

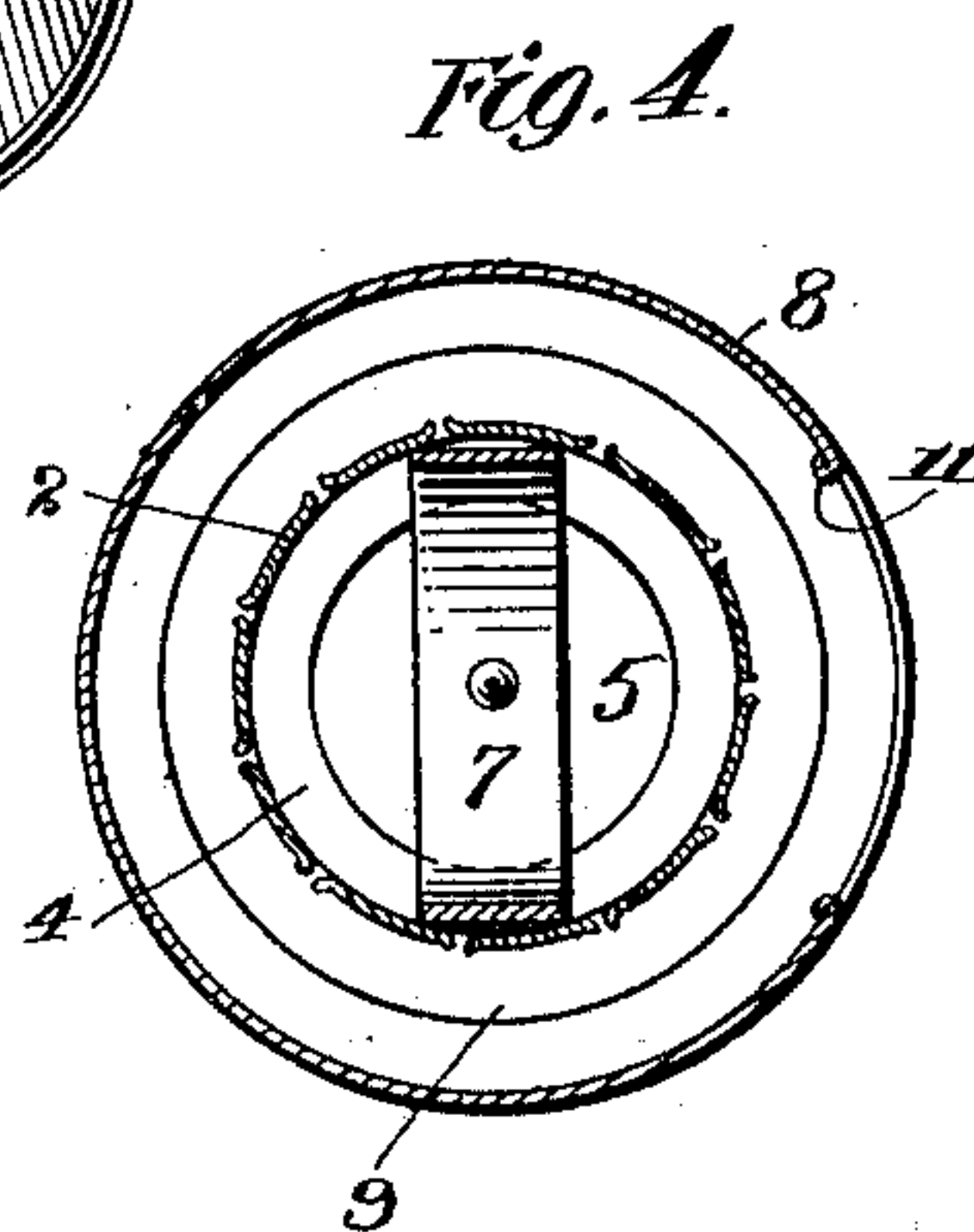
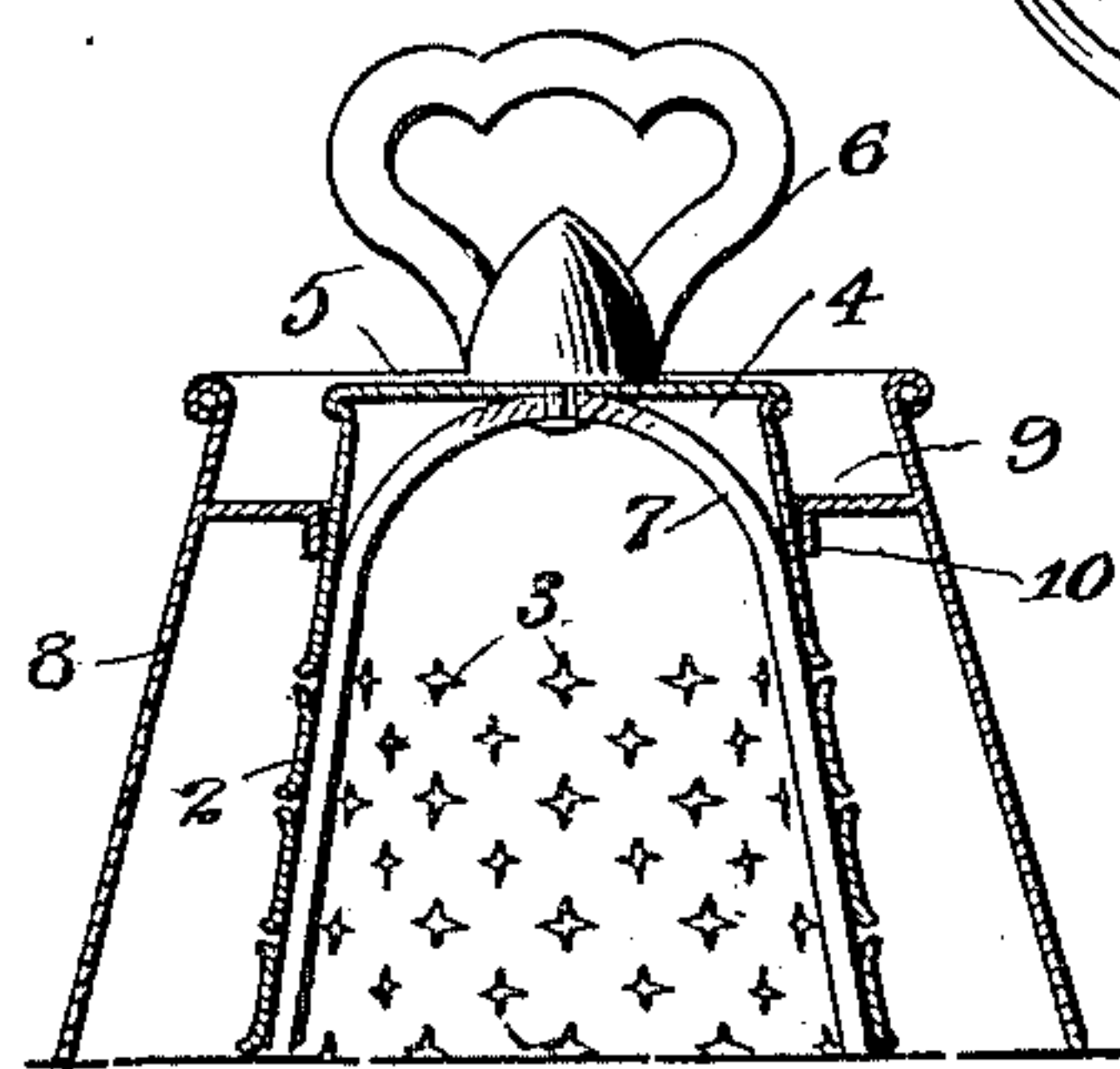
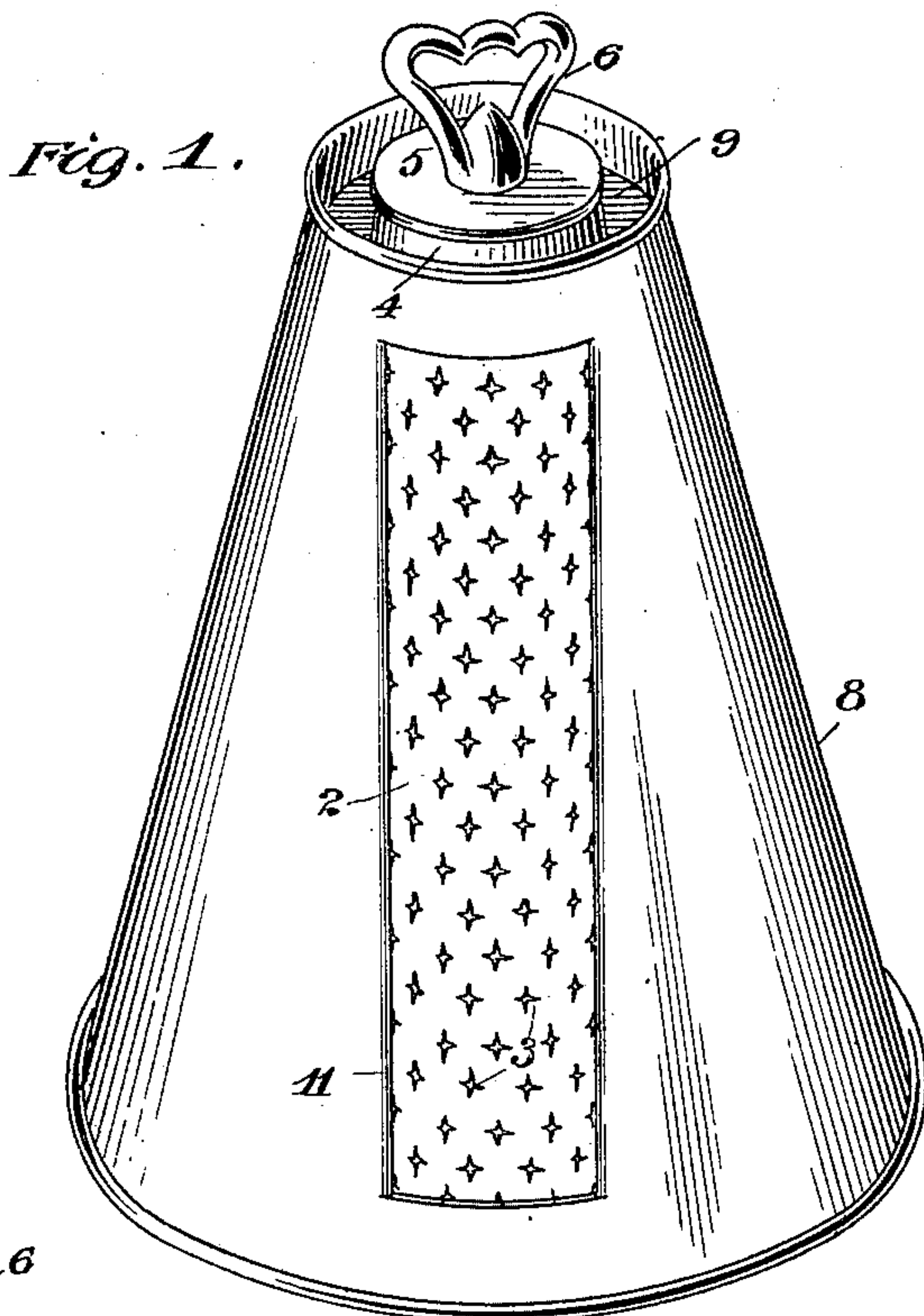
No. 673,895.

Patented May 14, 1901.

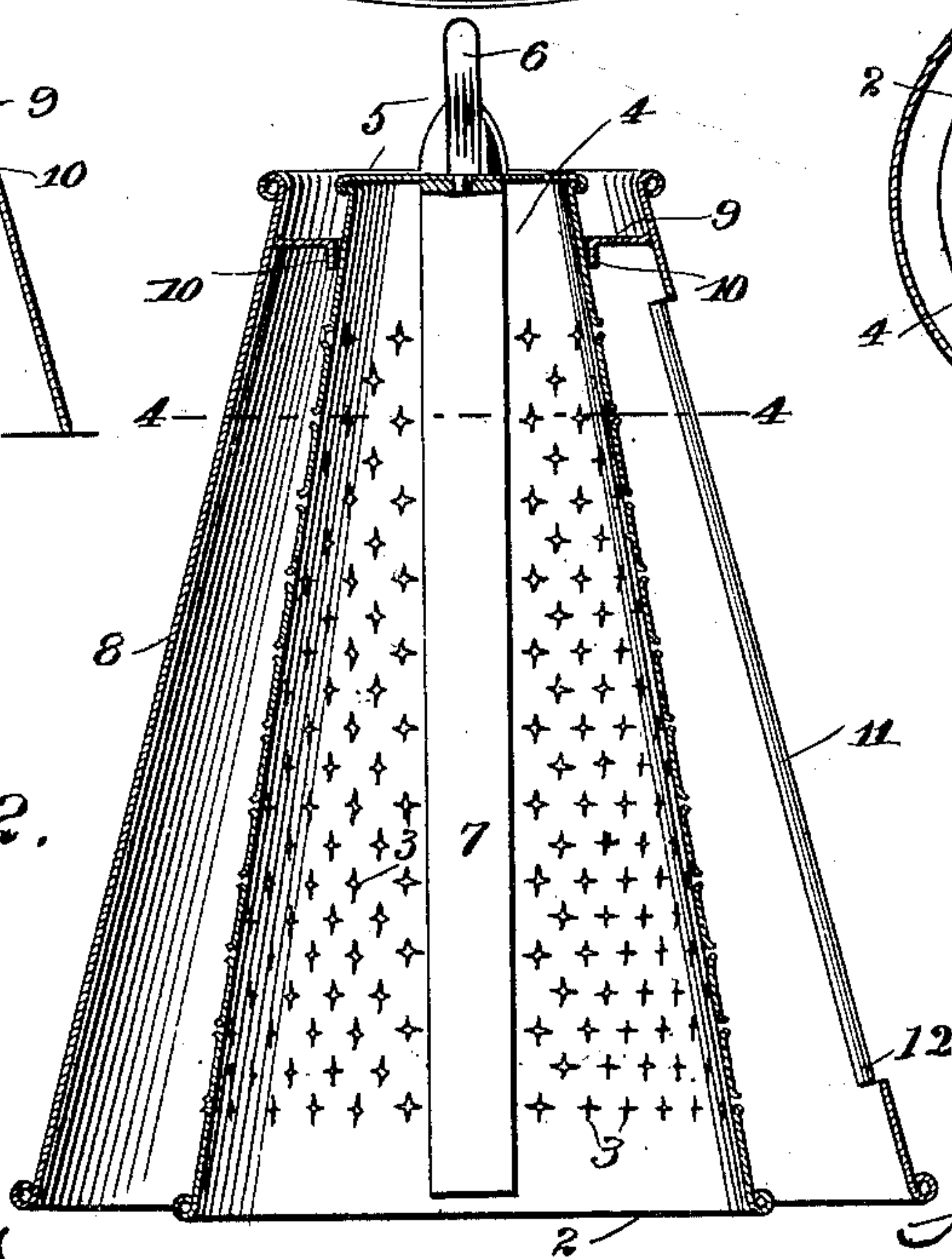
S. BLICKMAN.  
GRATER.

(Application filed July 19, 1900.)

(No Model.)



*Fig. 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

SOPHIE BLICKMAN, OF NEW YORK, N. Y.

## GRATER.

SPECIFICATION forming part of Letters Patent No. 673,895, dated May 14, 1901.

Application filed July 19, 1900. Serial No. 24,137. (No model.)

*To all whom it may concern:*

Be it known that I, SOPHIE BLICKMAN, a subject of the Czar of Russia, residing at New York city, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Graters, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a device for grating such materials as are generally used in the preparation of foods—for example, horse-radish, lemons, or vegetables of any kind.

The principal objects of the invention are to protect the hand of the user from coming in contact with the grating-surface, and, further, to provide a grater in which the grated particles are prevented from being scattered to any considerable extent, and in which the fumes or gases arising from the grated material are practically confined within the grater, so as not to be inhaled by the user.

To these ends my invention consists in the various novel and peculiar arrangements and combinations of the several parts of the device, all as hereinafter fully described, and then pointed out in the claims.

I have illustrated a type of my invention in the accompanying drawings, wherein—

Figure 1 is a perspective view of my improved grater. Fig. 2 is a view of a section of the grater, the plane of which section extends vertically and centrally through the grater. Fig. 3 is a sectional view of the upper portion of the grater, together with the scraper. Fig. 4 is a horizontal sectional view of the grater, taken on a plane indicated by line 4 4, Fig. 2.

Referring to the drawings, in which like numbers of reference indicate like parts throughout, 2 is a grater, which in the present construction consists in a hollow truncated cone, which is formed with the usual grating-perforations 3, which do not extend to the upper and smaller end thereof, so that the cone at such end is provided with an imperforate portion 4. The upper end of the conical grater is sealed by a cap 5, on which is

preferably mounted a handle 6. Within the grater is arranged a scraper, consisting in a strip 7 of stiff resilient material, which is formed U-shaped, with the ends thereof flaring outwardly, so as to conform to the shape of the interior of the conical grater. This scraper is inserted within the grater, so that its two members lie flatly against the interior wall thereof, and the upper end thereof is secured rigidly to the handle 6, which is mounted so as to be rotatable. By turning the handle 6 the scraper is moved around the interior surface of the grater, so as to scrape from the interior of the grater any material which may lodge upon the interior wall thereof or in the grating-holes. The material thus dislodged from the scraper drops down within the grater, where it accumulates with the grated material which falls through the grating-holes during the the operation of grating. In this way the interior of the grater is very easily kept clean.

The conical grater is inclosed by a hood or shield 8, which is shaped like a truncated cone, and it is shorter than the grater, but is considerably larger in diameter than the grater in order to provide a space between the grating-surface and the interior of the shield. This shield is made of suitable imperforate material, and it is closed at its upper end by means of a collar 9, fixed upon the interior thereof, and an annular flange 10, which rests upon the solid portion 4 of the upper end of the grater, so as to provide a bearing at such point. The shield 8 is formed with an elongated opening 11, extending from near the bottom thereof upwardly to a point some distance below the collar 9, located upon the interior of the shield. The material to be grated is introduced through the opening 11 and is pressed by hand against the grating-surface, over which it is moved up and down in order to effect the grating. The opening 11 is of such narrow width as to prevent the hand of the user from entering the same and coming in contact with the grating-surface in the act of grating, and I thereby provide a safeguard against the hand of the user being lacerated by the grater. This shield or hood 8 serves as a means for inclosing the grating-surface, thereby preventing



the gases or fumes which arise from the grated material from being inhaled by the user. In grating some materials—such, for instance, as horse-radish—the fumes or gases coming  
 5 from the grated material are so very strong and pungent as to render the act of grating a very disagreeable one. This drawback is overcome by my construction, as the gases or fumes are confined within the grater itself,  
 10 which is closed at its upper end, and within the shield or hood, which is open only at the point where the material to be grated is introduced to the grater. Another important advantage of housing the grater is that the  
 15 grated material is not exposed to the outer air, as in many cases, and accordingly it will not lose its strength so readily or become dissipated. Moreover, in my construction the grated material is not scattered about to any  
 20 considerable extent, as it falls within the base-lines of the grater and the surrounding shield, wherein it is confined.

The grater and the shield are so constructed that either one or the other may be rotated in order to present a new grating-surface in case the one in use becomes clogged with the grated material. I show the lower end of the conical grater as extending slightly below the lower end of the conical shield, so  
 30 that when the device is stood in upright position for use the weight of the structure is thrown upon the grater, which is thus prevented from wobbling. The grater is thus also enabled to receive pressure from the  
 35 hand of the user, which is placed upon the top of the device when it is being operated, and it is thereby held steady under the motion of grating. When the device is constructed so that it rests upon the lower end  
 40 of the grater, as shown in Fig. 2, it is necessary to lift the device by the handle with one hand and holding the shield with the other to slightly turn the grater within the shield in order to present a new grating-surface.  
 45 Of course a new grating-surface may be brought into play by turning the shield on the grater; but this would necessitate the user changing his position somewhat in order to reach the opening 11 in the hood.

50 It will be noted that the opening 11 in the side of the hood extends longitudinally of the same, so that in rubbing the substance to be grated over the grater the same is done by an up-and-down motion, while the upper end of  
 55 the device is held by the other hand of the user. The long edges of the opening are rounded by turning in the edge of the material, as at 12, so that the substance in being grated has a smooth surface to be guided  
 60 over, and these long edges of the opening acting thus as guides facilitate the operation of grating the material. It will be further noted that by virtue of having the device cone-shaped and with considerable inclination to  
 65 the walls thereof the device can be handled with less difficulty than if the grater and the

hood were of a cylindrical shape, since the large base afforded by my improved form gives a greater stability to the device than it would otherwise have.

My improved grater may be made of any suitable materials which are used in such articles, and, if preferred, the shield may be made of glass or some kind of earthenware. The device may of course be used for grating any kind of substance, and as the grater and shield are loosely put together such parts may be readily separated in order to clean or repair the same. I wish to be understood as not limiting my invention to the precise construction herein shown, as various modifications may be made in the different parts thereof without, however, departing from the spirit of the invention.

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

1. The combination of a hollow grater having the grating-surface thereof extending upwardly to a point a considerable distance below the upper end of said grater, the upper end of said grater being closed so as to confine the gases therein, an inclosing shield of imperforate material covering said grating-surface and spaced therefrom a considerable distance so that the grated material may fall between said grater and shield, and a suitable opening formed in the side of the shield through which the material to be grated is introduced to the grating-surface, substantially as and for the purpose set forth.

2. The combination of a hollow grater adapted to be stood upon its lower end during the grating operation, an inclosing shield mounted upon the said grater and surrounding the entire grating-surface thereof, a suitable opening formed in the side of said shield through which the material to be grated is introduced to the grater, the said shield being of such length that its lower end clears the surface on which the grater is stood, substantially as and for the purpose set forth.

3. The combination of a tubular grater adapted to be stood upon its lower end in the grating operation, a tubular shield of greater diameter than the grater loosely mounted upon said grater so as to inclose the grating-surface thereof, said shield being formed with a suitable opening in its side for the introduction of the material to be grated to the grating-surface, substantially as and for the purpose set forth.

4. The combination of a hollow conical grater, a conical shield loosely mounted upon the grater so as to inclose the grating-surface thereof, the said grater and shield adapted to have relative rotary movement on each other and the said shield being formed with an opening in its side for the introduction of the material to be grated to the grating-surface, substantially as and for the purpose set forth.

5. The combination of a hollow conical



grater adapted to rest upon the larger end as a base and a conical shield mounted loosely upon said grater and inclosing the grating-surface thereon, said shield being formed with an elongated opening in its side, said opening extending longitudinally of the shield, substantially as and for the purpose set forth.

6. The combination of a tubular grater adapted to be stood upon its lower end in the operation of grating and provided at its upper end with a handle, a tubular shield mounted loosely upon said grater so that they may have a relative rotary movement on each other, the said shield extending upwardly to a point not above the upper end of the grater and provided with an opening in its side through which the material to be grated is introduced to the grater, substantially as and for the purpose set forth.

7. The combination of a hollow grater closed at its upper end, and a bell-shaped guard movably mounted upon the upper end of said grater and surrounding the grating-surface thereof, said guard being provided with a lateral opening at a point considerably below the upper end of the guard, whereby the space between the upper end of the guard and the grater constitutes a gas-receiving chamber, substantially as and for the purpose set forth.

8. The combination of a grater, a shield mounted over the grating-surface of said grater and provided with a suitable opening through which the material to be grated is introduced to the grating-surface the said grater and shield adapted to have a relative shifting movement to adjust the opening in the shield over a different portion of said grating-surface, but adapted to remain in relatively-fixed relation during the grating op-

eration, substantially as and for the purpose set forth.

9. The combination of a grater circular in cross-section and provided with grating-perforations and having grating-teeth upon the outer face thereof, a scraper bearing with spring-pressure against the interior wall of said grater so as to scrape therefrom the grated material, said grater and scraper having relative rotary movement, substantially as and for the purpose set forth.

10. The combination of a conical grater formed with grating-perforations, a scraper consisting in a piece of resilient material formed U-shaped with the ends thereof diverging, said U-shaped members being mounted within the grater so as to press against the interior wall thereof, and means for moving the U-shaped members so as to scrape the wall of the grater, substantially as and for the purpose set forth.

11. The combination of a conical grater provided with grating-perforations, a scraper consisting in a piece of resilient material formed U-shaped with the ends thereof diverging so as to fit within the conical interior of the grater, the U-shaped members being mounted at the arched part thereof in the upper end of the grater, and a suitable handle connected with the U-shaped member to turn it within the grater, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

SOPHIE BLICKMAN.

Witnesses:

WILLIS FOWLER,  
TIMOTHY J. MURPHY.