

F. X. STIEFENHOFER.  
Grain-Decortivating Apparatus.  
No. 223,184. Patented Dec. 30, 1879.

Fig. 1.

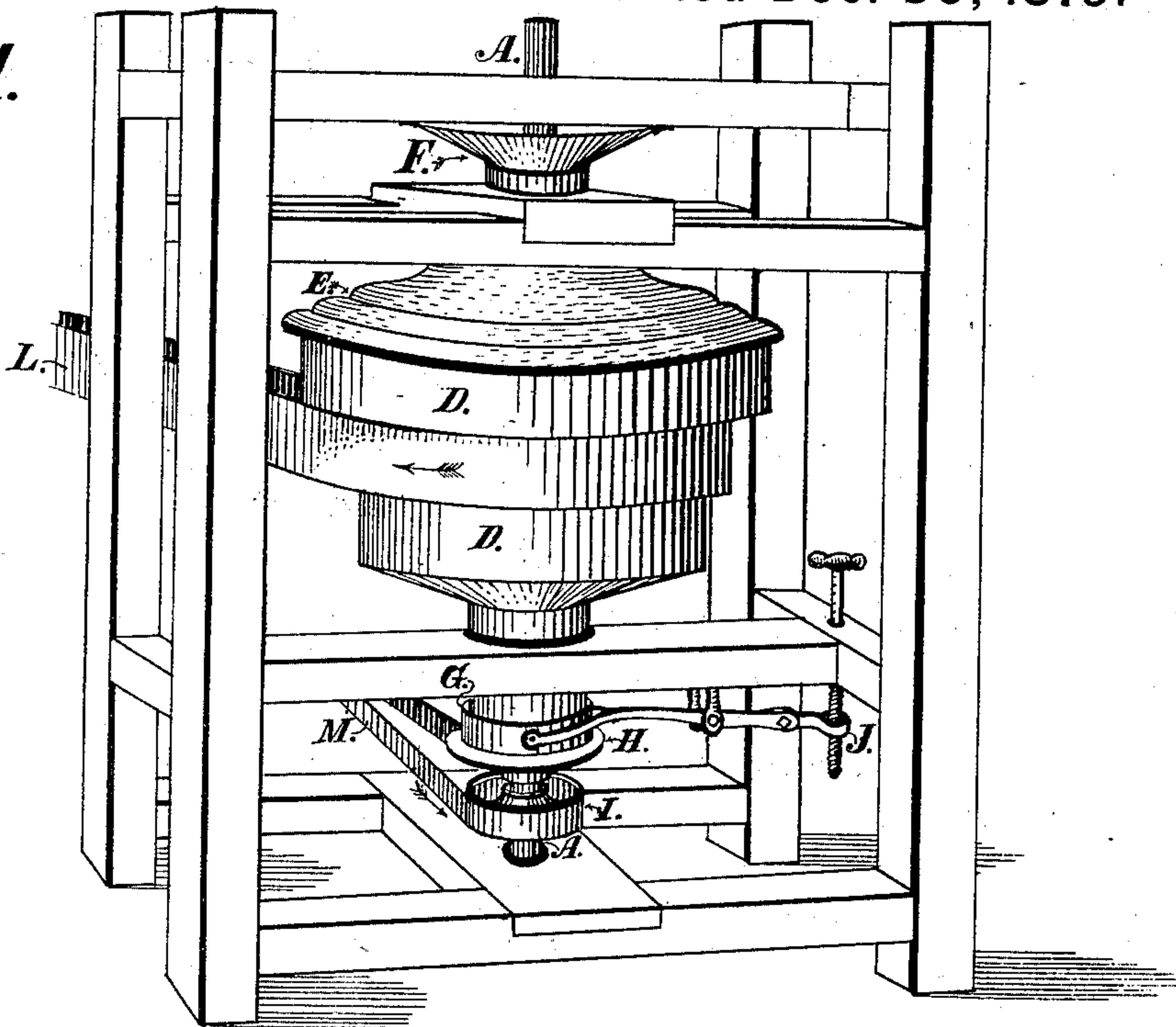


Fig. 3.

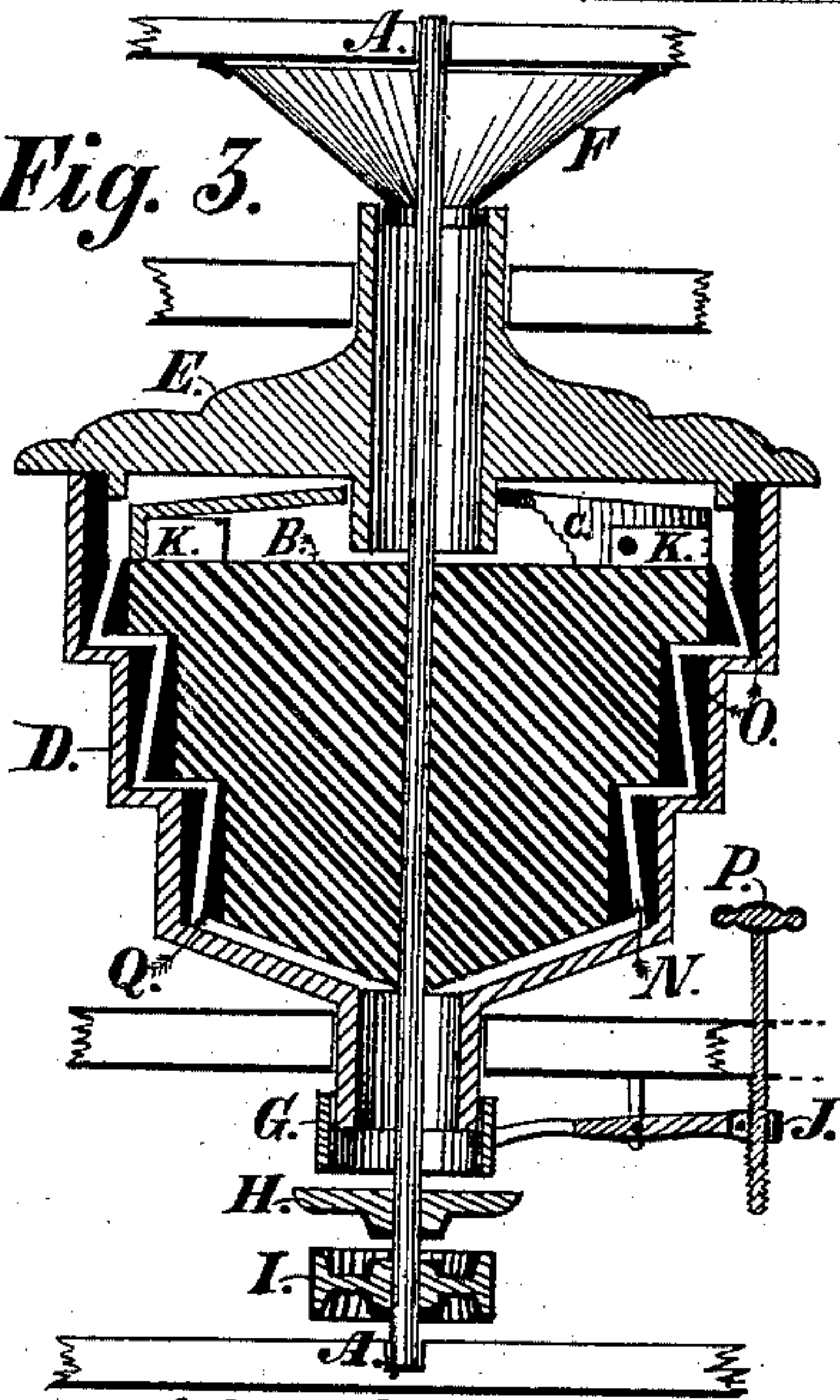
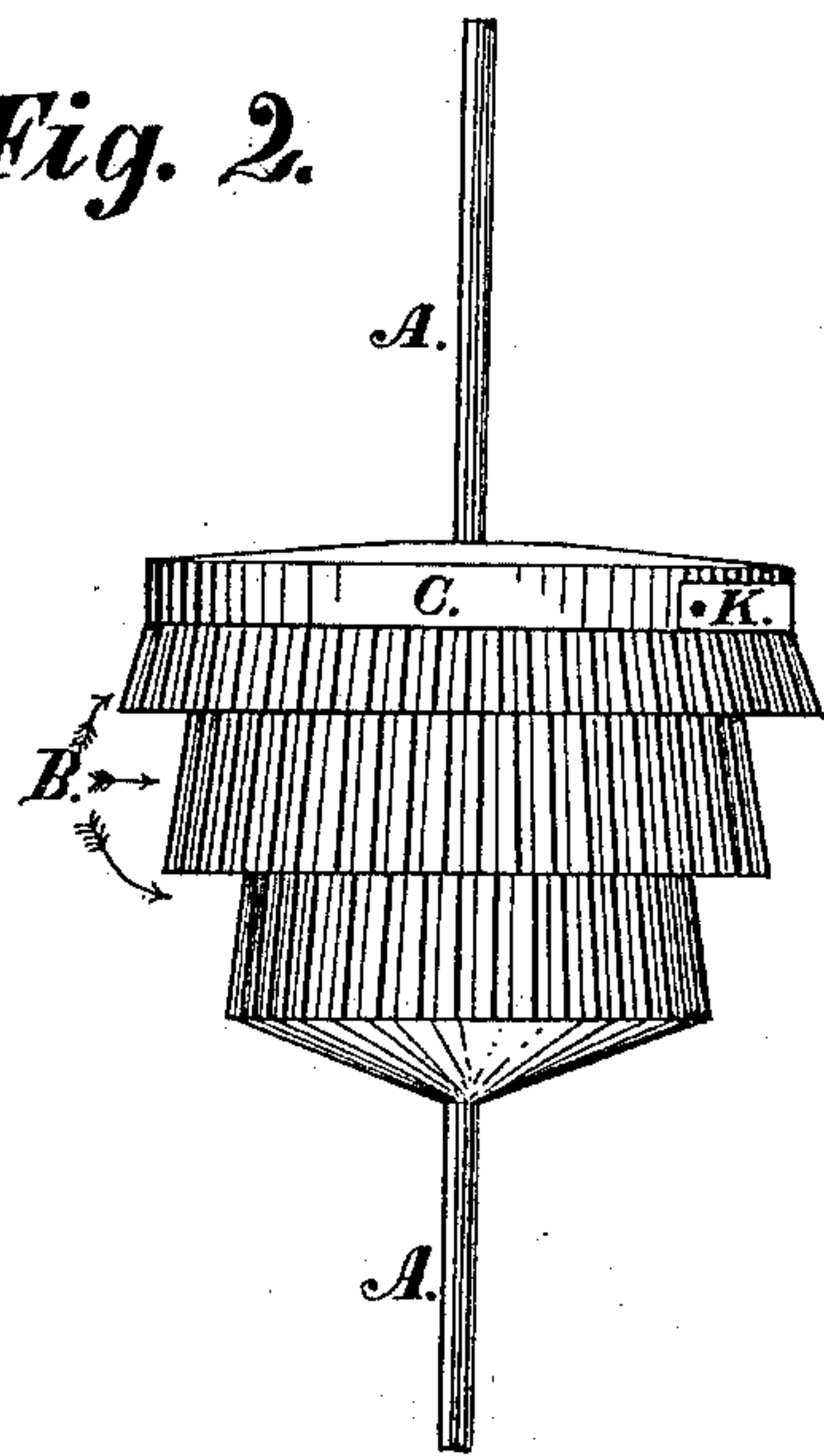


Fig. 2.



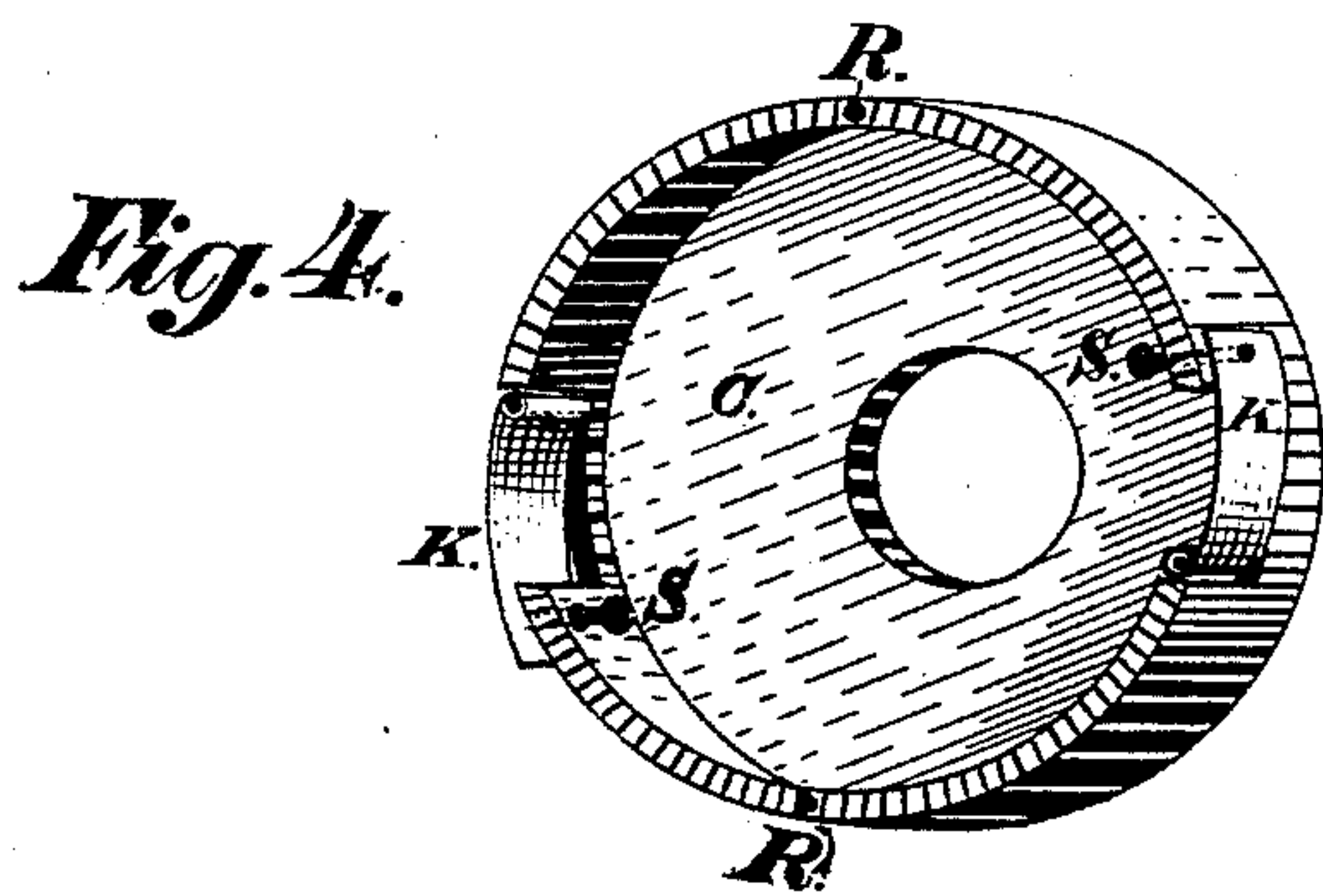
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**Witnesses:**

*David McKenna*  
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**Inventor:**

*Franz Xavier Stiefenhofer*



# UNITED STATES PATENT OFFICE.

FRANZ X. STIEFENHOFER, OF CHERRYVILLE, PENNSYLVANIA, ASSIGNOR  
TO JOHN FARBER, OF SAME PLACE.

## IMPROVEMENT IN GRAIN-DECORTICATING APPARATUS.

Specification forming part of Letters Patent No. **223,184**, dated December 30, 1879; application filed  
June 24, 1879.

*To all whom it may concern:*

Be it known that I, FRANZ X. STIEFENHOFER, of Cherryville, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Decorticators, which improvement is fully set forth in the following specification, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my decorticator; Fig. 2, a side elevation of the inside cylinder; Fig. 3, a central vertical section of the machine, and Fig. 4 an under perspective view of the feeding-box C.

The object of my invention is to automatically feed the grain into the machine, so that it may be more regularly done and the decorticator more evenly filled; and it consists in the construction and arrangement of a feeding-box, as will be more fully set forth hereinafter.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation.

A represents the main shaft, which is held in an upright position in the frame of the machine. On the shaft A, at a suitable point, is secured the cylinder B, formed of three wheels or drums of different diameters, the largest being at the top and the smallest at the bottom. These drums are provided with cast-metal rings Q, which are thicker at the bottom than at the top, and are covered by a series of vertical ribs, as seen in Fig. 2. C is the feeding-box, bolted to the top of the cylinder B, and provided in its outer periphery with two openings closed by valves K K, one end of which is hinged to the feeding-box C, as shown in Fig. 4, and the other end provided with a small pin rigidly secured in the end of the valve and extending inward through a hole in the side of the box C, with a head upon its inner end to prevent the valve from opening too far. This pin plays loosely through the side of the box C as the valve is opened and shut. The upper surface of the box C is also provided with a central opening, admitting the end of the feeding-tube connecting with the hopper F, in which the grain is poured.

Around the cylinder B, journaled in and upheld by the frame of the machine, is the outer cylinder, D. This cylinder is also formed by three drums of different diameters, the largest being at the top, and is provided on its inside with broad rings of cast metal, O, thicker at the upper than at their lower edge, and provided with a series of vertical ribs.

Between the ribbed rings Q and O on the cylinders B and D is left a uniform space, N, through which the grain passes to the outlet-tube formed on or attached to the lower part of the cylinder D. The shaft A passes through the center of the outlet-tube, and on this shaft, below the end of the outlet-tube, is secured a disk, H. Around the lower end of the outlet-tube is a collar, G, supported by a forked lever, J, pivoted to the frame, the outer end of which is held in position and raised and lowered by a hand-screw, P.

By this device the collar G is raised and lowered over the outlet-tube, giving more or less space between the collar and the disk H, by which means the flow of the grain is regulated and held a longer or shorter time in the machine, according to the kind or quality of grain under treatment and the quality of product desired.

The top of the cylinder D is closed by a lid or casting, E, through which the feeding-tube is passed; or it may be cast with and form a part of the same.

The ribbed rings surrounding the cylinders B and D are so shaped that the space N, through which the grain passes, extends outward below to form a more uniform and constantly-increasing friction as the grain passes downward, and the friction is also harder at the top than at the bottom, as the outside of the grain, which is first reached, is much harder than the inside.

The operation of my decorticator is as follows: The power being applied to a pulley, I, on the shaft A and to one of the drums forming the cylinder D, so that the cylinders B and D will revolve in opposite directions, the inside cylinder at a much greater speed than the outside one, (nearly seven times as fast,) the air in the space N between the two cylinders will close the valves K K. The grain now,



being placed in the hopper F, passes down through the feeding-tube into the feed-box C. The pressure of the grain in the box C against the valves K K will open these valves and allow the grain to pass out into the space N, where it is caught between the ribbed rings O and Q, and gradually works its way downward till it passes out through the outlet-tube in a finished state. It is held under treatment in the machine a sufficient length of time to produce the quality of flour desired by means of the collar G and disk H and regulating lever and screw J and P. When the space N becomes full of grain it rises around the valves K K, closing them and preventing the further flow of grain till it has fallen below the valves on the outside of the feeding-box C, and the pressure of grain on the inside will then reopen the valves, and the grain again be fed through, thus forming an automatic feed, by which the flow is regulated and the machine can never become choked.

The inner cylinder, B, should always revolve at much greater speed than the outer one; but the difference in speed may be changed for different kinds of grain by changing the belt from

one to another of the drums of the outer cylinder, D.

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

1. In a decorticator, the feeding-wheel C, provided with valves constructed and arranged to be opened by the internal pressure of the grain, and to be closed by the external pressure of the same as soon as the scouring mechanism receives more grain than is necessary for immediate action, substantially as set forth.

2. In a decorticator, the rotary feeding-wheel C, provided with hinged valves K K and headed pins s s, in combination with the outer cylinder, D, substantially as and for the purposes set forth.

3. The combination, substantially as herein described, of the cylinders B D with feeding-wheel C, said wheel having hinged valves K K, for the purpose set forth.

FRANZ XAVOR STIEFENHOFER.

Witnesses:

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