No. 891,096. PATENTED JUNE 16, 1908.

W. S. POPE.

PEA SEPARATOR.

APPLICATION FILED DEC. 11, 1905.

3 SHEETS—SHEET 1.

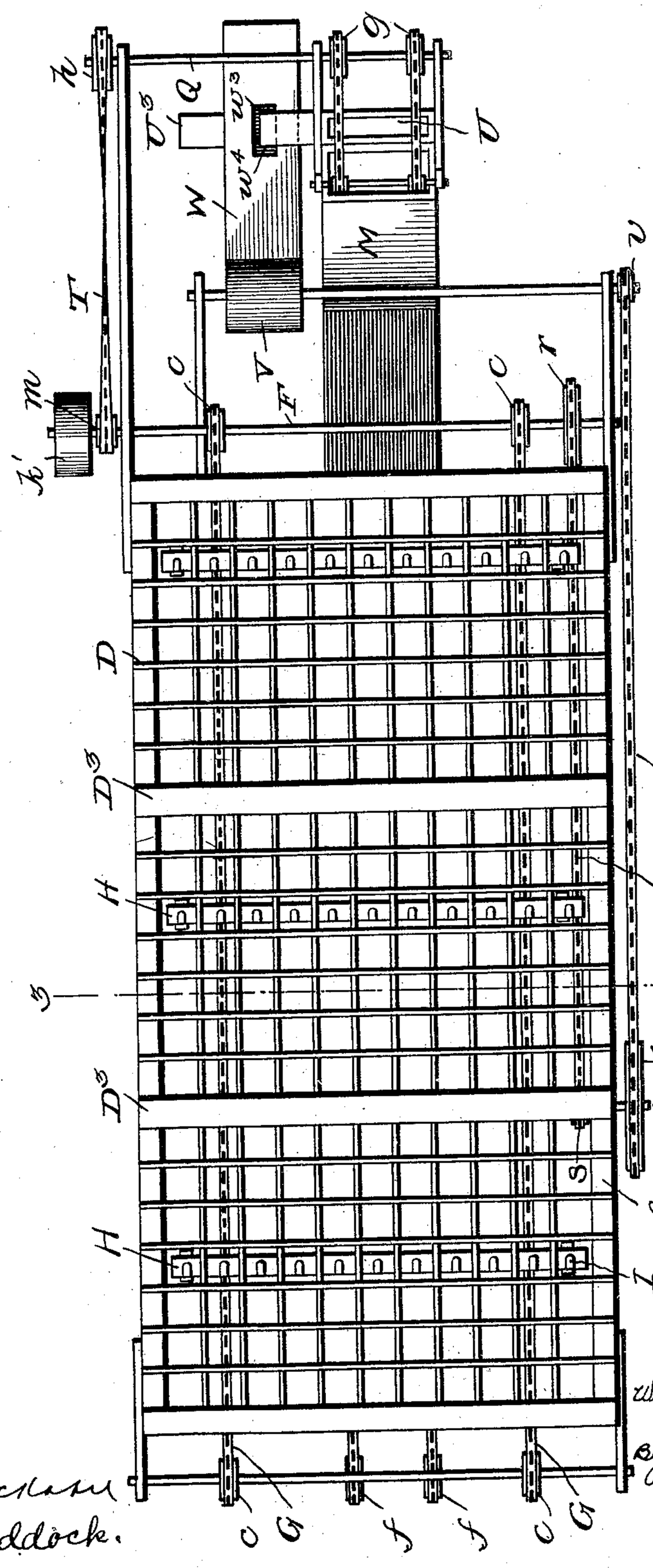

Fig. 1.

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3 SHEETS—SHEET 2.

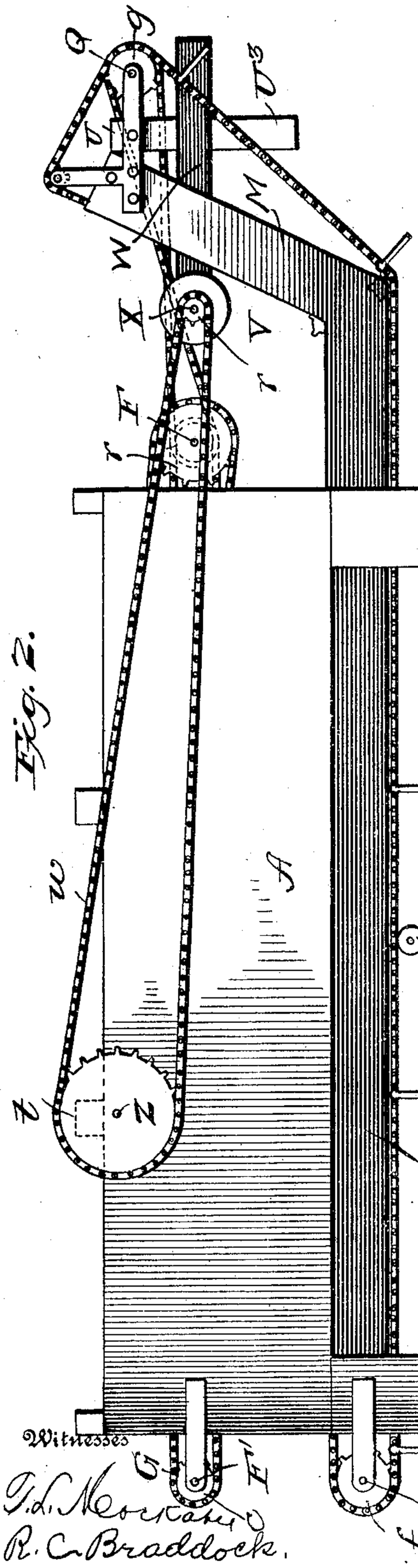

Fig. 2.

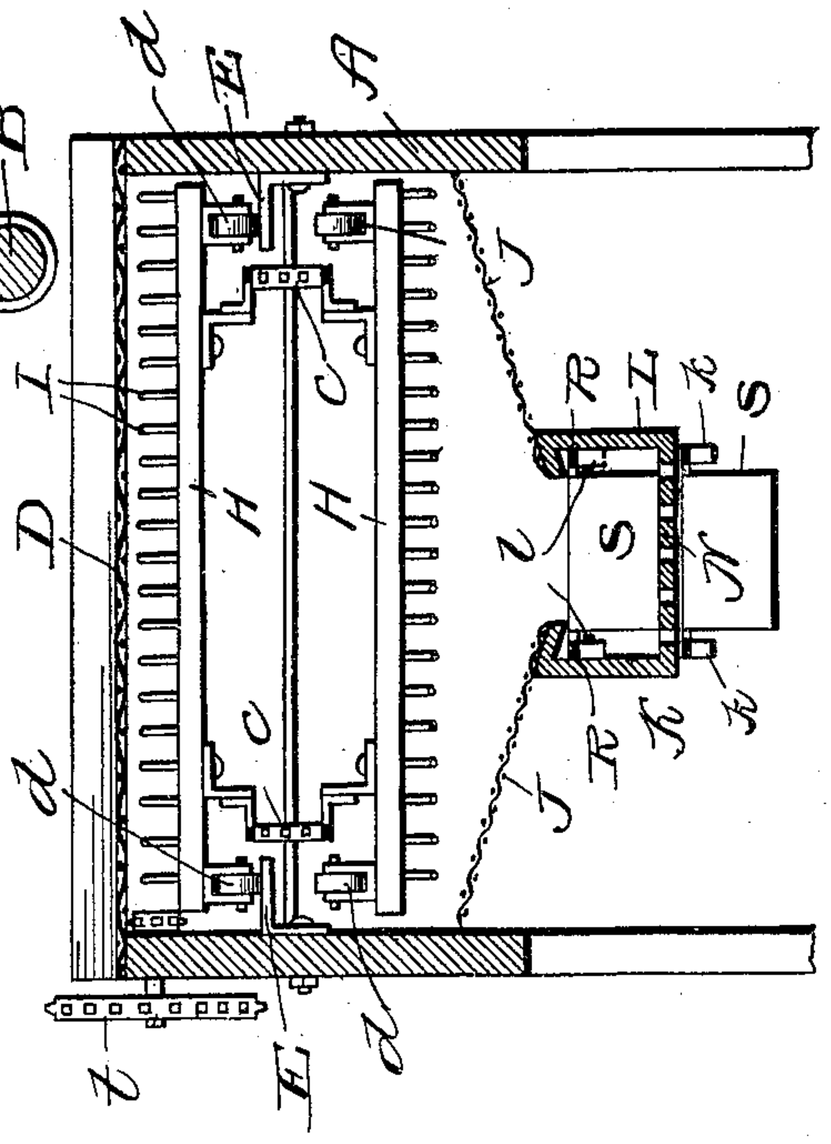

Fig. 3.

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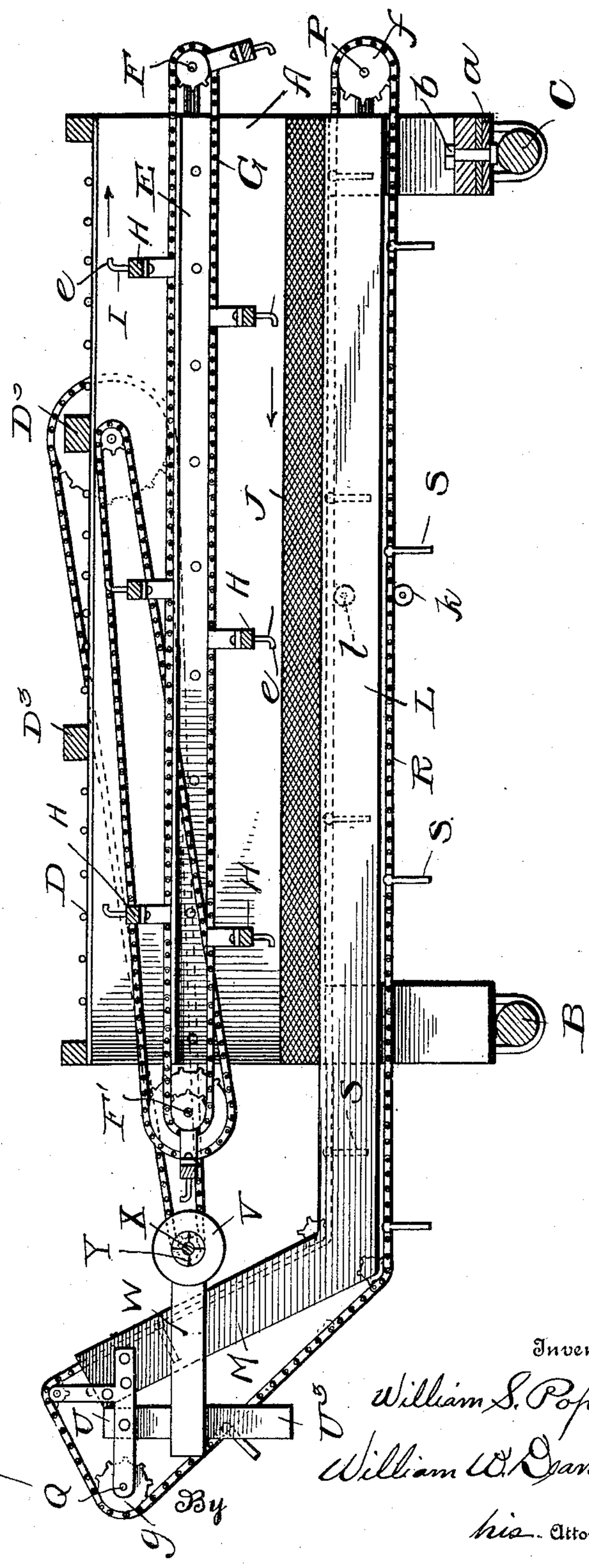
3 SHEETS—SHEET 3.

Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM S. POPE, OF SNEADS, FLORIDA.

PEA-SEPARATOR.

No. 891,096. Specification of Letters Patent. Patented June 16, 1908.

Application filed December 11, 1905. Serial No. 291,250.

To all whom it may concern:

Be it known that I, WILLIAM S. POPE, citizen of the United States, residing at Sneads, in the county of Jackson and State of Florida, have invented certain new and useful Improvements in Pea-Separators, of which the following is a specification.

My invention has relation to separators; and it contemplates the provision of a simple and highly efficient machine calculated to expeditiously separate peas, more particularly ground peas, from their vines and subsequently free such peas from sand, dirt and other foreign substances with a view of increasing the market value thereof.

The invention will be fully understood from the following description and claims when the same are considered in connection with the accompanying drawings, forming part of this specification, in which:

Figure 1 is a top plan view of the pea separator constituting the present and preferred embodiment of my invention. Fig. 2 is a side elevation of the separator. Fig. 3 is a transverse section of the separator, taken in the plane indicated by the line 3—3 of Fig. 1. Fig. 4 is a detail longitudinal view illustrative of the inclined sieve, the pea conveyer and the dust-ejecting means of the separator.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is the main frame of my novel separator, which is preferably of wood and open in construction, and B and C are rear and front axles with which the frame is preferably, though not necessarily equipped, and upon which it is mounted. These axles B and C may be of the ordinary construction or of any other construction compatible with the purpose of my invention without involving a departure from the scope thereof, and are designed to be equipped with suitable traveling wheels (not shown) so as to permit of the machine being conveniently hauled from place to place. The rear axle B may be connected to the frame A in any convenient manner. The front axle C, however, I prefer to connect to the frame through the medium of a fifth wheel *a* and a king bolt *b*, as shown, in order to permit of the machine being readily guided while *en route* from one point to another.

D is a screen fixed over the main frame A at the top thereof and having large meshes as shown. This screen is preferably formed of longitudinal wires and transverse wires stretched taut over the longitudinal wires, and it is preferably divided into three equal parts by cross bars D^3 disposed above the transverse wires and interposed between the sides of the main frame A so as to lend strength to the upper portion of the same.

E E, Fig. 3, are longitudinal rails, preferably of steel, fixed to the inner sides of the side walls of the main frame A.

F F^1 are transverse shafts journaled in suitable bearings in the main frame A at the ends thereof and bearing sprocket wheels *c*.

G G are sprocket belts mounted on the wheels *c* of shafts F and F^1 and arranged parallel to and at the inner sides of the side walls of the main frame.

H H are transverse finger bars fixedly connected to the chains G at intervals in the length thereof and having anti-friction rollers *d* arranged to bear and travel on the rails E; and I I are fingers carried by the bars H and having their free portions, indicated by *e*, bent forwardly with reference to the direction in which the upper stretches of the sprocket belts G are driven in practice. The rails E are so arranged, relative to the screen D that in their forward movement, indicated by arrow in Fig. 1, the bent ends *e* of the fingers I travel quite close to the underside of the screen D. From this it follows that when a mass of pea-bearing vines is thrown by hand or otherwise on the screen D, and the peas extend down through the interstices of said screen, the traveling fingers I will engage and pull the peas from the vines, and cause the same to drop in the frame.

J J are sieves, of reticulated or other suitable material, fixed in the frame A below the endless pea-pulling means described in the foregoing. The said sieves extend throughout the length of the main frame A, Fig. 4, and decline toward the longitudinal center of the machine, Fig. 3, for a purpose which will be presently apparent.

K is a pea conveyer. This pea conveyer comprises a longitudinal open trough L disposed between and adapted to receive from the transversely declined sieves J and having an upwardly reaching forward arm M and also having a perforated bottom N adapted to discharge dust, dirt and the like, a rear transverse shaft P bearing sprocket wheels *f*, a forward transverse shaft Q bearing sprocket wheels *g* and an additional sprocket wheel *h*,

Fig. 1, lower and upper anti-friction and guide wheels *k* and *l* carried by the trough L, sprocket belts R passed around the sprocket wheels *f* and *g* and having their lower and upper stretches arranged to bear on the lower and upper wheels *k* and *l*, respectively, and transverse, pendent blades S fixedly connected to the belts R and arranged to travel forwardly in the trough L and its arm M and rearwardly below said arm M and trough L, as illustrated. The sprocket belts R derive motion from the shaft F through a sprocket wheel *m* thereon, Fig. 1, the shaft Q, and a crossed sprocket belt T connecting the wheel *m* and the sprocket wheel *h* on the shaft Q.

In addition to the features mentioned in the foregoing, the trough L of the pea conveyer K is provided with inwardly directed flanges L^3, Fig. 3. These flanges L^3 have for their function to prevent dust, dirt etc. from falling on the belts which bear the blades S, and the wheels supporting the upper stretches of said belts.

U is a chute arranged to receive peas, dirt and trash from the upper end of the trough arm M.

V is a fan casing having a discharge conduit W provided in its upper and lower walls with alined openings w^3 and w^4; the upper opening w^3 being arranged to receive from the chute U.

U^3 is a chute arranged to receive from the lower opening w^4 in the discharge conduit W of the fan casing V and discharge into a receptacle placed to receive peas.

X is a transverse shaft journaled in the side walls of and extending through the casing V, and Y is a fan fixed on the shaft X and designed to be rotated at a high rate of speed. When the fan Y is rotated as stated, and peas, trash and dirt are discharged into the upper opening w^3 of the discharge conduit W of the fan casing V, it will be apparent that the peas will gravitate through the said conduit V and the opening w^4 in the lower wall thereof, and from thence will pass to and through the chute U^3 into a receptacle placed to receive the same. The dirt and trash, however, will be separated from the peas in the conduit W and will be forced out of said conduit by the blast from the fan Y. From this it follows that when the peas reach the chute U^3 they will be in a clean and wholesome condition ready for market.

The shaft F is provided with a band pulley *k'* designed to receive a band (not shown) from a steam engine or other motor; and motion is preferably taken from said shaft F to drive the fan Y, the driving connections comprising a sprocket wheel *r* on shaft F, a counter-shaft Z suitably mounted on the main frame A, small and large sprocket wheels *s* and *t* on said counter-shaft, a sprocket belt *u* connecting the wheels *r* and *s*, a small sprocket wheel *v* on the fan shaft X, and a sprocket belt *w* connecting the sprocket wheel *t* and the said sprocket wheel *v*.

It will be gathered from the foregoing that when the shaft F is rotated, the several working parts of my improved machine will be put in motion; also, that when pea-bearing vines are deposited on the screen D, the depending peas will be pulled from the vine by the fingers I and caused to drop on the sieves J. The said sieves declining toward the longitudinal center of the machine, it follows that the peas etc. received on the sieves will pass to the trough L along which the same will be carried by the blades S. During the passage of the peas etc. over the sieves J and along the trough L a portion of the dirt and dust will be separated from the peas, while when the peas etc. drop through the discharge conduit W of the fan casing V the peas will be entirely freed of dirt and trash with the result that the peas discharged from the chute U^3 will be in a clean and marketable state.

Subsequent to the disconnection of the peas from their vines, the vines may be removed from the screen D by hand or by any means suitable to the purpose.

It will be readily apparent that my novel machine is possessed of large capacity, and is adapted to separate peas from their vines and free the peas of sand, dust and dirt without breaking or otherwise deteriorating the peas.

The machine shown and described is a power machine, but it is obvious that my improvements may be embodied in a hand machine without involving departure from the scope of my invention as claimed; and in this connection I desire to say that in practice various changes and modifications may be resorted to without affecting the spirit of my invention.

Having described my invention, what I claim and desire to secure by Letters Patent, is:—

1. In a separator, the combination of a screen for supporting pea vines, a plurality of fingers movable below and adjacent to the underside of the screen and adapted to engage the vines and pull peas therefrom, a sieve arranged beneath said fingers, and a trough located to receive peas from the sieve and having openings in its bottom.

2. In a separator, the combination of a screen for supporting pea vines, means located below the screen for pulling peas off the vines, inclined sieves arranged to receive said peas, a trough disposed between and arranged to receive peas from the sieves and having openings in its bottom, blades arranged to move peas along the trough, and means for moving the said blades.

3. In a separator, the combination of a screen for supporting pea vines, a plurality

of fingers movable below and adjacent to the underside of the screen and adapted to engage the vines and pull peas therefrom; inclined sieves arranged to receive said peas, a trough arranged between and adapted to receive peas from the sieves and having openings in its bottom, and means for moving peas along the trough.

4. In a separator, the combination of a screen for supporting pea vines, means located below the screen for pulling peas from the vines, inclined sieves arranged to receive said peas, a trough arranged between and adapted to receive peas from the sieves and having an upwardly reaching arm at one end and also having openings in its bottom, means for moving peas etc. along said trough, a chute arranged to receive peas etc. from the upper end of the arm of the trough, a blower, and a casing containing the blower and having upper and lower openings for the passage of peas; the upper opening being arranged to receive from the said chute.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM S. POPE.

Witnesses:
RUPERT MCDANIEL,
LEWIS TAYLOR.