

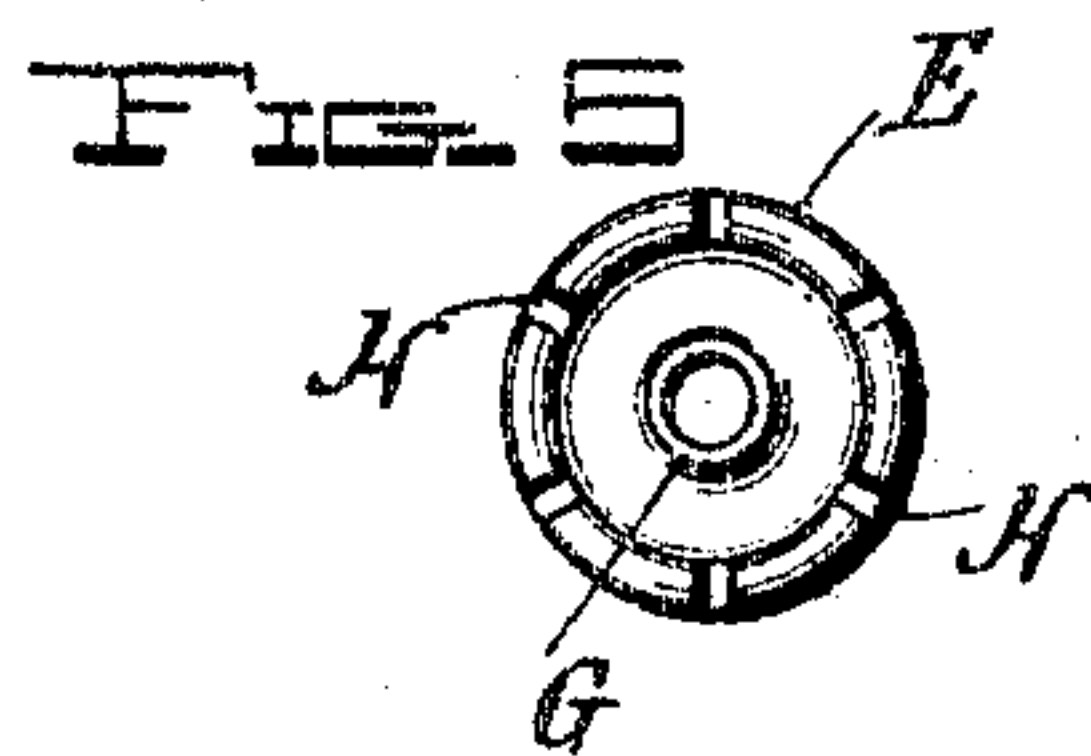
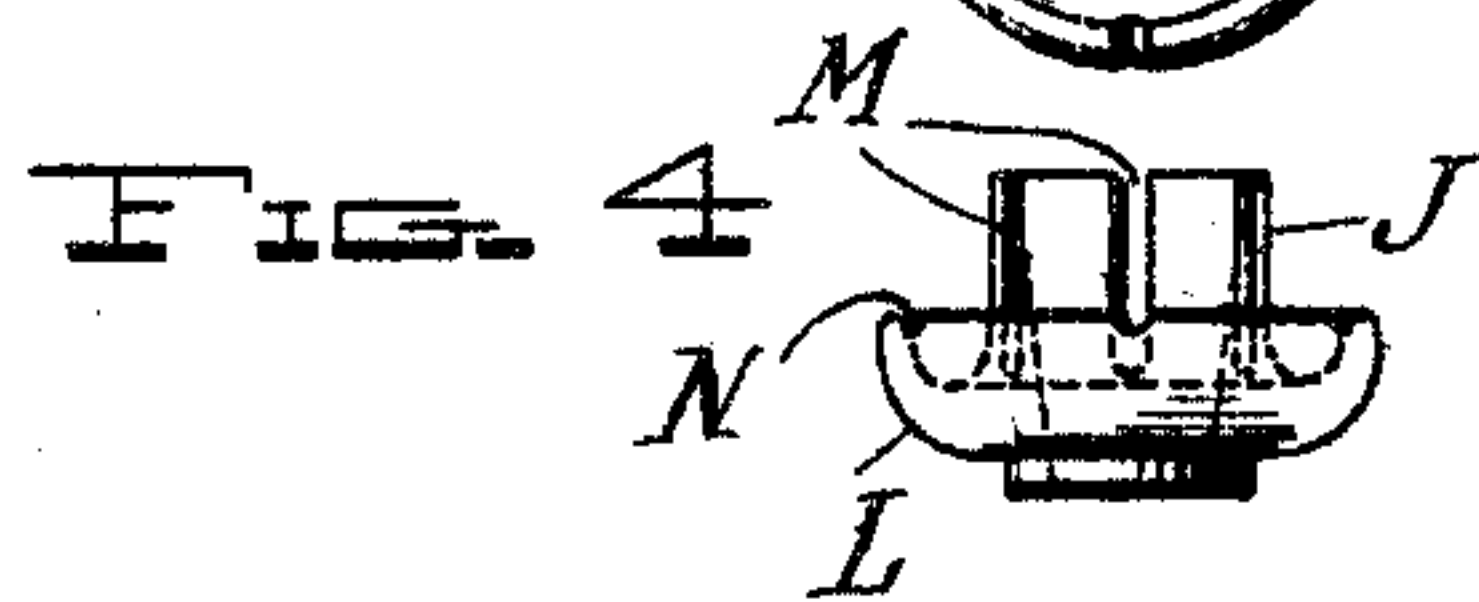
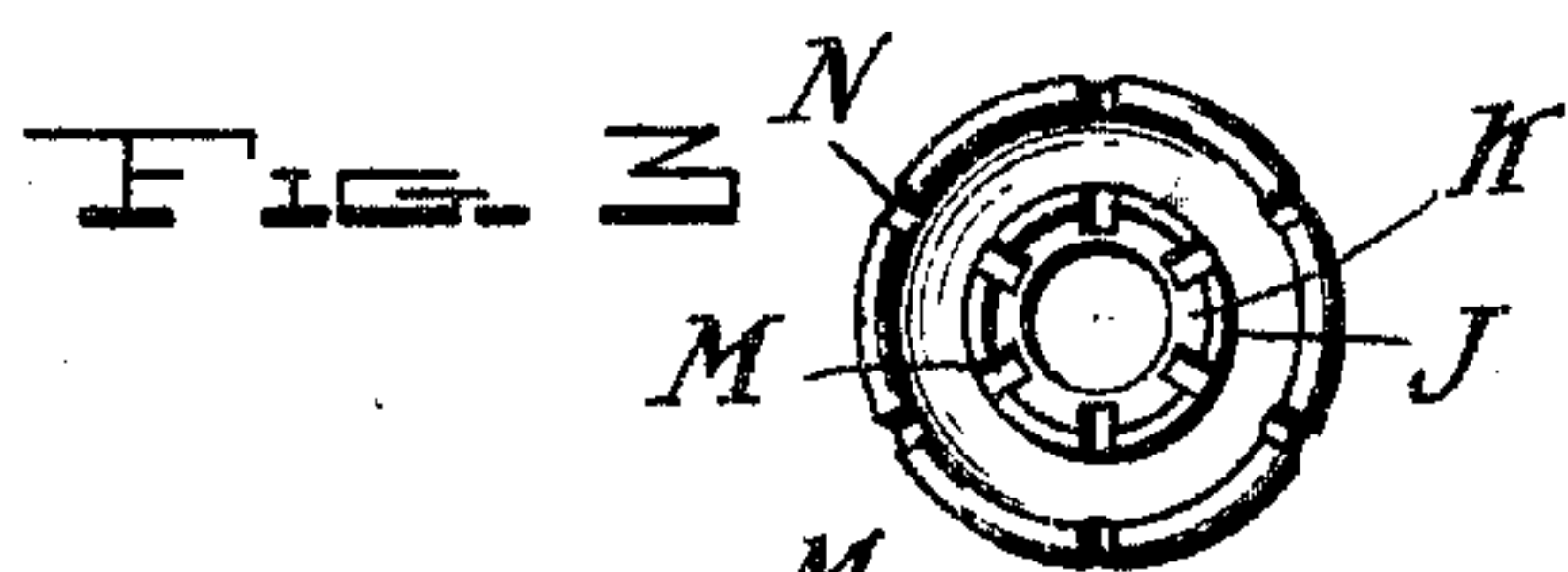
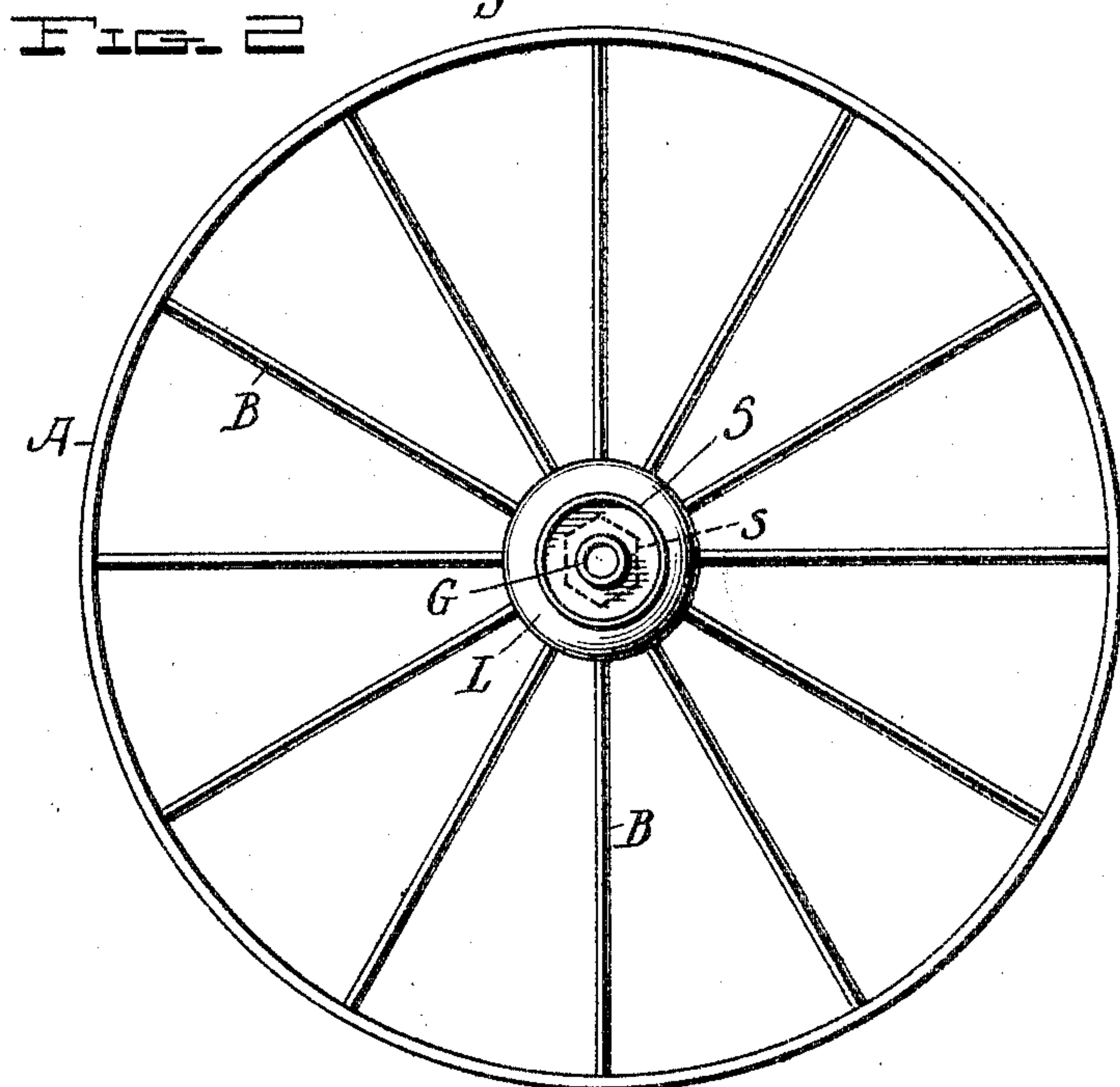
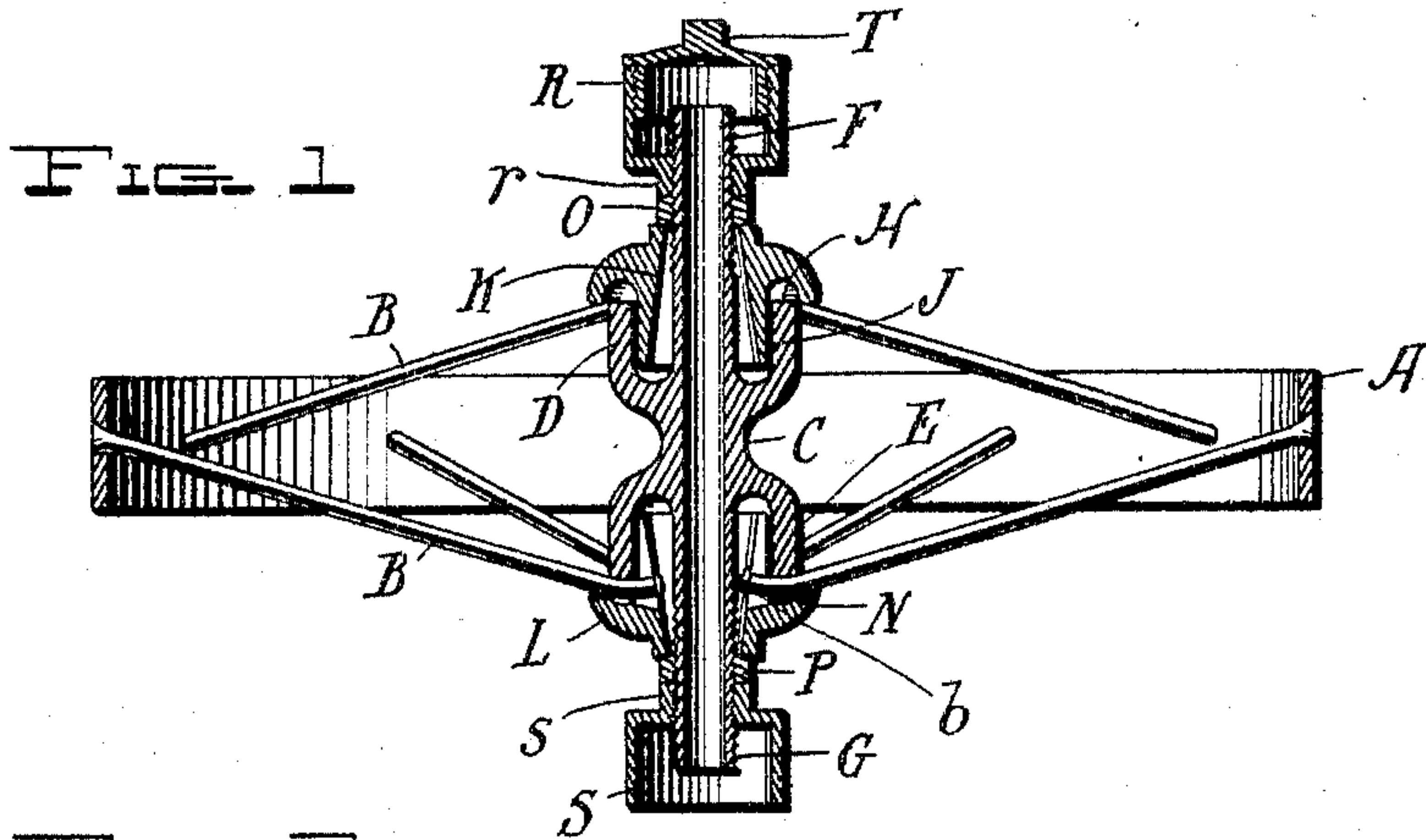
No. 776,382.

PATENTED NOV. 29, 1904.

C. E. BROWNSON.
SPOKE TENSION HUB.

APPLICATION FILED MAY 20, 1904.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

CHAUNCEY E. BROWNSON, OF LANSING, MICHIGAN, ASSIGNOR OF ONE-HALF TO MARGARET ANNA BROWNSON, OF LANSING, MICHIGAN.

SPOKE-TENSION HUB.

SPECIFICATION forming part of Letters Patent No. 776,382, dated November 29, 1904.

Application filed May 20, 1904. Serial No. 208,850. (No model.)

To all whom it may concern:

Be it known that I, CHAUNCEY E. BROWNSON, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented certain new and useful Improvements in Spoke-Tension Hubs, of which the following is a specification.

My invention relates to spoke-tension hubs. It belongs to that character of spoke-receiving and spoke-retaining devices situated at the centers of vehicle-wheels that are constructed with wire or rod spokes. Among such hubs are those which when their parts are assembled in permanent positions exert a greater or less tension or tightening action upon the spokes, and my invention has direct reference to that particular variety of such contrivances.

The object of my invention is to provide a hub having the nature stated comprising cooperating parts of special configuration and arrangement by the action of which all the spokes are subjected to the same tension.

I accomplish the object sought by constructing and associating the parts as illustrated in the accompanying drawings, of which—

Figure 1 represents a cross-section of a wheel having a hub made in accordance with my invention. Fig. 2 is a wheel, showing an inner end view of the hub. Figs. 3 and 4 are respectively an interior plan view and a side view of the spoke-retainer. Fig. 5 represents an end view of the hub center or body portion.

Like letters refer to like parts in the several views.

Each constituent element of my invention is described in detail, and its individual office, together with the mode of operation of the whole, is set forth herein.

Considering the drawings, letter A designates the rim or felly of a wheel of any chosen form having wire or slender rod spokes B.

The central element or body portion of the hub is referred to by letter C. Its extremities D and E are cup-shaped, and the threaded ends F and G of a central tubular bearing for the axle project beyond the end cups D and E, as illustrated. The circular edges of the cups D and E are provided with series of

rounded recesses H, one for each spoke. (See Fig. 5.)

Considering particularly Figs. 3 and 4, the construction of the spoke retainer and presser J will be noted. It is a cylindrical hollow piece, its central cavity K being tapering in form, decreasing in diameter toward its overhanging dished top or cap L. Longitudinal recesses M are formed through the cylinder of the retainer J, one for each spoke, and the spokes are placed in the recesses when the parts are assembled, their terminal buttons b engaging the tapering interior cavity K. Retainers J fit the cups D and E of hub C internally, thereby forming a ring around the retainer, giving greater strength to the combination, and as the retainers are introduced into the cups care is taken to cause each spoke to enter its proper rounded recess H in the edge of the cups and the corresponding groove N of the series of grooves in the annular edge of the dished cap L. Now if the nuts O and P are set up on the projecting threaded extremities F and G of the axle-bearing the retained ends of the spokes are bent, as shown, or may be previously bent, and the buttons b forced toward the smaller mouth of the cavity K, exerting a pull upon the spokes practically the same for each spoke. The grooves N of the retainer-caps press inwardly against the spokes outside the edges of the cups D and E and still further add to the common tension of the spokes.

It will be noted that the caps L of the retainers close the cupped ends of the body of the axle-bearing and that the edges of the caps extend inwardly over the edges of the cupped ends, thus effectively shielding those ends from deposits of dirt. The retainers do not, therefore, stick in the cups and are easily removed.

I do not limit myself to the relative diameter of cap L, but may increase its diameter, causing it to press upon the spokes at a greater distance from the buttons.

To complete the invention, I provide the sand-boxes R and S, having bases r and s, corresponding in form to nuts O and P and having like threaded engagement with the ends

of the axle-bearing. Thus the bases of the sand-boxes act as jam-nuts to hold nuts O and P against displacement. Usually I thread the outermost sand-box R and close it by a correspondingly-threaded cap T against entering dust.

From the foregoing explanation it will now be understood that tension is applied to spokes D at two points in different ways—first, by causing the buttons to pass along an inclined surface, thereby directly drawing upon the spokes substantially lengthwise, and, secondly, by pressing inward upon the spokes between their fixed ends, as stated.

Having thus described my invention and its mode of application, what I claim is—

1. In a spoke-tension hub, the combination with an axle-bearing having cupped ends, of hollow spoke-retainers each having a portion adapted to fit within the cupped end of the axle-bearing and provided with recesses for receiving the ends of the spokes, and each retainer having a top portion of greater diameter than the said cupped ends and adapted to close said ends exteriorly, the said tops being arranged to press inwardly against said spokes at points outside the cupped ends whereby the

tension of the spokes is increased, and clamping devices, substantially as described.

2. In a spoke-tension hub, the combination with a central body portion having the cupped ends and projecting axle-bearing, of spoke-retainers comprising cylindrical portions having hollow tapering interiors and longitudinal slots adapted to receive and retain the terminals of the spokes, said retainers fitting within the cupped ends of said body and having dished caps arranged to be pressed against the spokes outside the cupped ends of the body, and devices engaging said axle-bearing whereby said retainers are forced toward each other causing the terminals of the spokes to follow the tapering interior of said body whereby the spokes are drawn upon lengthwise, and pressing said dished caps against the spokes thereby increasing their tension, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHAUNCEY E. BROWNSON.

Witnesses:

F. M. SEELEY,
CHAS. W. FOSTER.