

M. BARTHOLOMEW.

2 Sheets—Sheet 1.

Grain Scouring and Separating Device.

No. 29,237.

Patented July 24, 1860.

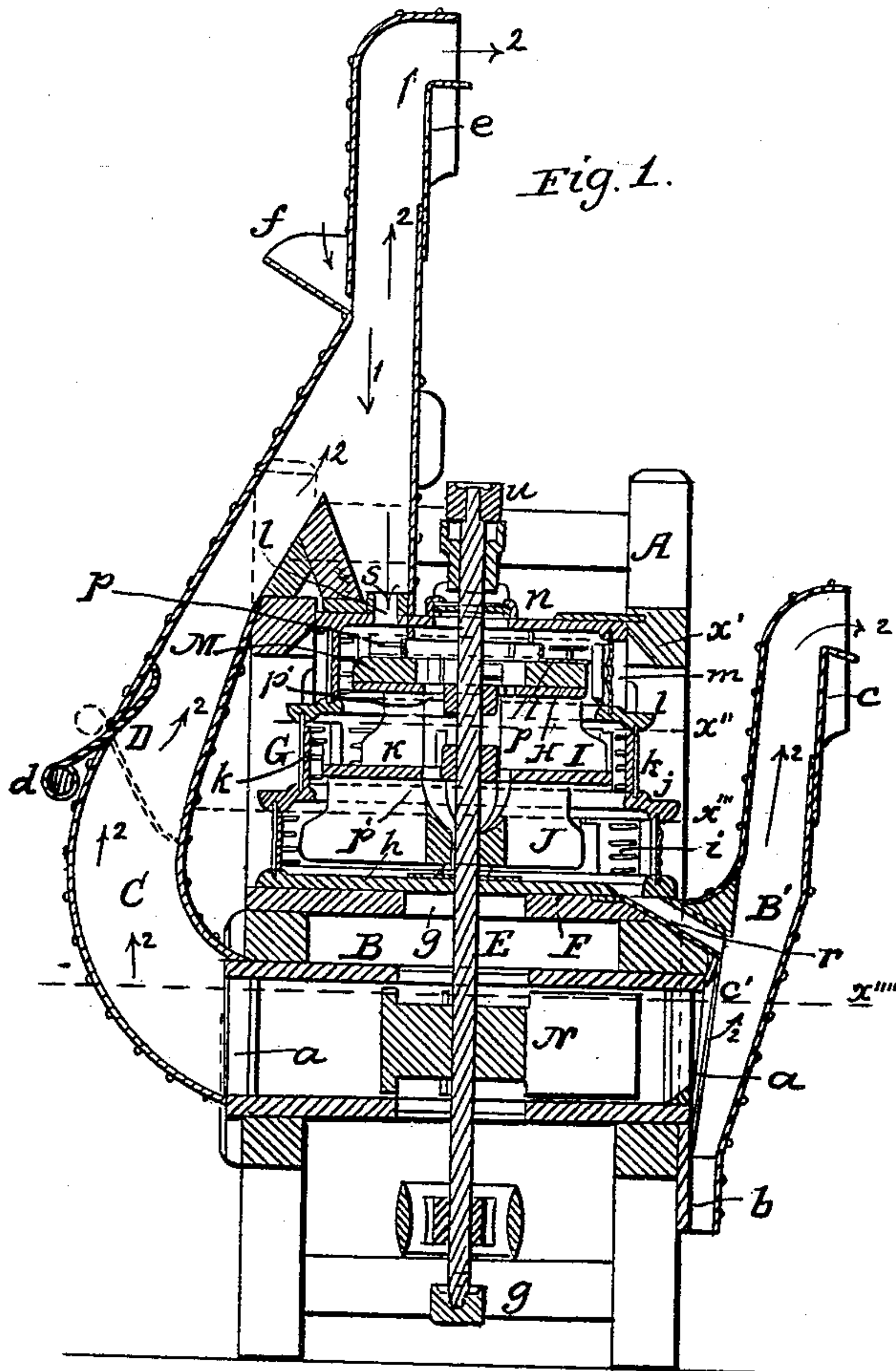


Fig. 3.

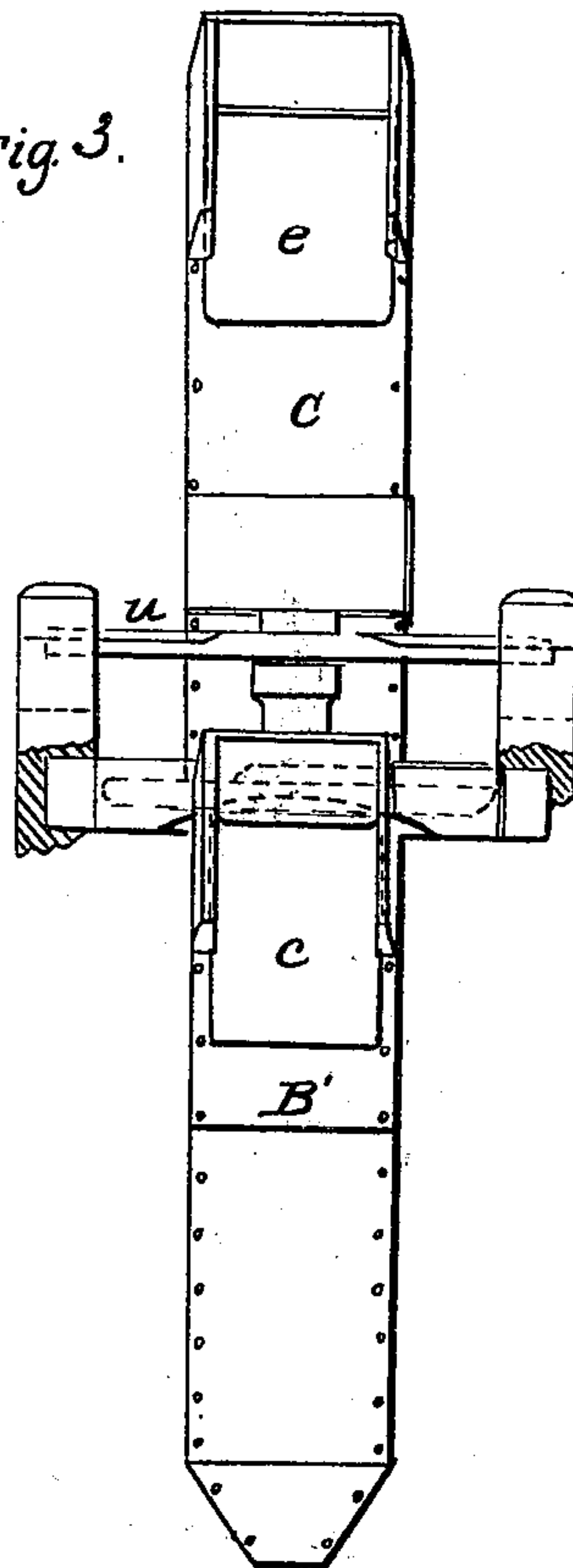
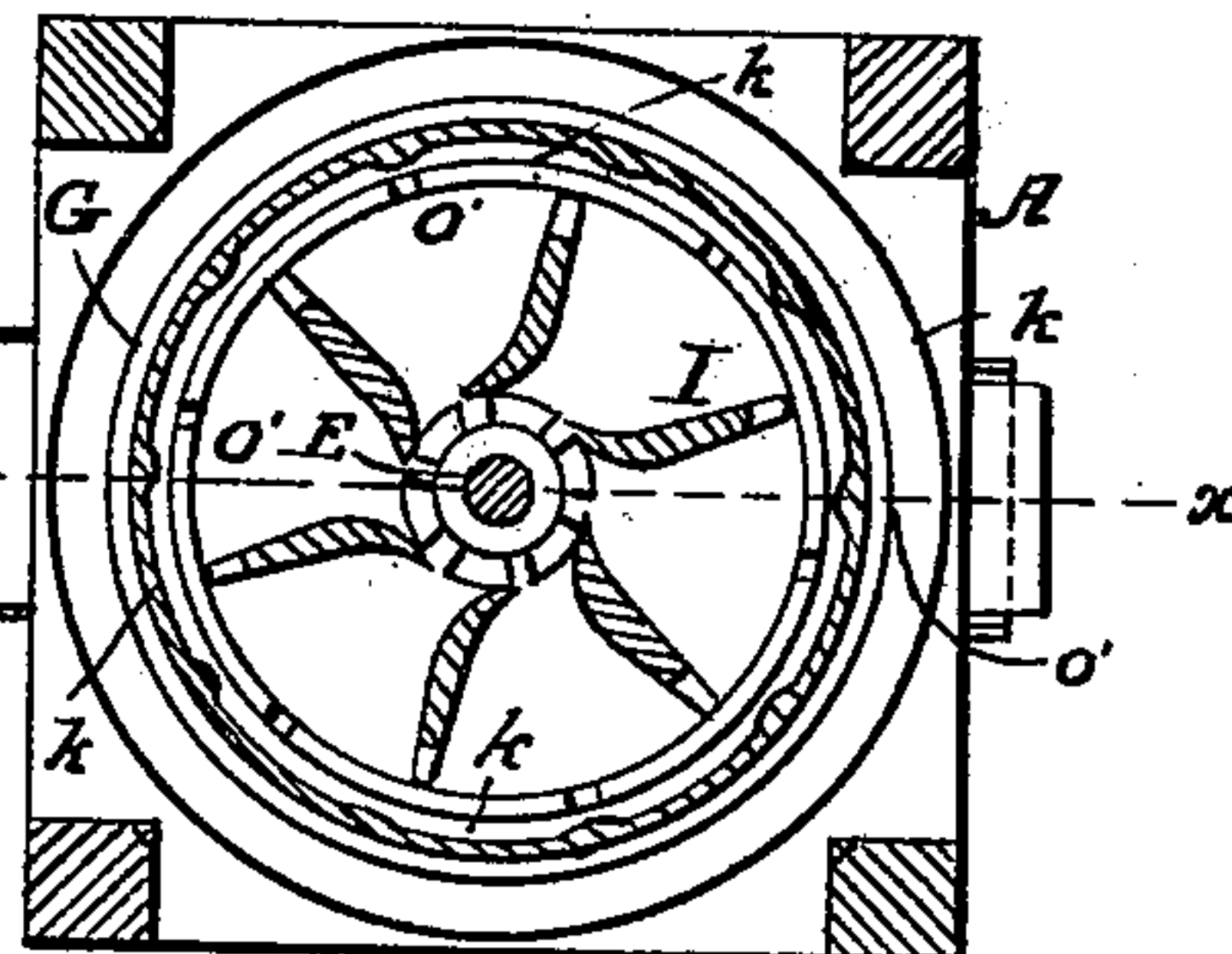
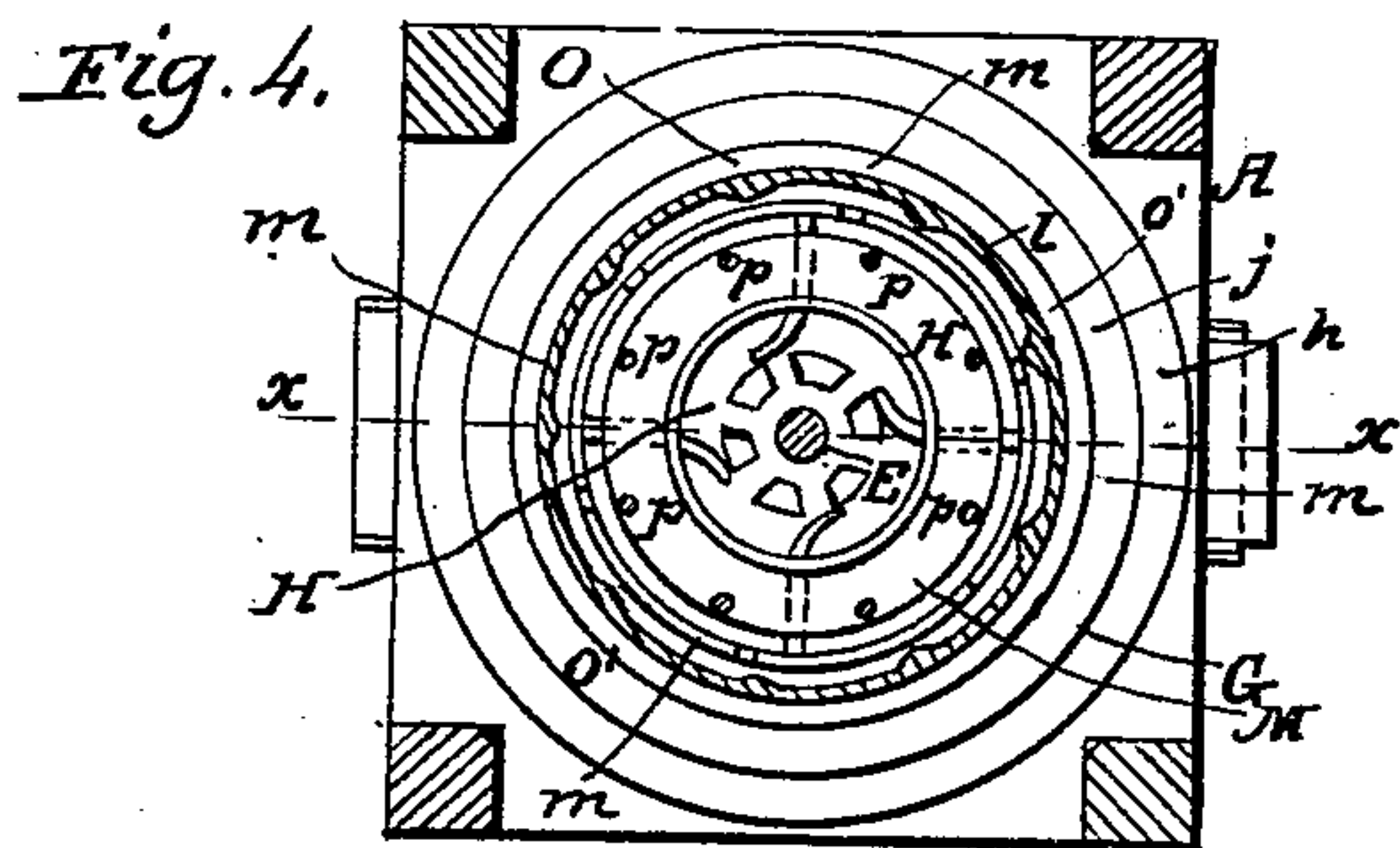


Fig. 5.



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Grain Scouring and Separating Device.

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Fig. 2.

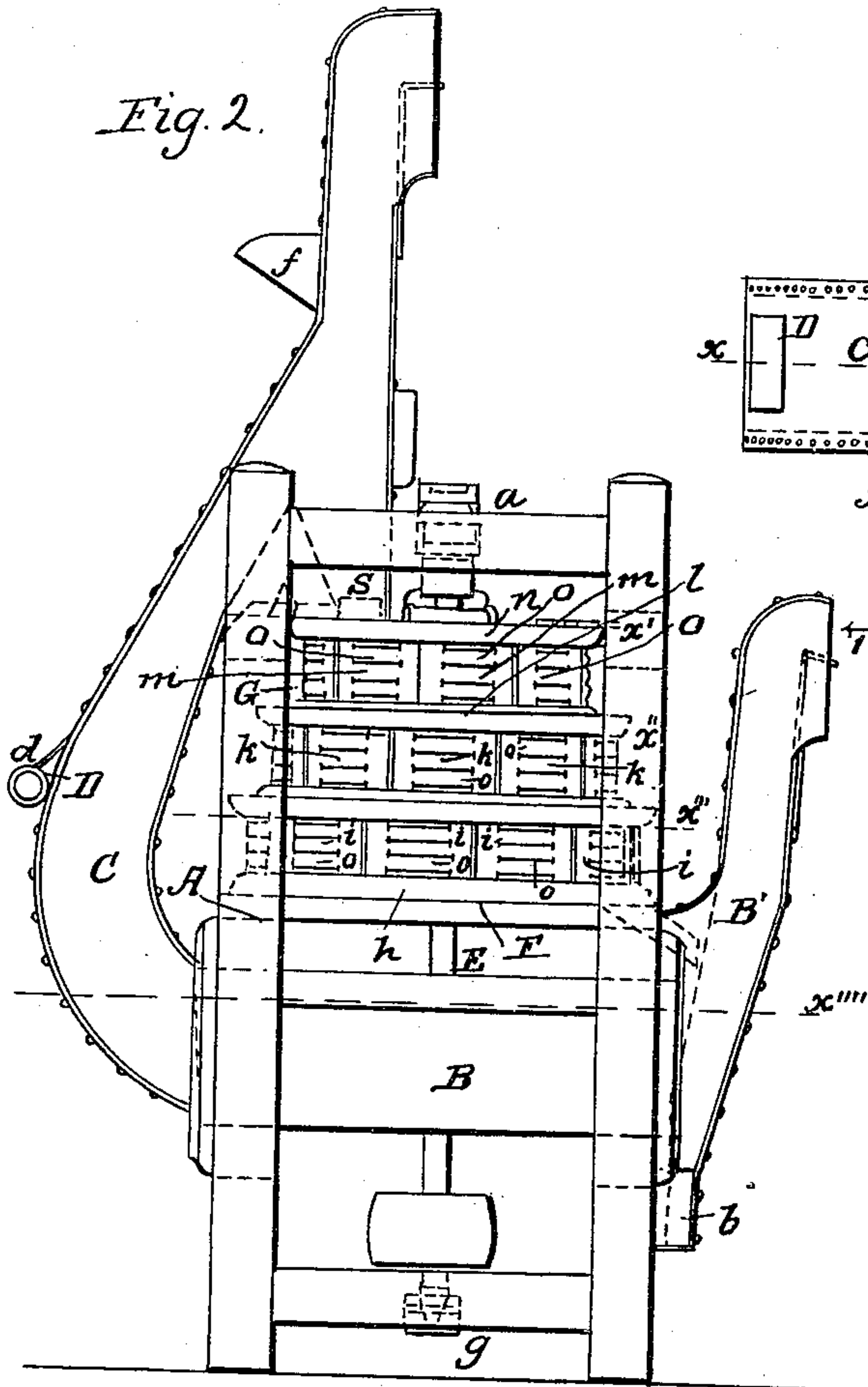


Fig. 8.

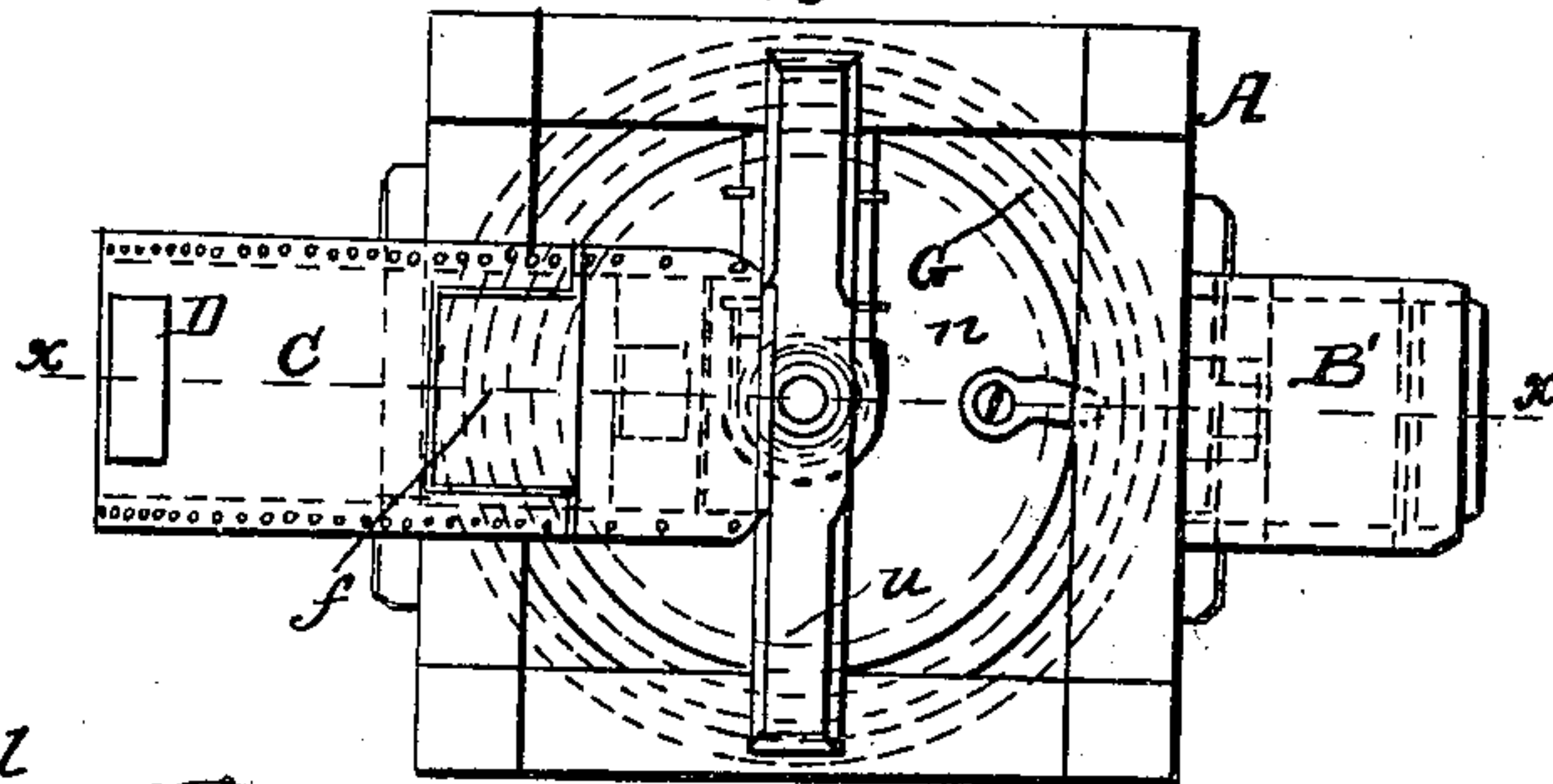


Fig. 6.

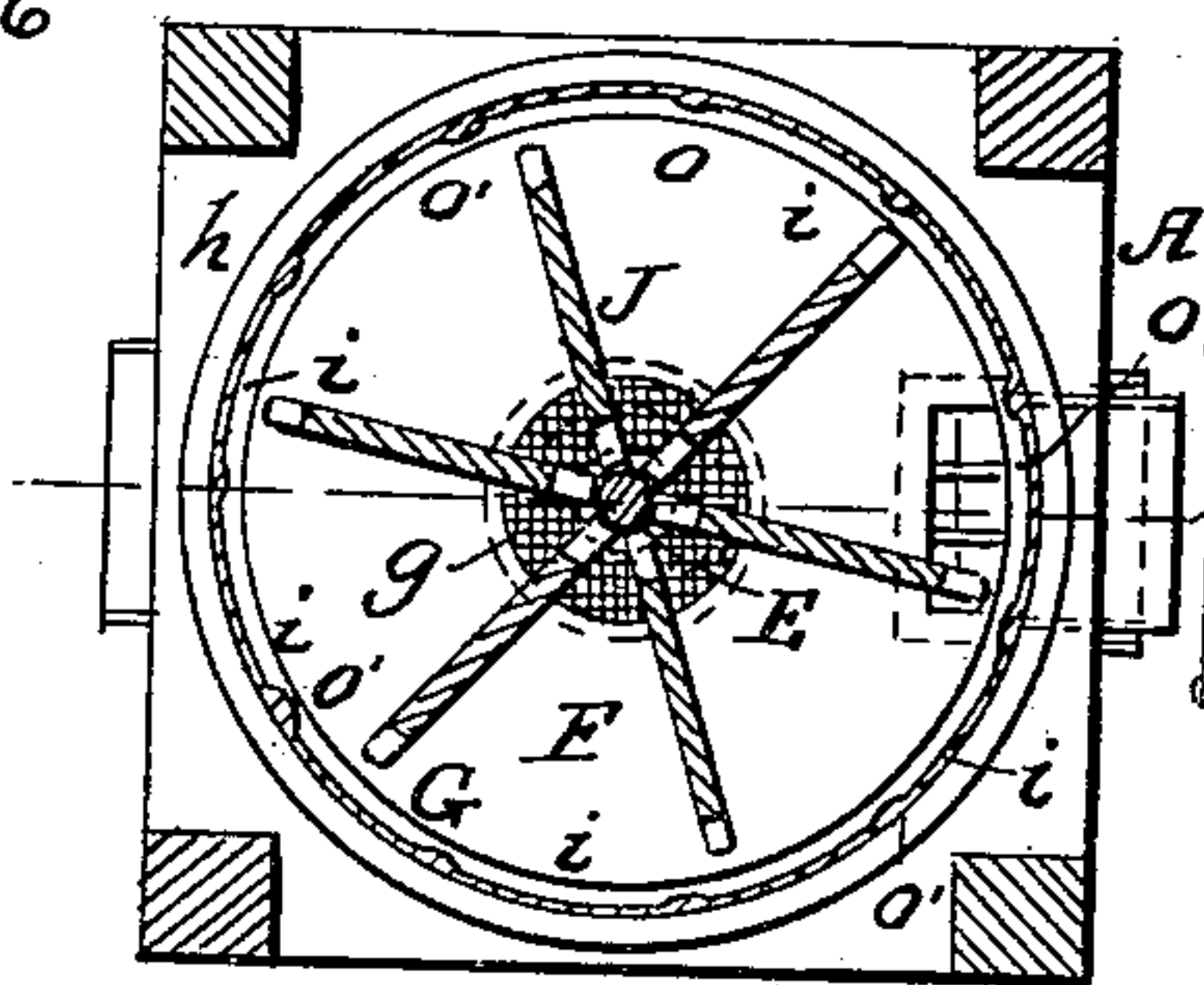
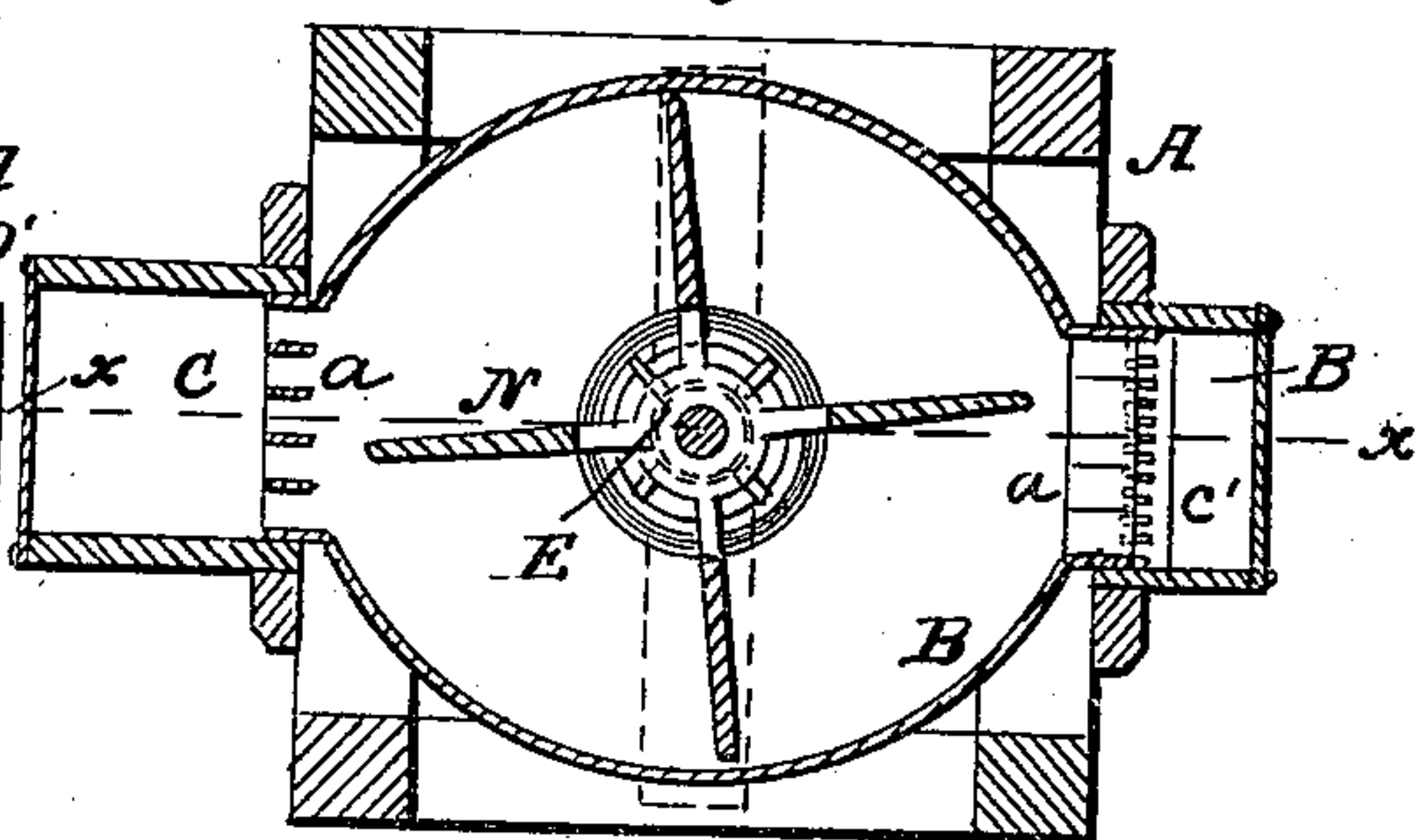


Fig. 7.



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UNITED STATES PATENT OFFICE.

MATTHEW BARTHOLOMEW, OF ENTERPRISE, PENNSYLVANIA.

MACHINE FOR SCOURING AND SEPARATING GRAIN.

Specification of Letters Patent No. 29,237, dated July 24, 1860.

To all whom it may concern:

Be it known that I, MATTHEW BARTHOLOMEW, of Enterprise, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Grain Scouring and Separating Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention taken in the line x, x , Figs. 4, 5, 6, 7, and 8. Fig. 2 a side elevation of the same. Fig. 3 a detached elevation of the spouts looking in the direction of arrow 1, Fig. 2. Figs. 4, 5, 6 and 7, horizontal sections of the machine taken respectively in the lines x', x'', x''', x'''' , Figs. 1 and 2. Fig. 8 is a plan or top view of my invention.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in the employment or use of an improved scouring and beating device in connection with blast spouts, valves, and a fan so arranged as to constitute a simple and efficient implement for the intended purpose.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a rectangular frame in the lower part of which a cylindrical fan box B, is placed having slatted openings a, a , at opposite sides, said openings communicating with blast spouts B', C, which extend upward at opposite sides of the frame A, as shown in Figs. 1 and 2. The blast spout B', is open at its bottom as shown at b , and its upper end is slightly curved and is provided with a slide or valve c , shown clearly in Figs. 1 and 3. The spout B', at its junction with the fan box B, is provided with a screen c' . The spout C, is curved considerably, and it is provided at a point near the fan box B, with a plate or valve D, which is a plate curved at its inner end and loaded at its outer part outside of the spout C, as shown at d , so that the valve may be adjusted and retained in an inclined position when the machine is in operation. See Fig. 1. The upper end of the spout C, is provided with a valve or slide e , at its inner side and is provided at its outer side with a small hopper f , shown in Figs. 1, 2, and 8.

E, is a vertical shaft which is placed centrally in the frame A, and has its lower end

stepped in a cross piece g , at the lower end of the frame below the fan box B.

At about the center of the frame A, there is placed a horizontal platform F, on which an annular ledge h , is placed concentric with shaft E. This ledge h , forms the support for a number of segments i , which are perforated, are of cast metal and secured between the ledge h , and a similar ledge or rim j , above. The rim j , also serves as a support for a series of segments k , which form a cylinder somewhat smaller than i . The upper edges of the segment k , are secured in a rim l , which also supports a series of segments, m , the upper edges of which are fitted in the under side of a circular plate n . The segments i, k, m , have small oblong perforations o , as shown clearly in Fig. 2, and the whole when put or adjusted together form the case G, of the scourer. The inner sides of the segments are provided with vertical ribs o' , of rounded or convex form as shown clearly in Figs. 1, 4, 5, and 6.

On the shaft E, and within the case G, there are placed three series of beaters H, I, J. These beaters are plates attached radially to the shaft E, as shown in Fig. 6. The beaters I, J, which are the principal ones are divided by a horizontal annular plate K, the beaters I, being in line with the centers of the spaces between the beaters J. The uppermost beaters H, are also separated from the beaters I, by an annular plate L. The beaters H, are of considerable less depth than the beaters I, or J, and the latter have their ends rounded as shown in Fig. 1. On the upper edges of the beaters H, an annular plate M, is secured, to which at its periphery a series of vertical pins p , are attached. The plates K, L, M, being annular and openings p' , allowed at their centers, a draught passage is allowed all around the shaft E, and the center of the platform F, has an opening g , made in it to admit the air as shown in Fig. 1. The platform F, also, has a spout r , leading from it into spout B, the spout r , forming a communication between the lower part of the scouring apparatus and said spout B.

The spout C, at a point just above the scouring device is divaricated or forked so as to have a portion, s , extend directly over an opening l , in the top plate n , of the scouring device, see Fig. 1.

The upper end of the shaft E, has its

bearing in a cross piece *u*, on the upper part of the frame A. Within the fan box B, and on the shaft E, the fan N, is placed.

The operation is as follows. The shaft
 5 E, is rotated by any convenient power and the grain to be scoured and separated from impurities is allowed to pass into the hopper
 10 *f*, of spout C, and down through the part, *s*, of said spout into the case G, of the scouring device, as indicated by arrow 1. The grain in thus passing down through said part of the spout is subjected to a blast generated by the rotation of the fan N, said blast being made to ascend evenly in the
 15 spout in consequence of the plate or valve D, which, when properly adjusted, deflects the current from the back or outer side of the spout to which side it is forced by the action of the fan and thereby causes the
 20 blast to ascend centrally up the spout and act in the most efficient manner on the descending grain depriving the latter of all loose light foreign substances. The grain in entering the case G, falls on the plate M,
 25 the vertical pins, *p*, of which as said plate rotates evenly distributes the grain around the upper part of the case. The grain passes down between the beaters and the inner side of the case G, and is thoroughly scoured by
 30 the action of the beaters and its action against the inner side of the segments *i*, *k*, *m*, the vertical ribs *o'*, serve to check slightly the descent of the grain in the case G, and scatter it so that it will be subjected to a
 35 proper scouring action in passing through the case. The rotation of the beaters generate a blast within the case G, the current passing up through the opening *g*, and plates K L, and down through the top of the case

and driving all the dust through the perforations, *o*, of the case G. The relative position of the beaters I, J, adds to their efficiency. The grain as it reaches the lower part of the scouring device passes into spout, *r*, and is conducted thereby into the lower
 40 part of spout B', where the grain is again subjected to a blast from the fan N, and all remaining light impurities separated from it. The strength of the blast in the spouts B', C, may be regulated by adjusting
 45 the valves or slides, *c*, *e*, and the spout C, may be closed at any time by raising the loaded end of the plate or valve D.

I do not claim subjecting the grain to the action of a blast generated by a single fan
 50 previous to its advent into the scourer and also after its discharge therefrom, for this has been previously done, but:

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

1. The employment or use of the rotating beaters H, I, J, placed within the case G, formed of perforated segments *i*, *k*, *m*, provided with vertical convex ribs *o'*, at their
 65 inner sides, in connection with the central openings *g*, *p'*, *p'*, in plates F, K, L; to permit of a blast or draught passage at the center of case G, or around the shaft E, as and for the purpose set forth. 70

2. The combination of the spouts B', C, fan N, beaters H, I, J, and case G, when arranged for joint operation as described.

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Witnesses:

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