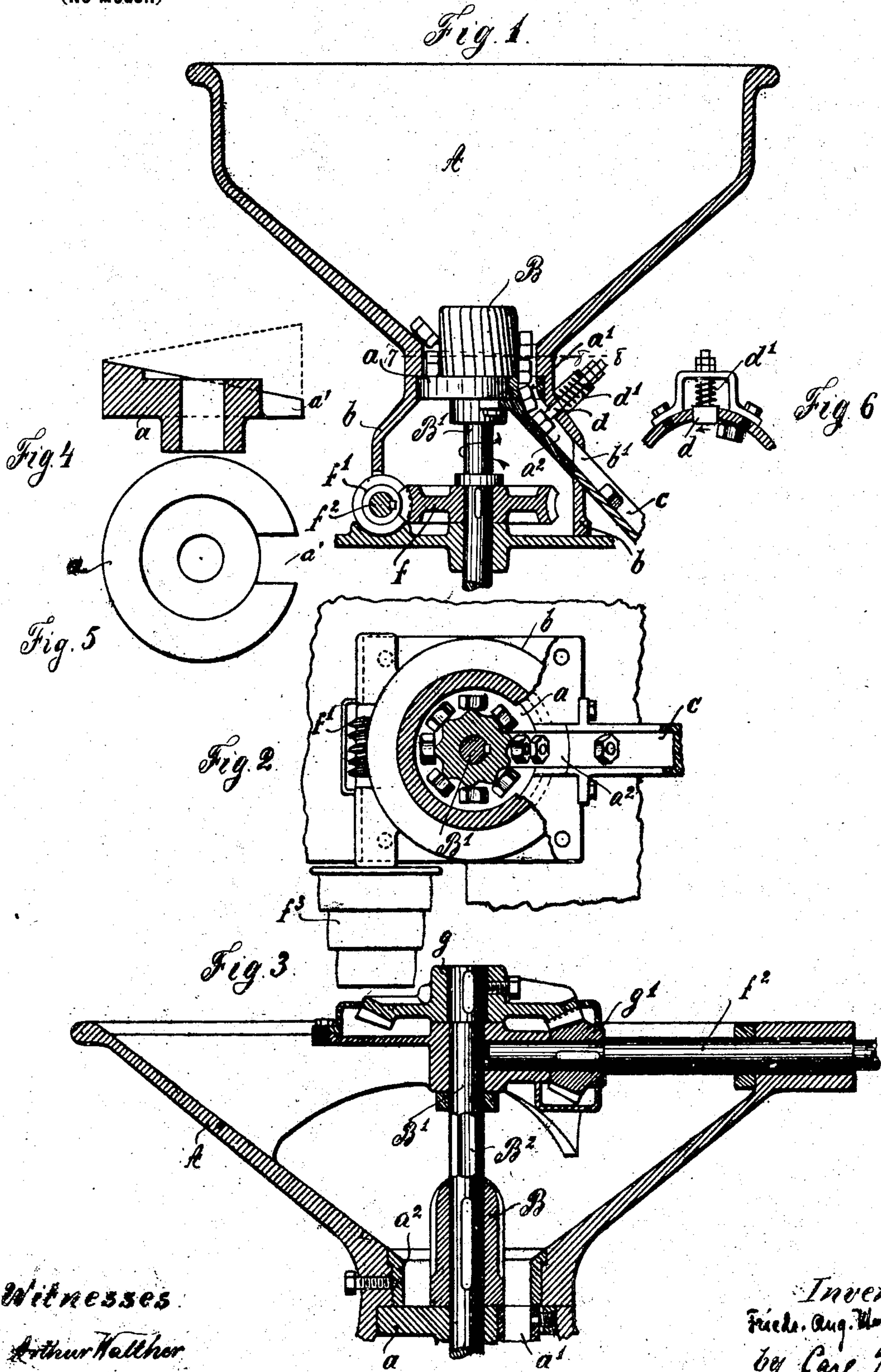


F. A. MEISCHNER.
FEED DEVICE FOR SMALL WORK PIECES.

(Application filed July 23, 1898.)

(No Model.)



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FRIEDRICH AUGUST MEISCHNER, OF CHEMNITZ, GERMANY.

FEED DEVICE FOR SMALL WORK-PIECES.

SPECIFICATION forming part of Letters Patent No. 617,990, dated January 17, 1899.

Application filed July 23, 1898. Serial No. 686,752. (No model.)

To all whom it may concern:

Be it known that I, FRIEDRICH AUGUST MEISCHNER, a subject of the King of Saxony, residing at 120 Zschopauerstrasse, Chemnitz, in the Kingdom of Saxony, German Empire, have invented a new and Improved Feeding Device for Small Work-Pieces, of which the following is an exact specification.

This invention relates to a feeding device for small work-pieces—such, for instance, as nuts.

The objects of my invention are, first, to feed such pieces singly to a machine or apparatus in which the same are further worked—such, for instance, in which nuts are provided with the screw-threads—and, second, to effect this feeding by aid of very simple but reliably-acting means. The latter consist of certain combinations and arrangements of parts, as are described hereinafter, and in order to make my invention more clear I refer to the accompanying drawings, in which similar letters denote similar parts throughout the different views, and in which—

Figure 1 is a vertical section through the feeding device in question. Fig. 2 is a horizontal section in line 7 8 of Fig. 1. Fig. 3 is a vertical section through a slightly-modified form of construction. Fig. 4 is a section through a slightly-modified form of construction of the disk a of Figs. 1 and 3. Fig. 5 is a plan of said disk; and Fig. 6 is a plan, partly in section, of the checking device $d d'$, which will duly be referred to in the further course of this specification.

My improved feeding device for small work-pieces consists of a receptacle or hopper A , the lower part of which contains a drum B , fixed to a shaft B' . The latter is provided with a worm-wheel f , which gears with a worm f' , secured to or forming part of a horizontal shaft f^2 . This shaft is furnished with a cone-pulley f^3 , and the drum B may thus be rotated by this pulley.

The drum B is not exactly cylindrical, but is either of prismatic shape or provided with ribs or grooves, which, if desired, may have an inclined position or may form a kind of screw-thread. Between the drum B and the neighboring or opposite part of the receptacle A remains an annular space, the bottom of

which is formed by a disk a , which either is made integrally with the drum B or is secured as a separate piece to the shaft B' . The disk a is provided with a recess or an aperture a' , which is elongated in a downward direction by means of an extension a^2 , being either made integrally with the disk a or secured to the same as a separate piece, as shown. The extension or channel a^2 is thus made to revolve around the shaft B' ; but while thus revolving the lower end of the channel a^2 is closed by a stationary wall b , extending, of course, along the circular path of the end of the channel a^2 or forming a cylinder, respectively. I prefer to make this cylinder integral with the receptacle A , so that the whole forms a casing with a hollow foot, the latter being constituted by the cylindrical wall b . The worm-wheel f is located in this foot, as is also the respective part of the worm f' .

The cylinder or wall b is provided with an aperture b' , located just in the height of the lower end of the channel a^2 , so that the latter at each revolution communicates once with the aperture b' . The latter is elongated in a downward direction by an extension or channel c , the degree of inclination of which preferably corresponds to that of the channel a^2 .

The small work-pieces—for instance, nuts—which are to be fed singly are thrown into the receptacle A , and they fill not only the space above the drum B , but also the annular space between this drum and the opposite or neighboring part of the receptacle A the more as the drum B is rotated and tends to act upon or to move the work-pieces by means of its ribs or equivalent projections. Owing to the existence of these ribs or other projections and to the action of the same upon the pieces in question, the latter are introduced not only into that annular space, but also into the aperture a' and the channel a^2 , the width of the latter being such that the work-pieces form a row. They are prevented from leaving the channel a^2 by the circular wall b , which allows of the work-pieces or, more precisely, the lowermost of them leaving the channel only in that moment in which said channel communicates with the aperture b' . The

lowermost work-piece may then glide down upon the channel c ; but the other pieces located in the channel a^2 and in the aperture a' are prevented from also passing away through the aperture b' by means of the following contrivance: This contrivance is formed by a slide d , Figs. 1 and 6, which is located about rectangularly to the channel a^2 and extends into the latter. The slide d is maintained in its proper working position by means of a spring d' , which allows of the slide giving way when the respective edge of the channel a^2 pushes against the slide d , the pieces of contact of the parts d and a^2 being of course so shaped that the revolution of the channel a^2 is not impeded by the slide d . While this latter is thus raised, the respective work-piece, which has been held by the slide up to that time, is freed and allowed to glide down, whereas in the next moment the next work-piece is checked by the returning slide.

There may be of course two or more apertures b' and a corresponding number of checking devices d d' in one apparatus; but there may also be two or more apertures a' and a corresponding number of channels a^2 , so that the work-pieces may be fed not only to one machine, but to several.

In order to facilitate the movement of the work-pieces upon the upper surface of the disk a , I prefer to give the respective part of the latter an inclined position, as shown in Figs. 4 and 5, the direction of the inclination being such that the lowest part of the latter is located immediately at the aperture or recess a' .

In the modified form of construction represented in Fig. 3 the shaft B' extends upward through the receptacle A , and the shaft f^2 is located in the upper part of the receptacle and provided with a bevel-wheel g' , which gears with a bevel-wheel g , keyed to the shaft B' . That part of the shaft B' which is located immediately above the ribbed drum or body B may also be used for moving the work-pieces contained in the receptacle A , and for this purpose the respective part of the shaft B' receives a prismatic shape, as shown at B^2 .

Having now described my invention, what

I desire to secure by Letters Patent of the United States is—

1. In a feeding device for small work-pieces, the combination with a receptacle, a rotary body B located in the lower part of the same, an aperture located at the side of said body and a channel forming an extension of said aperture and adapted to rotate together with said body; a stationary wall extending along the circular path of the end of the channel, an aperture located in said wall and adapted to communicate with said end, and means for rotating said drum, for the purpose as described.

2. In a feeding device for small work-pieces, the combination with a receptacle, a rotary body B located in the lower part of the same and leaving between itself and the opposite part of said receptacle a space adapted to receive some of the work-pieces to be fed, a rotary bottom for said space, an aperture in said bottom adapted to let said pieces singly pass, a channel forming an extension of the bottom and of said aperture, a circular wall extending along the circular path of the end of said channel, an aperture located in said wall and adapted to communicate with said end, and means for rotating said drum and bottom, for the purpose as described.

3. In a feeding device for small work-pieces, the combination with a receptacle, a rotary body B located in the lower part of the same, an aperture located at the side of said body and a channel forming an extension of said aperture and adapted to rotate together with said body; a slide located in said wall in such a position as to be able to extend into said channel and to check the last but one of the work-pieces located in the channel; a stationary wall extending along the circular path of the end of the channel, an aperture located in said wall and adapted to communicate with said end and means for rotating said drum, for the purpose as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRIEDRICH AUGUST MEISCHNER.

Witnesses:

EUGEN NUBEL,
A. REUCHER.