

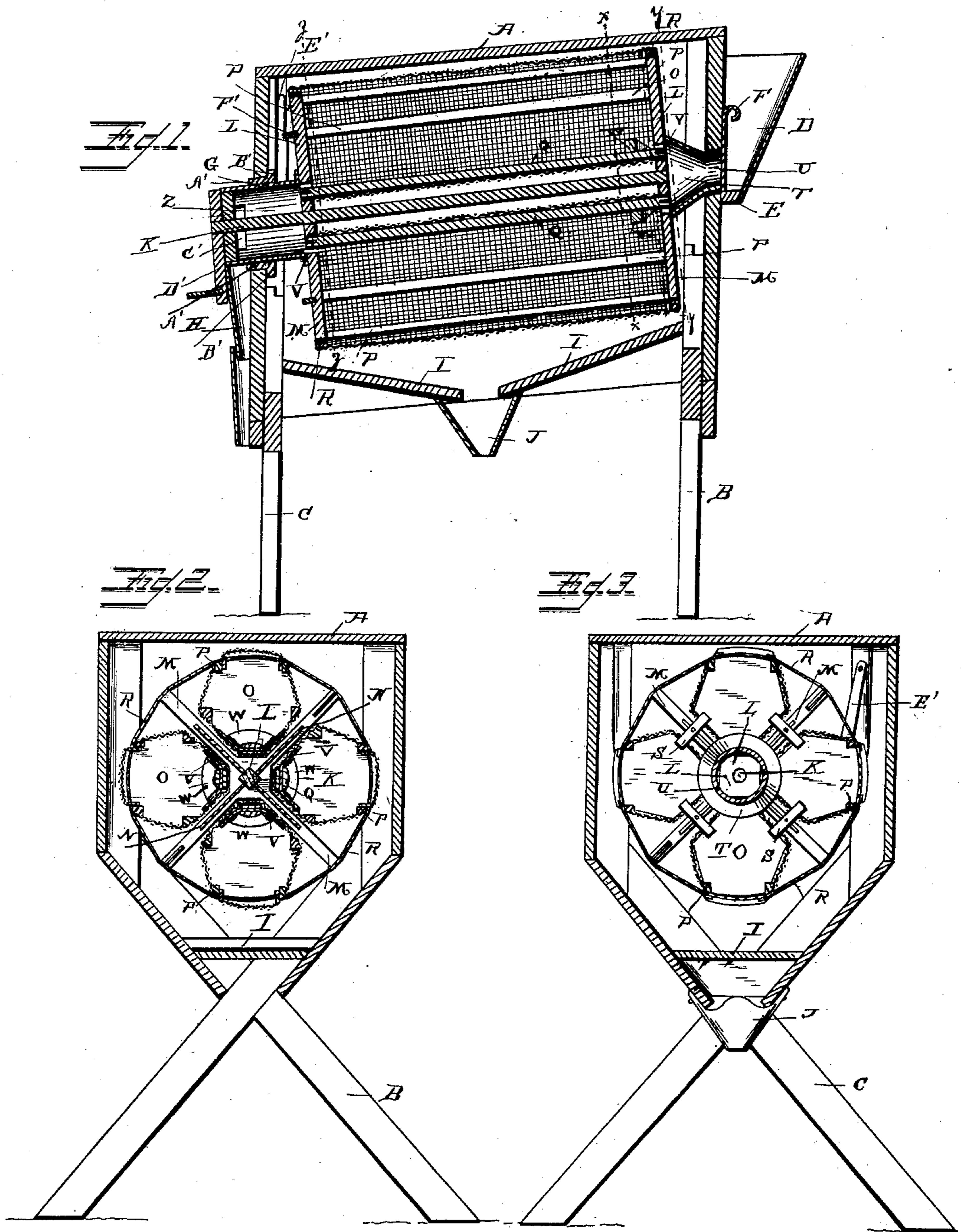
(No Model.)

2 Sheets—Sheet 1.

J. A. LACEY.
COCKLE SEPARATOR.

No. 359,162.

Patented Mar. 8, 1887.



WITNESSES
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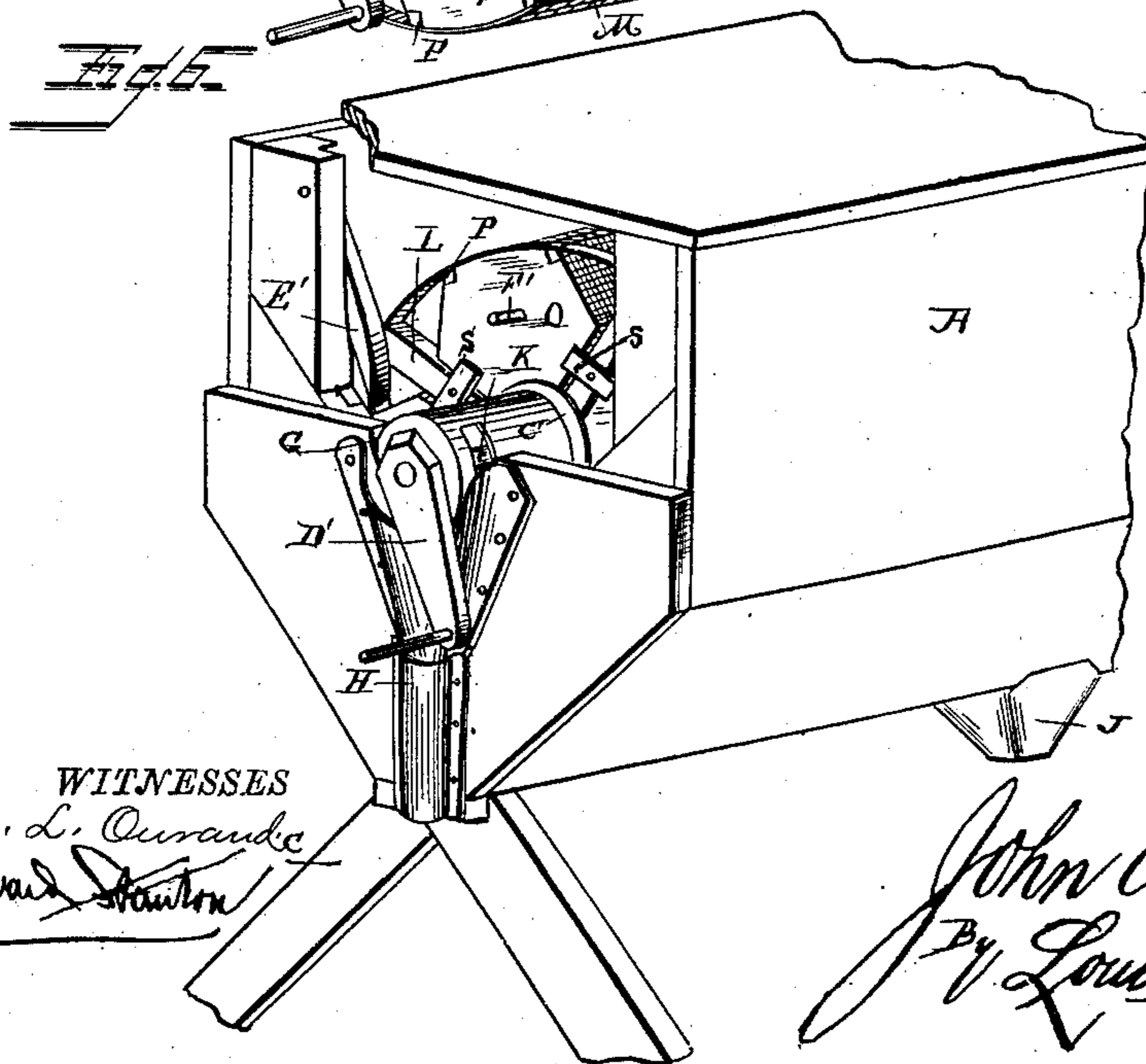
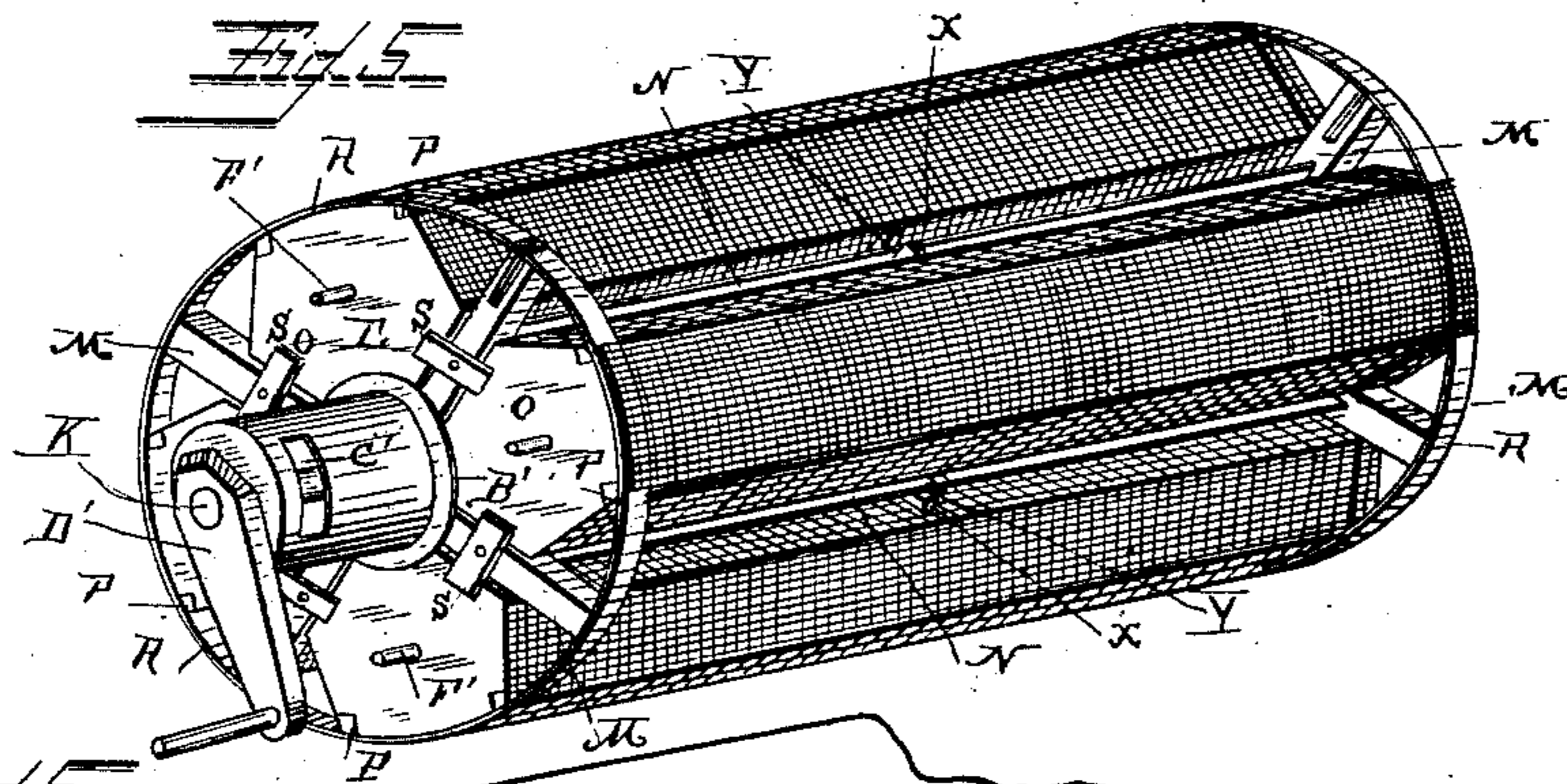
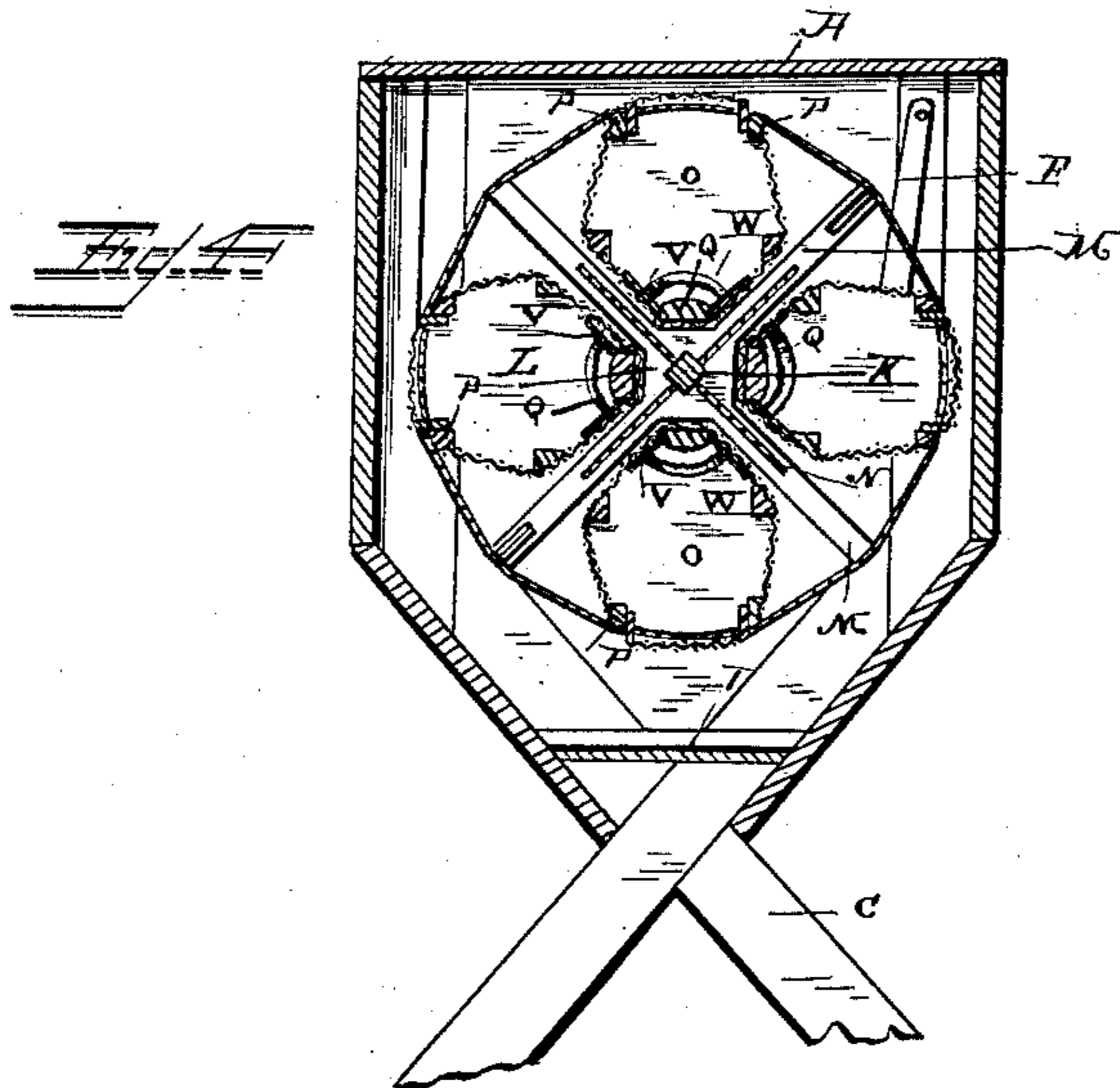
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

JOHN ALLISON LACEY, OF RURAL, INDIANA.

COCKLE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 359,162, dated March 8, 1887.

Application filed June 22, 1886. Serial No. 205,880. (No model.)

To all whom it may concern:

Be it known that I, JOHN ALLISON LACEY, a citizen of the United States, and a resident of Rural, in the county of Randolph and State of Indiana, have invented certain new and useful Improvements in Cockle-Separators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal vertical sectional view of my improved cockle-separator. Fig. 2 is a transverse vertical sectional view on line *xx*, Fig. 1, looking toward the receiving-head of the screen-cylinder. Fig. 3 is a similar view on line *yy*, Fig. 1, looking toward the delivery-head. Fig. 4 is a similar view taken on the line *zz*. Fig. 5 is a perspective view of the screen-cylinder removed from the casing, and Fig. 6 is a perspective view of the separator seen from the delivery end, and showing portions of the casing removed and broken away.

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

My invention has relation to that class of machines for separating cockle and similar seed from grain in which the grain is carried through a revolving screen-cylinder; and it consists in the improved construction and combination of parts of such a machine, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates a casing, which is supported upon legs B and C, the legs C at the delivery end of the separator being shorter than the legs B at the receiving end, so that the casing will be supported in a slanting position toward the discharge end. The end piece of the casing at the receiving end is provided with a funnel, D, secured upon its outer side, and an aperture or bearing, E, is formed at the lower end of the funnel in the end piece, over which aperture or bearing a regulating-slide, F, is attached, by means of which the flow of the grain into the machine may be regulated. The other end piece of the casing at the discharge end is

formed with a larger aperture or bearing, G, concentric with the other bearing, and a downwardly-extending funnel or spout, H, is secured to the end piece at the outer side, through which the cleaned grain passes. The bottom of the casing is provided with two bottom boards, I I, inclined toward the middle of the bottom, and a spout, J, is secured in the bottom of the casing at the converging ends of the bottom boards, the spout serving for the discharge of the cockle and other seed, which will fall into the bottom of the casing.

The screen-cylinder consists of a shaft, K, to the ends of which two cross-frames, L L, are secured, and the radiating arms M of these frames are provided with longitudinal kerfs extending from near the inner ends to a distance from the outer ends, within which kerfs the ends of longitudinal sheet-metal partitions N are secured.

Screen sections or compartments are formed by irregular hexagonal end pieces or heads, O, secured with two edges to the sides of the radiating arms, and having the ends of screen-frames P secured to them, the said screens forming five-sided prismatic sections, the inner edges of the said screens being secured to longitudinal strips Q, secured at their ends in the angles formed by the radiating arms and parallel to the shaft.

The ends of the radiating arms and the outer edges of the heads of the screen-sections are held in their proper relative positions by means of wire or metallic strips R, secured to them, and the heads at both ends are secured to the radiating arms by means of metallic strips S, secured transversely to the arms and heads.

A conical hub, T, is secured to the end of the screen-cylinder at the receiving end, and has its open and cylindrical apex U journaled in the aperture or bearing in the end piece of the casing.

The grain enters the cylindrical apex of the conical or funnel-shaped hub, and the wide end of the hub, which is secured to the end pieces of the screen-sections, covers the apertures formed by the cut-off corners of the said end pieces, the said end pieces being irregular and hexagonal, while the screen-sections are pentagonally prismatic, so that an open corner

will be left at each end of the screen, the wire netting or covering of the screen being supported at the cut-off corners by means of bent metallic strips or angle-pieces V. At the receiving end of each section, immediately inside of the aperture, a curved distributing shield or deflector, W, is secured, which will help in throwing the grain out into the screen-sections as the cylinder revolves, the grain entering each section when the latter occupies its lowermost position while revolving.

The screen-sections are held separated from the sheet-metal partitions by means of arms X, radiating from the middle of the shaft and formed with longitudinal kerfs Y, which fit upon the middles of the partitions.

A discharge-cylinder, Z, is secured with its inner end upon the tail end pieces of the screen-sections, covering the apertures in the same, and this cylinder is provided with a re-enforcing ring, A', and a flange, B', at its middle, with which ring the discharge-cylinder is journaled in the aperture or bearing in the end piece of the casing, the flange bearing against the inner side of the said aperture or bearing. The periphery of this discharge-cylinder is formed with slots C', which register with the upper end of the discharge-spout, and the grain passes out through these slots. The end of the shaft passes through the closed end of the discharge-cylinder, and a crank, D', is secured upon the end of the shaft, the cylinder being revolved by the crank.

Studs or pins are secured so as to project outward from the rear heads of the screen-sections, and an arm, E', is pivoted at its upper end upon the inner side of an end piece of the casing, and engages the said pins F' with its free end, serving to successively strike the said pins as it drops from one pin, by which it has been partly carried upward, down upon the following pin, and thus jarring the screen-sections sufficiently to prevent their being clogged by seed or grain lodging in their meshes.

It will be seen that the funnel or hopper at the receiving end of the machine being filled and the slide raised to admit a sufficient quantity of grain, the latter will flow from the hopper into the funnel-shaped hub of the cylinder and be distributed into the screen-sections as they successively arrive in proper position during their revolution, that the grain will be thrown against the screens of the sections and be worked toward their discharge ends on account of the slant or incline of the machine, and that the grain will pass out through the apertures at the discharge ends of the screen-

sections into the discharge-cylinder, from which it will be discharged into the spout to be filled into a bag or vessel or to run out into a heap upon the ground or floor. The cockle and other small seed will pass out through all the screens and fall into the bottom of the casing and be conveyed by the inclined bottom boards to the spout through which it passes out, and the cockle and small seed, which pass out through the side screens of the sections, will be directed by the sheet-metal partitions to the bottom of the casing when the partitions arrive at the lowermost position of their revolution. The said partitions prevent the said cockle and small seed from falling from one screen-section into the adjoining section through the side screens.

The inner corners of the screen-sections at the heads are supported by the metallic angle-pieces or strips spanning the cut-off corners of the heads, and the screening covering the four inner sides of each screen-section is preferably made in one piece, while the screen forming the outer side of each prismatic screen-section is preferably fastened to a rectangular frame secured removably in the frame of the screen-section by means of hooks, turn-buttons, or similar means for the purpose of giving free access to the interior of each screen-section to admit of its being cleaned, or for any other purpose.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a cockle-separator, the combination of a shaft having a cross-frame at each end, said cross-frames being provided with arms, screen-sections having inlet and outlet apertures, transverse metallic strips secured to said arms and to the ends of said sections, and metallic strips secured to the outer ends of said arms and to the outer edges of the heads of said screen-sections.

2. In a cockle-separator, the combination of a shaft having a cross-frame secured at each end provided with arms, partitions secured at each end to the said arms, screen-sections between said arms and partitions, and central arms having longitudinal kerfs in their outer ends, within which the partitions are secured.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOHN ALLISON LACEY.

Witnesses:

MARTIN C. ALEXANDER,
ALVIN MILLER.