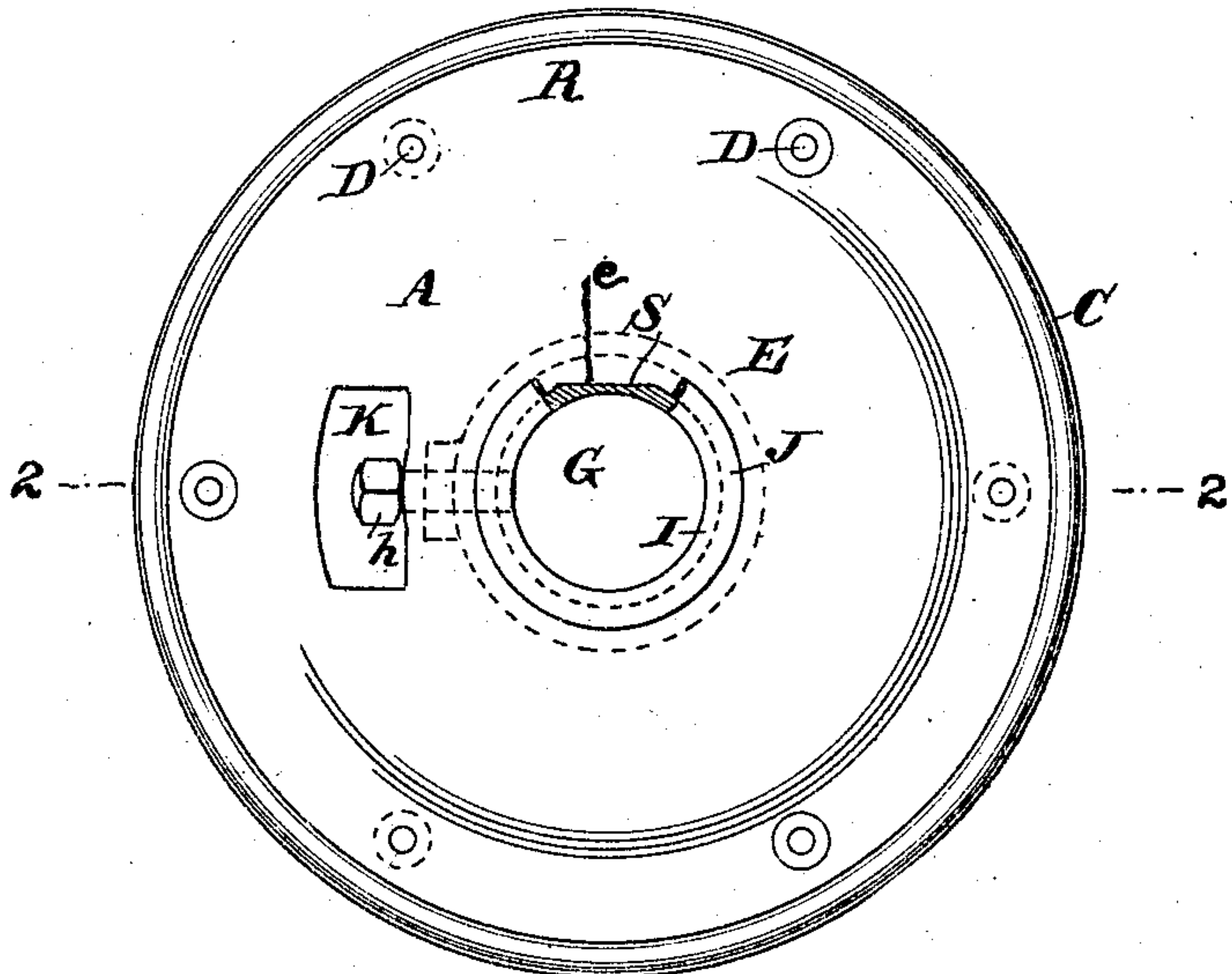


FIG. 1

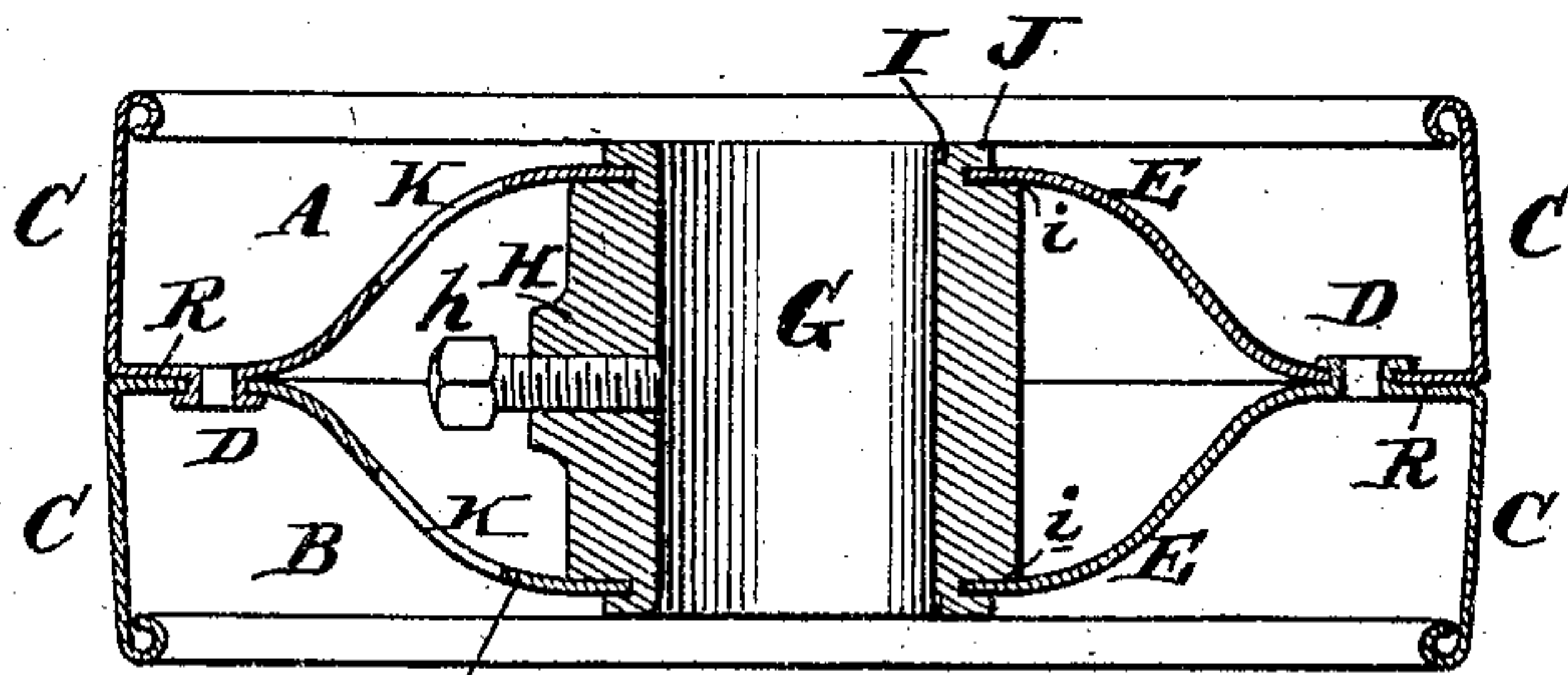


FIG. 2

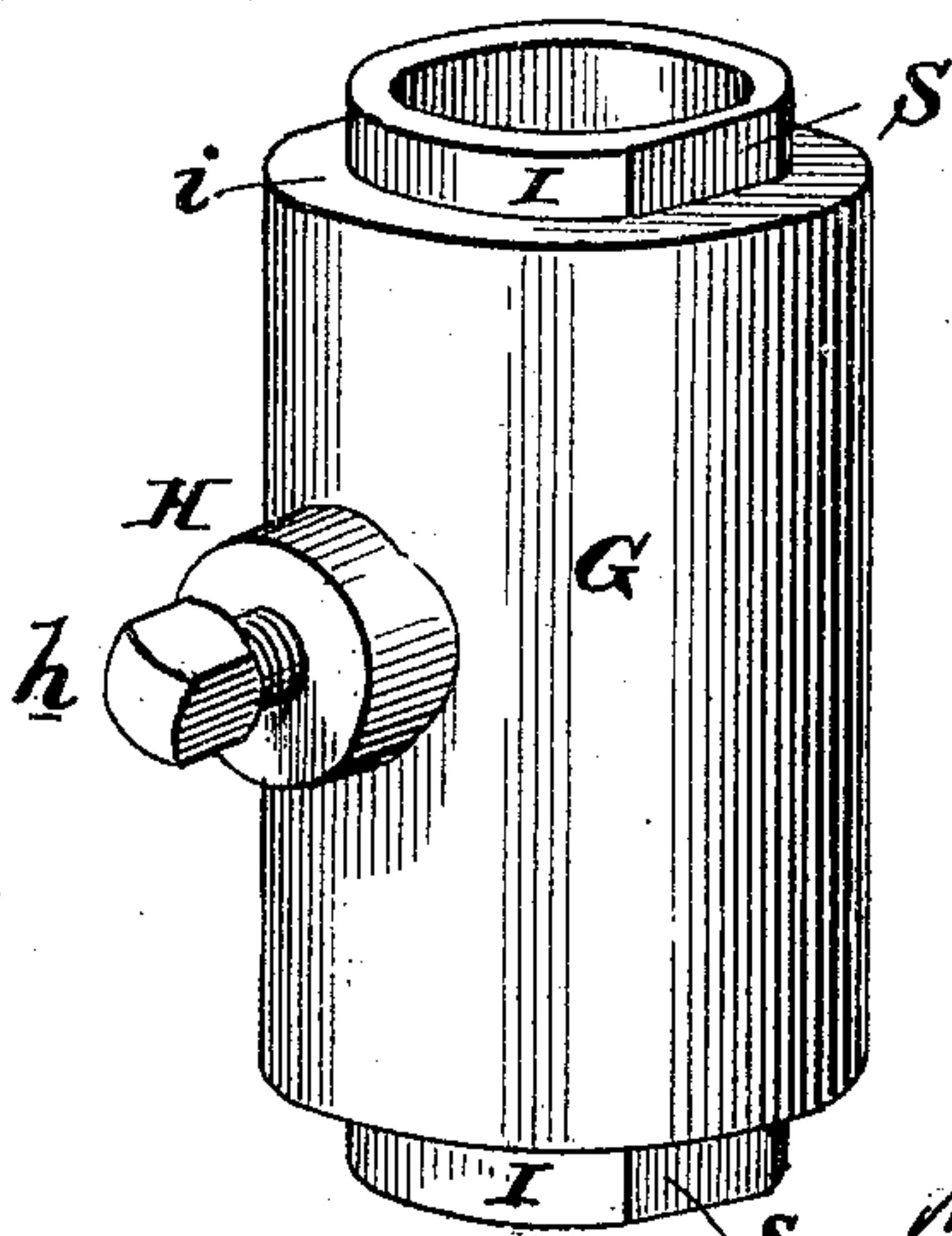


FIG. 3

Attest
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RUSSELL H. BOWEN, OF PALMYRA, NEW JERSEY, ASSIGNOR TO
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SHEET-METAL PULLEY.

SPECIFICATION forming part of Letters Patent No. 788,185, dated April 25, 1905.

Application filed March 23, 1904. Serial No. 199,535.

To all whom it may concern:

Be it known that I, RUSSELL H. BOWEN, of the city of Palmyra, Burlington county, and State of New Jersey, have invented an Improvement in Sheet-Metal Pulleys, of which the following is a specification.

My invention has reference to sheet-metal pulleys; and it consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to construct a small sheet-metal pulley in a simple and inexpensive manner and at the same time embodying in its construction great rigidity and durability.

In carrying out my invention I form the pulley of two circular portions adapted to be abutted and riveted or otherwise secured together near the rim, the said parts further having the rim portions flanged and the central portions flaring outward, so as to be widely separated, combined with a cast malleable iron tubular hub provided with a thickened central portion adapted to receive the set-screw arranged within the space between the two stamped sheet-metal-pulley parts, and, further, having the ends of said hub formed with shoulders and tubular extensions of sufficient thinness as to be thoroughly malleable-ized and flanged over the edges of the central holes of the pulley sheet-metal portions whereby they are clamped against the shoulder of the hub portion.

My invention also comprehends details of construction which, together with the above features, will be better understood by reference to the drawings, in which—

Figure 1 is a side elevation of a pulley embodying my invention with a portion broken away. Fig. 2 is a sectional elevation of same on line 2 2, and Fig. 3 is a perspective view of the hub before being inserted in the pulley at time of assembling.

A and B are the two annular halves of the sheet-metal pulley and are stamped of shapes as indicated in cross-section, having annular portions R adapted to abut and which are riv-

eted together, as at D. The rivets D may be formed by pressing up tubular portions from one of the parts A B and after passing them through holes in the other part flanging or expanding them similarly to eyeleting. The outer rims of these parts A and B are flanged, as at C C, and these flanges may be beaded, as at c, or these flanges may be of any other shape desired to suit the requirements of the pulley or sheave. The central portions of the parts A and B are cup-shaped or bulged, as at E E, and flare from each other, so as to form an annular chamber F around the hub G. The hub G is made of a thick tubular malleable iron casting and is provided with a hub H for a set-screw h and has its ends provided with thin tubular extensions I I, projecting beyond shoulders i i. The hub-casting G is made very rigid between the shoulders i i; but the tubular extensions I I are made thin, so as to be thoroughly malleable-ized and capable of being flanged over without breaking or cracking.

When assembling the parts, the two halves A and B are placed over the hub ends, so that the central portions of the cup-shaped or bulged parts E E rest against the shoulders i i. These two parts A and B are then riveted together, as at D, or secured together in any other suitable manner. The tubular extensions I I of the hub are then flanged over and upon the outer surfaces of the parts E E, so as to clamp them against the shoulders i i, and in that manner rigidly hold them in position upon the hub. The portions E E (or at least one of them) are provided with apertures K for permitting access to the set-screw h.

To give greater rigidity between the parts A B and the hub, with the object of preventing the hub turning in the pulley proper, or vice versa, I prefer to form one or more flattened surfaces S on each of the tubular extensions I I of the hub and also to provide a corresponding portion e on the edge of the holes of the parts E E, so as to prevent any possibility of the hub rotating within the said parts E E under excessive strains. This

would not be necessary in case of idler-pulleys; but where the pulley is to be driven or is to be used to drive a shaft it is important to secure the parts A and B to the hub in the most rigid manner.

While I prefer the construction shown as being excellently adapted for the purpose of my invention, I do not limit myself to the minor details, as these may be modified without departing from the spirit of the invention.

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

1. A sheet-metal pulley consisting of two annular sheet-metal halves secured together having their outer parts flanged and their inner parts bulged or spread to form an annular chamber, in combination with a tubular hub consisting of an iron casting having a central thickened portion to receive a set-screw and two thin tubular extensions thoroughly malleableized and flanged over the edges of the sheet-metal halves adjacent to the hub, and a set-screw extending through the central thickened portion.

2. A sheet-metal pulley consisting of two annular sheet-metal halves secured together having their outer parts flanged and their inner parts bulged or spread to form an annular chamber, in combination with a tubular hub consisting of an iron casting having a central thickened portion to receive a set-screw and two thin tubular extensions thoroughly malleableized and flanged over the edges of the sheet-metal halves adjacent to the hub, the said tubular hub further having flattened portions S on the said thin tubular extensions to receive corresponding parts *e* of the sheet-metal-pulley parts to prevent the hub turning within said sheet-metal parts, and a set-screw extending through the central thickened portion.

3. A sheet-metal pulley consisting of two annular sheet-metal halves secured together having their outer parts flanged and their inner parts bulged or spread to form an annular chamber and having an aperture K opening through the sheet-metal parts into the annular chamber, in combination with a tubular hub consisting of an iron casting having a central thickened portion to receive a set-screw located in alinement with the said aperture K, two thin tubular extensions thoroughly malleableized and flanged over the edges of the sheet-metal halves adjacent to the hub, and a set-screw arranged in the thickened portion of the hub and to which access may be had to it through the aperture K.

4. A pulley combined with a hub for a sheet-metal pulley formed of a thick tubular casting having shoulders *z z* near each end and thin tubular extensions I I beyond the shoulder thoroughly malleableized.

5. A pulley combined with a hub for a sheet-metal pulley formed of a thick tubular casting having shoulders *z z* near each end and thin tubular extensions I I beyond the shoulder thoroughly malleableized and also having a thickened portion or hub H projecting laterally intermediate of the shoulders *z z*.

6. A pulley combined with a hub for a sheet-metal pulley formed of a thick tubular casting having shoulders *z z* near each end and thin tubular extensions I I beyond the shoulder thoroughly malleableized and also having flattened portions S S on their outer surfaces.

In testimony of which invention I hereunto set my hand.

RUSSELL H. BOWEN.

Witnesses:

JOSEPH ENTWISLE,
JOHN E. ZIMMERMANN.