No. 756,974. PATENTED APR. 12, 1904.

C. R. MOON.

FEEDING HOPPER.

APPLICATION FILED JULY 13, 1903.

NO MODEL.

Fig. 1.

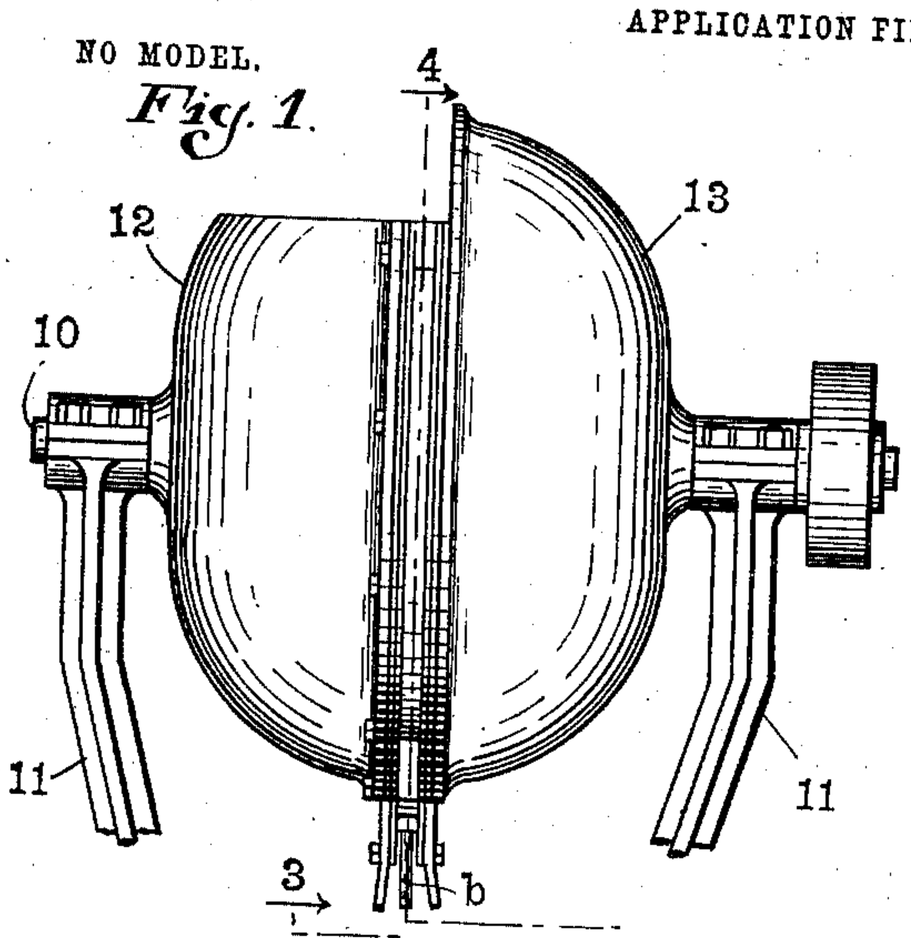


Fig. 3.

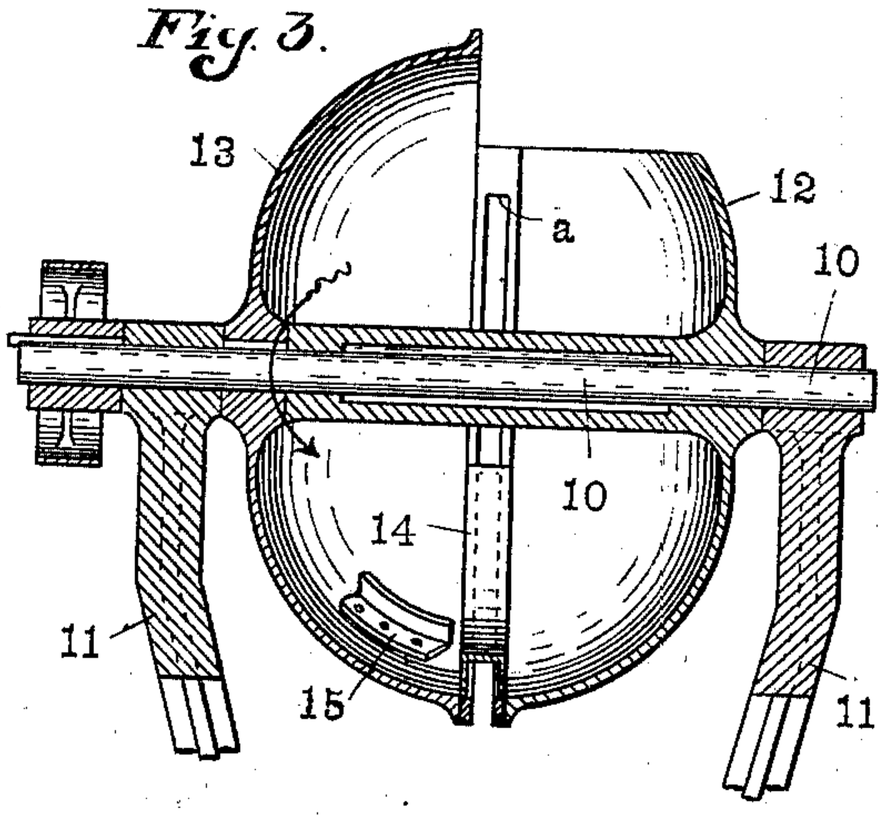


Fig. 2.

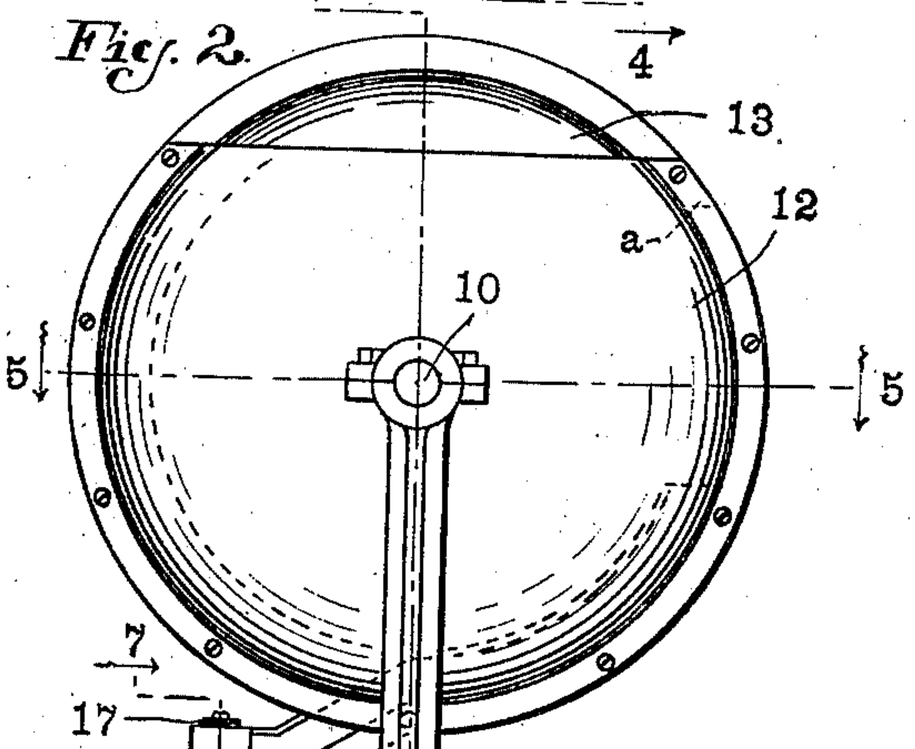


Fig. 4

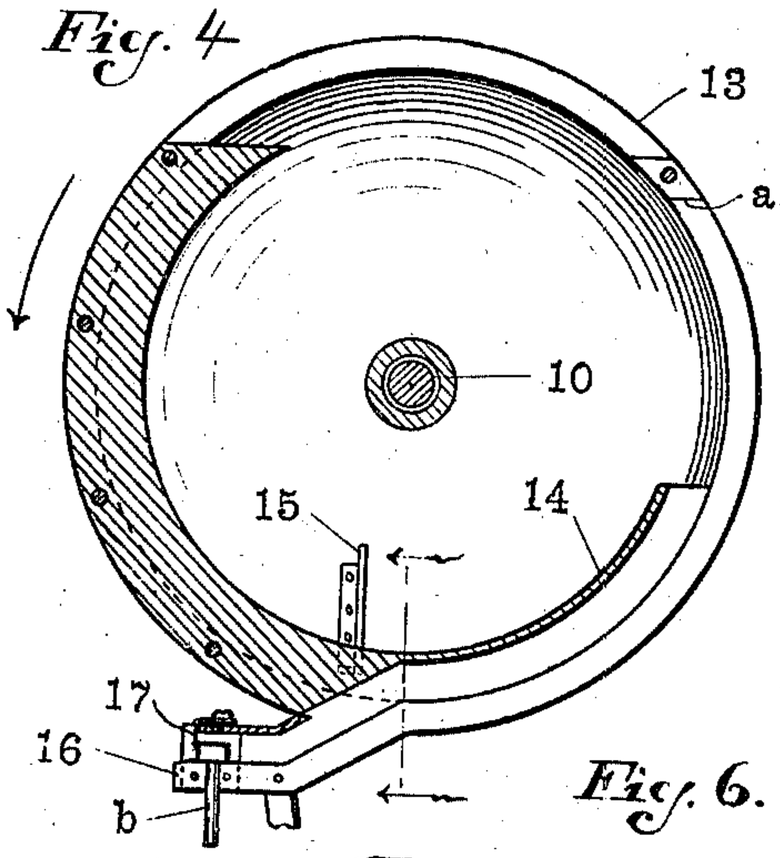


Fig. 6.

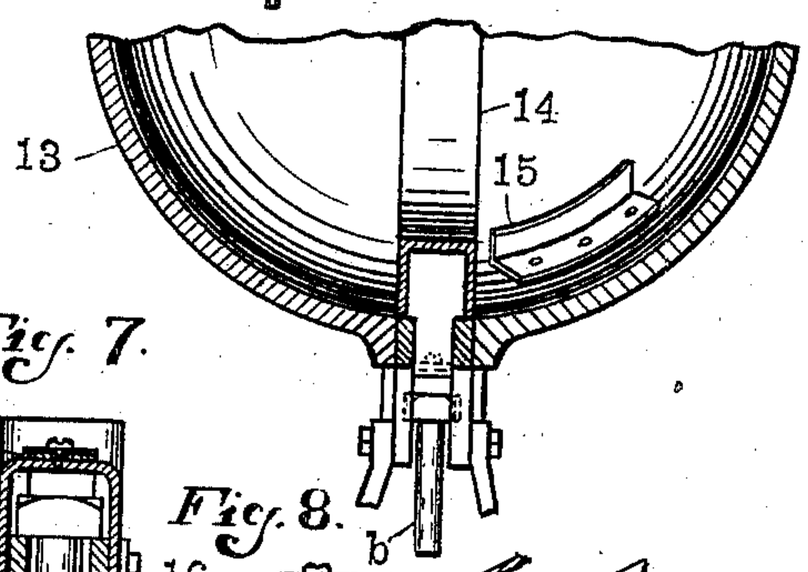


Fig. 5.

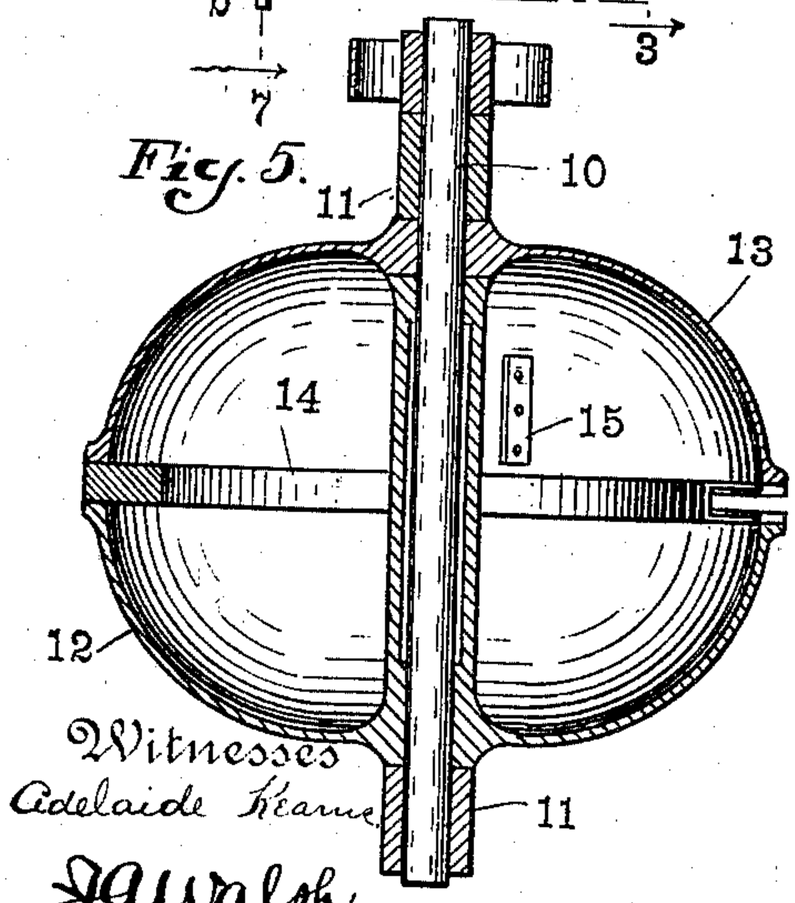


Fig. 7.

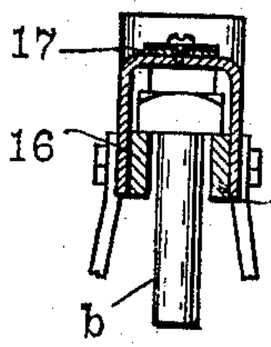
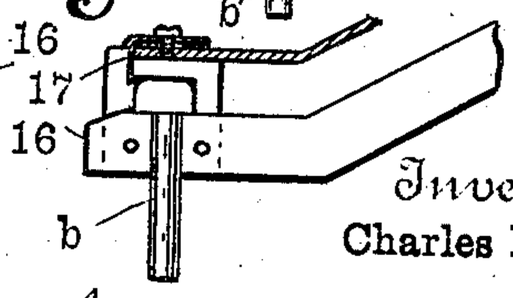


Fig. 8.



Witnesses
Adelaide Keane.
J. A. Walsh.

Inventor
Charles R. Moon
by
Bradford & Hood,
Attorneys

No. 756,974. Patented April 12, 1904.

UNITED STATES PATENT OFFICE.

CHARLES R. MOON, OF MUNCIE, INDIANA.

FEEDING-HOPPER.

SPECIFICATION forming part of Letters Patent No. 756,974, dated April 12, 1904.

Application filed July 13, 1903. Serial No. 165,348. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. MOON, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Feeding-Hoppers, of which the following is a specification.

The object of my present invention is to produce a simple and efficient feeding-hopper for machines adapted to perform their operations successively upon a multiplicity of like articles. It is adapted to machines of various kinds, and I have not, therefore, shown it in this application in connection with a machine of any particular character or for any particular purpose. This hopper is, however, illustrated and briefly described in my pending application, Serial No. 163,929, for patent on a bolt-threading machine, and reference may be made to the said application as showing an instance where my present invention may be advantageously employed.

Referring to the accompanying drawings, which are made a part hereof and in which similar reference characters indicate similar parts, Figure 1 is a rear elevation of a feed-hopper embodying my said invention; Fig. 2, a side elevation of the same; Fig. 3, a central vertical sectional view as seen when looking in the direction indicated by the arrows from the dotted line 3 3 in Fig. 2; Fig. 4, a central vertical sectional view as seen when looking in the direction indicated by the arrows from the dotted line 4 4 in Fig. 1; Fig. 5, a horizontal sectional view as seen when looking downwardly from the dotted line 5 5 in Fig. 2; Fig. 6, a fragmentary section, on a somewhat enlarged scale, taken at the same point as Fig. 3, but looking in the opposite direction; Fig. 7, a small detail sectional view through the delivery-chute of the hopper at the point indicated by the dotted line 7 7 in Fig. 2, and Fig. 8 a view of the parts at the delivery-point on an enlarged scale.

My improved feed-hopper is mounted on a central shaft 10, mounted in bearings in a suitable framework 11, and its main body is composed of two approximately semispherical shells 12 and 13, one of which, 12, has a portion cut away at the upper side, whereby an opening into the hopper is formed, and is secured non-rotatably in position, being suitably connected to the frame 11, while the other, 13, is keyed upon the shaft 10 and revolves therewith. Extending from a suitable point, as *a*, (see especially Fig. 4,) around to the delivery-point is a channel or space of sufficient diameter to permit the smaller portions of the articles (in the present instance bolts *b*) to, when suitably positioned, extend through. The lower portion of this channel or space is roofed over by means of a shield 14, which is secured to the non-rotating member 12, while the rotating member 13 travels closely beside it. Within the rotating member 13 I place one or more parts 15, which as said rotating member travels around raises the articles to a point above the upper end of the shield 14 and throws them against that portion of the structure containing the uncovered portion of the slot or space. The points or smaller portions of many of the articles will fall in line with said channel or space and pass through, while the heads thereof will rest upon the portions of the structure which bound said slot and which will serve as a track down which said articles will slide, the heads or larger portions passing beneath the shield 14 on their way to the delivery-point. The prolongation 16 of this track extends to just outside the hopper structure, and near its extreme point is a retarding device, as spring 17, against which the articles, as bolts *b*, will pass and which is designed to be of sufficient strength to prevent said articles from passing out without the application of some force. The operation described will keep the track filled with these articles, and they are designed to be removed as wanted by some suitable means—such, for example, as shown and described in my application, Serial No. 163,929, above referred to.

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

1. The combination, in a feeding-hopper, of two hollow members arranged with their open ends adjacent to each other, one rotatable and the other fixed, and provided with a delivery slot or space at or near the adjacent edges of said members, a guard carried by the fixed

member and covering the lower portion of said slot or space, and means for rotating the rotatable member.

2. The combination, in a feeding-hopper, of a fixed and a rotatable member together forming the inclosing walls of a receiving-chamber, a delivery-opening at or near the adjacent edges of said members, a guard fixedly positioned and extending over the lower portion of said opening, a projection on the inner surface of the rotating member for engaging with and moving the articles placed therein, and means for rotating said rotatable member.

3. The combination, in a feeding-hopper, of a fixed member and a rotatable member constituting the walls of the receiving-chamber, a slot or space forming a delivery-opening at or near the point where the said members come together, a fixed shield covering the lower portion of said slot or space the interior diameter of which is greater than that of said slot or space whereby tracks for the heads or larger portions of the articles are provided, said tracks terminating in a delivery-point whence the articles can be taken successively, as desired.

4. The combination, in a feeding-hopper, of a cup-shaped rotating member, a fixed member arranged adjacent the open end of the cup-shaped member with a delivery-channel between, and a guard covering the lower portion of said channel.

5. The combination, in a feeding-hopper, of a cup-shaped rotating member, a fixed member arranged adjacent the open end of the cup-shaped member with a delivery-channel between, a guard covering the lower portion of said channel, a feeding projection on the inner surface of the rotating member for engaging with and moving the articles placed therein.

In witness whereof I have hereunto set my hand and seal, at Muncie, Indiana, this 9th day of July, A. D. 1903.

CHARLES R. MOON. [L. S.]

Witnesses:
CHARLES B. ATHERTON,
CLEMENT H. WINCHESTER.