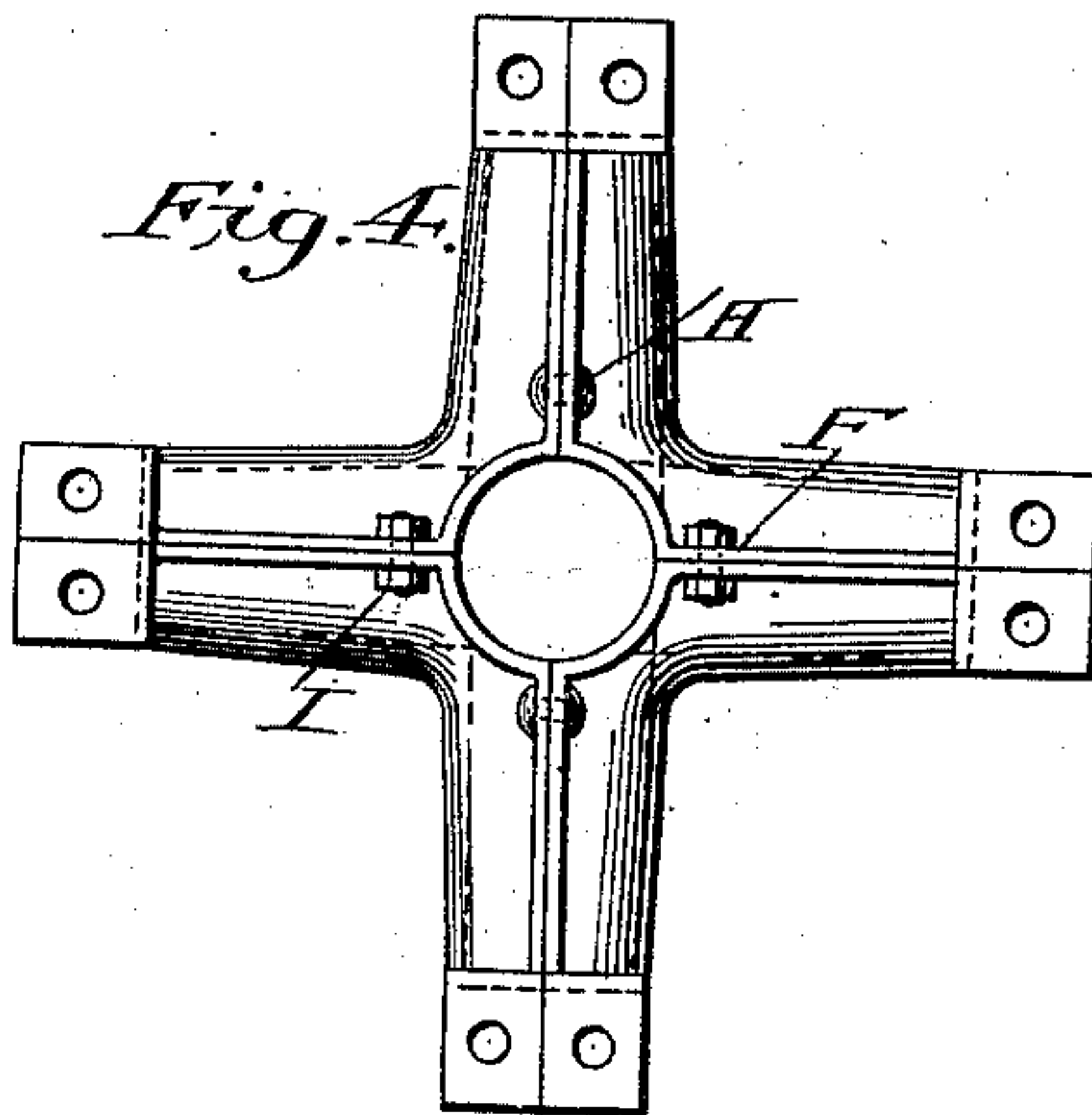
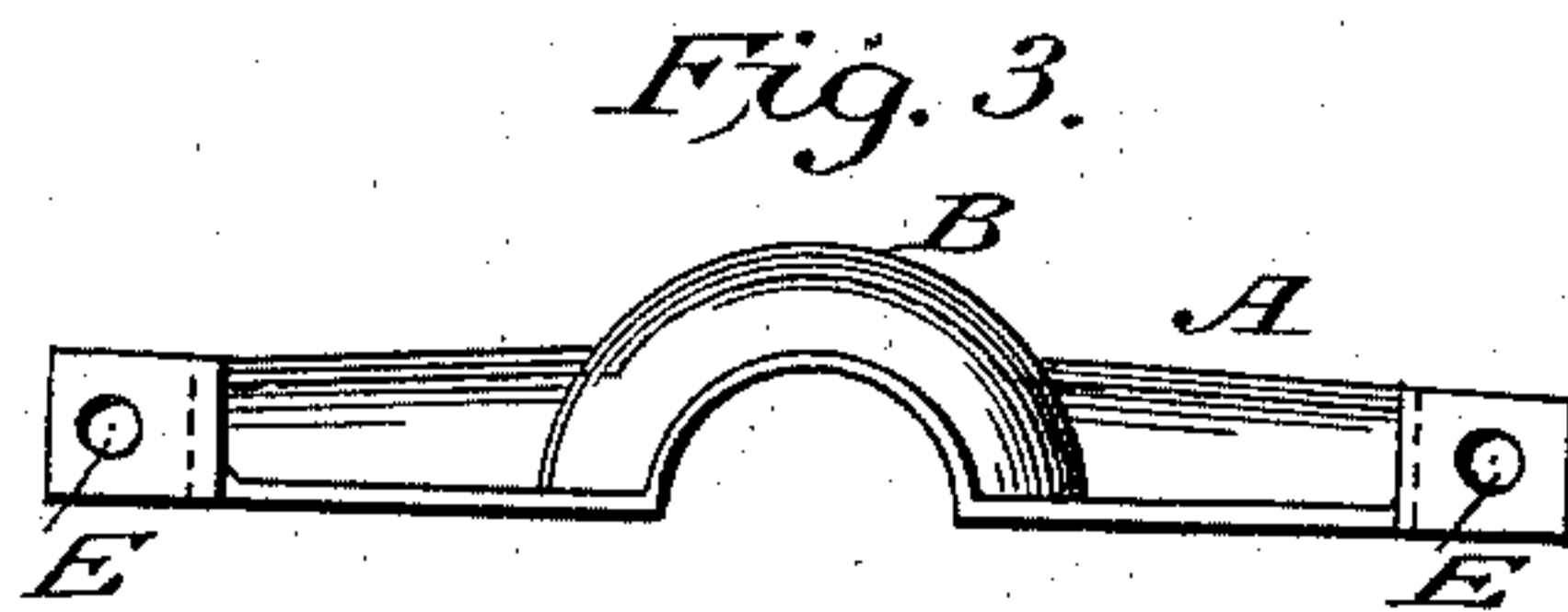
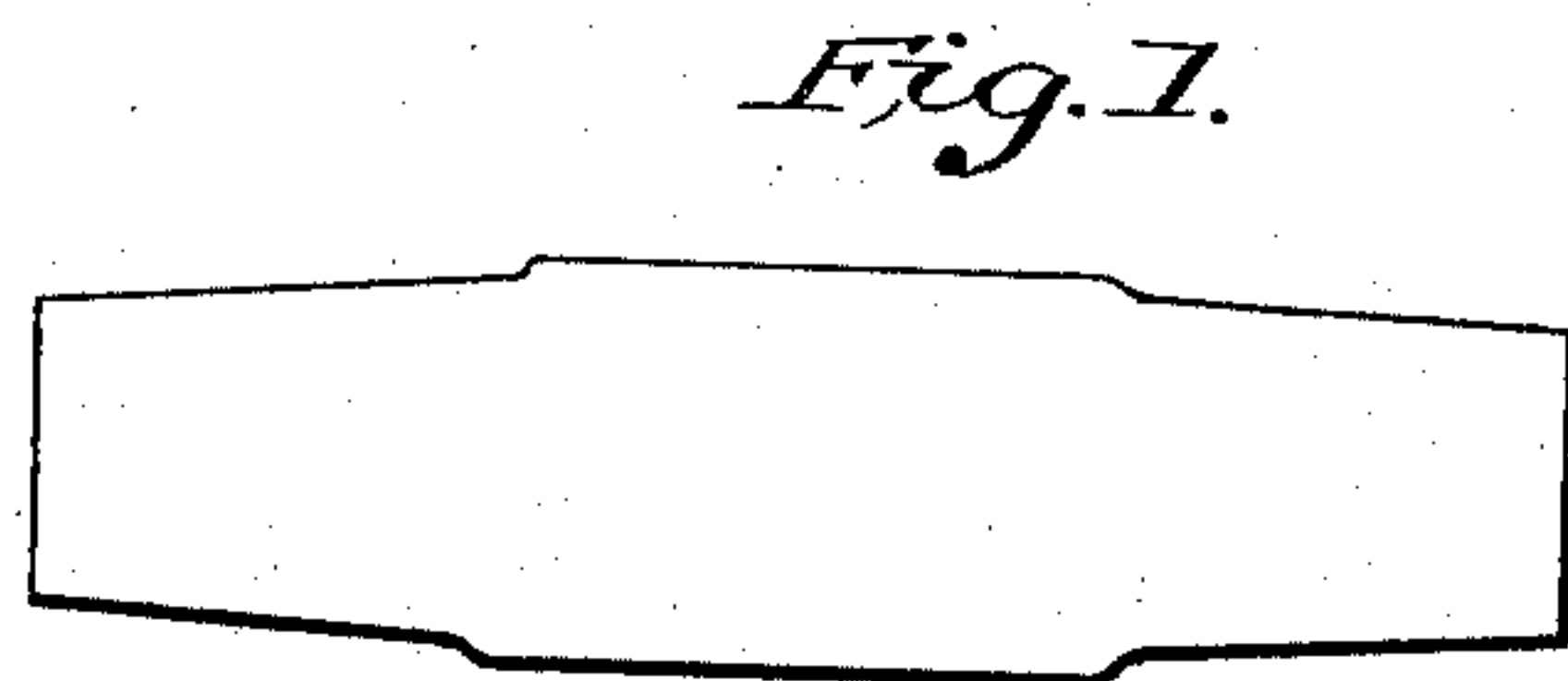
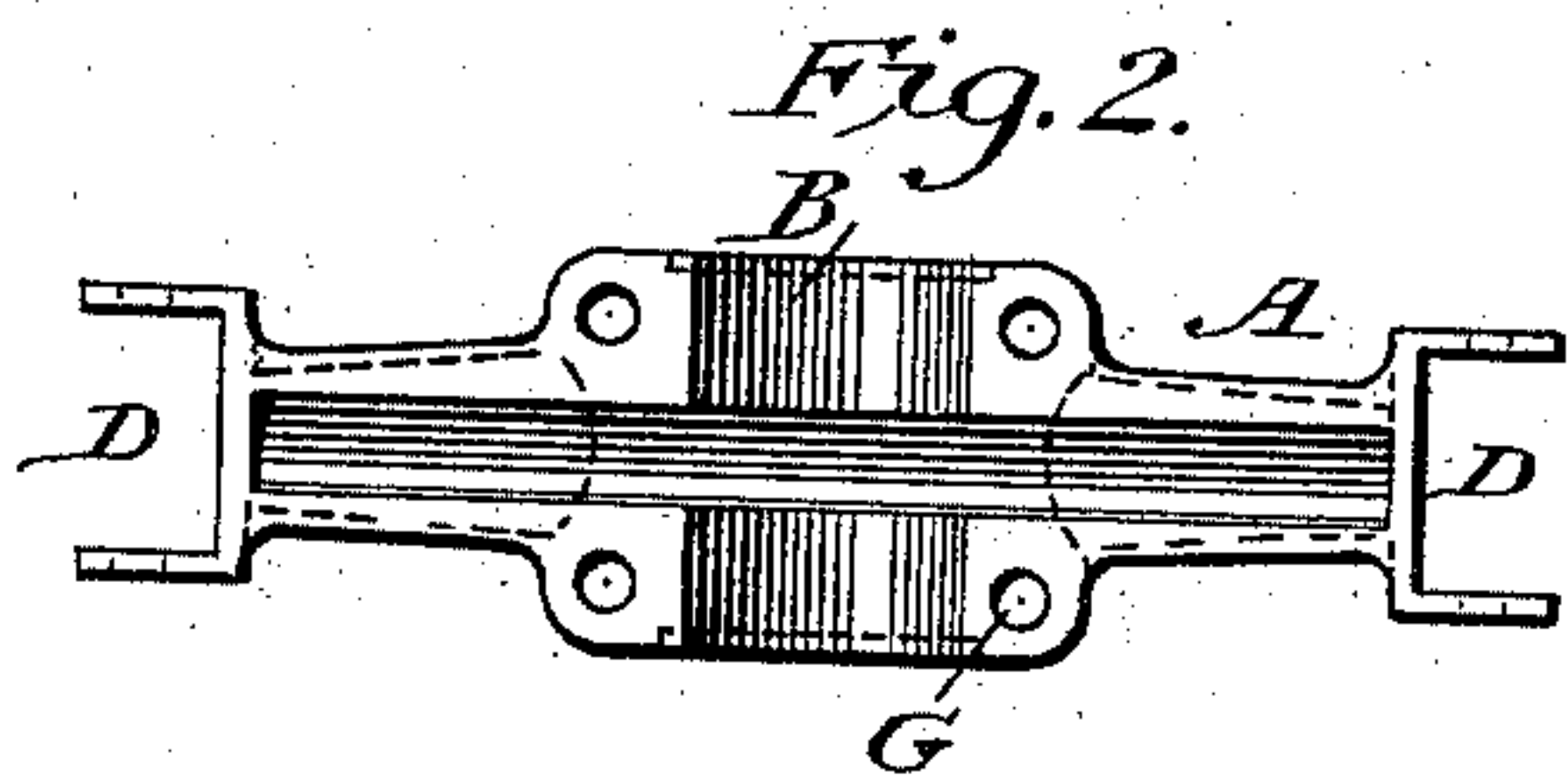


(No Model.)

R. T. MARKEE.
SPIDER FOR WHEELS.

No. 488,319.

Patented Dec. 20, 1892.



Witnesses.

Wm J Brown
C. H. Beck

Inventor.

Ruel J. Markee
by his atty H. H. Hulen

UNITED STATES PATENT OFFICE.

REUEL T. MARKEE, OF PHILADELPHIA, PENNSYLVANIA.

SPIDER FOR WHEELS.

SPECIFICATION forming part of Letters Patent No. 488,319, dated December 20, 1892.

Application filed May 29, 1891. Serial No. 394,614. (No model.)

To all whom it may concern:

Be it known that I, REUEL T. MARKEE, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Spiders for Wheels, Pulleys, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of the specification.

My invention relates to devices technically known as spiders, which consist of a hub and spokes in one integral structure, and employed to support and retain in proper position the rim or felly of wheels, pulleys, &c.; and my invention is particularly adapted for use in light pulleys. Heretofore, so far as I am aware, such spiders have been made of cast iron or wood, adding to the wheels, pulleys, &c. great weight and bulk, and consequently constituting a very considerable item of expense in pulley construction, as the spiders for wheels, pulleys, &c. are subjected to large and unequal strains, and hence must of necessity be made very strong. I have discovered that in lieu of such bulky material as wood, or such heavy material as cast iron, I can, by my mode of construction hereinafter described, make use for the purpose, of wrought metal, such as Bessemer or other steel low in carbon in sheets or plates, of say one-eighth inch in thickness, such metal blanks being struck up in the form required, whereby such light structure can be practically and successfully employed in fulfilling all the conditions of strength and durability required in a spider, equal with cast iron, at a less cost; and for obvious reasons, very materially decreasing the weight of the spider.

My invention therefore consists of a spider for wheels, pulleys, &c. of comparatively thin wrought metal sheets each forming a separable half of two integral spokes and part of the hub, said blanks or sheets being struck up of the requisite form and with longitudinal corrugations from end to end.

It also consists in constructing a spider of such sheets or blanks in several separable parts, more than two, each provided with a corrugated strengthening rib as described and in which the said blanks form separable halves of spokes at a right angle or other angle to

each other, and with a section of the hub formed integral with two of said spokes.

My invention also consists in forming the ends of said corrugated blanks with pockets to receive the rim of the wheel or pulley.

In the accompanying drawings illustrating my invention, in which similar letters represent like parts in the several views, Figure 1 is a sheet or blank of wrought metal cut to the required shape, suitable for stamping out a separable part of the spider. Fig. 2 is a plan view of the blank stamped of proper shape to form a section of the hub and separable half of two of the spokes and a separable half of the pockets at the extreme end of said spokes to receive the rim. Fig. 3 is an elevation of one-half of a separable two-armed spider showing the corrugations forming the strengthening rib, the half hub, and the pocket at the end of the spokes. Fig. 4 is an elevation showing a spider consisting of four such separable parts constituting a four-armed spider, in which the blank constituting a separable part forming two of the spokes and a quarter of the hub is bent at a right angle.

In carrying my invention into effect, I take a sheet or blank as shown in Fig. 1, and stamp or otherwise form it into the shape substantially as shown in Figs. 1 and 2; that is to say, with a corrugation A forming a strengthening rib parallel with its length, and with a section of the hub B also provided with a strengthening rib, (which is continuous with the strengthening rib of the spokes) and with pockets D, said pockets being provided with bolt holes E, see Fig. 2. Two of these blanks thus constructed and brought together face to face will constitute a complete hub whereby the spider is retained on the shaft, and will also constitute two complete arms or spokes. The rim or felly of the wheel or pulley will lie partly or wholly within the pockets D and be secured thereto through the bolt holes E. Bolt holes G may be provided in the hub to clamp the pulley to the shaft and hold the same firmly thereto. In a four spoke pulley, such as shown in Fig. 4, I can construct the spider of four separable parts, all made under the same die and interchangeable with each other, and therefore cheaper. In that form the blank forms but a quarter of the hub and the ends forming the separable halves of

the spokes or arms A A are bent at a right angle to each other; thus one of the blanks forms a part of that spoke which is at right angles to a next contiguous spoke, and greater strength is thus secured in the device as a whole.

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

10 1. A spider formed of wrought metal sheets or blanks in which separable halves of two spokes and a section of the hub, are formed in one integral piece and provided with a continuous longitudinal corrugation or strengthening rib extending through the hub and
15 spokes, substantially as described.

2. A spider formed of wrought metal sheets or blanks in which separable halves of two spokes and a section of the hub are formed in

one integral piece and provided with a continuous longitudinal corrugation or strengthening rib extending through the hub and spokes, and with pockets at the extremity of the spokes; substantially as described.

3. A spider formed of wrought metal sheets or blanks in which separable halves of two spokes and a section of the hub, are formed in one integral piece and provided with a continuous longitudinal corrugation or strengthening rib extending through the hub and spokes, and in which the ends forming the separable halves of two contiguous spokes are bent at a right or other angle to each other; substantially as described.

REUEL T. MARKEE.

Witnesses:

ADOLPH H. FRANCK,
WM. R. BROWN.