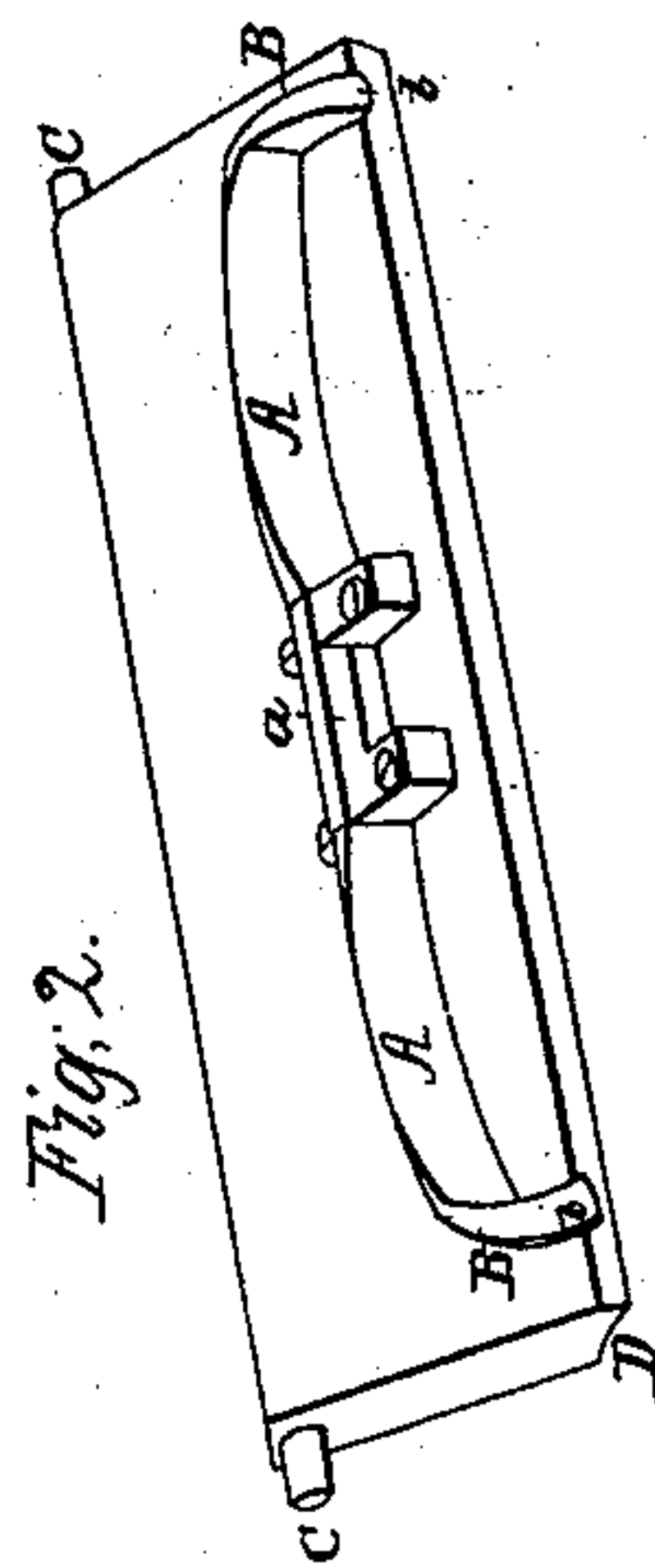
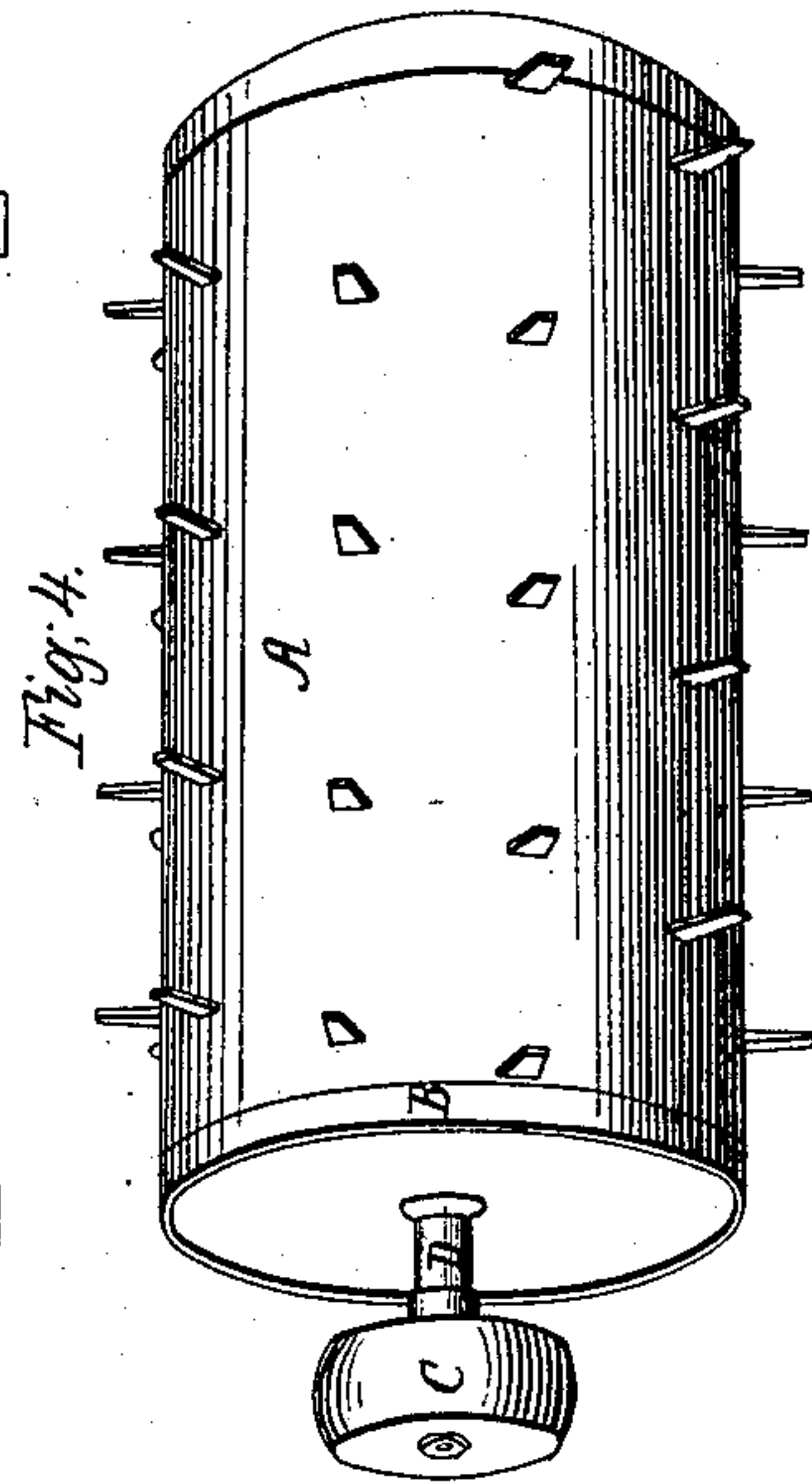
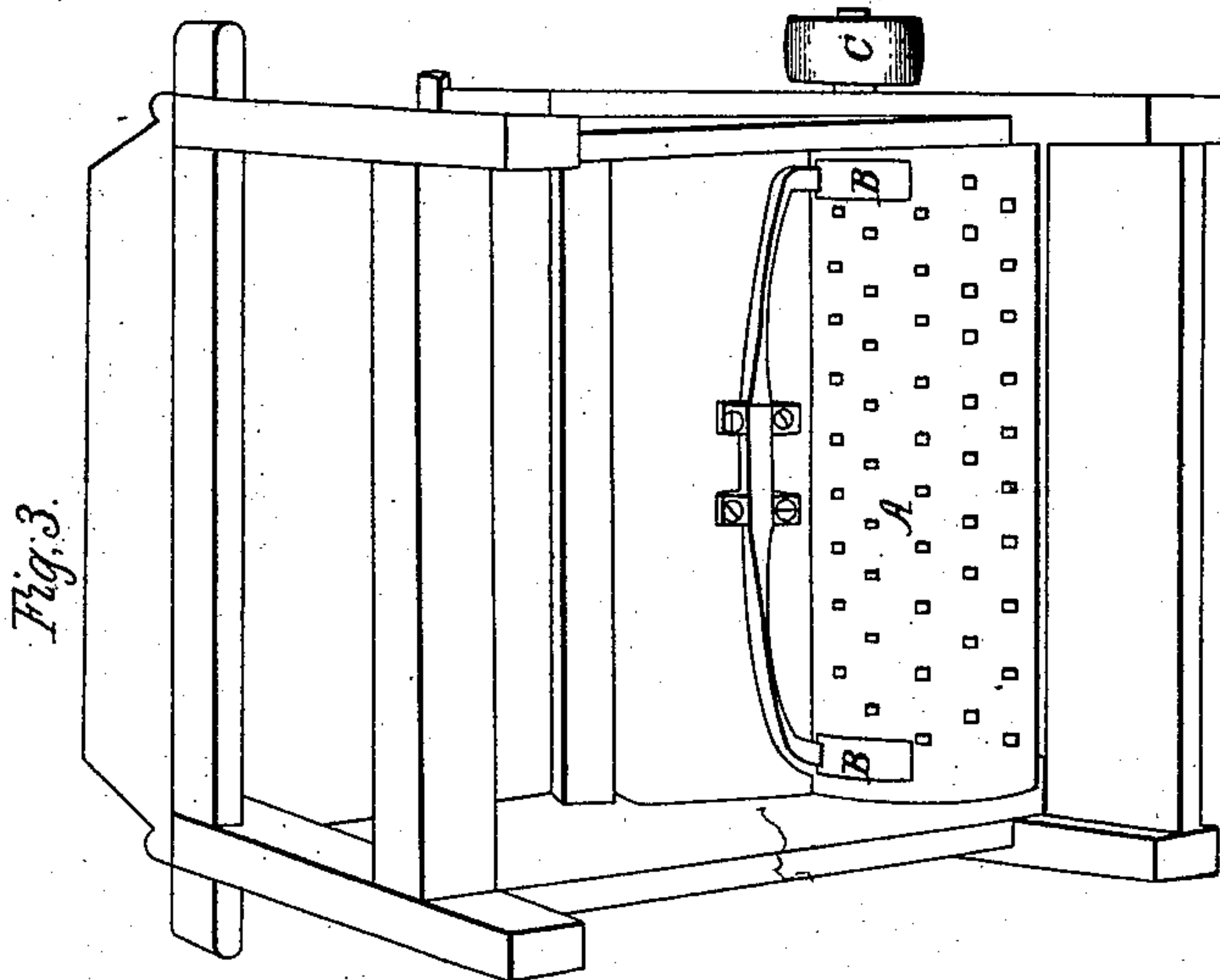
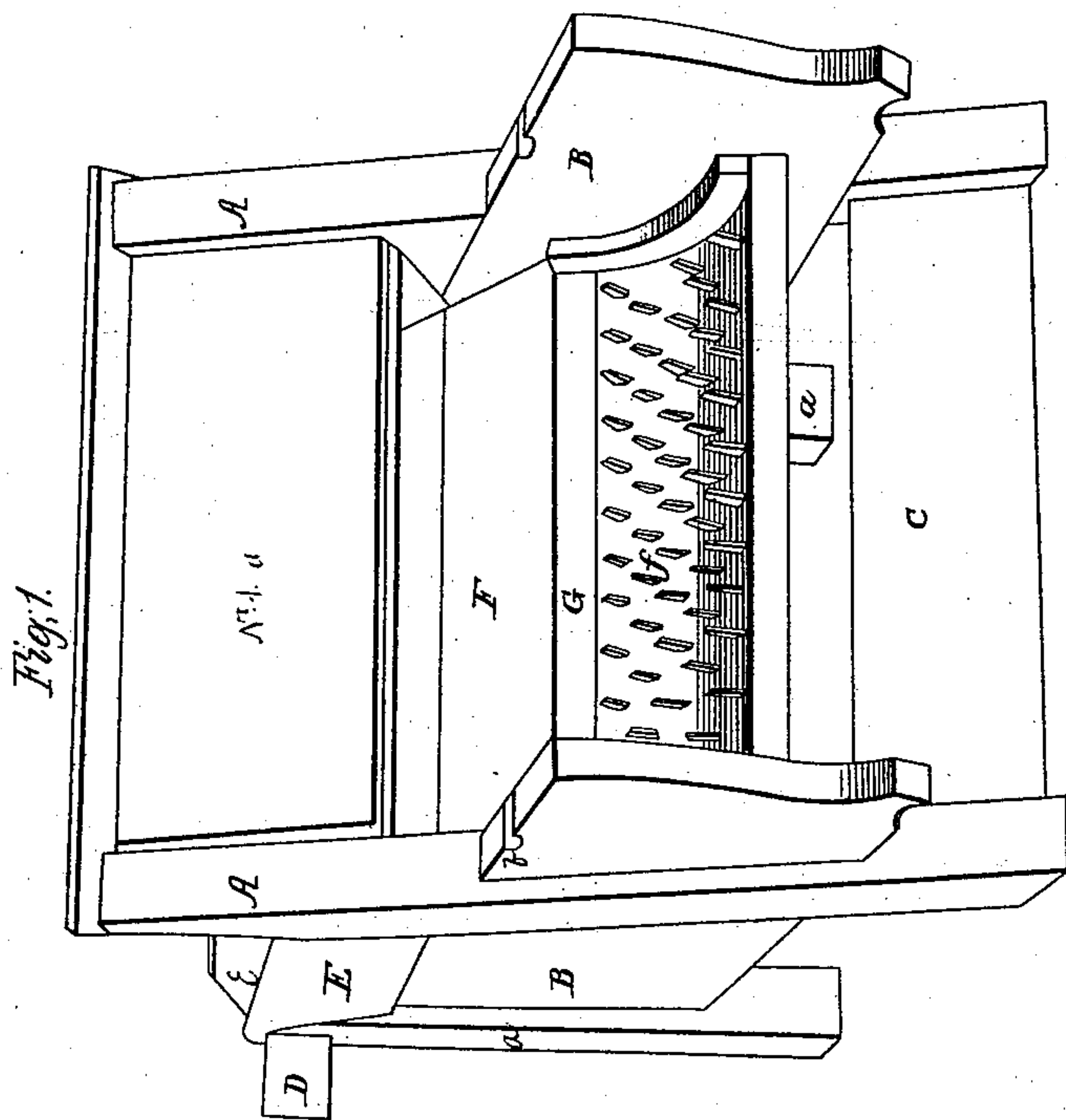


D. STAFFORD.  
Thrashing Machine.

No. 1,613.

Patented May 19, 1840.





# UNITED STATES PATENT OFFICE.

DAVID STAFFORD, JR., OF SYRACUSE, NEW YORK.

## THRESHING-MACHINE.

Specification of Letters Patent No. 1,613, dated May 19, 1840.

*To all whom it may concern:*

Be it known that I, DAVID STAFFORD, Jr., of the village of Syracuse, county of Onondaga, State of New York, have invented a new and useful Improvement upon Threshing-Machines for the Threshing of All Kinds of Grain; and I do hereby declare that the following is a full and exact description of the same.

The nature and object of my invention consists in constructing the apron of the machine or the platform on which the grain is placed for feeding the machine with two sections, the one of which next to the cylinder of the machine is hung with hinges or pivots and supported with a spring or otherwise, so as to drop or fall whenever any stone, stick or other hard substance may pass into the machine with the straw or otherwise letting the substance fall to the ground, and thus preventing fractures and injuries to the machine; and in giving a full and clear description of the construction and operation of the said machine and the improvement thereupon I refer to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the machine with the cylinder removed therefrom, so as to exhibit the concave bed of the machine, in which the teeth are embedded, and over which the cylinder, also constructed with teeth, revolves, and also the two sections of the apron or platform above referred to. Fig. 2 represents the section of the apron which drops with the springs for supporting the same, being an inverted view of the same. No. 3 represents the machine as viewed from beneath.

Letters A on the Figure No. 1 represent the forward parts of the frame of the machine, the whole frame consisting of four parts, two girts two side plank and one dust board, the said forward parts being four feet in length and inclining back toward the apron *a* from the cylinder 19 inches at the top. Letters B, represent the side plank into which the forward parts are framed or locked four feet in length and fifteen inches inside, and also framed into the back parts marked *d*. The back parts marked *d* are two feet five inches high, with a cross girt ten inches from the bottom framed into them to strengthen them. C represents a girt framed into the forward parts at the bottom. D represents a girt framed into the

back parts at the top. E represents the side of the feeding table running from the forward to the back parts. Letter F represents the drop apron, as seen in the machine when the cylinder revolving over the concave *f* is removed. Said drop apron being hung by pivots or tenons in the side plank or by hinges to other parts of the machine, so that any hard substance dangerous to the machine in passing down the same toward the curved section G forces down the springs or other means by which the drop apron is supported from beneath and lets the substance fall to the ground. The drop apron is about one foot in width and extends the whole distance between the side plank. Letter G represents a curved section of the drop apron about an inch and a quarter in width designed to bring any obstacle in contact with the teeth of the cylinder before the obstacle comes in contact with the concave marked *f*. Letter F represents a concave bed with the iron teeth about two inches in length rising above the bed of the concave. The concave is one foot in width and is built with a curve concentric with the circle described by the points of the teeth of the cylinder revolving above it. Letters *b* represent the boxes on which the arbors of the cylinder rest and are made by cutting a semicylindrical section from the top of the side plank suitable to the dimensions of the arbors of the cylinder. Letter *c* represents a cap upon the tops of the forward parts about five inches in width.

Fig. No. 2 represents the drop apron inverted for the purpose of exhibiting the springs by which the same is supported. The drop apron consists of a plank about two inches thick and one foot in width and is located in the machine as specified in the description of Fig. No. 1. Letters A represent a steel spring with a cast iron cap through which it passes in the center, marked *a*, and extending from the center of the cap about twenty-two inches in each direction toward the end of the apron and terminating at each extremity with a curve, as represented in the figure by letters B, and passing over the edge of the apron about three quarters of an inch into the edge of the concave at the points marked *b*. The spring is about one quarter of an inch by half an inch in the cap or center, and about a sixteenth of an inch in thickness at the point equidistant between the center of the



cap *a* and the ends of the springs. The spring is flattened out at the points A, so as to make the elastic points of the spring at the spots designated by those letters. The  
 5 cap *a* has a chamber running longitudinally through it of such dimensions as to receive the spring passing to the same and is fastened to the lower side of the apron by screws, as represented in the figure. The  
 10 extreme end of the spring marked *b* when the drop apron is properly located in the machine, passes into the concave about three quarters of an inch, and rests upon iron bearings described in Fig. No. 3 attached to  
 15 the lower side of the bed of the concave. Letters *c* represent the tenons on the side of the drop apron farthest removed from the spring. Said tenons are an inch and a quarter in length and pass into holes cut  
 20 with an auger or other instrument in the side plank of the machine. The tenons are made round, being about an inch and a quarter in diameter, so that the apron when dropping, is supported at the point *c* by the  
 25 tenons. Letter D represents the edge of the curved section of the drop apron described in Fig. No. 1, by letter G.

Fig. No. 3 presents an inverted view of the whole machine. Letter A represents the  
 30 bed of the concave. Letter B represents the iron bearings or straps about an inch in width and two inches long screwed upon the lower side of the concave and turning under the edge of the bed of the concave and terminating in a groove or indentation in the  
 35 bed, thus forming a support for the extreme end of the spring, as represented in the figure, and by means of which the drop apron is secured in its position until the  
 40 pressure of some hard substance forces back the spring from the bearing or support B and lets it fall into a vertical position supported by the tenons. C represents the pulley of the cylinder, to which the power is  
 45 applied by means of a strap or gearing.

And I refer also to Fig. No. 4 on the annexed drawing as a part of this my specification. Letter A represents the cylinder with the teeth inserted in it. The cylinder is designed to be about a foot and a half in diameter and revolves over the bed of the concave, as represented by *f* in Fig. No. 1, and is of such length as nearly to fill the space between the side planks B, as represented in Fig. No. 1. Letters B represent iron bands  
 55 running about the ends of the cylinder to give it firmness and strength. C represents the thrum around which the strap by means of which the power is applied to the machine runs. D represents a shaft running  
 60 through the cylinder or fastened into the ends of the same, with sufficient projection at the one end to support the cylinder by resting in the socket *b*, as represented in Fig. No. 1, and projecting from the other  
 65 end of the cylinder far enough to pass through the thrum on the exterior of the side plank, leaving the part of the shaft between the thrum and the end of the cylinder resting on the socket of the side plank  
 70 *f* in Fig. 1 and revolving in it.

What I claim as my invention and improvement and desire to secure by Letters Patent, is—

The manner of constructing the feeding  
 75 table or drop apron, with one section to drop with the hinge or pivot, and with the springs or other means underneath to sustain the same as above described and the object of which is to prevent injury and fracture to  
 80 the machine in the manner before described.

The same principle is applicable to all other machines for a like or similar purpose, and my claim is not confined to machines of the peculiar construction of that above de-  
 85 scribed and specified.

DAVID STAFFORD, JR.

Witnesses:

HENRY DAVIS, Jr.,

DAVID G. STAFFORD.