

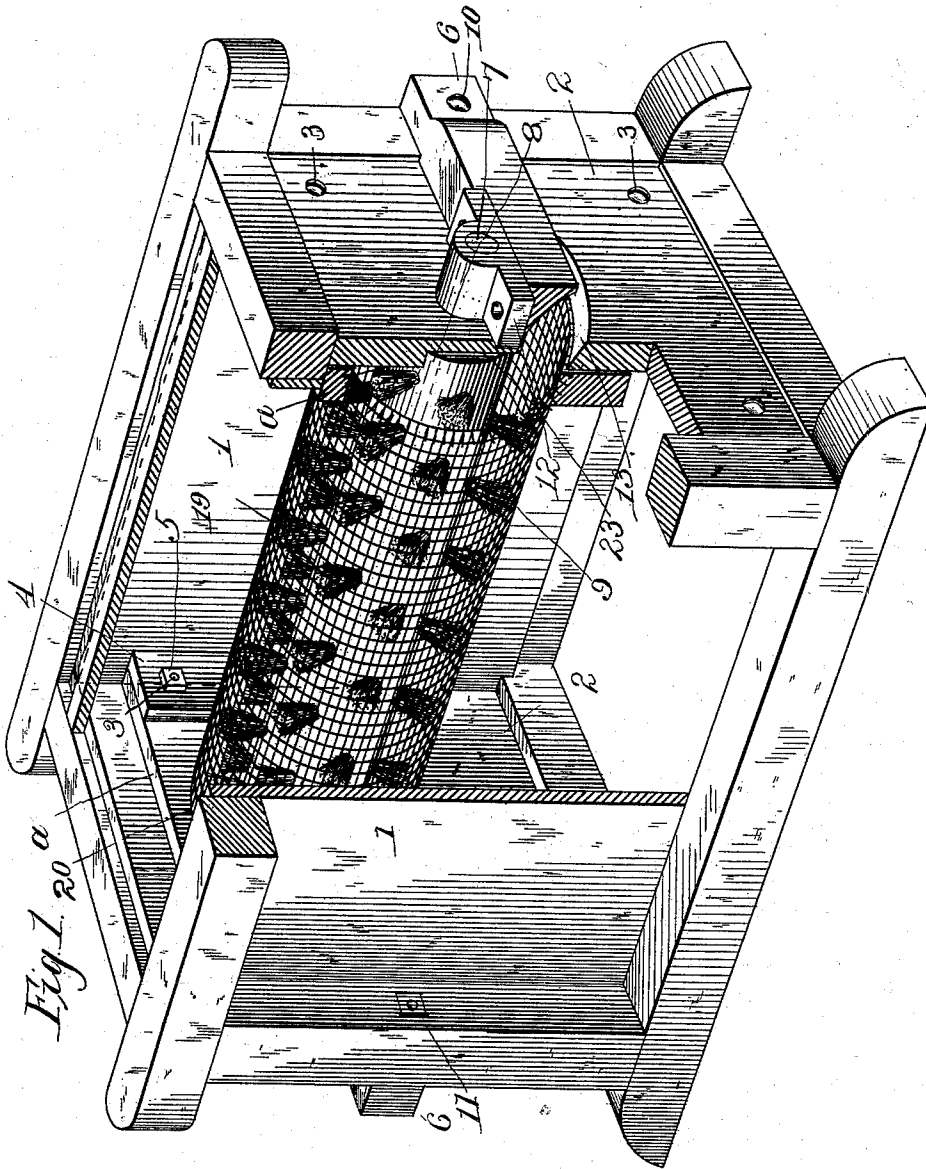
(No Model.)

3 Sheets—Sheet 1.

C. O. TINKHAM & O. B. SIMS.
MACHINE FOR SCOURING AND CLEANING GRAIN, NUTS,
OR SIMILAR ARTICLES.

No. 505,010.

Patented Sept. 12, 1893.



WITNESSES

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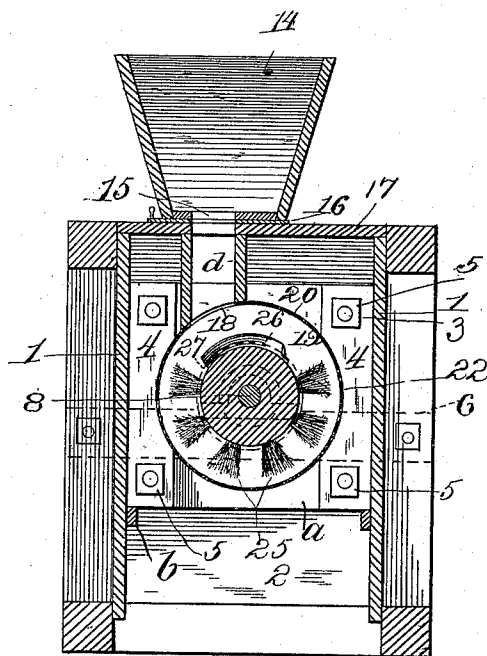


Fig. 2.

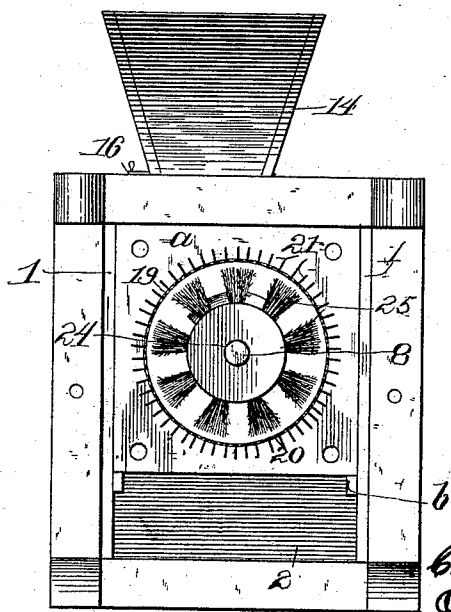


Fig. 3.

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Fig. 4.

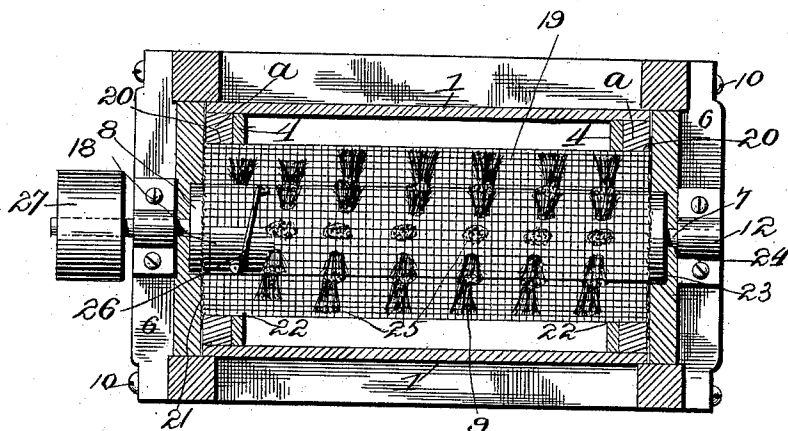
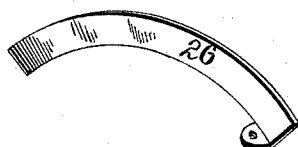


Fig. 5.



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UNITED STATES PATENT OFFICE.

CORTLAND O. TINKHAM AND ORIN B. SIMS, OF AKRON, NEW YORK.

MACHINE FOR SCOURING AND CLEANING GRAIN, NUTS, OR SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 505,010, dated September 12, 1893.

Application filed September 5, 1892. Serial No. 445,082. (No model.)

To all whom it may concern:

Be it known that we, CORTLAND O. TINKHAM and ORIN B. SIMS, citizens of the United States, residing at Akron, in the county of Erie and State of New York, have invented certain new and useful Improvements in Machines for Scouring and Cleaning Grain, Nuts, or Similar Articles; and we 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.

This invention relates to certain improvements, as hereinafter described and claimed, in machines for scouring or cleaning grain, nuts or similar articles.

In the accompanying drawings, Figure 1 represents a perspective view, partly broken away, of our improved machine. Fig. 2 represents a sectional end elevation thereof. Fig. 3 represents an elevation, viewed from the inner side, of one of the outer removable ends of the shell. Fig. 4 is a longitudinal section of the device. Fig. 5 is a detailed view of the grain separator.

Our improved machine is designed for cleaning and scouring grain generally, beans, pea-nuts and the like.

Our invention relates to improvements in that class of machines where the grain is cleaned and scoured by the operation thereupon of a brush rotating within a reticulated cylinder.

1 represents the shell or casing which has inner end plates, *a*, supported at their lower edges on cleats or ledges, *b*, extending longitudinally of the shell, said ends, *a*, having a central cylindrical opening 20, through which extend the selvage ends of the reticulated cylinder to be presently described, and removable outer ends, 2, said inner cylinder-supporting ends, *a*, and outer ends, 2, being secured in position by screw bolts, 3, passing through suitable holes into and through centrally-concealed cylinder-brace and supporting strips, 4, nuts, 5, engaging said bolts on the interior of the machine, clamping said brace strips, 4, and end plates, *a*, and, 2, together.

6 represents journal-bearing strips or supports for the journals, 7, of the shaft, 8, of the brush, 9; said journal bearings being removably secured to the outer faces of the removable outer ends, 2, by screw bolts, 10, and nuts, 11, as shown.

12 represents flanged boxes for the journals, 7, secured to said strips, 6.

13 represents a discharge opening formed in one of the outer ends, 2, to which the beans, grain, or other material is, after cleaning, conveyed by the brush, 9, and through which opening the material is delivered when cleaned to a suitable spout or receptacle (not shown) at said delivery end.

14 represents the supply hopper which in its bottom has a discharge opening 15, through which the grain passes to the reticulated cylinder, a gate or slide, 16, guarding said discharge opening; the hopper is either formed integrally with or is secured to the top, 17, which is removable. The hopper, 14, is located at one side of the top, a spout, *d*, at the under side of the discharge opening, 15, registering with an opening, 18, formed at one side of the periphery of the reticulated cylinder, 19. By forming the opening, 18, side-wise of the central axis of the cylinder the material to be cleaned will more readily feed to and pass vertically down between the brush and cylinder than would be the case were said opening at the top, and the clogging of the material at the supply is thereby prevented. This wire-cloth or reticulated cylinder has open ends the respective edges of which project outwardly beyond the cylindrical openings, 20, in the inner ends, *a*, of the frame, the extending ends of the longitudinal wires forming part of said cylinder being turned back, as shown at 21, upon and against the inner end walls, *a*, of the frame or casing and being securely held and clamped in position by the removable outer ends, 2, which, when placed in position and clamped by the clamp-bolts, 3, force said selvage edges of the ends of the cylinder, 19, into the adjacent yielding wood work of the shell or frame.

4 represents a pair of cylinder-supporting and bracing strips located at each end of said

cylinder; said strips extend from near the top to near the bottom of the machine, and may at their lower ends rest upon the cleats, *b*; said strips are centrally concaved at their inner edges, as shown at 22, to receive and fit the adjacent periphery of the reticulated cylinder, 19, and thereby form seats therefor within which the cylinder is supported on both sides and at each end, the bolts 3, and nuts, 5, removably yet firmly securing said cylinder-supporting strips in position. The inner faces of the respective removable outer end pieces, 2, are circumferentially recessed, as at 23, to afford bearing seats for the respective ends of the shaft, 8, of the brush, 9, and have central slots or holes, 24, through which the journals, 7, pass. The brush, 9, is of somewhat less circumference than the circumference of the cylinder, and the tufts of bristles, 25, are arranged around its shaft, 8, in spiral rows so that the grain will, as the brush rotates, be gradually fed from the receiving to the delivery end of the machine to and out of the delivery opening, 13; the dust and dirt removed from the grain or other articles being brushed through the bottom of the cylinder and falling down into a box (not shown) beneath. It will be observed that that portion of the rows of bristles adjacent to the receiving end of the cylinder, 9, are somewhat shorter than are the remaining tufts; this is for the purpose of affording ready entrance of the material to be operated upon, and it will also be observed that the tufts of bristles do not extend quite to the respective ends of the shaft, 8, thereby leaving an unimpeded space at each end of the brush shaft for the reception and free movement of the grain at both the receiving and delivery ends.

26 represents a "feed iron" secured to the receiving end of the brush shaft; this feed iron consists of a curved upwardly-extending strip of metal of suitable length the object of which is to stir the body of beans, grain or other material falling from the supply hopper and cause such material to feed down regularly into operative contact with the brush and between the bristles thereof and the surrounding wire cylinder. This feed iron may be secured to the shaft, 8, in any desired or suitable manner; for instance, it may be provided with end flanges through which screws or other retaining devices are passed into the said shaft, 8.

27 represents a drum or pulley mounted on one end of the brush journal with which a belt connected with any suitable power may be connected; we do not, however, confine ourselves to such mode of rotating the brush; as other known means may be employed for operating the brush.

It will be observed that our machine is simple in construction, is composed of but few parts, which are readily removable for the

purposes of cleaning, repairs and the like, and that the operative parts can be readily inspected at all times.

Having thus described our invention, what we claim is—

1. A machine for cleaning and scouring grain, nuts and similar articles, consisting of a shell or casing having removable end plates, a hopper and a suitable discharge, a reticulated cylinder the ends of which project outward and are clamped between said removable end plates and the adjacent end walls of the casing, said cylinder having a receiving opening at one side of its periphery registering with the hopper discharge, cylinder braces and supports removably secured to said shell and having concaved inner edges to receive and seat said cylinder, and a brush having spirally arranged bristles around its periphery of less height at the receiving than at the delivery end, and known devices for actuating said brush, substantially as and for the purpose set forth.

2. A machine for cleaning and scouring grain, nuts and similar articles, consisting of a shell or casing having removable end plates, a hopper and a suitable discharge, a reticulated cylinder seated at its respective ends within openings in end plates of the casing and having projecting ends which are clamped down upon the casing and between said end plates, said cylinder having a grain-receiving opening at one side of its periphery, cylinder braces and supports removably attached to said shell and having concaved inner edges adapted to receive, seat and brace the sides of said cylinder, and a brush having spirally arranged bristles around its periphery of less height at the receiving than at the delivery end and a curved metallic feed-strip projecting upwardly from the brush shaft at the receiving end of the machine, and known means for actuating said brush, substantially as and for the purpose set forth.

3. A machine for cleaning and scouring grain, nuts and similar articles, consisting of a shell or casing having removable inner and outer end plates, said inner plates each having a central circumferential bore or opening to receive and support the respective ends of a reticulated cylinder, the outer plates each having in its inner face a circumferential recess to receive and afford bearing for the respective ends of a brush shaft, one of said outer ends having a transverse delivery-slot for the cleaned grain, in combination with a hopper and feed slide and conveyer spout, a reticulated cylinder having a receiving opening at one side of its periphery, its respective ends projecting outwardly through said inner plates and being clamped between said outer and inner end plates, strips having concaved inner edges adapted to receive, brace and support the side walls of said reticulated cyl-

inder, bolts and nuts removably connecting
said end plates and cylinder-supporting strips,
and a revolving brush located within said cyl-
inder and having a spirally-arranged series of
5 bristles extending nearly to the ends of the
brush shaft, and a metallic feed-strip carried
by said brush shaft, all substantially as and
for the purpose set forth.

In testimony whereof we affix our signatures
in presence of two witnesses.

CORTLAND O. TINKHAM.
ORIN B. SIMS.

Witnesses:

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