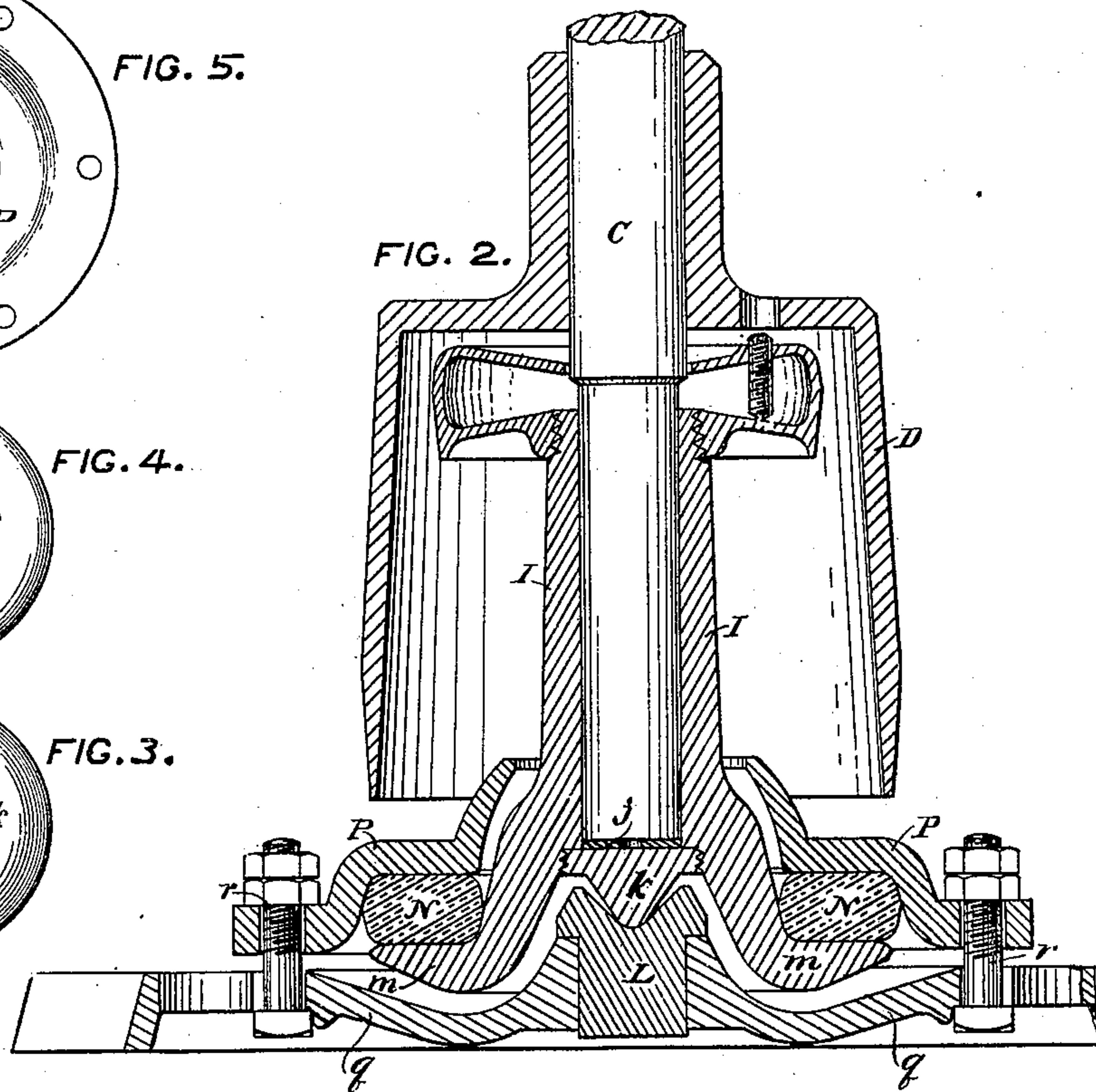
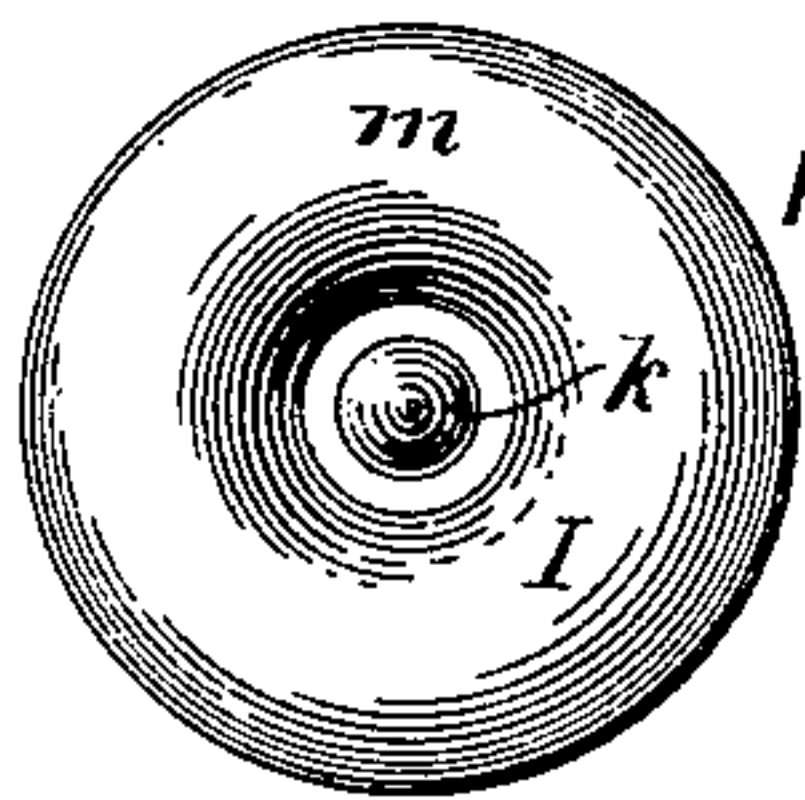
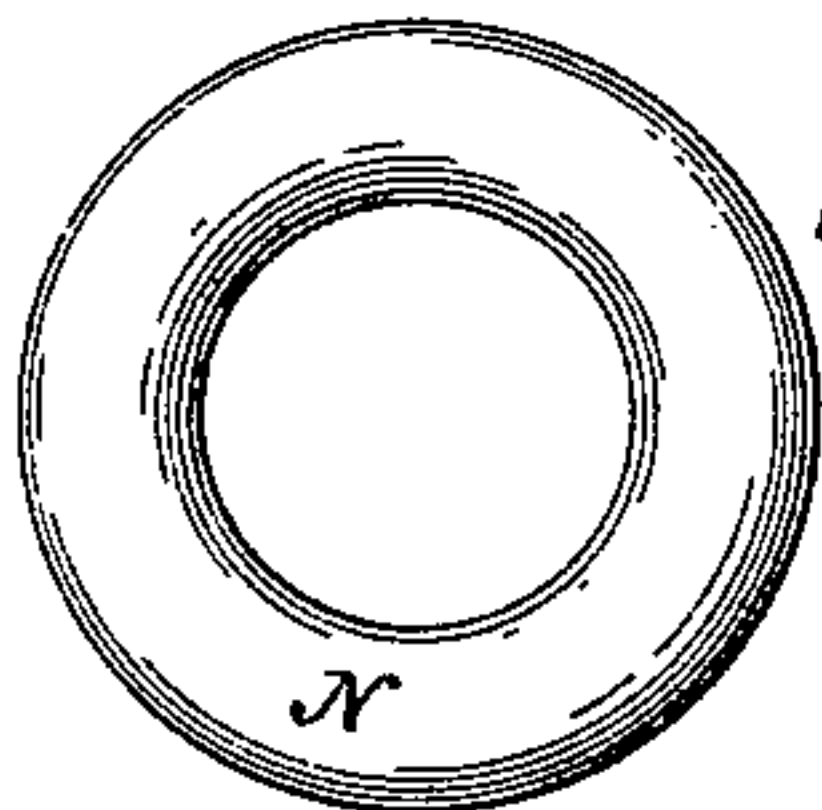
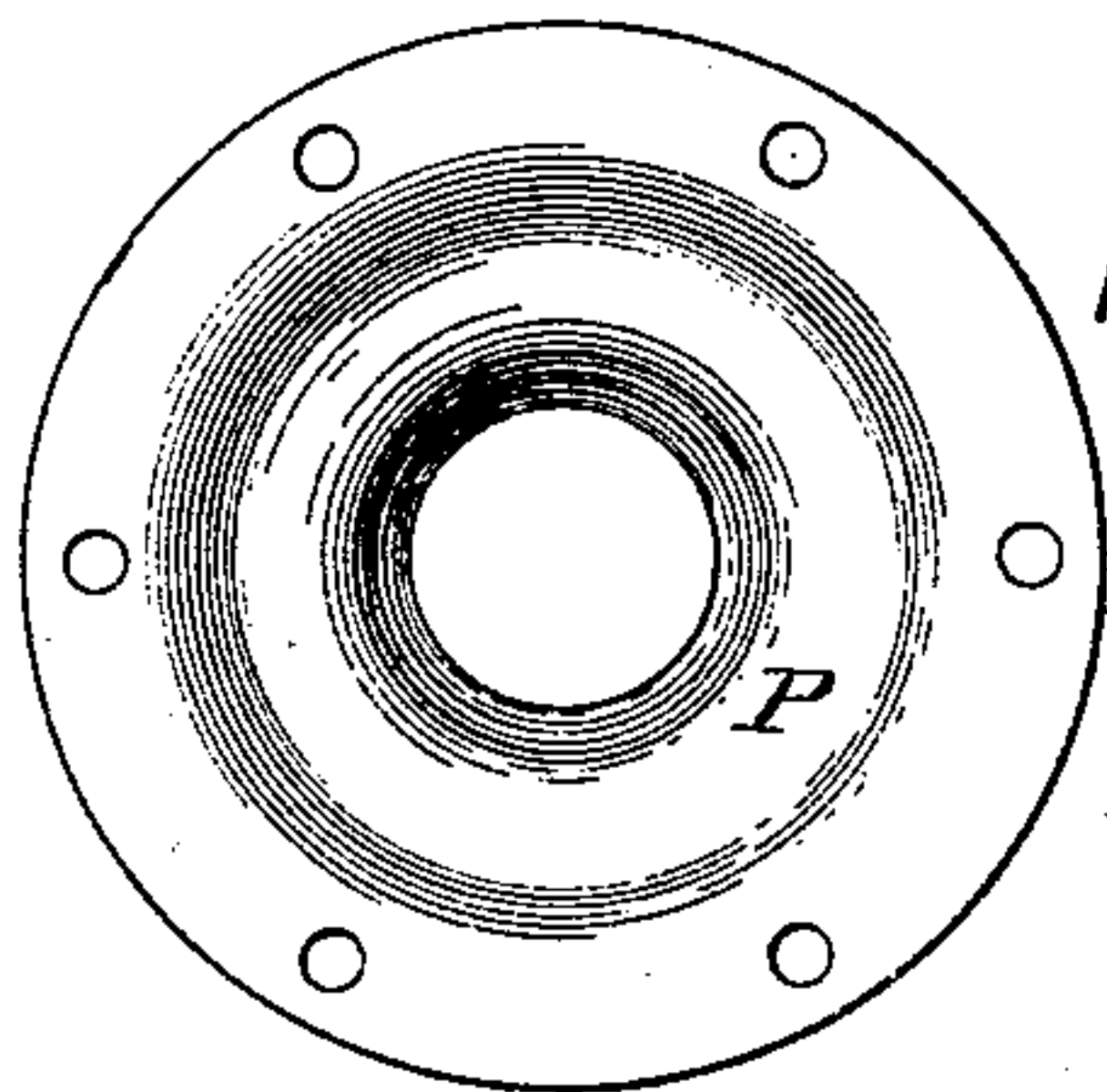
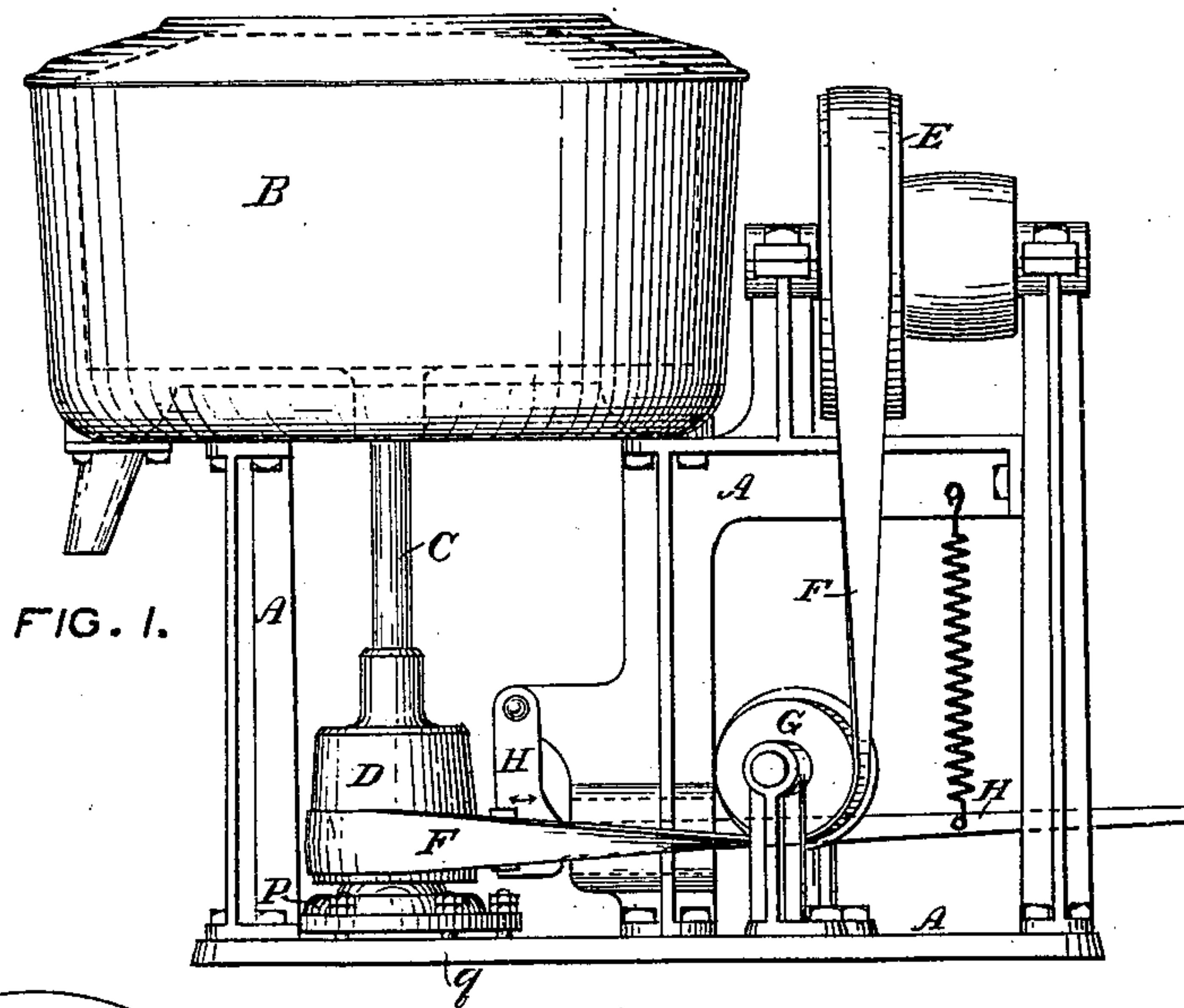


W. H. TOLHURST.
Centrifugal Machine.

No. 199,125.

Patented Jan. 8, 1878.



WITNESSES:

James H. Slade,
James T. Goodfellow.

INVENTOR:

William H. Tolhurst.

UNITED STATES PATENT OFFICE.

WILLIAM H. TOLHURST, OF TROY, NEW YORK.

IMPROVEMENT IN CENTRIFUGAL MACHINES.

Specification forming part of Letters Patent No. **199,125**, dated January 8, 1878; application filed September 20, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. TOLHURST, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Centrifugal Machines, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a centrifugal machine which embodies this invention. Fig. 2 is a sectional elevation of my invention on a larger scale; and Figs. 3, 4, and 5 are plans of the under sides of parts of the same on a smaller scale than in Fig. 2.

This invention relates to the means for supporting the upright rotary spindle upon which the basket is mounted; and it consists of a journal-socket, in which the basket-spindle is stepped and revolved, and which socket has at its bottom a pivot end, which bears so as to be capable of rocking in a circle upon a base-step, which thus supports the spindle-socket, while the latter has an annular side flange, upon which is an elastic cushion, on which bears a rim-cap, that is separate from and surrounds the spindle-socket, and is connected with and secured to the base-step by means of screws, bolts, or equivalent means, by which the spindle is adjusted in upright position, and the elastic cushion is compressed to any required degree to control the gyrating motion of the spindle without having the cushion sustain or subject to the compressing and crushing action of the great weight of the spindle-socket and spindle, with its basket and heavy contents.

In the aforesaid drawings, A is the stationary frame-work, with the basket-casing B thereon; C, the spindle, with pulley D fast on the spindle; E, the driving-pulley; F, the driving-belt; G, idle-pulleys, and H a friction-brake, all of any suitable construction. I is a journal-socket, in which the lower portion of the basket-spindle C revolves on a step, *j*. Fast on the bottom of the spindle-socket I is an end pivot, *k*, bearing on the base-step L, and capable of rocking somewhat thereon in all directions. The spindle-socket I has around its lower part a lateral flange, *m*, on which is an elastic cushion, N, of vulcanized india-rubber or other suitable material. P is a separate cap-piece,

which surrounds the spindle-socket I, and rests upon the cushion N, and is secured to, but at a little distance from, the base *q* of the step L by means of bolts *r*.

As an equivalent for the bolts *r*, I sometimes use screws having heads above the plate P, and threads engaging with nut-threads in the base *q*. Any other equivalent or suitable known adjustable fastenings can be used in securing the clamping-ring P to, but apart from, that base; and in carrying out this invention, the cushion N is preferably made in the form of a flattened ring, conformed to the parts *m* and P, as shown; but the cushion may consist of several segments or separate pieces, arranged at intervals around and between the cap-piece P and flange *m*, all being properly conformed together.

It will be observed that, with the above-described combination and arrangement of parts, the basket-spindle C can be readily adjusted into the proper upright position, and the cushion N easily compressed to any degree required to properly limit and control the natural gyratory motion of the basket-spindle when unevenly loaded, and that at the same time the whole weight of the basket and its contents upon the spindle C is sustained by the rocking end pivot *k* bearing on the base-step L, so that the latter is not very materially shaken by the gyratory motion of the basket and spindle, and that the cushion N is not subject to any compression or crushing action from the weight of the basket and its contents on the spindle, and is arranged with the parts P and *m* in such position in respect to the rocking end pivot *k* and step L as to be very durable, while effectually limiting and controlling the gyratory movements of the basket-spindle.

In some centrifugal machines heretofore made the spindle-supporting socket is constructed with a lateral annular flange resting upon an annular elastic cushion, so that all the weight of the spindle-socket, with the spindle and basket, is necessarily sustained by the lateral flange, and also by the elastic cushion under the flange.

In my present invention it is essential that the weight of the spindle-socket, with the spindle and basket, shall not be supported by the flange of the spindle-socket, nor by the elastic

cushion, but shall be sustained by the central end pivot *k* of the spindle-socket bearing upon the base-step *L*, so as to rock thereon.

What I claim as my invention is—

In combination with the base-step *L*, the spindle-socket *I*, supported by its central end pivot *k* bearing upon the base-step, so as to rock thereon, and having the lateral flange *m*, the cushion *N*, arranged over and upon the lateral flange of the spindle-socket, and the clamping-ring *P*, separate from the spindle-

socket, and arranged over and upon the cushion, and adjustably secured to the base-step, substantially as shown and described.

In testimony whereof I hereunto set my hand, in the presence of two subscribing witnesses, this 18th day of September, 1877.

WILLIAM H. TOLHURST.

Witnesses:

JOHN B. GREEN,

JAMES T. GOODFELLOW.