

H. KURTH.
Grain-Separator.

No. 163,214.

Patented May 11, 1875.

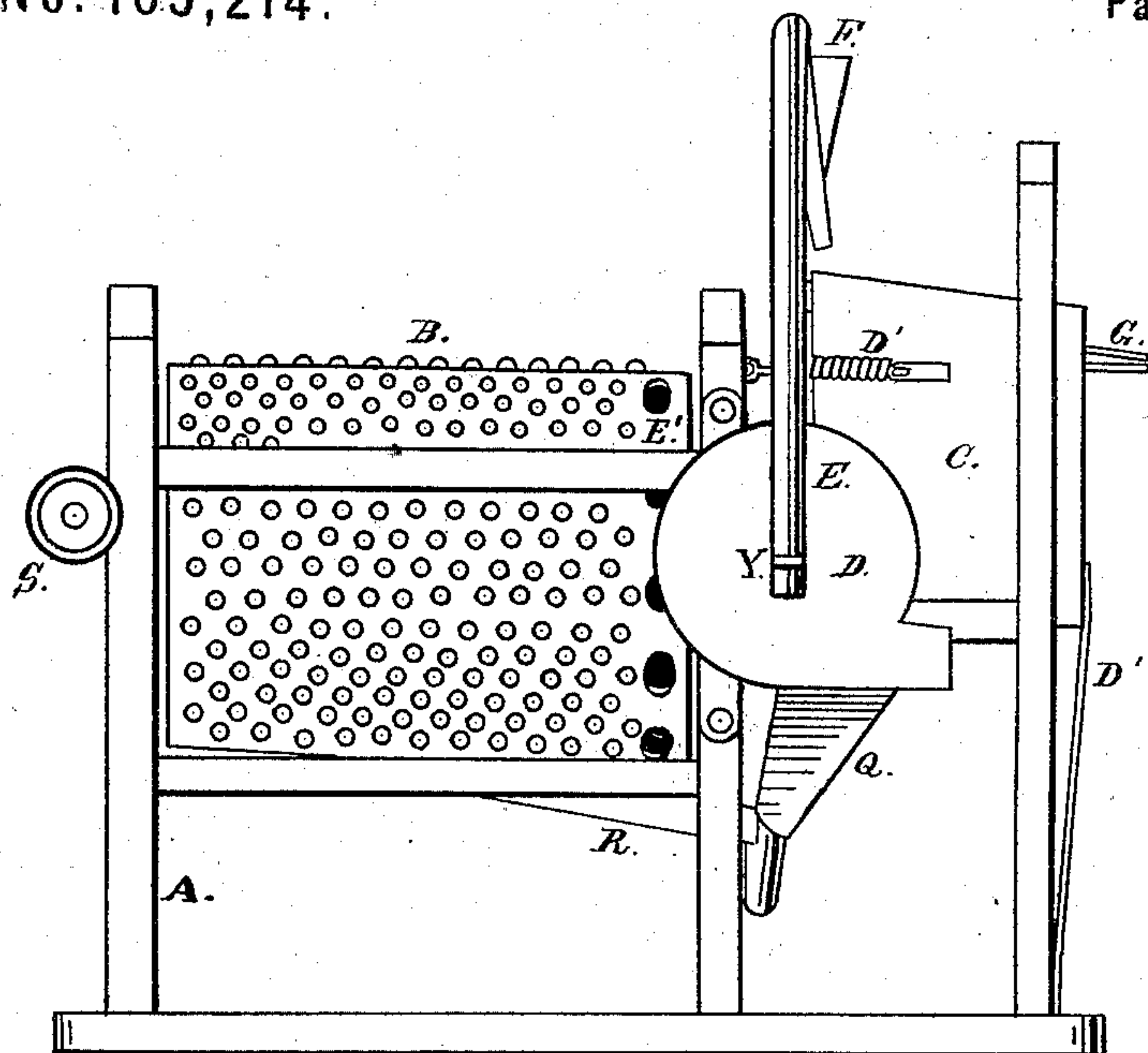


Fig. 1.

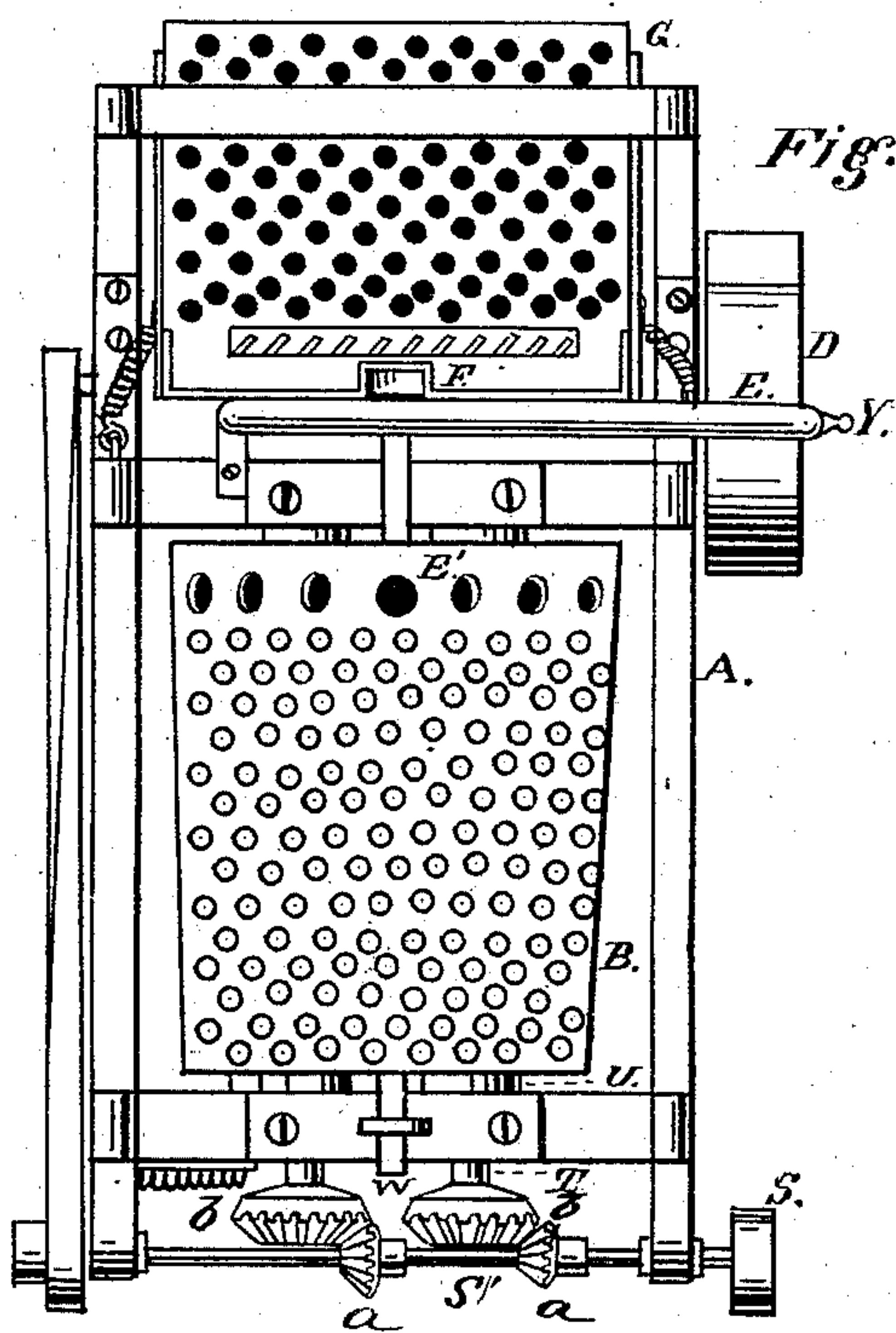


Fig. 2.

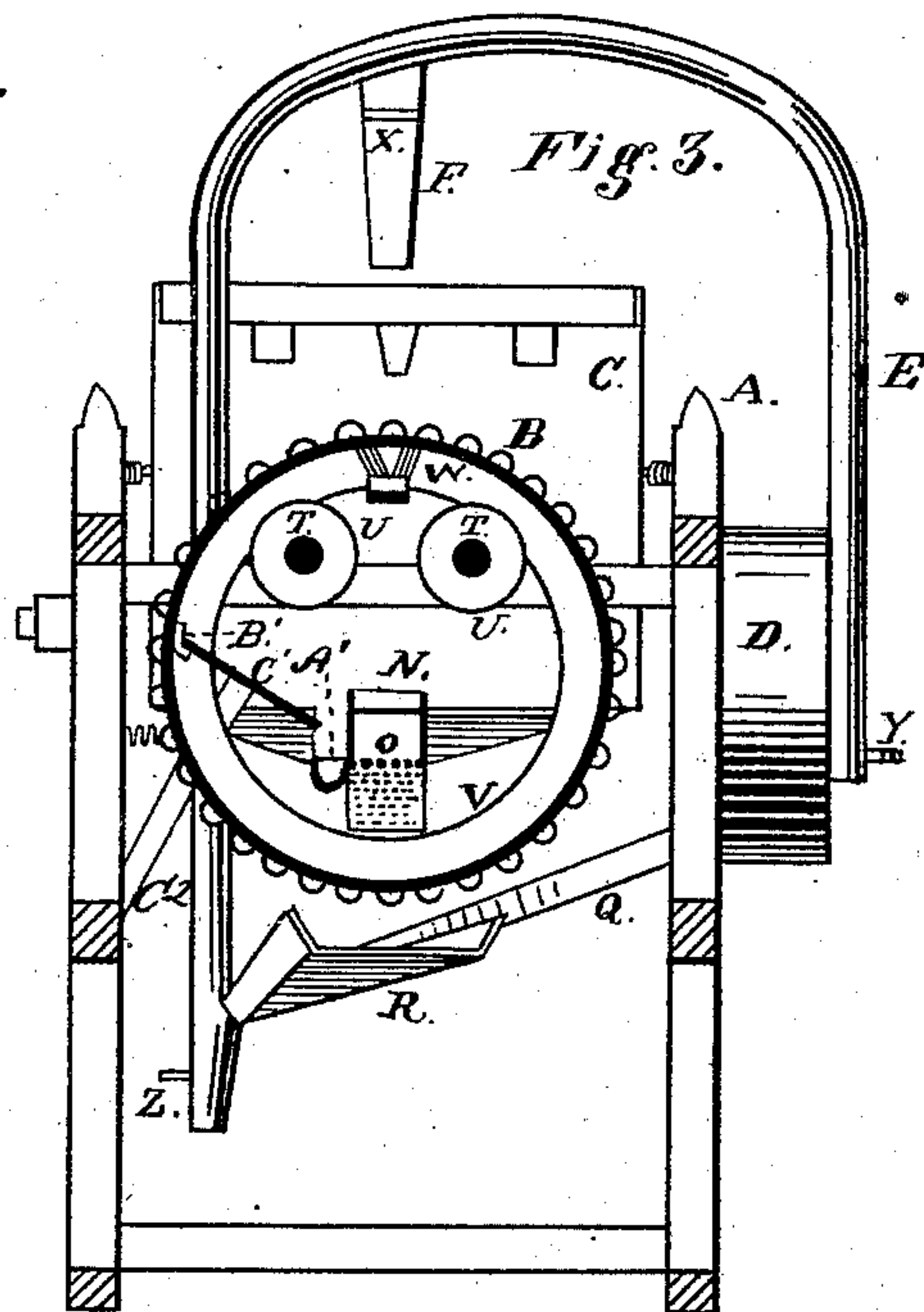


Fig. 3.

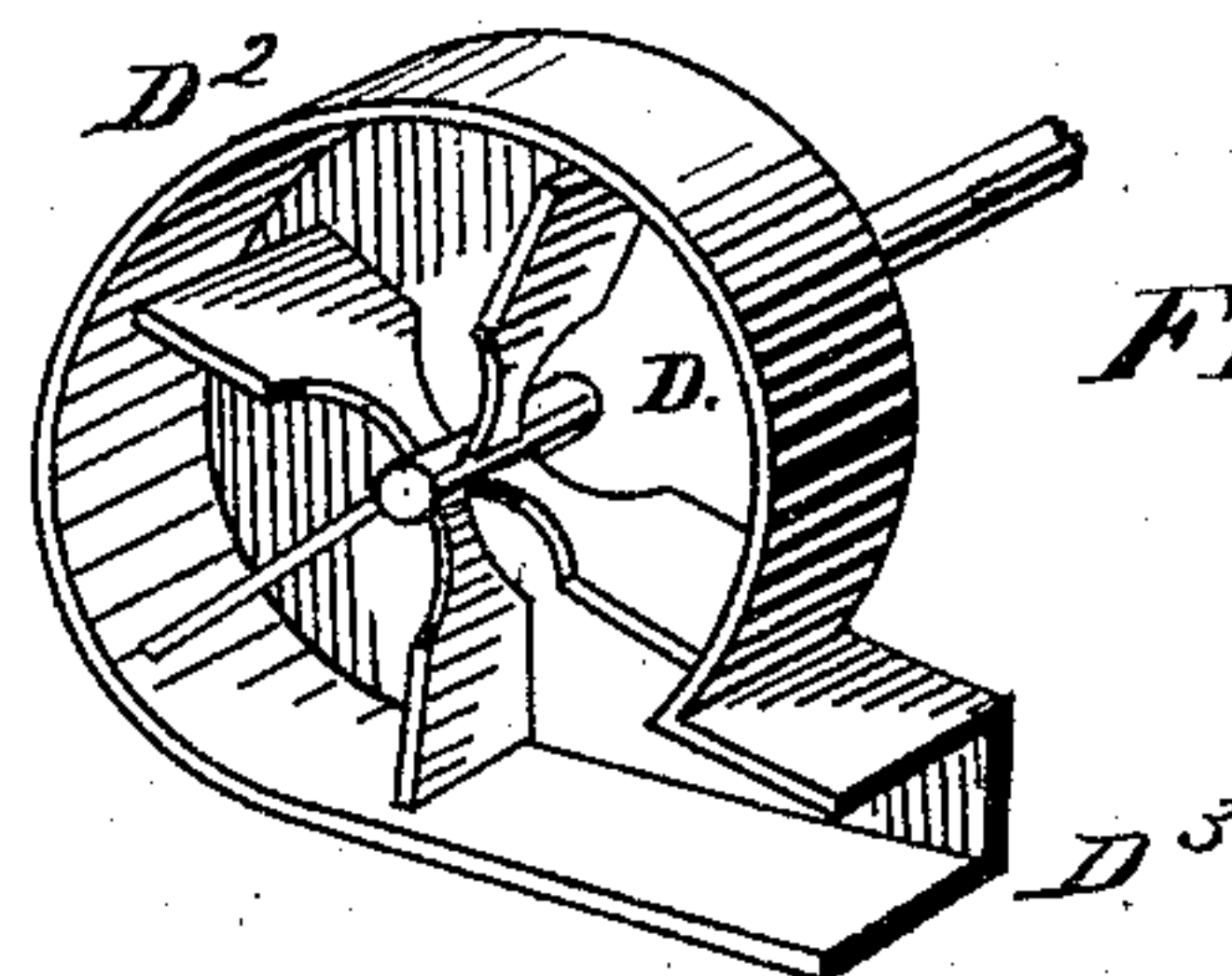
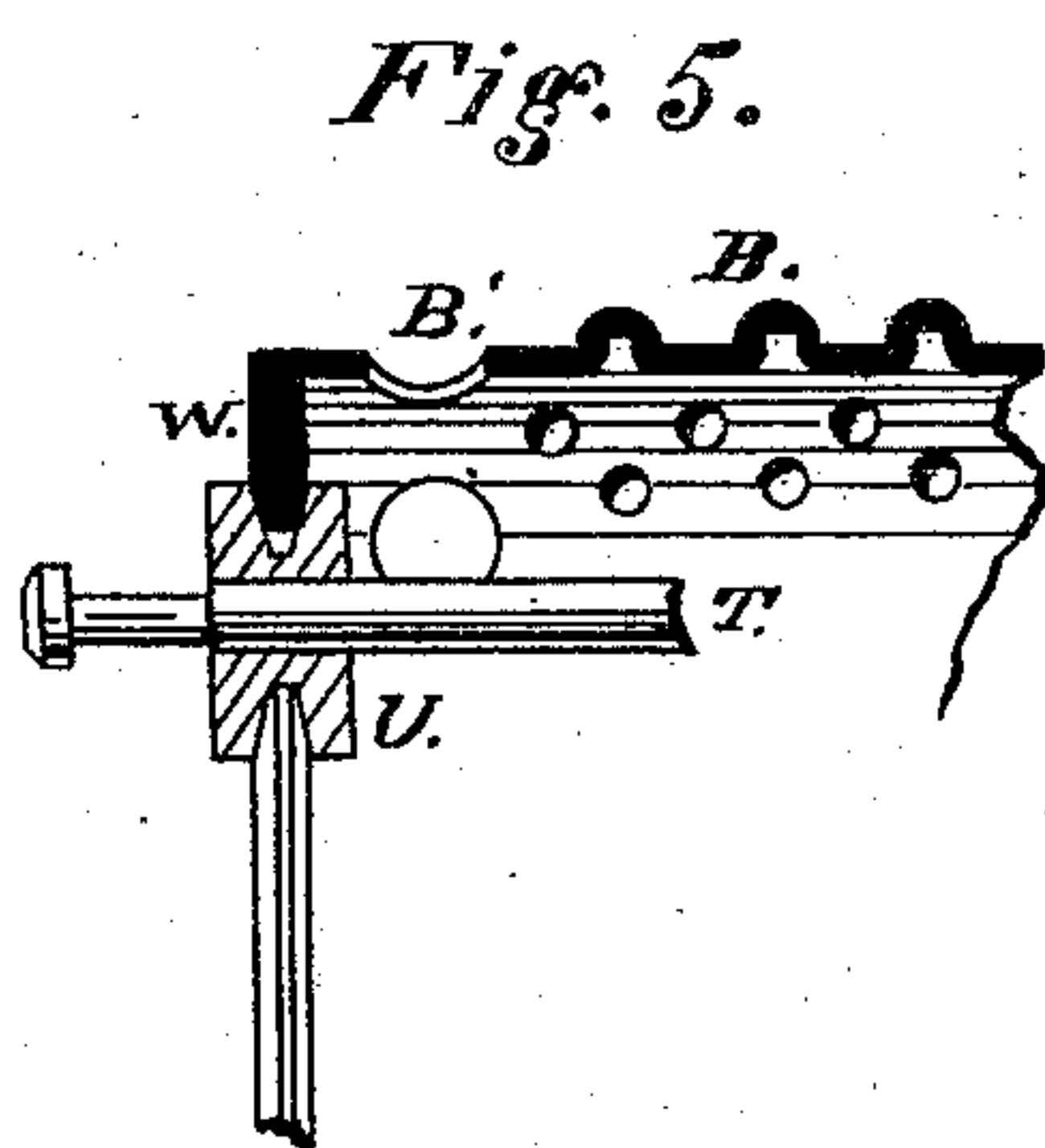
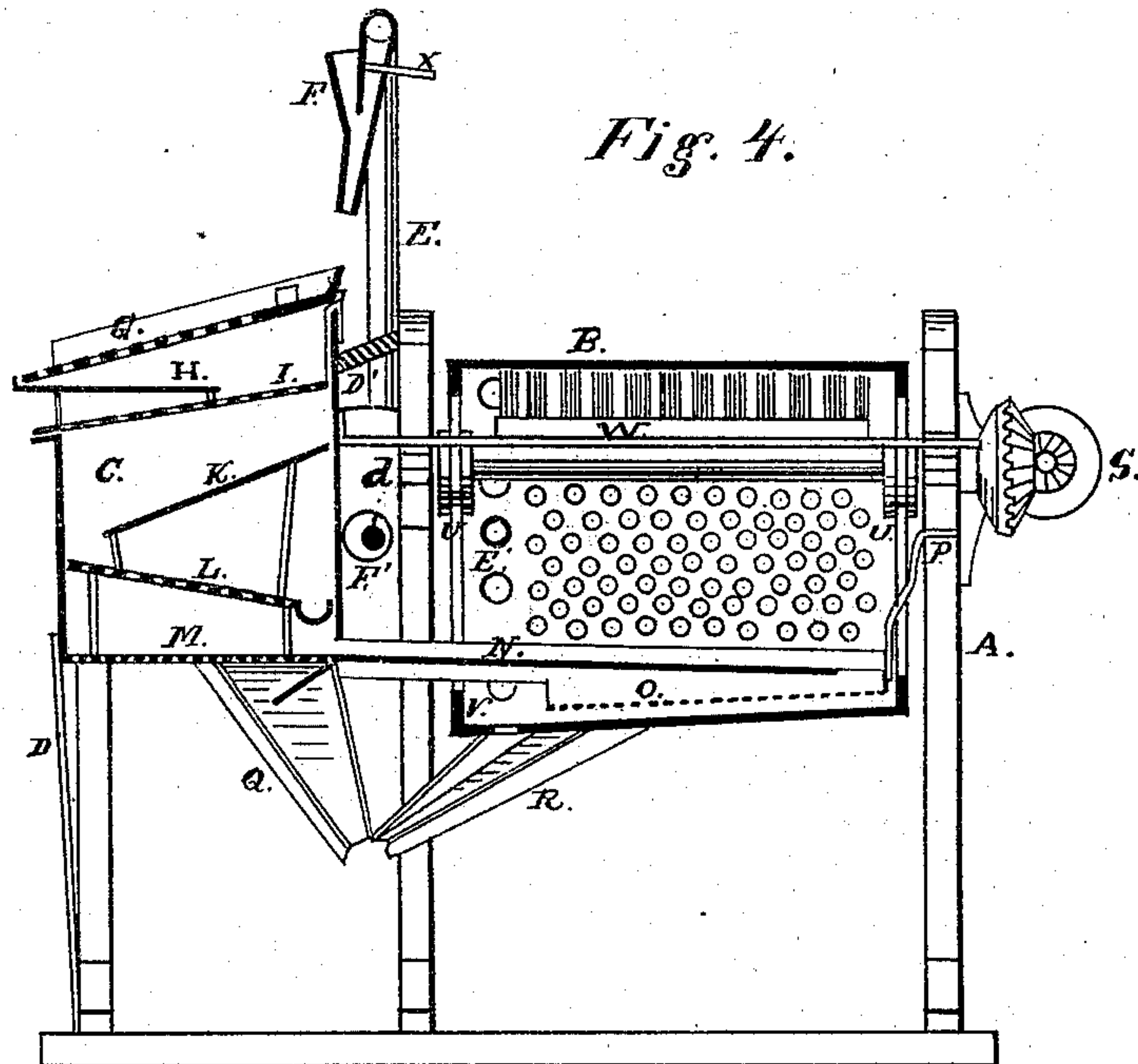
WITNESSES:
P. C. Dieterich
W. C. McArthur.

INVENTOR:
Herman Kurth
per. C. H. Watson & Co
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

HERMANN KURTH, OF MILWAUKEE, WISCONSIN.

IMPROVEMENT IN GRAIN-SEPARATORS.

Specification forming part of Letters Patent No. **163,214**, dated May 11, 1875; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, HERMANN KURTH, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a machine for cleaning wheat of oats, cockle, or other foreign substances, as will be hereinafter more fully set forth.

In the annexed drawing, Figure 1 is a side elevation of my machine. Fig. 2 is a plan view of the same. Fig. 3 is a transverse vertical section. Fig. 4 is a longitudinal vertical section. Fig. 5 is an enlarged section of a part of the cylinder, and Fig. 6 is a perspective view of a suction-fan used in connection therewith.

A represents the frame of my machine. B is the revolving cylinder, formed of sheet metal, with numerous cavities or recesses on the inner side. At each end of the cylinder is secured to it a ring, V, the inner edge of which is rounded, as shown in Fig. 5, and runs in circumferential grooves on two friction-wheels, U U, secured on two parallel shafts, T T, which have their bearings on the frame A, and serve to steady the cylinder while supporting and actuating it. Two of these wheels at each end support the cylinder and revolve the same by friction when the shafts are rotated. The shafts are revolved from a main shaft, S', having driving-pulley S, and provided with bevel-gears *a a*, meshing with corresponding gears *b b* on the ends of the shafts T. The shaft S' is, by a belt, connected with a pulley on a shaft, *d*, beyond the other end of the cylinder, which shaft is, at one end, provided with the suction-fan D, revolving within the fan-case D². On the shaft *d* is also secured an eccentric, F', for operating a shaker, C, which is attached to and supported by suitable spring-arms, and as the eccentric

moves the shaker in one direction, springs D¹ bring it back in the opposite direction. In the top of the shaker is the inclined upper oat-sieve G, inclining outward. Under the lower end of this sieve is a chute, H, which conveys the grain inward again to a second oat-sieve, I, also inclined outward. The grain, passing through these two sieves, is freed from all oats, which roll over the sieves out of the machine. From the sieve I the grain falls on an outwardly-inclined chute, K, which conveys it to the cockle-sieve L, below which is the perforated bottom M of the shaker. From this perforated bottom the shaker has an extension, N, projecting into the cylinder B, and under the shaker N, within the cylinder, is a perforated slide, O. The shaker N is supported by a spring, P, as shown. Within the cylinder is an inclined blade, C¹, attached to vibrating arms C², and the upper edge of said blade provided with rubber B', and held against the inner surface of the cylinder. The rubber-edged blade C¹, in conjunction with the vibrating brush W in the upper part of the cylinder, cleans the cylinder from the impurities collected in the cavities thereon; said impurities passing down the incline into a gutter, A', and conveyed out of the machine. Q and R are the spouts receiving the grain from the shaker and cylinder, from the latter it passing through the openings E' to the spout. From the fan-case D² an air-shaft, E, extends upward, then curved or arched and downward to the point where the spouts Q R connect. To the arched portion of this air-shaft is secured the feed-hopper F, which, by a channel, *i*, connects with the interior of the air-shaft, as shown in Fig. 4. When the machine is in operation the fan D, by suction, draws all the dust through this shaft into the fan-case, and expels it therefrom through the outlet D³. The draft through the air-shaft is regulated by means of slides X Y Z, as shown.

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

1. The combination, with the revolving cylinder B, of the rings V and the grooved wheels U on the parallel shafts T, substantially as described, whereby the cylinder is

suspended and steadied at both ends and revolved, as set forth.

2. The vibrating blade C¹, provided with the rubber edge B', and arranged within the revolving cylinder B, substantially as and for the purpose herein set forth.

3. The revolving cylinder B, rings V, grooved wheels U, and parallel shafts T T, in combination with vibrating blade C¹, having

rubber edge B', all substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own, I affix my signature in presence of two witnesses.

HERMANN KURTH.

Witnesses:

C. H. WATSON,

HARRY C. SCOTT.