

No. 608,230.

Patented Aug. 2, 1898.

R. P. SCOTT & J. A. CHISHOLM.
PEA SEPARATING MACHINE.

(No Model.)

(Application filed Mar. 11, 1897.)

2 Sheets—Sheet 1

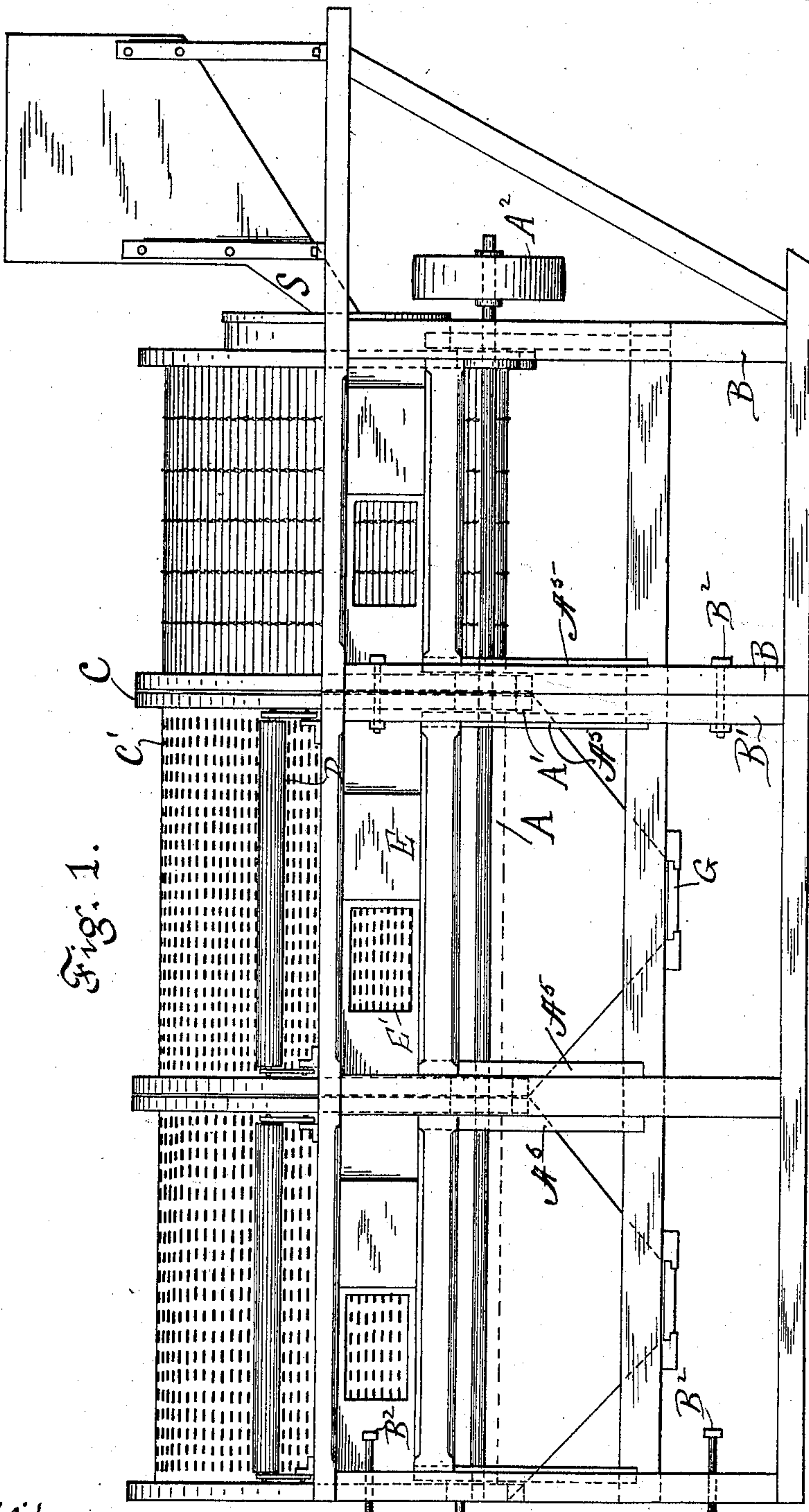


Fig. 1.

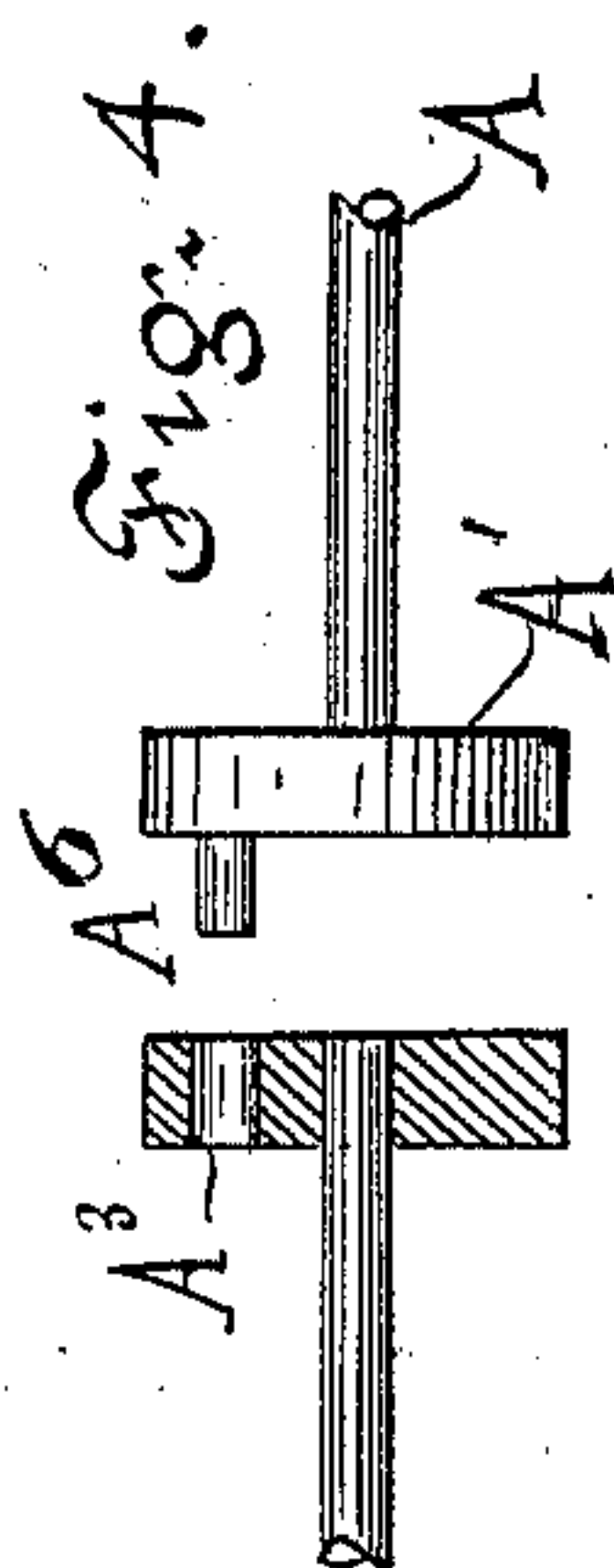


Fig. 4.

Witnesses
Charles Jordan
Walter Brown

Inventors
Robert P. Scott
John A. Chisholm
By Attorney
Robert P. Scott

No. 608,230.

Patented Aug. 2, 1898.

R. P. SCOTT & J. A. CHISHOLM.

PEA SEPARATING MACHINE.

(Application filed Mar. 11, 1897.)

(No Model.)

2 Sheets—Sheet 2.

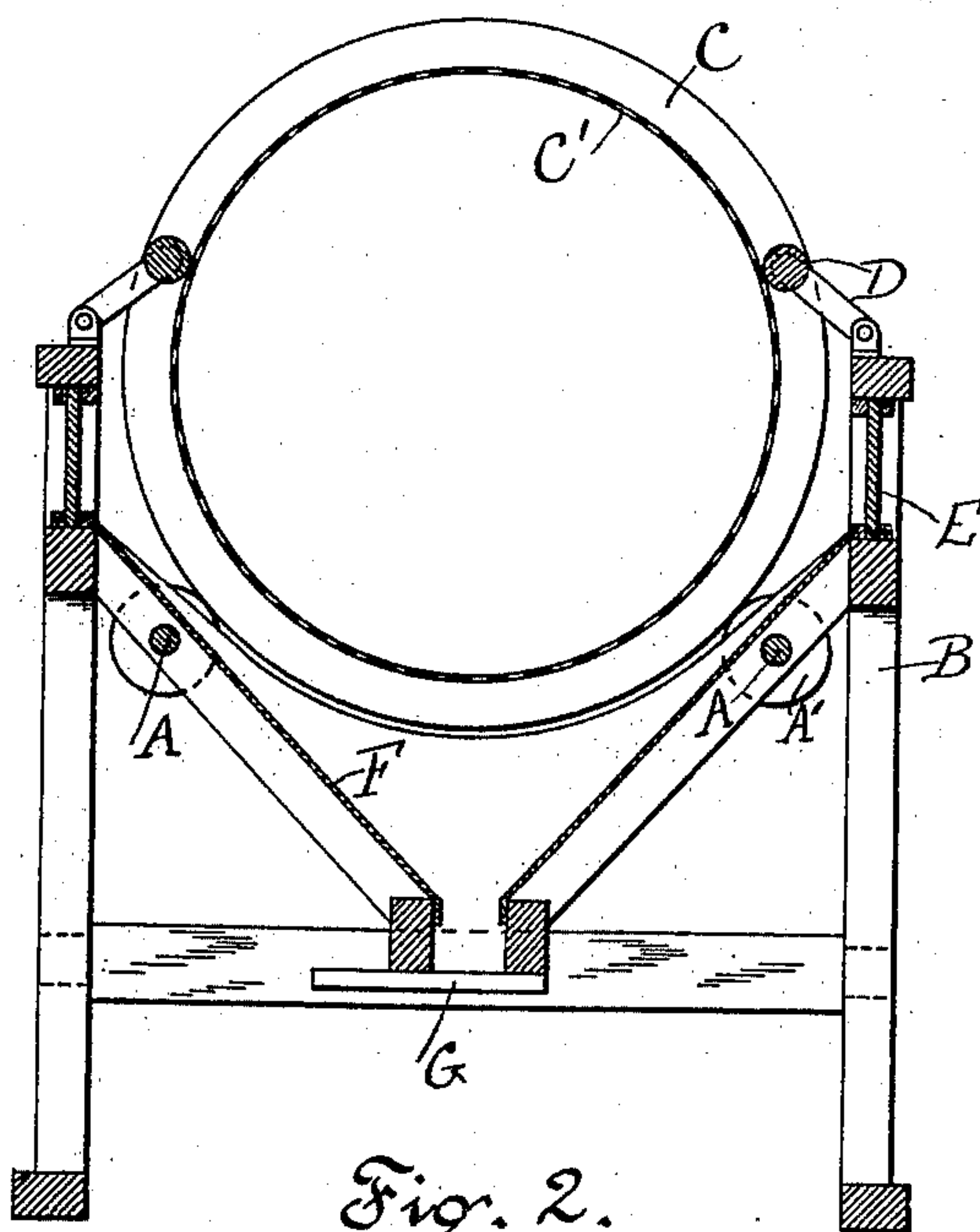


Fig. 2.

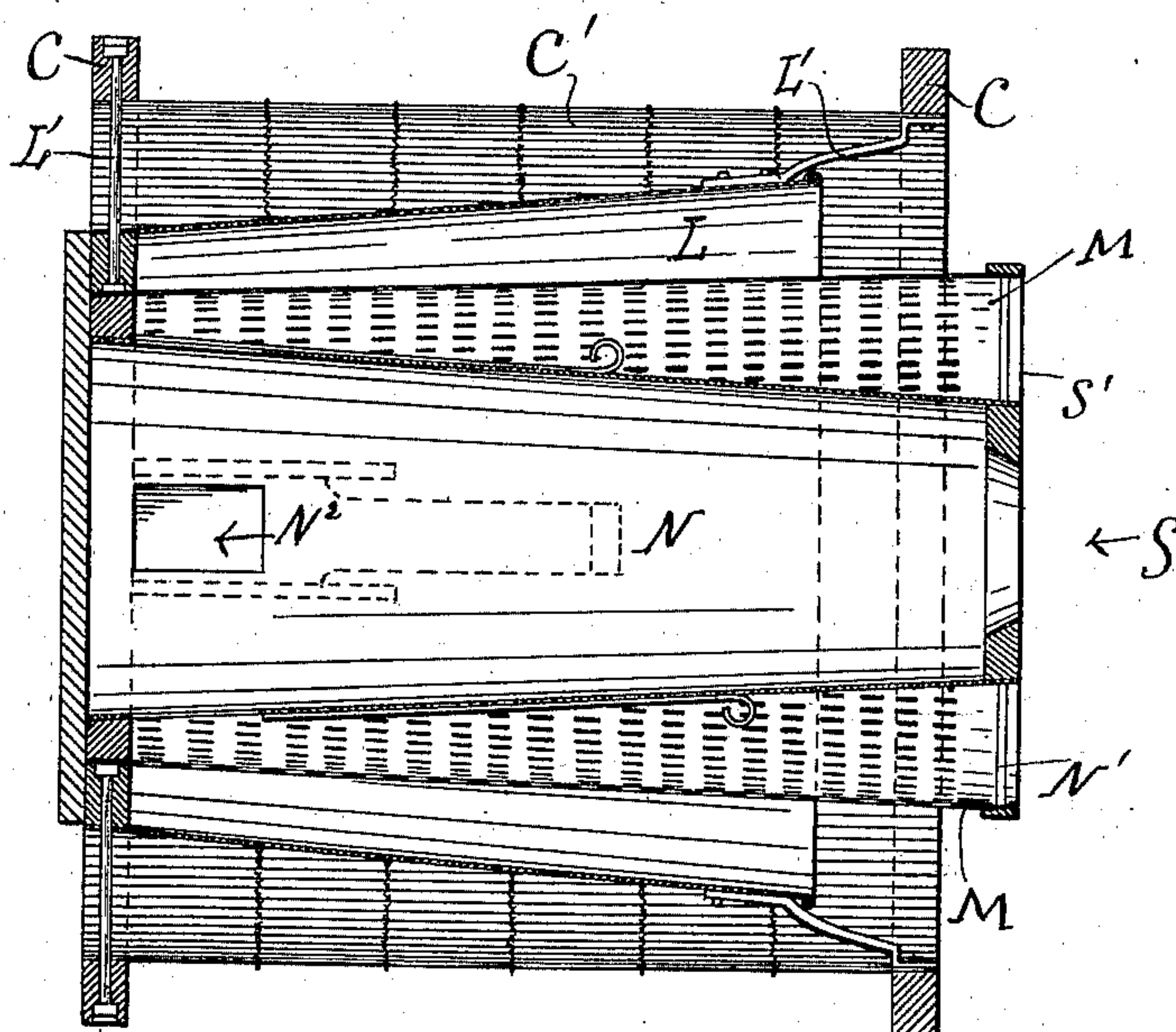


Fig. 3.

Witnesses
Charles Jordan
Walter Brune

Inventors
Robert P. Scott
John A. Chisholm
By Attorney
Robert P. Scott

UNITED STATES PATENT OFFICE.

ROBERT P. SCOTT, OF CADIZ, OHIO, AND JOHN A. CHISHOLM, OF
OAKVILLE, CANADA.

PEA-SEPARATING MACHINE.

SPECIFICATION forming part of Letters Patent No. 608,230, dated August 2, 1898.

Application filed March 11, 1897. Serial No. 627,029. (No model.)

To all whom it may concern:

Be it known that we, ROBERT P. SCOTT, a citizen of the United States, residing at Cadiz, Harrison county, Ohio, and JOHN A. CHISHOLM, a subject of the Queen of Great Britain, residing at Oakville, Ontario, Canada, have invented a new and useful Improvement in Pea-Separating Machines, of which the following is a specification.

10 The object of our invention is to produce a machine more specifically intended for canners' use for separating green peas and grading them in size.

15 Broadly speaking, it comprises a pair of parallel inclined rotary shafts, either or both of which may be power-driven, and a series of independently-movable disconnected aligned separating cylinders or sections mounted in juxtaposition thereupon. By this construction each cylinder-section is not only capable of instant removal without the preliminary manipulation of bolts or other fastening devices for holding the cylinder-sections together hitherto commonly employed and with
25 which we dispense, but we also permit each cylinder-section to adjust itself independently on the shafts, so that any sagging of the shafts or any irregularity in their bearings does not affect the proper support or the proper communication of rolling motion from the shafts to the cylinder-sections. The frequent removal of the cylinder-sections is necessary when the kind of the peas worked on is changed, which occurs several times a day, for the purpose of replacing them with sections having perforations of a different size. It is also necessary for the purpose of cleaning. We also provide a specially-constructed section at the feed end of the machine for the
40 purpose of removing the very largest peas as well as the smallest size, and thus effecting double separation.

45 We are aware that separators supported on a pair of parallel shafts and made of a number of connected sections bolted together and not separately movable are old; but in such constructions the sagging of the shafts or the unevenness of the flow will cause a distortion and even a fracture of the perforated covering
50 of the sections, which for green-pea separators

must be very thin metal, it being borne in mind that these separators in practice must be about twenty feet long.

In the drawings, Figure 1 is a side elevation, and Fig. 2 a central vertical section, of the machine. Fig. 3 is a horizontal section of the feed-section, and Fig. 4 a detail of the supporting-shaft. 55

The parallel shafts A A are mounted on struts secured to the uprights B. Each of these shafts may be in one piece running the entire length of the machine and supported at intervals by bearings A⁵ A⁵, placed at convenient intervals; or these shafts may, for convenience in shipment, each be made in sections, as described farther on. One or both of these shafts may be rotated by power by means of the pulley A². At appropriate points along this shaft and secured thereto are rollers A'. The cylinder-sections C are mounted on these shafts and are shown as rotated by the motion conveyed from the rollers A'. 60 65 70

The cylinder-sections C consist of two annular heads of wood or the like having plane ends, and secured thereto are the perforated cylinders C'. The perforations in the cylinders are of the same size in each cylinder; but the size of the perforations in the contiguous cylinder-sections gradually varies, the smallest size being nearest the feed end. It will be seen, therefore, that the construction of these cylinder-sections is of the utmost possible simplicity, comprising merely two annular heads and a perforated metal cylinder. The contacting faces of the annular heads being plane gives a tight joint in a simple manner. The construction also admits of an independent motion of the separate cylinder-sections and an instant removal thereof. Any sagging of the shafts A or irregularity in the alinement of the bearings will not interfere with a proper communication of motion from the shafts to the cylinder-sections. 75 80 85 90

95 Rollers D are supported against the outside surfaces of the cylinders for the purpose of pushing back within the cylinder any peas which may have become stuck in the perforations. Under the separate sections are separate chutes F for conveying the assorted 100

peas into receptacles closed by the gates G. Buckets for receiving the peas are usually placed under these gates.

The construction of the cylinder-section which is placed at the feed end of the machine is shown in Fig. 3. The peas are fed into the inner frusto-conical section N from the point S. This section N is secured to the frusto-conical section M by struts N'. The section M has perforations of a size large enough to let all the peas but those of the largest size pass through. The section M is in turn secured to an imperforate frusto-conical section L, which is supported on the section C' by struts L'. The peas being fed in at S pass along the section to the aperture N², whence they drop through onto the section M. In passing back along this section all but the largest peas drop through onto the section L. The largest peas, however, pass to the point S', where they are discharged and received in an appropriate receptacle. The peas which have dropped onto the section L are conveyed back toward the feed end of the machine and drop onto the first feed-section C' of the machine at the feed end. They are thus compelled to traverse the entire extent of this section, by which action the smallest peas are removed, the larger peas passing along into the other cylinder-sections to be successively assorted. It will be seen, therefore, that the initial feed-cylinder section (shown in Fig. 3) effects both an initial separation of the largest peas and also thereafter effectively separates out the very smallest size.

The machine-frame is constructed in sections, as indicated in the drawings, for convenience in building and shipment. In Fig. 1 but two of these frame-sections are shown, one of them supporting two cylinder-sections. In practice there will be three frame-sections, one supporting the feeding-cylinder section N L and the other two supporting each two cylinder-sections. The several frame-sections B B' are secured together by bolts B².

In case the frame is constructed in sections the shafts A and pulleys A' are also made in sections, the pulley-sections being provided with dowels and mortises A³ A⁶, as shown in Fig. 4. Each section of the shaft will be supported by bearings at each end thereof.

The apertures E', closed by gates E, are for the purpose of inspection.

In practice the machine is built with the shafts A parallel to the base-board and the

whole machine is tilted in use. It is manifest that the shafts might be placed in the frame in an inclined position. Instead of using a shaft with pulleys mounted thereon a shaft of sufficient cross-section might be used. It is also clear that although the frusto-conical shape of the sections L M N is extremely important, yet these parts might be made of other shapes.

What we claim is—

1. A pea-separating machine comprising the combination of a pair of parallel rotary shafts, and a series of independently-movable disconnected screening-cylinder sections mounted in juxtaposition on the shafts, the arrangement being such that each drum is separately movable and removable, substantially as described.

2. A pea-separating machine comprising the combination of a pair of parallel rotary shafts, and a series of independently-movable disconnected screening-cylinder sections mounted in juxtaposition on the shafts and rotated thereby, each cylinder-section consisting solely of two annular heads and a screening-cylinder connecting them substantially as described.

3. A pea-separating machine comprising the combination of a pair of parallel rotary shafts, a series of independently-movable disconnected screening-cylinder sections mounted thereon, a series of chutes below the cylinder-sections and a series of rollers on the outside of the sections for pushing back entangled peas substantially as described.

4. A pea-separating machine comprising the combination of a pair of parallel rotary shafts made in sections, a series of independently-movable disconnected screening-cylinder sections mounted thereon, a sectional frame in which the shaft-sections are mounted and connecting devices for uniting the shaft-sections substantially as described.

5. A pea-separating machine comprising the combination of a pair of parallel rotary shafts provided with rollers, a series of movable disconnected screening-cylinder sections mounted in juxtaposition on the rollers, the arrangement being such that each drum is separately movable and removable, substantially as described.

R. P. SCOTT.
J. A. CHISHOLM.

In presence of—

WALLACE BURCH,
C. P. CHISHOLM.