

No. 719,831.

PATENTED FEB. 3, 1903.

C. H. MELVIN.
PLOW WHEEL.

APPLICATION FILED DEC. 19, 1902.

NO MODEL.

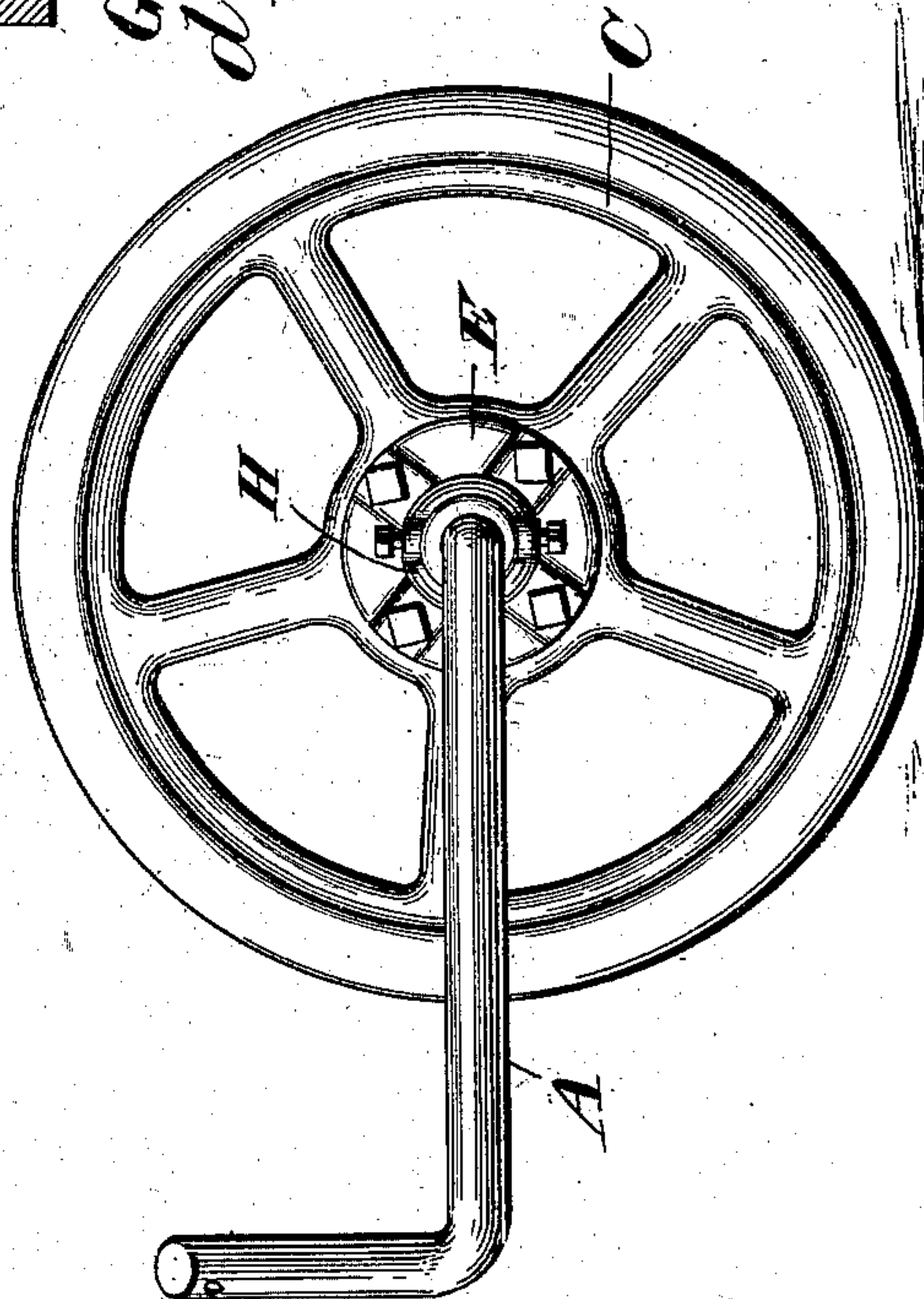
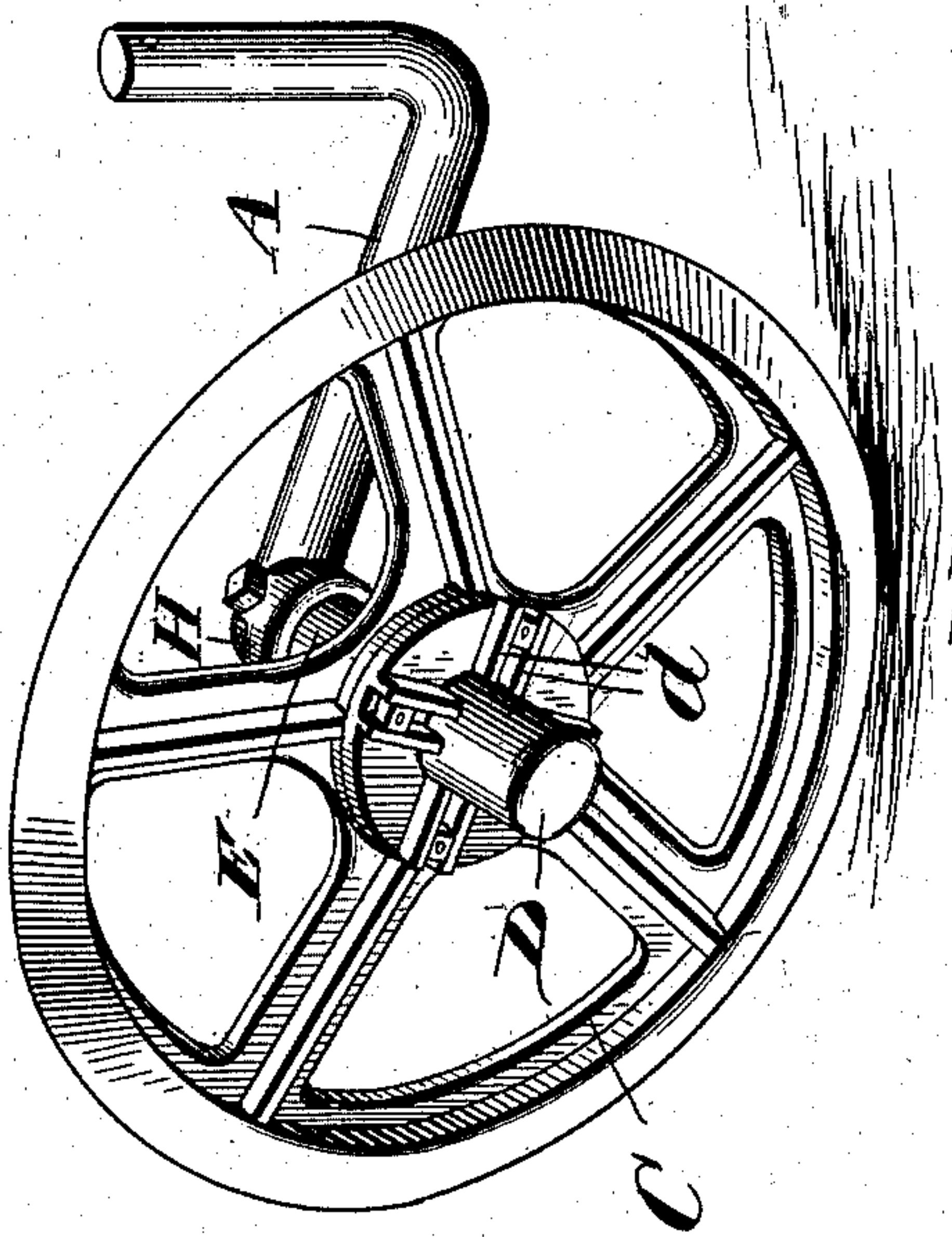
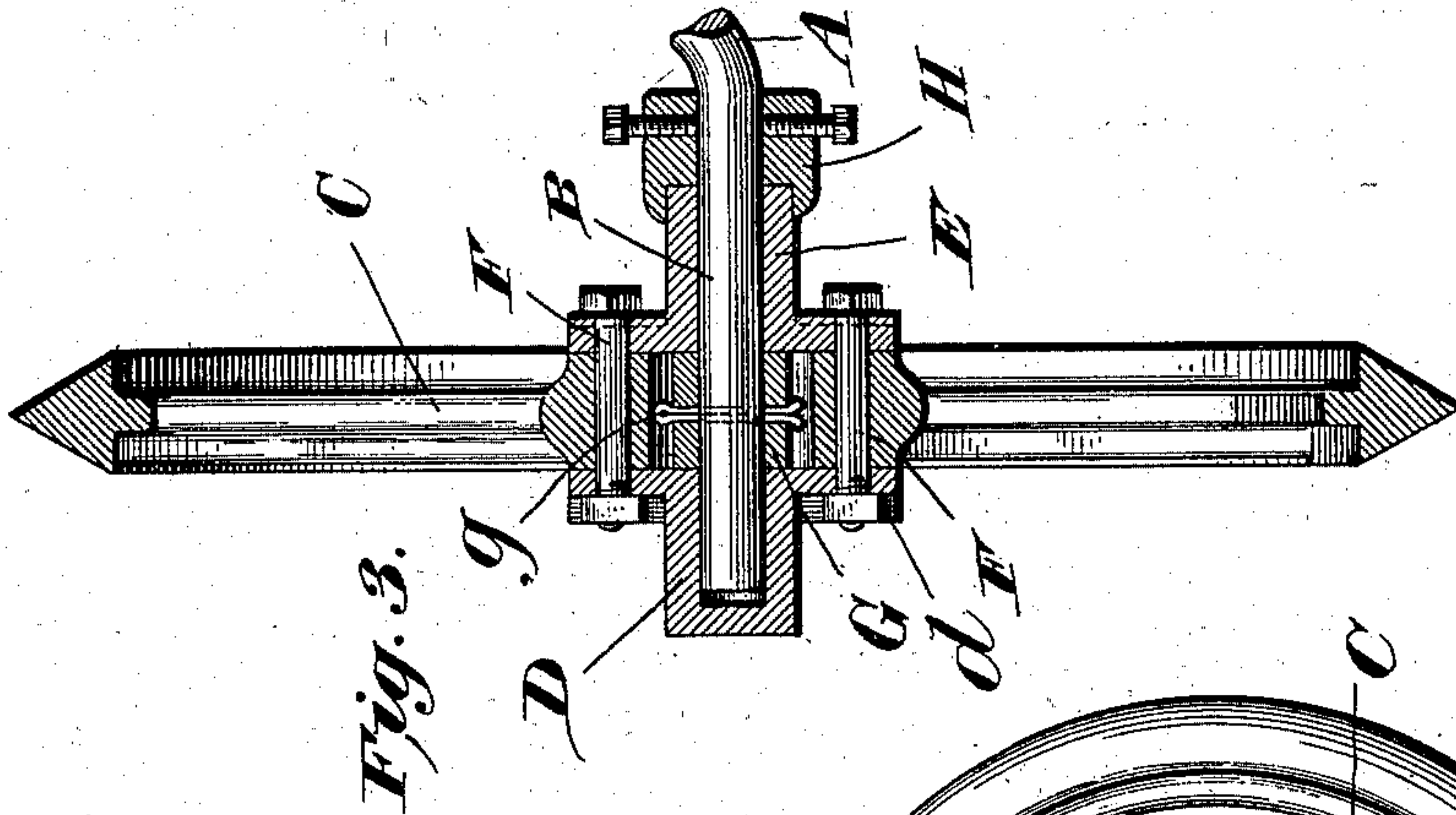


Fig. 1.

Fig. 2.

Witnesses

Elmer Seavey
Charles H. Melvin

By

Inventor
Charles H. Melvin
Julian A. Dowell
his Attorney

UNITED STATES PATENT OFFICE.

CHARLES HERBERT MELVIN, OF MOLINE, ILLINOIS, ASSIGNOR TO DEERE AND COMPANY, OF MOLINE, ILLINOIS, A CORPORATION OF ILLINOIS.

PLOW-WHEEL.

SPECIFICATION forming part of Letters Patent No. 719,831, dated February 3, 1903.

Original application filed July 31, 1902, Serial No. 117,873. Divided and this application filed December 19, 1902. Serial No. 135,879. (No model.)

To all whom it may concern:

Be it known that I, CHARLES HERBERT MELVIN, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Plow-Wheels; and I do hereby 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 wheels, particularly to wheel-hubs, and it is especially applicable to plow-wheels and wheels of other agricultural implements, though it is also susceptible of general application.

The invention is illustrated and described in my pending application for Letters Patent for an improved disk gang-plow filed July 31, 1902, Serial No. 117,873, of which the present application is a division.

The principal object of the invention is to provide a simple and efficient hub construction whereby the wheel will be mounted firmly and securely on its spindle and furnished a practically dust-proof bearing and one which will retain a supply of oil for keeping the spindle lubricated. This and other objects are attained by means substantially as illustrated in the accompanying drawings, wherein my invention is represented embodied in a caster-wheel for plows or other implements, it being understood however that the invention is not limited to such or any particular embodiment.

In said drawings, which are to be taken as a part of this specification and in which corresponding parts in the different figures are indicated by the same letters of reference, Figure 1 is a perspective view of the said caster-wheel embodying my invention looking at the outer side. Fig. 2 is an elevation thereof looking at the opposite side, and Fig. 3 is an enlarged central vertical section.

The letter A in the drawings designates an ordinary crank-axle, on the spindle B of which the caster-wheel is mounted. This wheel in the construction shown consists of a main wheel part or casting C, the hub portion of which has a central opening considerably

larger than the spindle B and supplementary hub castings or caps D and E, which are secured to opposite sides of said main part or casting, are journaled on the spindle, and constitute the entire bearings of the wheel on the spindle. These caps or hub-castings consist of tubular parts or sleeves formed at adjacent ends with flanges, the confronting faces of which fit flush against the opposite sides of the main casting or wheel proper. Said caps are shown secured to the wheel proper by means of fastening-bolts F, entered through the hub portion of said wheel and through the flanges of the caps. The flange of one cap (here the outer one) is preferably formed on its outer side with radially-disposed pairs of ribs *d*, between which either the bolt-heads or the fastening-nuts are held to prevent turning and to facilitate tightening or loosening of the nuts. Preferably the nuts instead of the bolt-heads are fitted between said ribs, so as to prevent the nuts from working loose when the implement is in use.

Within the central opening of the wheel proper a collar G is loosely fitted on the spindle, secured in place by a spring-cotter *g* or other suitable means. Said collar bears against the confronting faces of the caps, and thus serves to hold the wheel properly in place on the spindle.

The outer cap or hub-casting D has its outer tubular end closed, so that the wheel is held on its spindle by a practically dust-proof bearing. This closed cap D, together with the central chamber or opening in the wheel proper, also forms an oil-pocket, which when supplied with oil keeps the spindle constantly lubricated. This feature is especially advantageous in a plow-wheel which usually stands inclined rather than vertical, with the outer end of the spindle lowermost, as represented in Fig. 1. To insure further against entrance of dust and grit to the bearings, a dust cap or band H may be secured on the spindle by set-screws or other means, said dust-cap having a circular flange, which fits closely over the inner tubular end of the inner cap or hub-casting E. In mounting the wheel on the spindle the dust-cap H is first

slid onto the spindle, then the inner hub-casting E, then the collar G is placed in position and secured there by its spring-cotter or other device, next the wheel proper, C, is placed
 5 over the collar, then the outer hub-casting D is fitted on the end of the spindle, and, finally, the hub-castings are bolted to the hub of the wheel proper. The reverse of this order is followed in taking off the wheel.

10 I thus provide a simple, convenient, and efficient construction and one whereby the wheel is held firmly and securely on its spindle and caused to rotate evenly without liability of wobbling, since a comparatively wide
 15 bearing is provided, extending a considerable distance at each side of the wheel, which is an important feature in an implement-wheel. This construction is also less expensive than the ordinary construction, in which a long
 20 tubular hub is formed as a part of the wheel, and one part if broken may be replaced without throwing away the entire wheel, while the hub-castings when worn may also be replaced at small cost without discarding the
 25 wheel proper.

The caps or hub-castings instead of being bolted together to the hub of the wheel may be separately fastened thereto, and in some instances one hub-casting may be secured
 30 permanently to or formed integrally with the wheel. Instead of being formed with flanges to clamp the wheel proper between them the hub-castings may be differently constructed and otherwise secured to the wheel, though
 35 the construction described is strongest as well as simplest and is therefore preferred.

While in the embodiment of the invention illustrated the wheel proper is shown as an ordinary wheel-casting of the usual form employed in plows and other agricultural imple-
 40 ments, it will be understood that the wheel so far as its general construction is concerned may be of any desired form, since the invention resides in the improved hub construction
 45 and mode of mounting the wheel on the spindle.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

50 1. A wheel having a central opening larger than the wheel-spindle, and hub caps or cast-

ings for journaling on the spindle removably secured to opposite sides of said wheel, with a collar adapted to fit loosely over the spindle within said central opening between the hub-
 55 castings, and means for retaining said collar in place on the spindle.

2. In combination with a spindle, a wheel mounted thereon having an enlarged central opening, hub-castings journaled on the spin-
 60 dle secured to opposite sides of said wheel, and a collar on said spindle within said central opening holding the wheel in place by contact with said hub-castings.

3. In combination with a spindle, a wheel
 65 having an enlarged central opening, hub castings or caps journaled on the spindle having flanges bolted to opposite sides of the hub of the wheel, and a collar removably secured on the spindle within said central opening
 70 holding the wheel in place by contact with said hub-castings.

4. In combination with a spindle, a wheel mounted thereon having an enlarged central opening, hub-castings journaled on the spin-
 75 dle secured to opposite sides of said wheel, the outer hub-casting being closed at its outer end to form an oil-pocket, and means for holding the wheel in place on the spindle.

5. In combination with a spindle, a wheel
 80 having an enlarged central opening, and inner hub-cap removably fastened thereto and an outer closed hub-cap adapted to form an oil-pocket, and a collar removably secured on the spindle within said central opening to
 85 hold the wheel in place.

6. In combination with a spindle, a wheel having an enlarged central opening, hub-caps journaled on the spindle and having flanges which embrace the hub of the wheel between
 90 them, fastening-bolts entered through said hub and the flanges of the caps, a collar loosely fitted on the spindle within said central opening of the wheel, and a spring-cotter securing said collar on the spindle.
 95

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

CHARLES HERBERT MELVIN.

Witnesses:

CHARLES H. POPE,
 SCHILLER HOSFORD.