

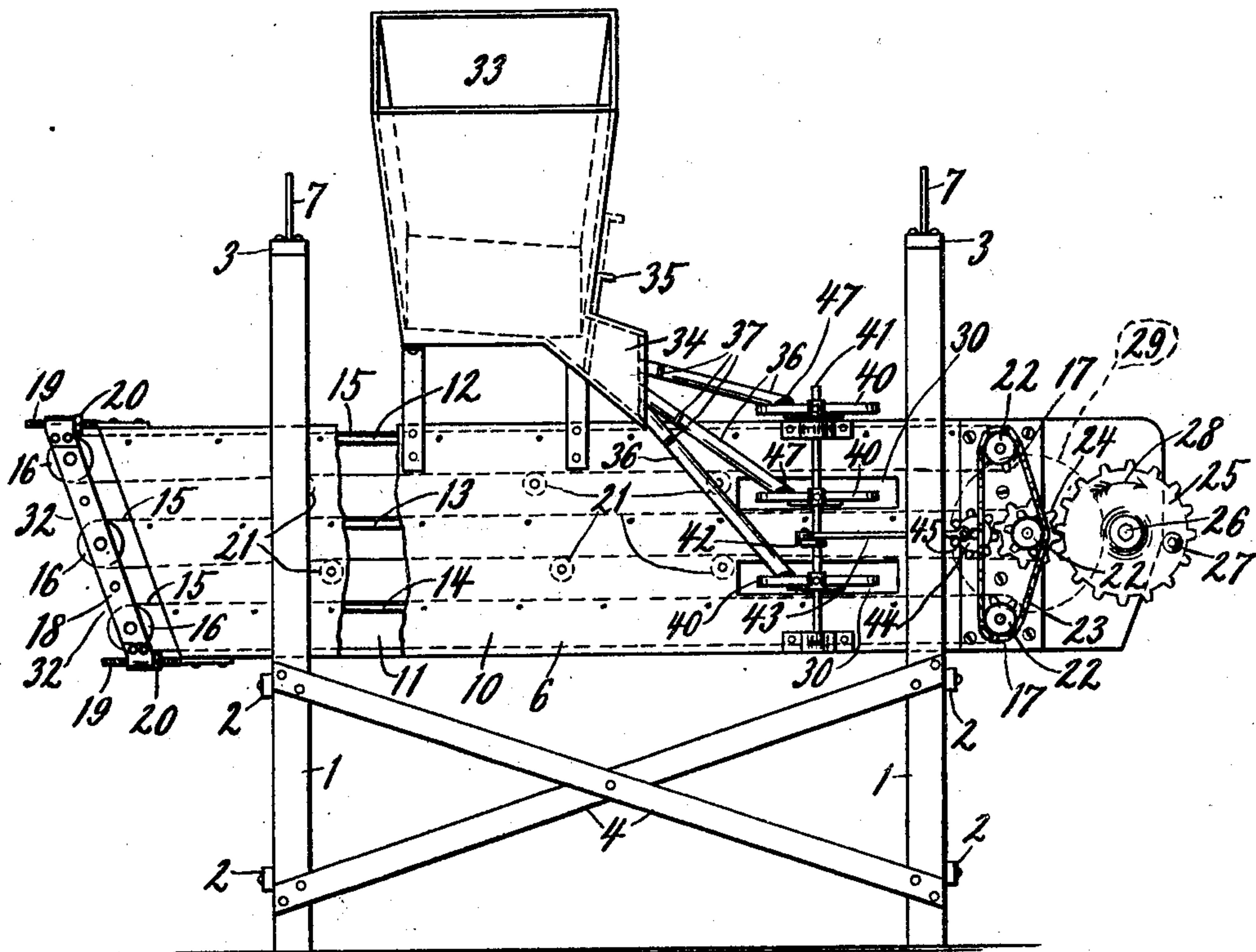
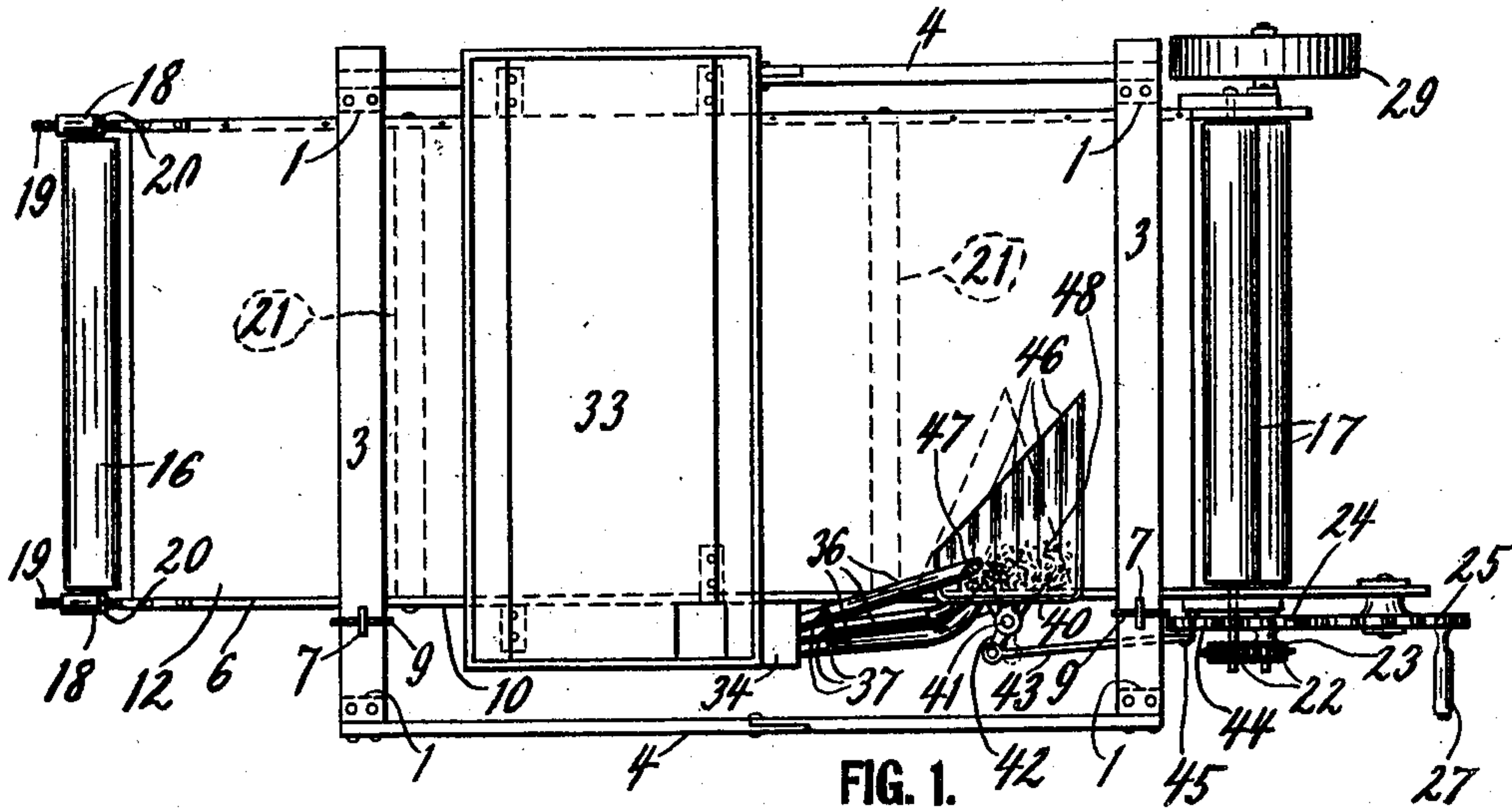
No. 897,271.

PATENTED SEPT. 1, 1908.

J. S. CHRISTENSEN.  
GRAIN CLEANER FOR WILD PEAS AND COCKLE.

APPLICATION FILED FEB. 21, 1908.

2 SHEETS—SHEET 1.



WITNESSES:

FIG. 2.

INVENTOR:

D. E. Carlsen.  
L. C. Carlsen.

John S. Christensen.  
BY HIS ATTORNEY:  
A. M. Carlsen

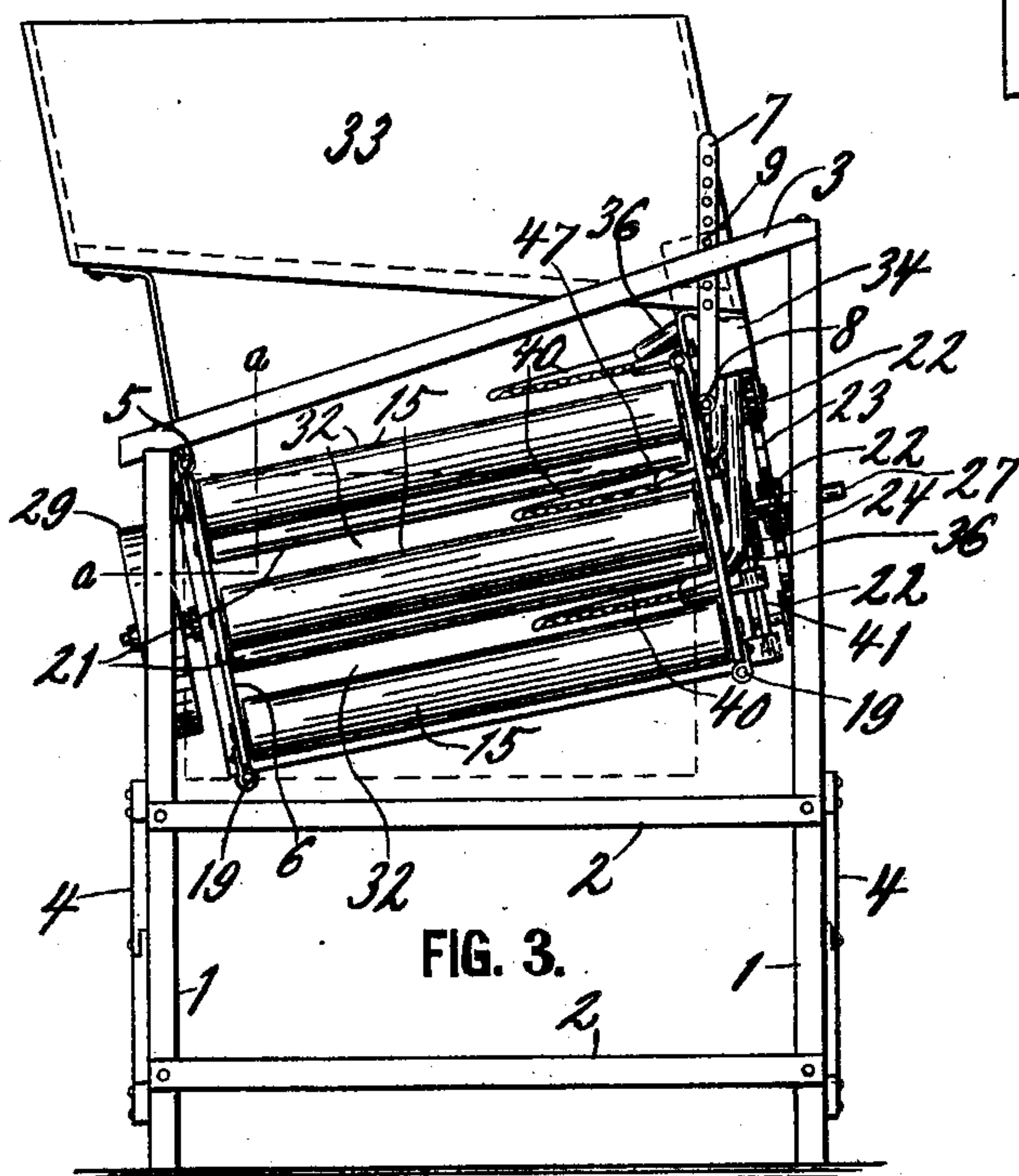
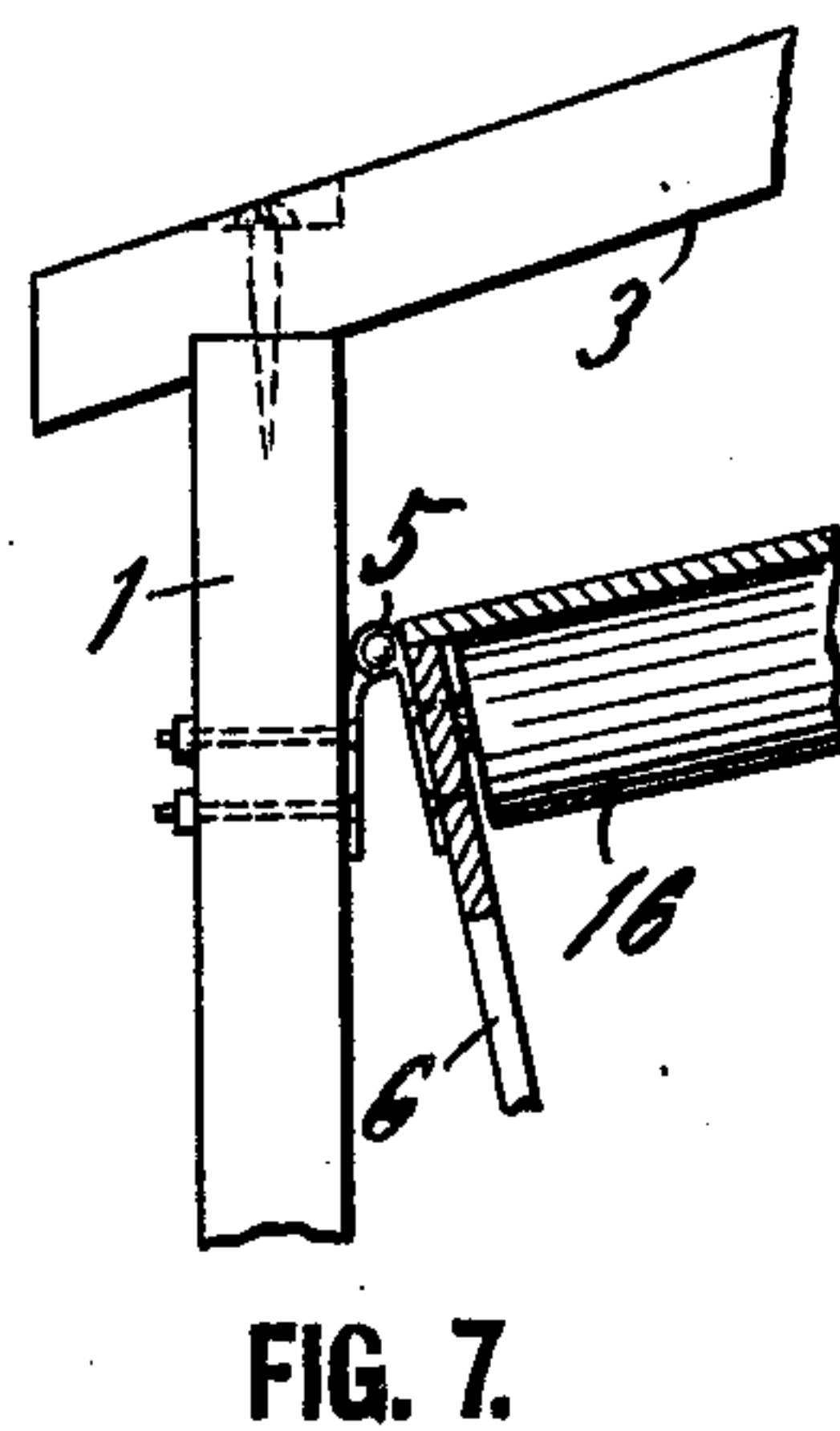
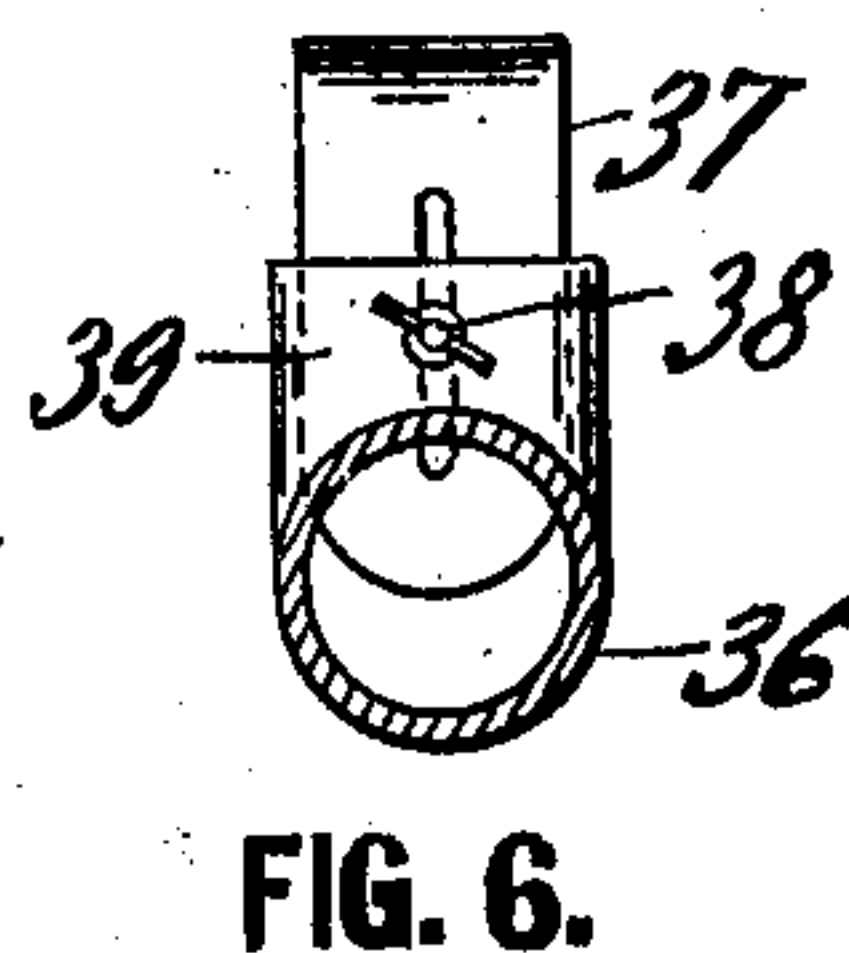
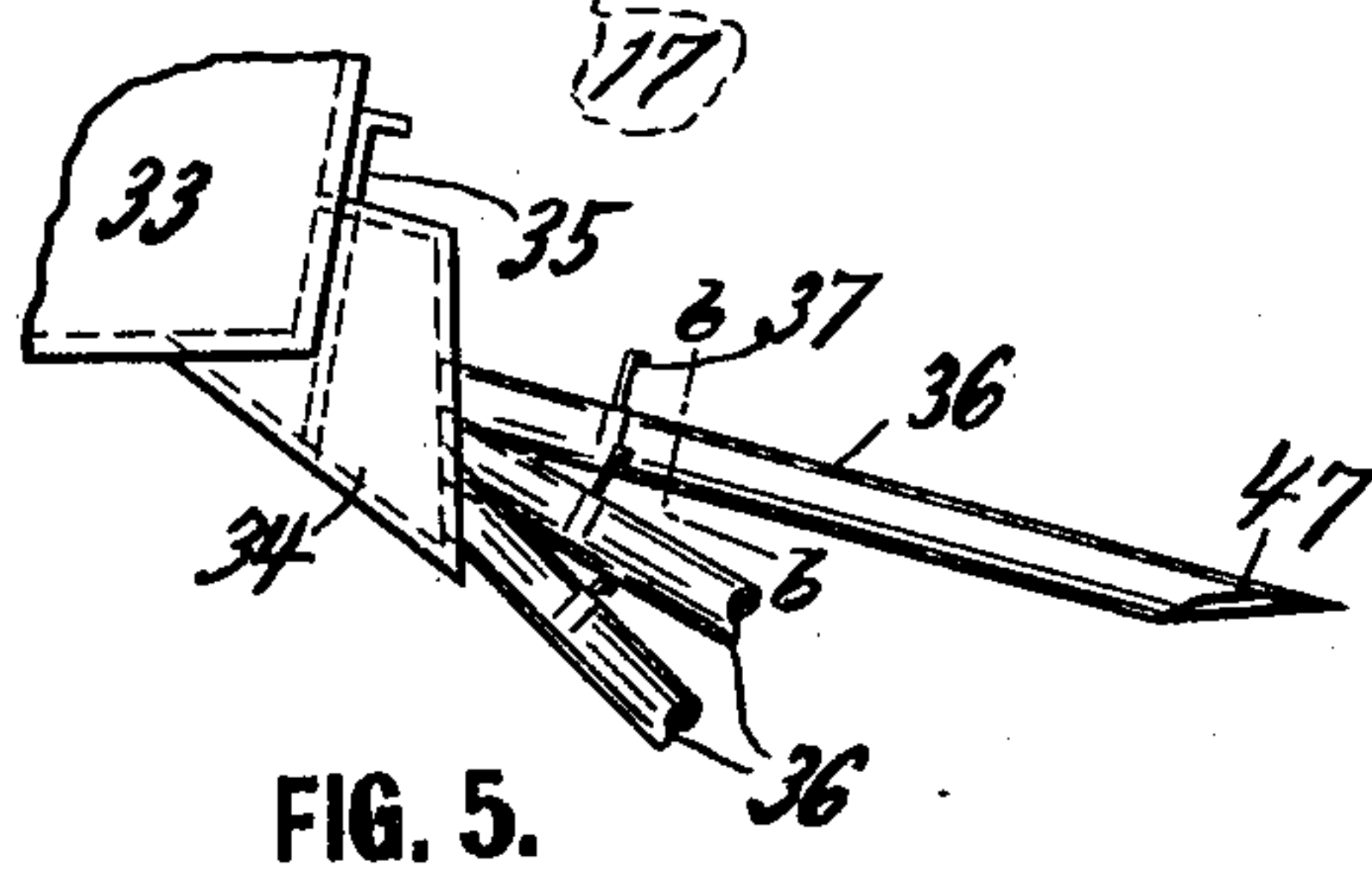
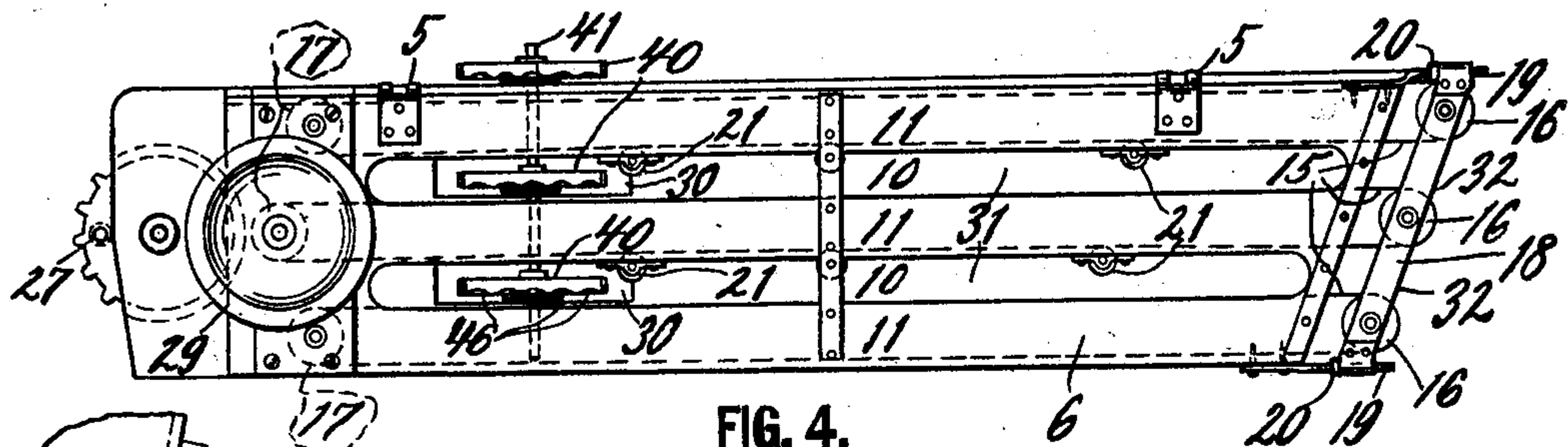
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2 SHEETS—SHEET 2.



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INVENTOR:

John S. Christensen.  
BY HIS ATTORNEY:  
A. M. Carlsen



# UNITED STATES PATENT OFFICE.

JOHN S. CHRISTENSEN, OF NORWAY LAKE, MINNESOTA.

## GRAIN-CLEANER FOR WILD PEAS AND COCKLE.

No. 897,271.

Specification of Letters Patent.

Patented Sept. 1, 1908.

Application filed February 21, 1908. Serial No. 417,004.

*To all whom it may concern:*

Be it known that I, JOHN S. CHRISTENSEN, a citizen of the United States, residing at Norway Lake, in the county of Kandiyohi and State of Minnesota, have invented a new and useful Grain-Cleaner for Wild Peas and Cockle, of which the following is a specification.

My invention relates to grain cleaning machines, and more particularly to devices for separating from wheat and other grains, wild peas and cockle. The wild peas have especially of late years become a serious trouble to farming of wheat, rye, barley, oats and the like, and as the size of these peas is such as to permit them to go through any strainer through which the wheat will pass, the separation of the peas from the grain has at least as far as I know been impossible by any device heretofore constructed.

In the accompanying drawing Figure 1 is a top or plan view of my grain cleaner for wild peas and cockles, with the tilting frame in which the working parts are mounted lowered to the level position indicated by the lowest dotted line in Fig. 3. Fig. 2 is a front side elevation of Fig. 1. Fig. 3 is a right hand end elevation of Fig. 2. Fig. 4 is a rear side elevation of the working parts and their frame removed from the supporting frame. Fig. 5 is an enlarged portion near the middle of Fig. 2. Fig. 6 is an enlarged cross section on the line *b—b* in Fig. 5. Fig. 7 is an enlarged fraction as within the angle *a—a* in Fig. 3 with the tilting frame in cross section near one of the uprights to which it is hinged, as will presently be fully described.

Referring to the drawing by reference numerals, a portable stand or frame is formed of four uprights 1, transverse bars 2, top bars 3 and crossing side braces 4. In this frame or stand is hinged at 5 to the uprights of one side thereof a tilting frame 6, whose other side is adjustably suspended by having hinged to it at 8 two perforated suspension rods 7, extending upwardly through holes in the top bars 3, and above the latter provided with a pin 9, which may be changed to different holes in the rods and thus when resting upon bars 3 will hold the frame 6 to the desired inclined position as best shown in Fig. 3.

As best shown in Fig. 2, the tilting frame is formed of two side boards 10 and 11 secured together by intermediate floors or sup-

porting boards 12, 13, 14, each of which support in smooth condition the upper runs of a series, in the present instance three, endless conveyer belts 15, which may be made of oil cloth or any other smooth material or canvas rollers. Said conveyer belts are stretched over rollers 16 in one end of the frame and rollers 17 in the other end. The rollers 16 are journaled in frame bars 18, which are slidably supported on screw threaded arms 19 projecting from the ends of the side boards and are provided with nuts 20 by which the conveyer belts may thus at all times be stretched to the desired tension. The lower runs of each conveyer that has another conveyer below it, is supported by rollers 21 so as not to flap down upon the grain on the conveyer next below it.

The rollers 17 are each provided with a sprocket 22 engaging a link-belt 23 by which they are rotated in unison; the middle roller being driven by a cog pinion 24 fixed on it and a cog wheel 25 journaled on a stud 26 fixed in the tilting frame, and having a handle 27 by which to turn it in the direction of the arrow 28 in Fig. 2. At the other end of the middle roller 17 is fixed a fly-wheel 29 which helps to make the operation of the machine more even and steady.

As the tilting frame is normally more or less tilted its sides may be termed the higher and lower side. In the higher side are ports 30 for the inlet of the grain to be cleaned, and in the lower side are large ports or slots 31 for the exit of the wild peas and cockles which roll out from the inclined carriers while the wheat and other grain which are not spherical will not roll but pass out at 32 from the end of the machine.

The grain to be cleaned is filled into a hopper 33 mounted upon the tilting frame. At the lowest point of the hopper is formed a pocket 34 into which the grain is admitted by raising a shutter 35, and from said pocket extend as many feed spouts 36 as there are conveyer belts in the machine. Each spout is controlled by a special shutter or valve 37, which as shown in Fig. 6 is held more or less open or even closed by a thumb screw 38, which in any of the well known manners may prevent sliding of the shutter in the portion 39 of the spout guiding it. The grain is fed from the spouts upon pans 40, fixed on a vertically disposed rock-shaft 41, having a rocker arm 42 rocked by a pitman 43, and a pinion 44 having a crank pin 45 engaging the



pitman; said pinion meshes with and is driven by the pinion 24 on the roller having the fly wheel.

The uppermost pan is arranged above the 5 tilting frame. The other pans are loosely inserted through the side openings 30. Each pan reaches considerably in over the conveyer it is to supply, and its grain delivering edge extends in diagonal direction of 10 the conveyer. The pans are also corrugated in their bottom portion as at 46, so that the corrugations and the diagonal long edge will both help to spread the grain. To prevent 15 the grain from streaming from the spout toward the edge of the pan too fast, the spouts are each so arranged that the bulk of the grain escapes at the side of the spout opening that is farthest away from the distributing edge of the pan, as indicated by a clear- 20 ing 47 in Figs. 5, 3 and 1. In the latter view 48 represents grain deposited upon the pan ready to be spread upon the conveyer by the vibrating motion of the pan.

Having thus fully described the construction and operation of my machine, what I 25 claim is:

1. A grain cleaning machine comprising in combination a supporting frame, a tilting normally laterally inclined frame, hinged at 30 one side therein and means for changing the inclination of said frame, one or more endless conveyer belts or aprons mounted on and driven by rollers in the tilting frame, means for rotating said rollers so as to move the 35 conveyers, a rock-shaft journaled at one side of the tilting frame and operatively connected with the driving mechanism of the rollers, a pan fixed on the rock-shaft for each conveyer belt and projecting in over the upper 40 run thereof, a hopper mounted on the tilting frame, spouts extending from said hopper one into each pan, and means for regulating the passage of grain through each spout.

45 2. A grain cleaning machine comprising in combination a supporting frame, a tilting

normally laterally inclined frame hinged at one side therein, and means for changing the inclination of said frame one or more endless 50 conveyer belts or aprons mounted on and driven by rollers in the tilting frame, means for rotating said rollers so as to move the conveyers, a rock-shaft journaled at one side of the tilting frame and operatively connected 55 with the driving mechanism of the rollers, a pan fixed on the rock-shaft for each conveyer belt and projecting in over the upper run thereof, a hopper mounted on the tilting frame, spouts extending from said hopper one into each pan, and means for regulating 60 the passage of grain through each spout, said spouts having each an elongated outlet by which to spread the grain upon the bottom of the pan.

3. A grain cleaning machine comprising in 65 combination a supporting frame, a tilting normally laterally inclined frame hinged at one side therein and means for changing the inclination of said frame, one or more endless conveyer belts or aprons mounted on and 70 driven by rollers in the tilting frame, means for rotating said rollers so as to move the conveyers, a rock-shaft journaled at one side of the tilting frame and operatively connected 75 with the driving mechanism of the rollers, a pan fixed on the rock-shaft for each conveyer belt and projecting in over the upper run thereof, a hopper mounted on the tilting frame, spouts extending from said hopper one into each pan, and means for regulating 80 the passage of grain through each spout, said spouts having each an elongated outlet by which to spread the grain upon the bottom of the pan, and said outlet being turned partly 85 away from the distributing edge of the pan, for the purpose set forth.

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

JOHN S. CHRISTENSEN.

Witnesses:

NELS QUAM,  
JAS. O. ESTREM.