

No. 657,191.

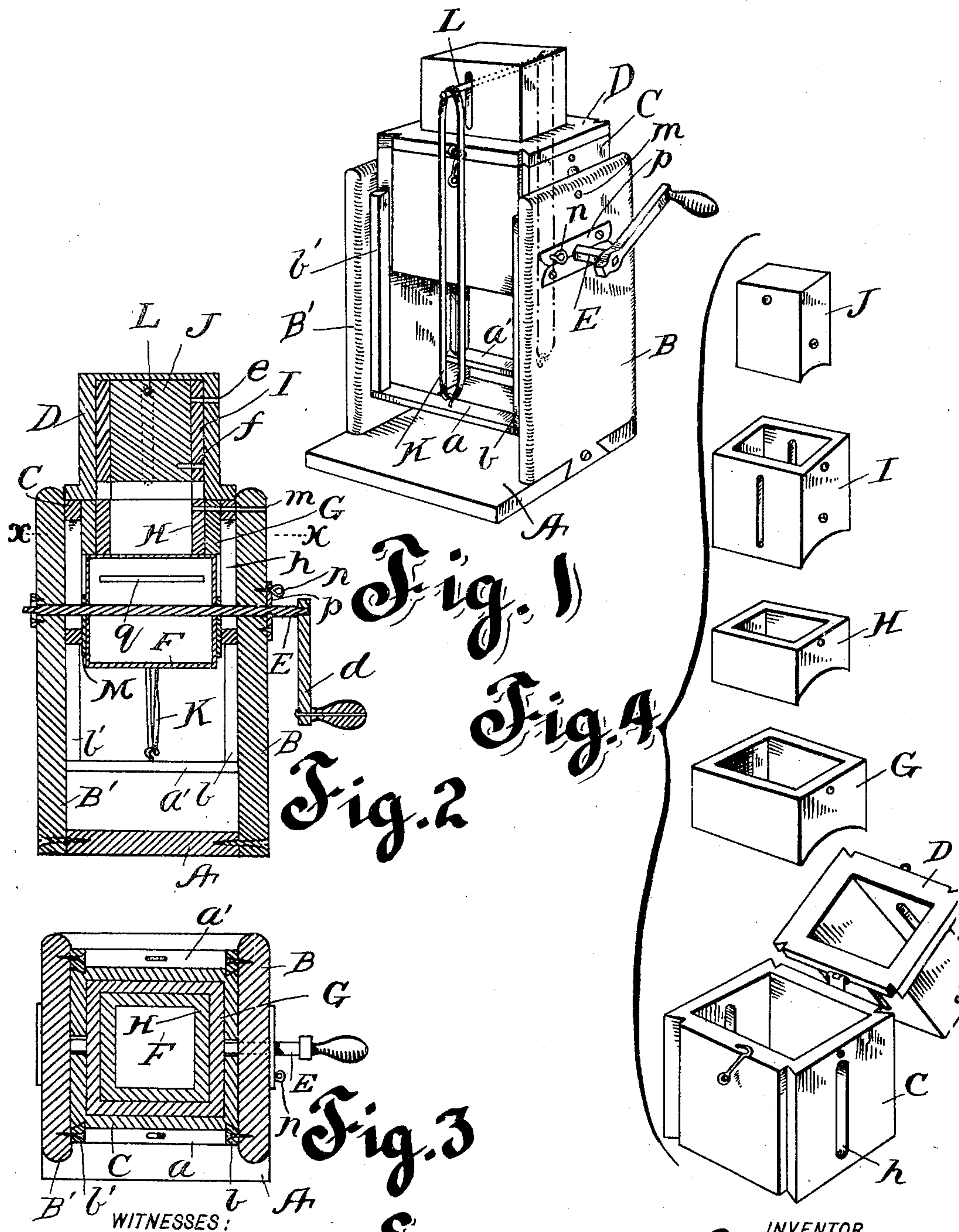
Patented Sept. 4, 1900.

E. CRUPE.  
GRATER.

(Application filed Dec. 6, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:  
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L. A. Goldbeck.

INVENTOR  
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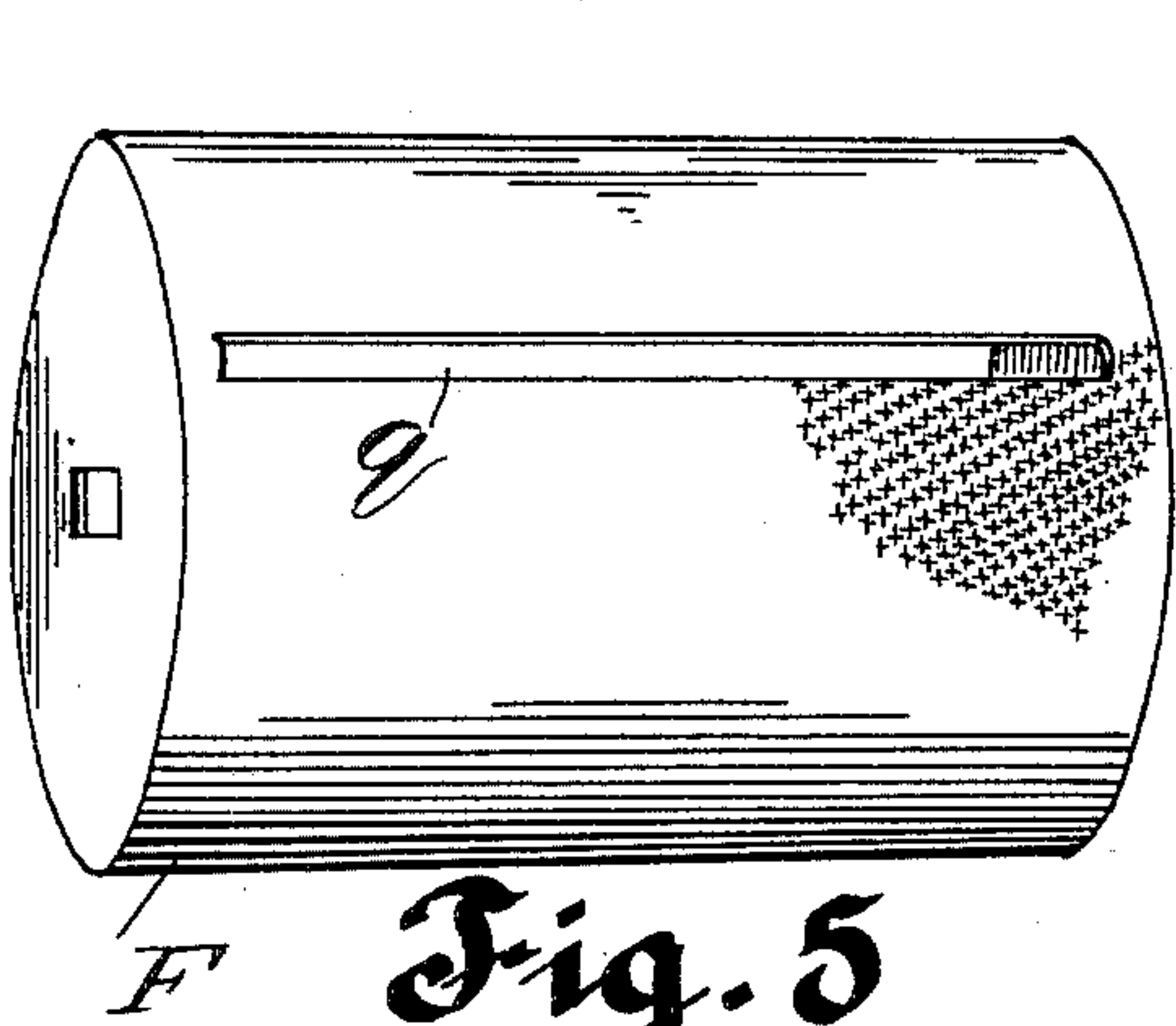


Fig. 5

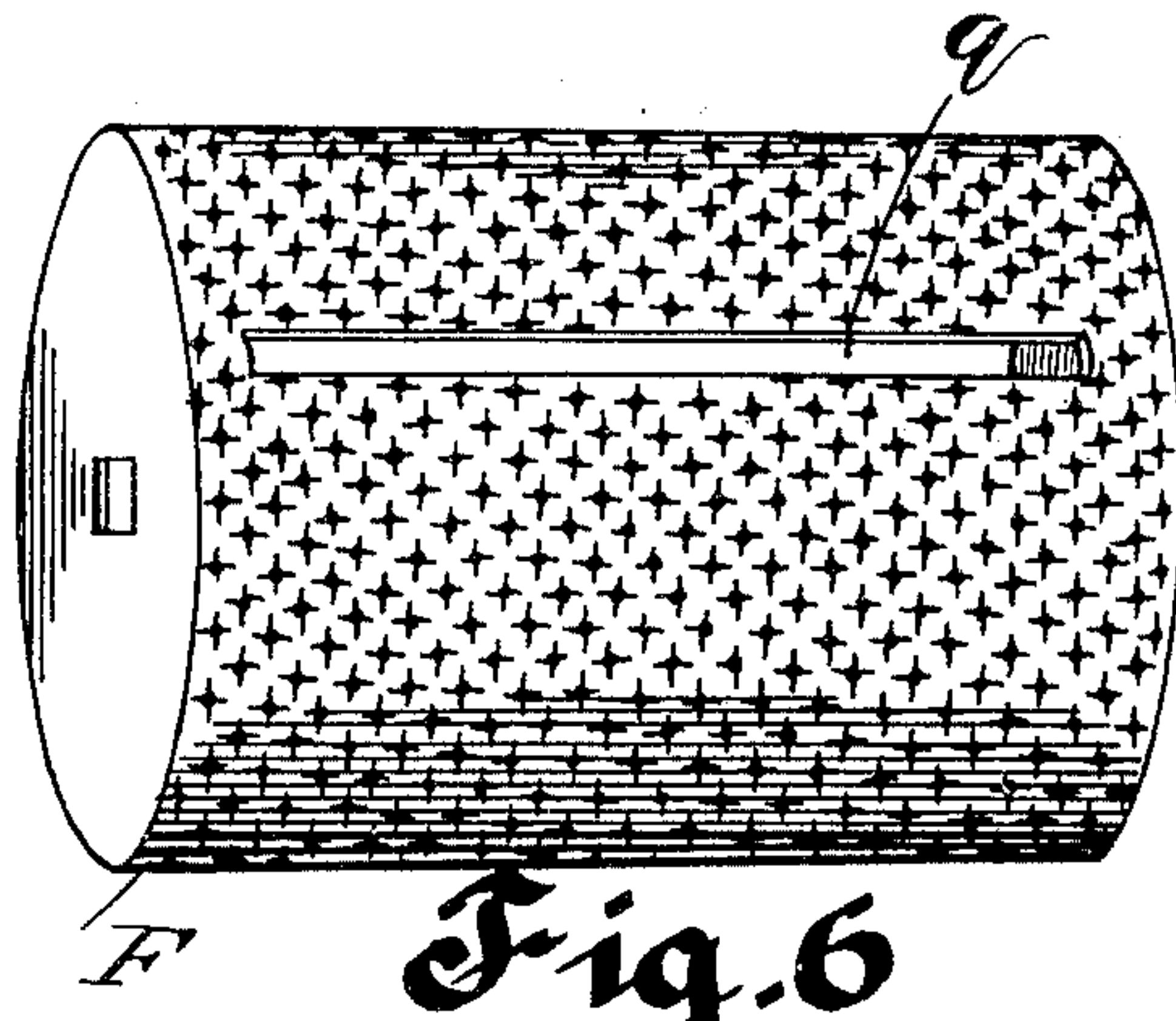


Fig. 6



Fig. 7

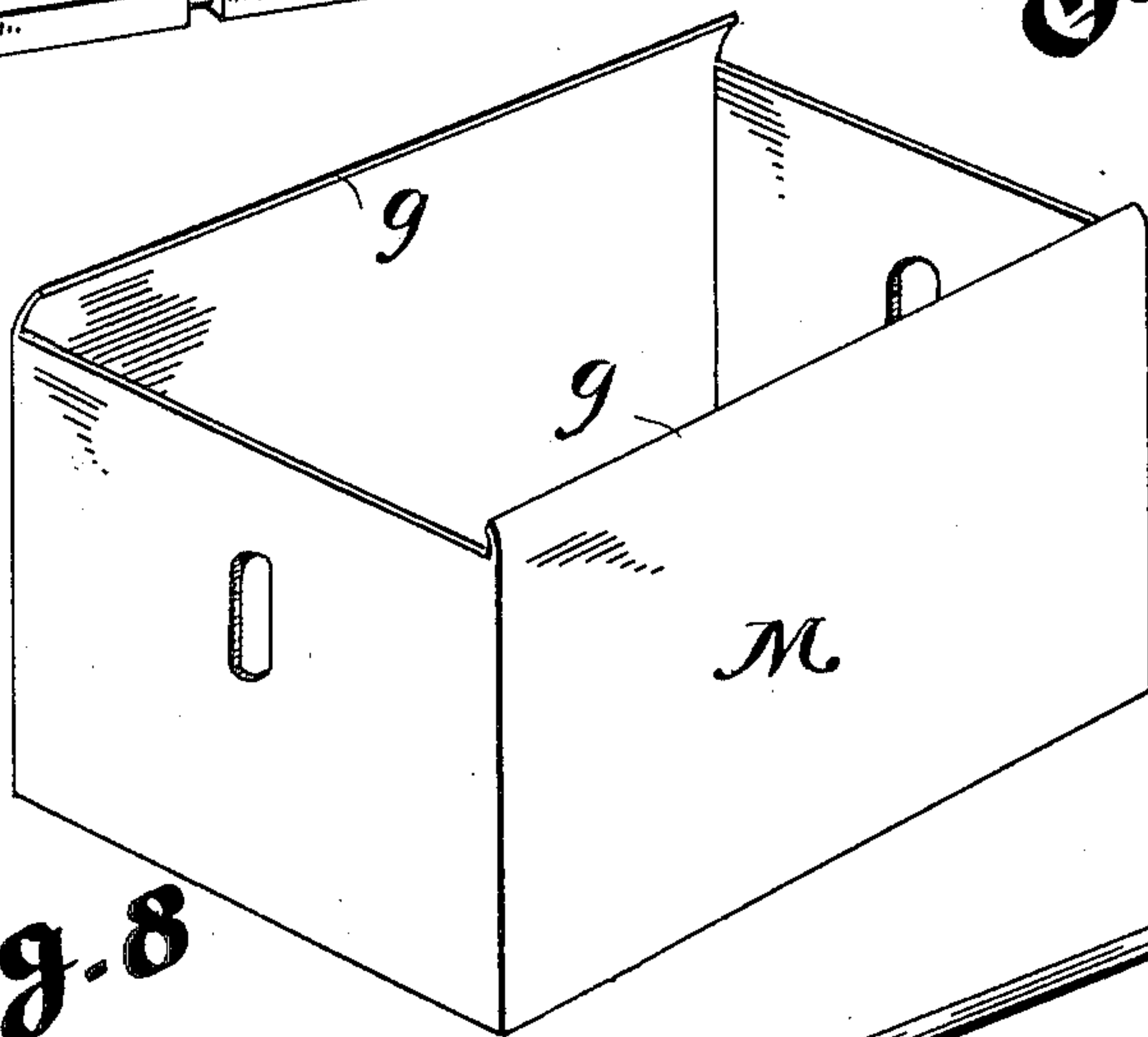


Fig. 8



Fig. 9

WITNESSES:

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BY  
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# UNITED STATES PATENT OFFICE.

EMMANUEL CRUPE, OF SAN FRANCISCO, CALIFORNIA.

## GRATER.

SPECIFICATION forming part of Letters Patent No. 657,191, dated September 4, 1900.

Application filed December 6, 1899. Serial No. 739,455. (No model.)

*To all whom it may concern:*

Be it known that I, EMMANUEL CRUPE, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Automatic Graters; 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.

Generally speaking this invention is an improvement in "graters;" but more particularly it is an improvement on the device shown in my application Serial No. 725,922.

In addition to all the objects of the above-designated invention I have afforded means for quickly adjusting the operative area of the feeder, and thereby quickly adapting the device for the grating of various articles whose bulk, compactness, or hardness vary greatly.

I have so constructed the various parts that they can be quickly taken apart for any object or another grating-surface of a coarser or finer quality substituted, while the automatic nature of the feed possible in my former application is preserved and, in fact, greatly simplified in its general make up.

My invention more particularly resides in the novel combination, construction, and arrangement of parts hereinafter fully described, and set forth in the claims.

I am enabled to accomplish the above results by the means illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the device. Fig. 2 is a central vertical section of the same. Fig. 3 is a section on the line  $x-x$  of Fig. 2. Fig. 4 is a perspective view of the several parts constituting the feeder. Figs. 5 and 6 represent two grating-surfaces of different sizes of mesh. Fig. 7 is the main shaft through which motion is imparted to the grating-surface. Fig. 8 is a perspective view of the guard which surrounds the rotary grater, and Fig. 9 is the rod to which the upper extremities of the elastic bands are attached.

I will now explain in detail the construction of my invention, referring to the above views by letter.

A represents a suitable foundation or base which is adapted to be screwed or otherwise

fastened down to a sufficiently-stable table or other stand. Dovetailed into opposite edges of this base A are the vertical parallel sides B B', which are provided with the vertical guides  $b b'$ , while the cross-braces  $a a'$  extend horizontally from B to B'. Adapted to slide vertically in the guides  $b b'$  is the feeder C, which is provided with a hinged top D. Within this feeder C and supported by means of the horizontal shaft E is the rotary grater F.

It will be readily seen that by means of the device so far described if the substance to be grated be placed within the feeder C and the latter forced downward against the rotary grater F, which is caused to revolve by means of the crank  $d$ , the substance will be rapidly reduced to particles of the desired dimension and the latter dropped into a suitable receptacle which is placed on the base A. Now should it be found desirable to reduce the operative area of the feeder in order to cope with a substance of greater or less degree of density I have provided the telescoping sections G and H. Further, in order to provide a correspondingly-sized follower or feeder I have constructed the members I and J, which are adapted to telescope in the upper portion D of the feeder C.

As a means for causing the device to feed automatically I have provided the rubber bands K, which are attached at their lower ends to suitable hooks on the cross-braces  $a a'$ , while their opposite extremities pass over a horizontal rod L, which penetrates the top D and members I and J.

Having thus described the general outline of my invention, I will now explain its operation. Assuming that the sections G and H are removed from the feeder and also that the members I and J are held rigidly to the top D by means of the pins  $e$  and  $f$  and that the article to be grated is placed within the feeder above the rotary grater, it will be seen that as the crank  $d$  is turned and the article ground down and the gratings deposited in the manner above set forth the rubber bands K will cause the feeder to slide downward in the guides  $b b'$  until the whole of the substance is grated away. Now in order to prevent the substance from following the rotary grater in larger particles than those desired



I have provided the guard M, whose opposite edges *g* are inclined inward to hug the rotary grater. In order to permit of this vertical play of the feeder while the horizontal shaft E is relatively stationary, I have provided the vertical slots *h*. Should it be desired to diminish the operative area of the feeder, the pin *m* is inserted until it enters the feeder C and section G and the pin *e* is removed. It is evident that with these conditions as the rotary grater is revolved the main feeder C will remain stationary, and the members I and J will travel toward the grater and automatically feed the substance in the manner above described. Now should it be desired to further reduce the operative area of the feeder the interior section H is set in place, as shown in Fig. 2, and the pin *f* removed. In this case the interior member J will alone travel toward the grating-surface, and thereby automatically feed the substance. Should it be desired to disassemble the parts, all that is necessary to do is to loosen the thumb-screw *n* and swing the plate *p* upward, when the horizontal shaft E can be readily removed, thereby permitting the feeder C to be drawn upward out of the vertical guides *b b'* and the remaining portions readily removed from the feeder. In order to allow the grated substance to escape from the interior of the rotary grater, I have provided the horizontal opening *q*.

It will be readily seen from the foregoing description that I have provided a very simple, durable, and most effective grater in

which the conditions can be readily changed to accommodate various substances, while the grating-surface, aside from being adjustable in its area, can be quickly and readily removed and a grating-surface with a different mesh substituted in its stead.

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

1. In a device of the class described the combination with a rotary grater provided with a shaft having fixed bearings, a feeder about said grater and means for forcing said feeder against said grater, and a series of telescoping sections within said feeder and adapted to be separately fastened together to adjust the operative area of said feeder, substantially as and for the purpose set forth.

2. In a device of the class described the combination with a sliding feeder, a rotary removable grater within said feeder, a shaft removably attached to said grater, slots in said feeder and through which said shaft protrudes, a stationary guide for said feeder, said shaft having fixed bearings in said guide, and a series of telescoping sections within said feeder, said sections being adapted to be separately fastened together for the purpose set forth.

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

EMMANUEL CRUPE.

Witnesses:

GEORGE PATTISON,  
L. A. GOLDBECK.