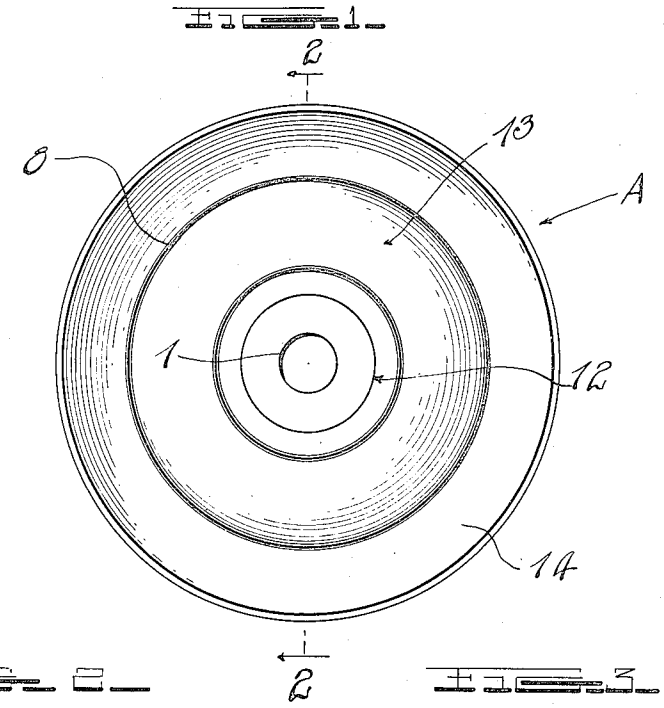
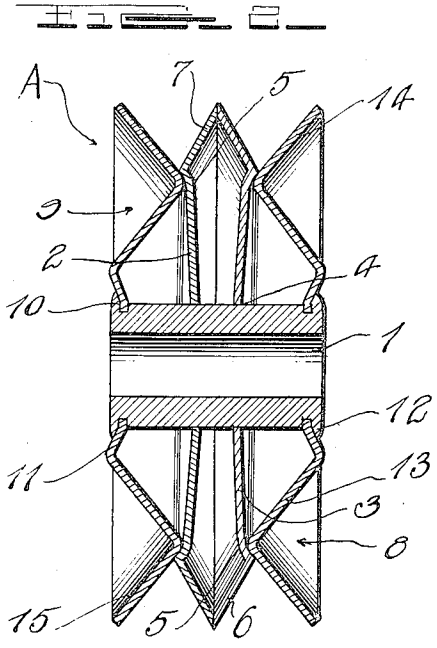
R. G. CARLE.

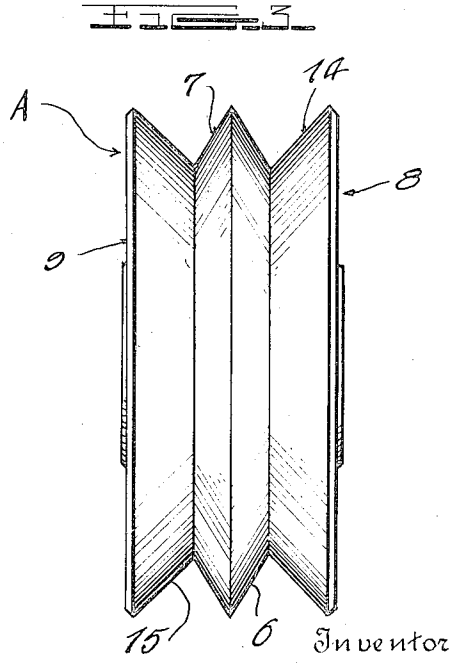
PULLEY.

APPLICATION FILED MAY 29, 1916.

1,211,541. Patented Jan. 9, 1917.







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PULLEY.

1,211,541. Specification of Letters Patent. Patented Jan. 9, 1917.

Application filed May 29, 1916. Serial No. 100,607.

To all whom it may concern:

Be it known that I, ROBERT G. CARLE, a citizen of the United States, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Pulleys; and I do 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 appertains to make and use the same.

This invention relates to new and useful improvements in pulleys, and more particularly to that class of pulleys which are formed of disks and sections of sheet metal positioned on an axle to form a complete pulley, and the primary object of the invention is to provide a pulley of this character especially adapted for use on textile spindle driving mechanism, although the pulley is capable of various uses.

Another object of this invention is to provide a pulley of this character which by the positioning of a plurality of sheet metal disks on an axle forms thereby a double grooved pulley that is very light, and will be practically self-balancing.

Another object of this invention is to provide a device of this character which is simple and durable in construction, inexpensive to manufacture, and one which will be very efficient in operation.

With these and numerous other objects in view, my invention consists of the novel features of construction, combination and arrangement of parts which will be herein referred to and more particularly pointed out in the specification and claims.

In the accompanying drawing: Figure 1 is a side elevation of my improved pulley; Fig. 2 is a transverse section taken on the line 2—2 of Fig. 1; and Fig. 3 is an edge view of the same.

In describing my invention I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which the letter A designates my improved pulley, which has all of the members thereof except the axle 1 formed of a suitable, comparatively thin, sheet metal, such as steel, having a certain degree of resiliency and adapted to be pressed into the desired shape. The axle is of any desired material such as is best adapted for use on a device of this character, and the same has mounted thereon at a point on opposite sides of its center a pair of sheet metal stiffening disks 2 and 3 which are mounted on the axle as at 4.

The disks 2 and 3 are inclined outwardly in opposite directions from each other as shown at 5 adjacent their peripheries to form shoulders thereon. These shoulders 5 diverge outwardly from the disks and are both disposed at the same degree of inclination. The outer edges of the disks 2 and 3 converge inwardly at equal angles to form pulley flanges 6 and 7 and have their rims contacting on a plane transversely disposed through the center of the axle. This construction is clearly shown in Fig. 2 of the drawings, and it will be obvious that the outer edges of the flanges 6 and 7 owing to the fact that they contact and come to a line, slope so that their flat faces are adapted to lie flush with each other.

A pair of sheet metal side sections 8 and 9 are formed substantially disk-shaped, and have central holes 10, which are surrounded by inwardly projecting portions 11 which are adapted to have their edges positioned on the reduced ends 12 of the axle 1. When these inclined edges are positioned on the reduced ends 12, the portions of said ends which project past the edges are then bent around the same so as to securely hold the sections 8 and 9 in contact with the axle, as clearly shown in Fig. 2 of the drawing. The sections 8 and 9 are provided with outwardly projecting portions 13 which converge inwardly toward each other, and terminate against the opposite shoulders 5 of the stiffening disks. The sections are also provided with pulley flanges 14 and 15, formed integrally therewith and diverging from each other at the same inclination as said shoulders and being guided in the direction of the same owing to the fact that their inner portions are positioned against said shoulders. The outer portions of the pulley flanges 14 and 15 terminate in a single plane with the apex of the pulley flanges of the stiffening disks.

In assembling the parts of this double grooved pulley we are assuming that the stiffening disks 2 and 3 are positioned on the axle 1, the matter of completing the pulley is as follows: The two side sections 8 and 9, each being of the shape above described, are positioned on the reduced ends 12 of the pulley, and the said ends are bent up around the contacting edges of the sec-

tions, to securely hold the same in position. When in this position, the inner surface of the lower ends of the pulley flanges 14 and 15 of said section will be disposed against the shoulders 5 of the stiffening disks, owing to the fact that the inclined portions 13 of said sections terminate against said shoulders. The stiffening disks 2 and 3 may be secured to the axle in any desired manner.

It will be obvious from the above described construction that the double grooved pulley formed thereby will by the addition of the stiffening disks 2 and 3 form a very strong and durable pulley of this character. The contacting portions of the disks and side sections forms a very novel and efficient reinforcing means between the pulley flanges between their inner ends. The stiffening disks 2 and 3 greatly reinforce the pulley and make the same a stronger and more durable device of this character, and much better adapted to withstand the wear. The double grooved pulleys are formed between the flanges 7 and 15, and 6 and 14 of the disks and side sections respectively.

As has been above stated, this type of pulley is especially adapted to spindle driving means for textile spinning, twisting and winding, or spooling machines. Owing to the fact that the pulley is formed of sheet metal, its weight is consequently greatly reduced, and furthermore it is practically self-balanced. This pulley owing to its material reduction in weight as compared with cast metal pulleys, is capable of being actuated with less power, thereby greatly increasing its efficiency.

From the foregoing description, the construction and operation of my improved pulley, the manner of applying the same to use, and its operation will be readily understood, and it will be seen that I have provided a simple and efficient device of this character for carrying out the objects of the invention.

I claim:

1. A device of the class described comprising a central axle, a pair of sheet metal stiffening disks centrally mounted on said axle in spaced relation, said disks being inclined outwardly adjacent their peripheries to form shoulders thereon, and then converging inwardly at equal angles to form pulley flanges with their rims contacting, a pair of sheet metal side sections having inwardly projecting inclined portions around the central openings secured in the ends of said axle, inwardly projecting converging portions on said sections terminating against the opposite shoulders on the stiffening disks, and said sections having integral pulley flanges diverging from each other at the same inclination as said shoulders, and the rims of the disks and flanges being equidistant from the axis of the pulleys.

2. A device of the class described comprising a central axle, a pair of sheet metal disks centrally mounted on said axle in spaced relation, said disks being inclined outwardly adjacent their peripheries to form shoulders thereon and then converging inwardly to form pulley flanges, a pair of sheet metal side sections centrally mounted on said axle having inwardly projecting converging portions terminating against the shoulders of the stiffening disks, and said sections having integral pulley flanges diverging from each other.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROBERT G. CARLE.

Witnesses:
CHAS. E. BALLON,
SAMUEL FARRON.