No. 651,499. Patented June 12, 1900.

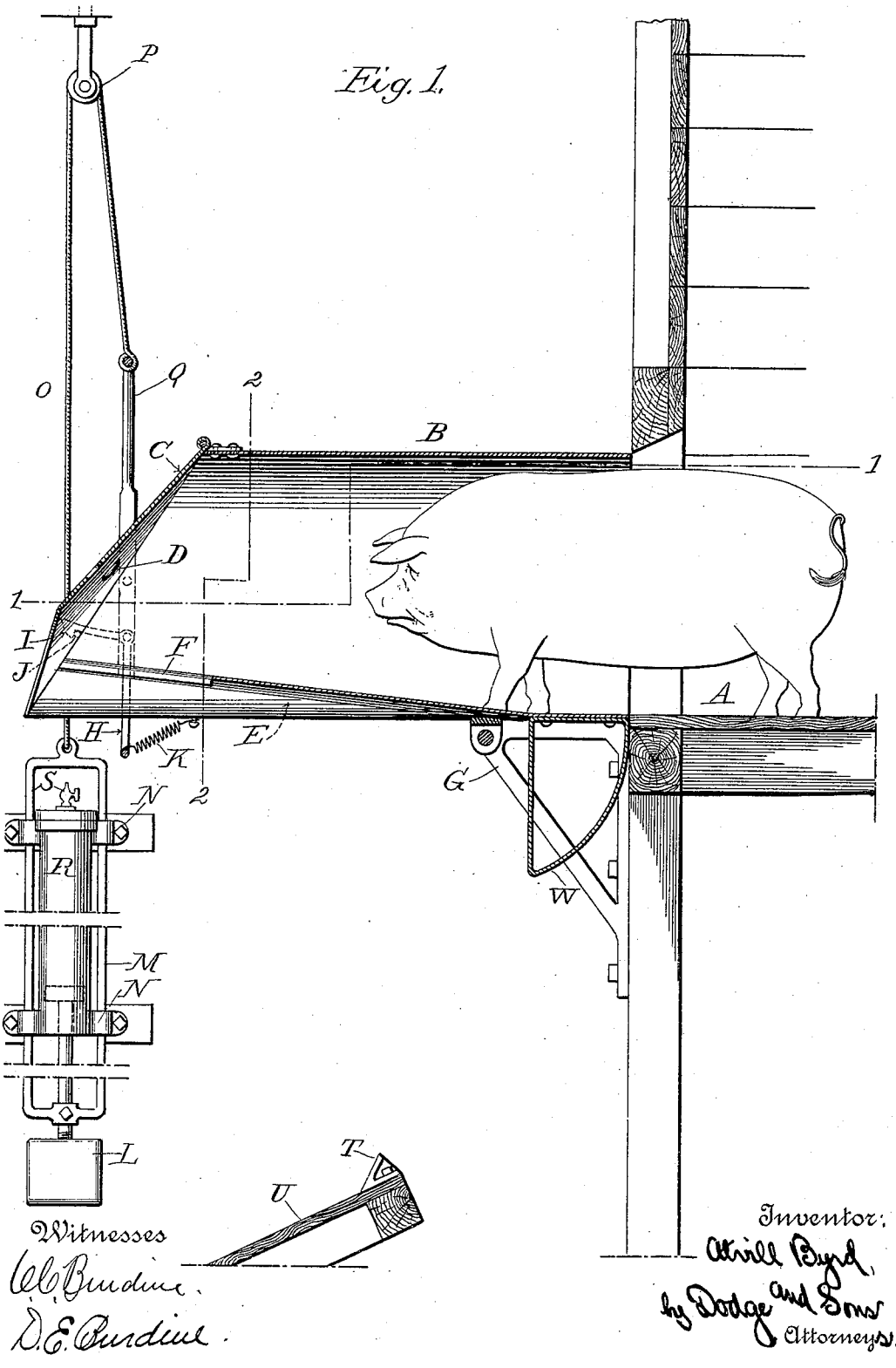
A. BYRD.

SLAUGHTERING APPARATUS.

(Application filed June 3, 1899.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.



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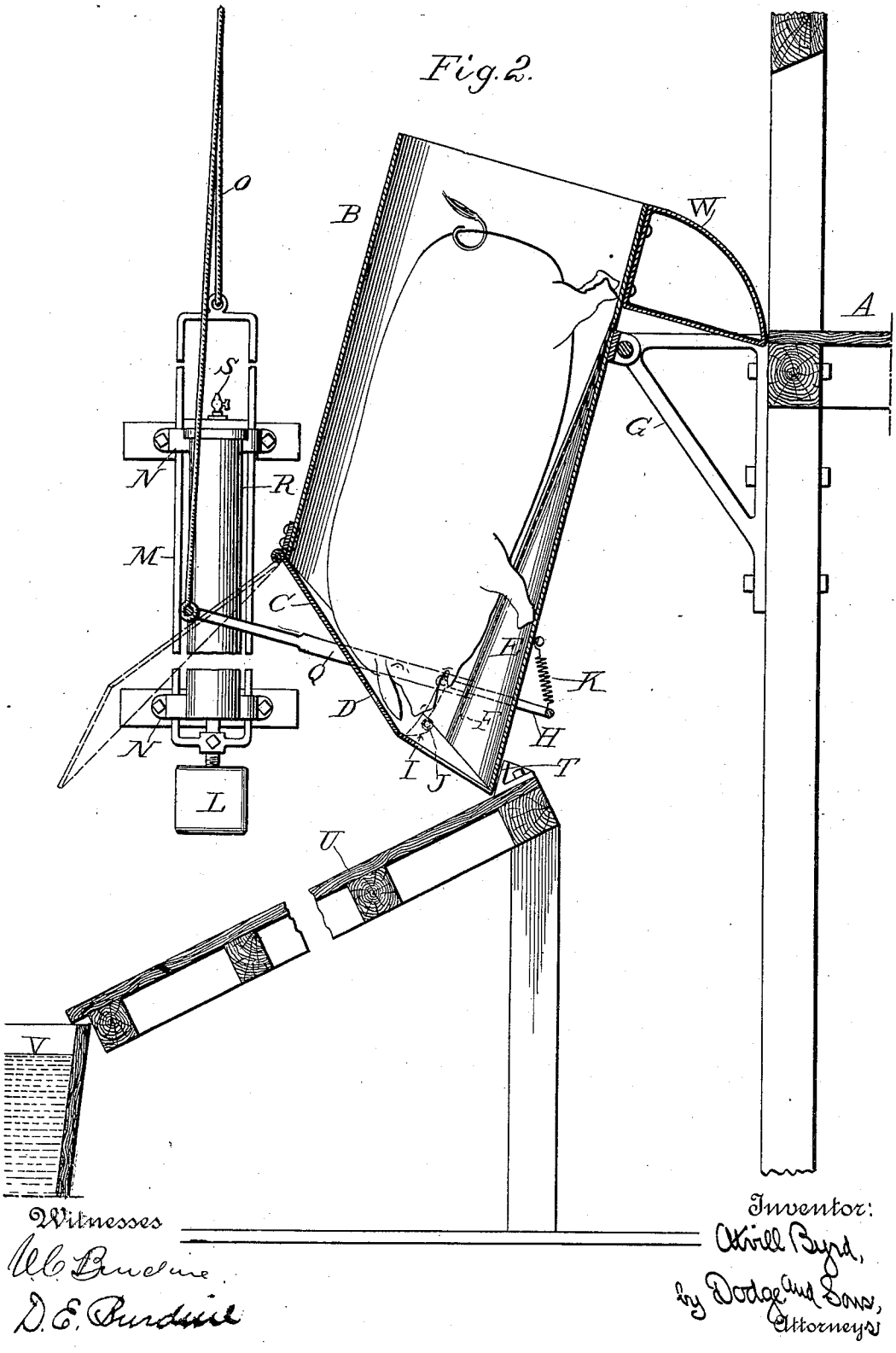
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Fig. 2.



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Fig. 3.

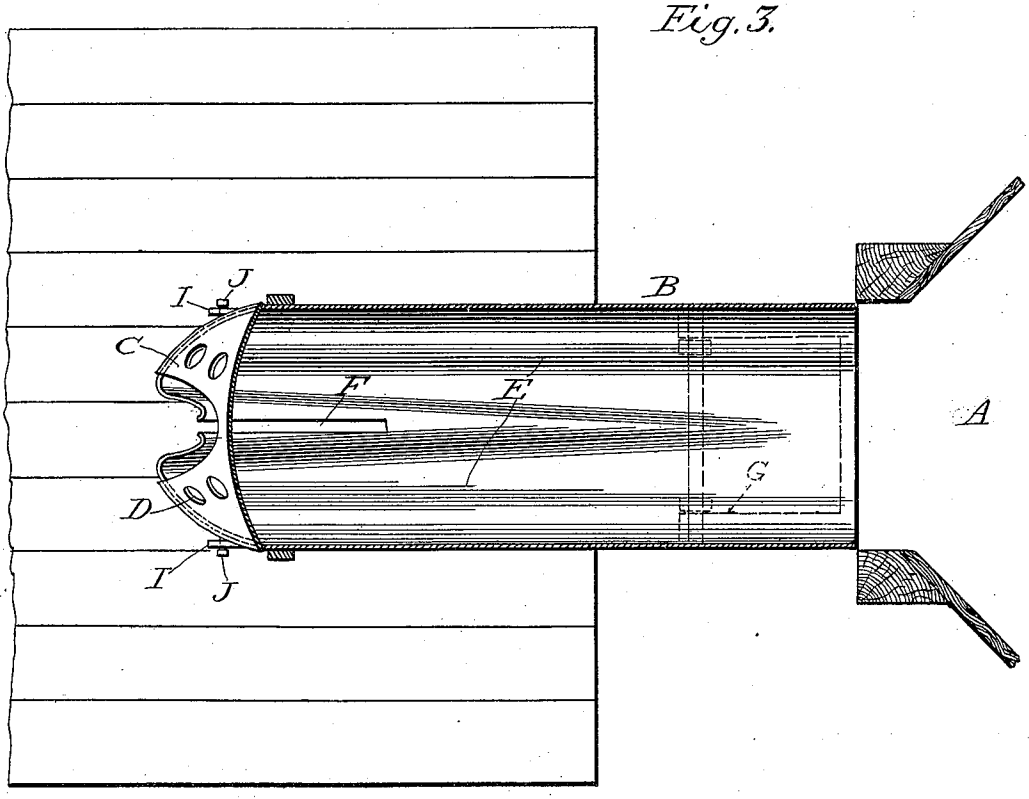


Fig. 4.

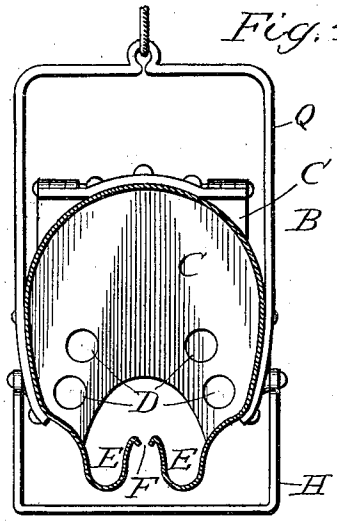
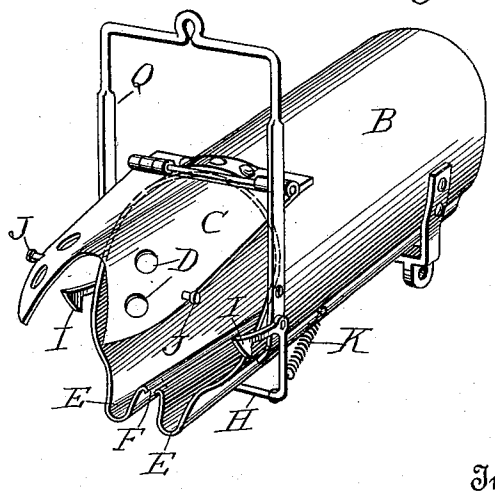


Fig. 5.



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Fig. 6.

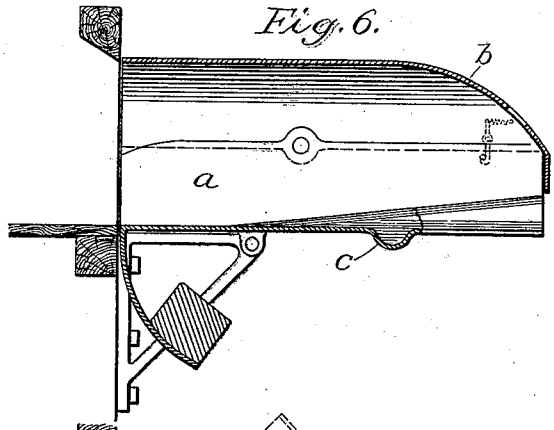


Fig. 7.

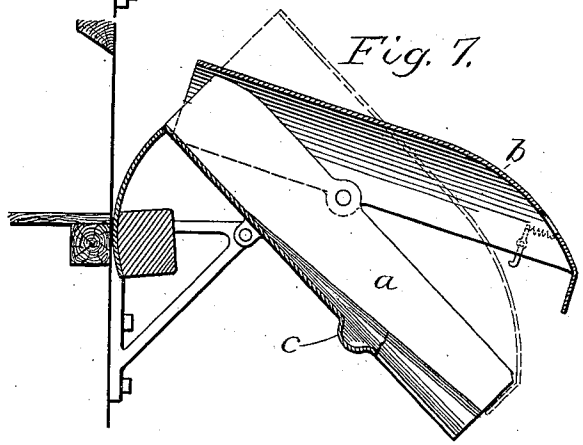


Fig. 8.

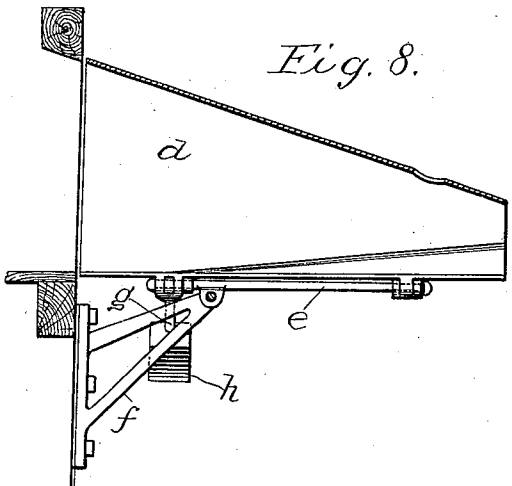
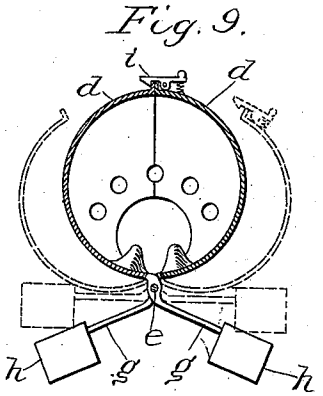


Fig. 9.



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UNITED STATES PATENT OFFICE.

ATVILL BYRD, OF KANSAS CITY, MISSOURI, ASSIGNOR OF TWO-THIRDS TO MICHAEL M. SWEETMAN AND WILLIAM D. SNYDER, OF SAME PLACE.

SLAUGHTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 651,499, dated June 12, 1900.

Application filed June 3, 1899. Serial No. 719,230. (No model.)

To all whom it may concern:

Be it known that I, ATVILL BYRD, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Slaughtering Apparatus, of which the following is a specification.

My present invention pertains to improvements in slaughtering apparatus, the construction and advantages of which will be hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the apparatus, partly in section; Fig. 2, a similar view showing the parts in a different position; Fig. 3, a horizontal sectional view of the pivoted chute or receptacle on the line 1 1 of Fig. 1; Fig. 4, a transverse sectional view taken on the line 2 2 of Fig. 1; Fig. 5, a perspective view of the chute or receptacle with the door shown in an elevated position; Figs. 6 and 7, sectional views showing a modified form of the chute or receptacle, and Figs. 8 and 9 sectional views illustrating a further modified form of the chute or receptacle.

One object of my invention is to provide an automatic apparatus for bringing swine one at a time into a position where they may be slaughtered readily and quickly.

The invention also has for its object the construction of an apparatus wherein the pig by its own weight serves to actuate the devices and brings itself to a position where it may be killed and thence discharged from the apparatus onto a suitable inclined way or traveling belt.

The invention in its breadth comprises a pivoted chute or receptacle, into which the animals are driven one at a time and which when the animal reaches a certain position therein will drop down, holding the pig so that it may be readily slaughtered. It comprises, also, means for releasing the pig from the chute or receptacle after it has been sufficiently bled and for permitting the chute or receptacle, without further care on the part of the attendant, to move back to its original position ready for the reception of another animal.

In the embodiment of the invention illustrated in Figs. 1 to 5, inclusive, the chute or receptacle is shown as pivotally mounted adjacent to a pen A, provided with a suitable opening leading to the mouth of the chute or receptacle. Said chute or receptacle comprises a body B, preferably rounding in cross-section, provided at its forward end with a hinged cover or door C, the hinge being located at the upper end, as is clearly shown in the drawings. The forward end of said chute or receptacle is beveled or inclined rearwardly from the bottom, so that when the door is closed down it stands at an angle. (See Figs. 1 and 2.) The door is cut away at its lower end and is also provided with a series of openings D, so as to permit light to enter from that end of the chute or receptacle, as a pig or other animal which is driven in will naturally walk toward that end to the light. If the receptacle were dark, it would be difficult or at least troublesome to drive the animal therein.

The bottom of the chute or receptacle is provided with two grooves or channels E, which extend from the forward end of the body back toward the rear end thereof, the ways or channels growing gradually more shallow and finally disappearing. It will also be noted that said ways diverge as they come to the forward end of the chute or receptacle. Intermediate said ways or channels at the forward end of the chute or receptacle there is formed a slot or opening F, the edges of the metal or other material of which the chute or receptacle is formed being preferably turned down upon themselves, as is clearly indicated in Figs. 1, 4, and 5.

The chute or receptacle is fulcrumed upon a bracket or other suitable support G, the pivotal point being so placed that as soon as the pig has passed into the chute or receptacle its weight will overbalance the chute and weight and cause the chute to move or drop down into the position indicated in Fig. 2. In said position the front legs of the pig will be in the channels or ways E, slightly spread apart, and the throat of the animal directly over the slot or opening F, so that the attendant may slaughter the animal by simply passing a knife through said slot or opening.

The door or cover C must of course be locked when the animal is entering the chute

or receptacle and remain locked until it has been slaughtered and sufficiently bled. To hold the door in its closed position, I have shown pivoted to the body a bail H, which extends beneath the bottom of the chute and is provided with two forwardly-extending arms or catches I, which when the door is dropped down engage with suitable lugs or studs J. A spring K serves to draw the bail back, and consequently to depress the arms or catches I. The door will normally be held down by its own weight upon the forward end of the chute or receptacle, and consequently will be locked.

To provide for the automatic elevation of the chute or receptacle after the slaughtered pig has been discharged therefrom, I employ a weight L, which is connected to a suitable frame M, working in guides N. To the upper end of said frame is attached a rope or cable O, which, passing over a sheave or pulley P, is connected to a suitable bail or other device Q, attached to the forward end of the body of the chute or receptacle.

To prevent a too-sudden tilting or tipping of the receptacle after the pig has passed therein so far as to overbalance the weight, I employ a check-cylinder R, in which works a suitable piston, the rod of which is connected to the frame M. A valve S is connected to the check-cylinder and permits the air to escape from the cylinder as the chute or receptacle descends; but after the slaughtered pig has been discharged from the chute the valve is so arranged as to permit the weight to act fully and quickly to elevate the chute to its horizontal position.

In Fig. 2 the apparatus is shown in that relation in which the pig is held in position to be slaughtered, and in said figure it will be noted that the forward end of the body of the chute comes in contact with a stop T, carried by or secured upon an inclined platform U, which leads to a scalding-tank or other suitable receptacle V. Instead of having the tank in this position an endless belt may be arranged to receive the carcass and convey it to any desired point. After the pig has been slaughtered and has bled sufficiently the operator by taking hold of the bail H and giving it a slight forward movement unlocks the door or cover C and the pig passes from the chute or receptacle by reason of its own weight. The weight L then serves to elevate the chute or receptacle to its horizontal position, and the door or lid C swinging down will be automatically locked. Thus it will be seen that all the operator has to do after the animal has been slaughtered is to release the pig from the chute or receptacle.

When the chute or receptacle is thrown forward, it is necessary to close the opening leading from the pen, and to this end a shield or apron W is attached to the under side of said chute or receptacle, as will be seen upon reference to Fig. 2. The shield comes up and in a measure closes the opening leading from the pen and prevents any animal from dropping between the pen and the uprights upon which it is supported.

By reason of the divergence of the channels or ways E and the inclination of the sides of the body of the chute the throat of the animal will be held close down to the slot F, and it will be impossible for the pig to get away or raise itself from such position.

In Figs. 6 and 7 there is shown a modified form of the chute or receptacle, wherein instead of employing a substantially-cylindrical body provided with a cover to close its forward end the chute is formed of two semicylindrical sections. The lower of these sections *a* is fulcrumed upon a suitable support after the manner shown in Figs. 1 and 2, and the upper section *b* is connected to said lower section by horizontally-disposed pivots or hinges, which permit the sections to be moved relatively one to the other. In Fig. 6 the parts are in position to receive an animal from the pen, while in Fig. 7 the upper section is shown as unlocked and thrown back to the position it would take after the slaughtered animal had just been discharged from the apparatus. It will also be noted upon reference to said Figs. 6 and 7 that instead of making the bottoms of the ways or channels smooth throughout there is formed a cross-depression *c*, designed to receive the fore feet of the animal and bend its legs back away from its throat as the apparatus tilts forward. In said figures the counterbalancing-weight is shown as directly connected to and carried by the apron attached to the lower section *a*. It will be noted that the forward end of the upper section *b* is rounded off and inclines downward toward the lower section, leaving only a small space open when the parts are closed. This downward inclination takes the place of the door C in the construction above described.

In Figs. 8 and 9 a further modified form of the chute or receptacle is illustrated wherein a funnel-shaped or conical formation is employed. It comprises two sections *d*, hinged together at the bottom upon a suitable rod *e*, the rod in turn being pivotally connected to a suitable bracket or support *f*. An arm *g* is connected to the lower edge of each of said sections, and at the outer end of each arm is secured a weight *h*. These weights tend normally to hold the sections *d* in their closed position, and a suitable catch or lock *i* is employed to hold them closed. Channels or ways similar to those illustrated in Figs. 1 to 5, inclusive, are formed in the sections, and an opening or slot is also left through which the operator may pass his knife. The weight of the slaughtered animal has a tendency to force the sections *d* apart, and by releasing the catch *i* said sections will be thrown apart into the position indicated by dotted lines in Fig. 9, and the carcass will pass therefrom. Immediately this takes place the weights *h* tend to bring the sections to their closed position

and also to elevate them to a horizontal position ready for the reception of another animal.

In all of the forms it is advisable that openings be made in the forward end of the apparatus, so as to admit light thereto.

In the apparatus herein shown and described it will be seen that it is not necessary to elevate the live stock from one position to another by hoists or the like, and consequently there is no tearing or injury of the meat, which often occurs with the methods now employed.

The apparatus is of course susceptible of various modifications and arrangements, and I hereby desire to be understood as claiming, broadly, any device or arrangement wherein the animal by its own weight changes the relation of the parts and brings itself into a position to be slaughtered.

Having thus described my invention, what I claim is—

1. In a slaughtering apparatus, the combination of a chute or receptacle adapted to receive and hold an animal to be slaughtered; and means for holding the chute in position to receive the animal and to permit the chute to tip or tilt after the animal has passed therein, to bring it into a position for slaughtering.

2. In a slaughtering apparatus, the combination of a pivoted chute or receptacle open at one end and adapted to receive and hold an animal; and means for discharging the animal from the chute after the chute has been tilted or thrown down and the animal slaughtered.

3. In a slaughtering apparatus, the combination of a pivoted chute or receptacle adapted and designed to receive and hold an animal to be slaughtered; means for tilting the chute with the animal held therein; and means for elevating said chute or receptacle after the animal has been slaughtered and discharged therefrom.

4. In a slaughtering apparatus, the combination of a pivoted chute or receptacle adapted and designed to receive and hold an animal to be slaughtered; means for temporarily closing the forward end of said chute or receptacle as it is tilted; and means for elevating the receptacle after the animal has been slaughtered and discharged therefrom.

5. In an apparatus for slaughtering animals, the combination of a pivoted chute or receptacle; a door carried by said chute for closing the discharge end thereof; and means for holding the door in its closed position as the chute is tilted on its pivot.

6. In an apparatus for slaughtering animals, the combination of a pivoted chute or receptacle; a door carried by said chute for closing the discharge end thereof; means for holding said door in its closed position as the chute is tilted; and means for elevating the receptacle after the slaughtered animal has been discharged therefrom.

7. A pivoted chute or receptacle adapted to receive and hold an animal to be slaughtered, said chute or receptacle being so arranged that as the animal passes therein it will overbalance the chute or receptacle, and cause it to swing downward into a position where the animal may be slaughtered, substantially as described.

8. A pivoted counterbalanced chute or receptacle adapted to receive and hold an animal to be slaughtered, said chute or receptacle being so arranged that as the animal passes therein it will overbalance the chute or receptacle, and cause it to swing downward into a position where the animal may be slaughtered, substantially as described.

9. In an apparatus for slaughtering animals, a pivoted chute or receptacle provided with a slot or opening at its forward end, as and for the purpose described.

10. A pivoted chute or receptacle adapted and designed to receive an animal to be slaughtered, provided with ways or channels in its base, and a slot or opening intermediate said channels or ways.

11. A pivoted chute or receptacle adapted and designed to receive an animal to be slaughtered, said chute or receptacle being provided with divergent ways or channels in its base, and a slot or opening formed intermediate the same.

12. A chute or receptacle adapted to receive an animal to be slaughtered, said chute or receptacle being formed with divergent ways or channels in its base; a slot or opening formed intermediate said ways; and a pivoted cover adapted to close down upon the forward end of the chute or receptacle.

13. In a slaughtering apparatus, the combination of a pen; a chute or receptacle adapted to receive an animal to be slaughtered, said chute or receptacle being pivoted adjacent to said pen; and a shield or apron carried by the lower side of said chute or receptacle.

14. In an apparatus for slaughtering animals, the combination of a pen; a chute or receptacle pivoted adjacent thereto and adapted to receive and hold the animal to be slaughtered; means for normally holding said chute or receptacle in its elevated position; and means for preventing the too-sudden descent of the chute or receptacle when an animal passes therein.

15. In a slaughtering apparatus, the combination of a suitable pen; a chute or receptacle pivoted adjacent thereto; means for normally holding said chute or receptacle in its elevated position; a door carried by said chute for closing its outer end; and means for locking said door.

16. In a slaughtering apparatus, the combination of a suitable pen; a chute or receptacle pivoted adjacent thereto and adapted to receive and hold the animal to be slaughtered; a counterbalance for said receptacle

adapted to hold it in a horizontal position; means for preventing a too-sudden descent of said receptacle; a stop for said receptacle; and a way placed in line with the discharge end of the receptacle.

17. A chute or receptacle adapted and designed to receive an animal to be slaughtered, said chute or receptacle being provided with suitable longitudinal grooves or channels in its base and cross-depressions *c*, substantially as shown and described.

In witness whereof I hereunto set my hand in the presence of two witnesses.

ATVILL BYRD.

Witnesses:
H. M. DIXON,
JNO. S. PULLEN.