March 31, 1942. H. L. BORNFLETH 2,278,237

COUNTING DEVICE

Filed Feb. 4, 1939 2 Sheets-Sheet 1

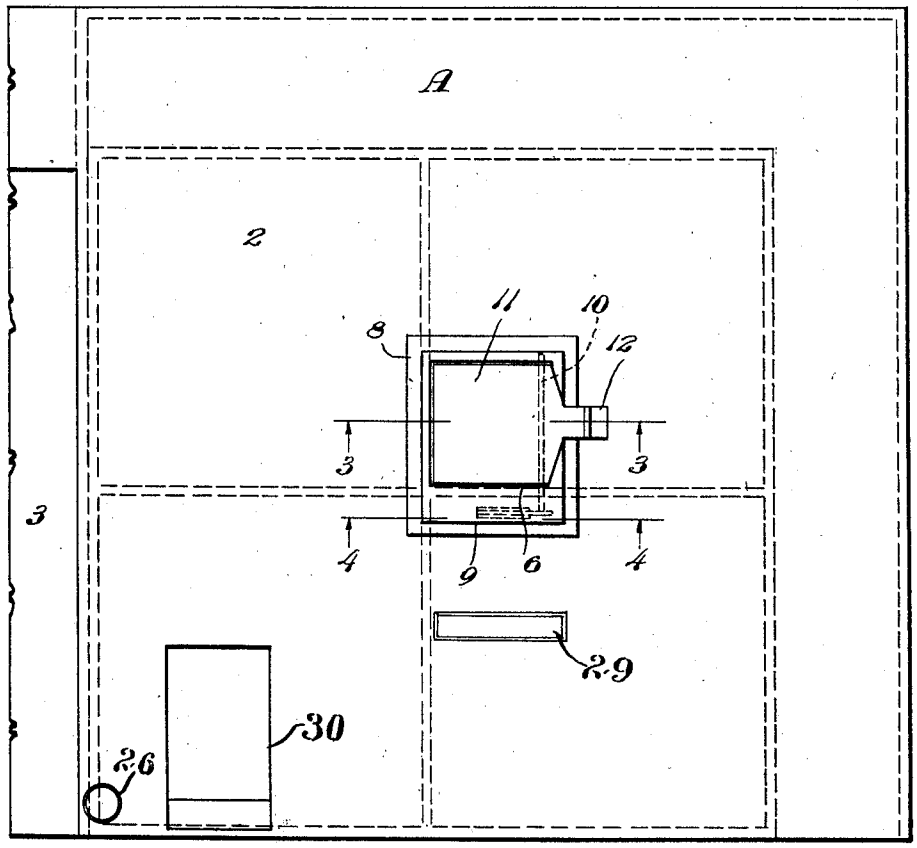


Fig. 1

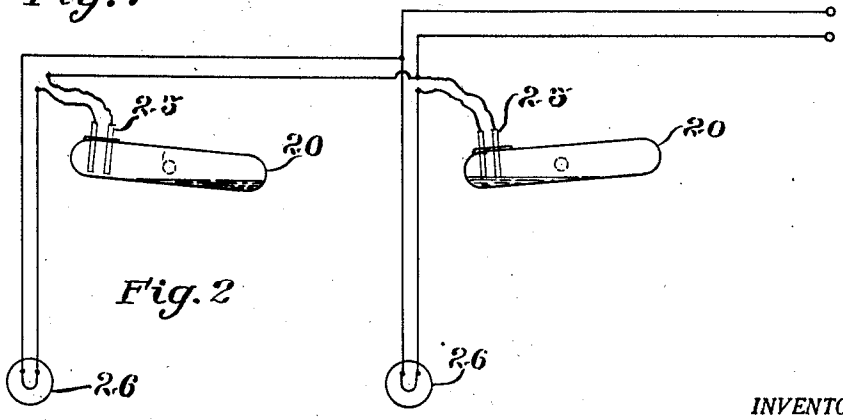


Fig. 2

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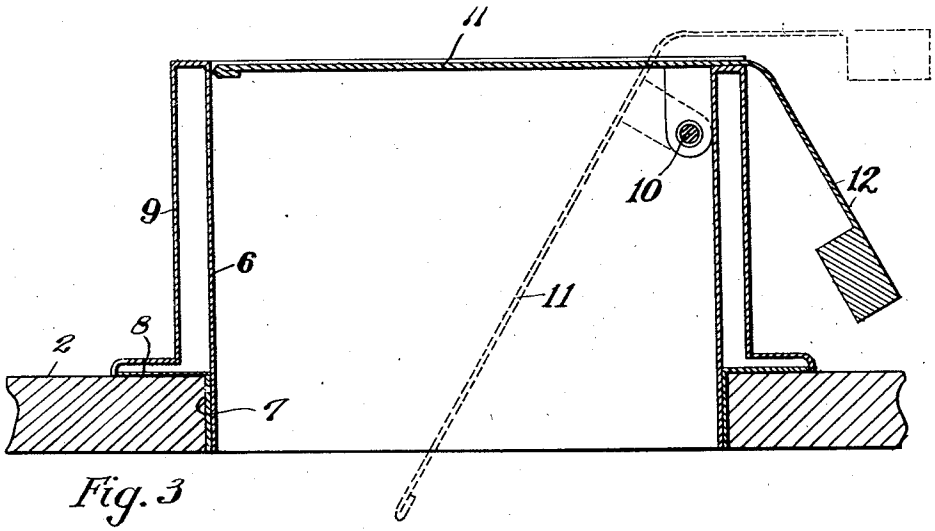


Fig. 3

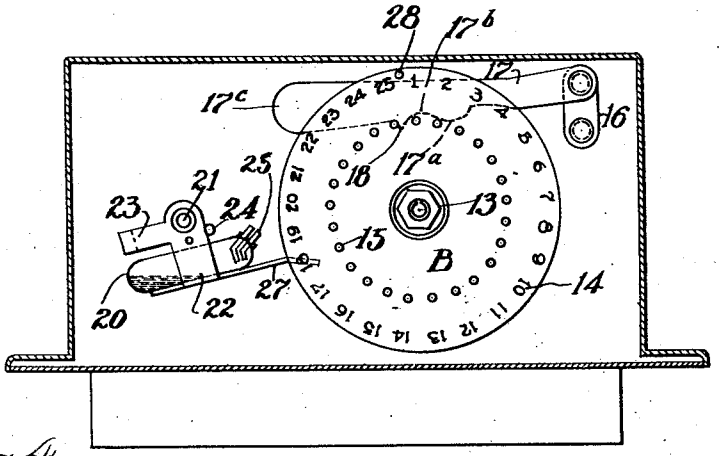


Fig. 4

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2,278,237

COUNTING DEVICE

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Application February 4, 1939, Serial No. 254,634

3 Claims. (Cl. 235—98)

The invention relates to improvements in a counting device.

The object of the present invention is to provide a work table in which chick-boxes, to be filled, are supported beneath the top of the table. This table is provided with a chute extending through the same for depositing the chicks placed therein into the chick-boxes. Means is provided for tallying the chicks as they are deposited to insure the proper quota being deposited into the chick-boxes. A further means is employed to signal to the operator when the number of chicks being deposited has reached a predetermined total.

The invention in all of its details will be more fully described in the following specification and shown in the accompanying drawings, wherein:

Figure 1 is a plan view of one end of the table.

Figure 2 is a diagrammatic view of an electric circuit and connected signal means forming part of the invention.

Figure 3 is a sectional view on line 3—3 of Figure 1 of the feeding means through a deposit counter chute for the chicks forming part of the invention; and

Figure 4 is a sectional view in detail on line 4—4 of Figure 1 of the tallying and indicating means forming part of the invention.

Referring to the drawings in detail, A represents the sexing table for use by the operator in the sexing and separation of male and female chicks. The top 2 of the table is formed with a depressed center, the bottom 3 of which forms a support in front of the operator for holding a tray of unsexed chicks.

Inset in each side of the table top above the chick-boxes are the deposit counter-chutes for the chicks. Each counter-chute consists of a preferably square passage portion 6 inset in an opening in the table-top. As shown, the outer wall of the counter-chute at its lower end is doubled upon itself to form a portion 7 that will fit into the opening of the table top. The doubled portion 7 is then bent outwardly to form a flange 8 to rest upon the table top and form a support. Above the flanged portion 8 and connected with the inner wall 6 is a wall 9 spaced from the inner wall and forming a surrounding chamber for the chute.

Supported on one side of the upper end of the chute is the shaft 10. Upon the shaft is secured the platform 11. A counterweighted arm 12 extending from the platform normally holds the platform in position closing the top of the chute.

In operation the chick to be deposited in the chick-boxes is placed upon the platform and will by its weight incline the platform into the counter chute turning its supporting shaft 10 and the platform then being swung back into closing position by the counter-weighted arm 12.

Having pivotal support 13 on the outer face of one of the walls 6 is a counter disc B inscribed around near the periphery of its outer face with numerals 14. Projecting inward from the face of the disc in a circle inside the numerals are the spaced apart pins 15. The end of the shaft 10 of the platform is provided with a link 16 fixed thereupon, which is connected with the outer end of a counter actuating arm 17. Arm 17 is likewise provided on its lower edge with a projection 17a acting as a pin rider and a disengaging means for the finger 18 from pin 15 when a predetermined travel of the dial by one actuation of the mechanism has been achieved.

The arm 17 is likewise provided on its lower edge with a depression 17b which permits the proper seating of actuating arm and its finger 18. The arm furthermore is extended and enlarged at its extreme end 17c to permit extra weighted leverage upon said arm 17 and to assist proper drop into contacting position as is best shown in Figure 4.

The finger portion 18 of arm 17 fits between the pins 15 so that in each tripping operation of the counter chute platform 11, the arm 17 will be moved forward by the link 16 to partially rotate the counter disc B with the actuation of the arm 17. When a predetermined travel of the disc has been made, the pin rider 17a engages an adjacent pin 15 and disengages arm 17 from further actuation. Upon the return to normal position of the counter chute platform 11, arm 17 likewise will be returned to normal position as shown in Figure 4. Friction to rotation prevents the reverse rotation of disc B, the finger portion 18 riding over the surface of the pins 15.

When the pin-rider 17a is withdrawn from riding position on pins 15 the depression 17b permits the proper seating of finger 18 between the pins 15. The outer wall 9 of the chute is formed with an opening 19 and the counter operating parts are so proportioned that each tilting of the counter will rotate the counter disc the amount necessary to bring the next number on the disc into the opening.

In order to give a signal to the operator when there has been deposited in the chick box a predetermined number of chicks, mercury tube 20 having pivotal support 21 adjacent to the counter disc is actuated. The supporting arm 22 for the

mercury tube is provided with a counterweight **23** normally holding the tube and its supporting arm **22** swung upon the supporting arm **21** into the position shown in Figure 4 with the arm **22** held in contact with the pin **24** and the tube held in a tilted position holding the mercury in the rear lower end of the tube.

Supported in the front end of the tube are the electrodes **25** electrically connected as indicated in Figure 2 with signal lights **26** preferably secured in the table top adjacent the operator. Projecting forwardly from the mercury tube is a finger **27** overlapping the counter, the counter disc being provided with a projecting pin **28** in position to strike the finger after the disk is rotated to bring a predetermined number of counting numbers past the finger. As the finger **27** is struck and depressed it will swing the mercury tube and its support rearwardly upon the fulcrum to allow the mercury to flow to the forward end of the tube and make electrical connection between the electrodes **25** energizing the lights **26** and indicating to the operator that a predetermined number of chicks have been deposited in the chick box.

The ordinary chick box is divided into compartments as indicated by dotted lines in Figure 1 and the chicks are counted for each compartment. The chick boxes are properly positioned so that the chick boxes may be moved sidewise and lengthwise beneath the chute to bring the different compartments respectively under the chick deposit counter chute.

In order to accommodate the checking mechanism between the inner and outer walls of the chick deposit counter chute, the walls **6** and **9** as shown in Figure 1 are spaced apart relatively more than the walls in the sides and rear. The walls **6** and **9** will thus be brought close enough together to give the desired strength and bracing to the counter chute and at the same time the wider spacing of the front walls may furnish sufficient capacity for the proper housing of the counting means.

I claim:

1. In a counting apparatus of the class described comprising in combination with a table top support formed with a delivery opening, a chute including an outer wall supported in said opening, a spaced apart inner wall connected at its upper end with said outer wall, and forming a central delivery passage, a counterweighted closure for said passage, a pivotal support within said inner wall for said closure supporting said closure for movement between two extreme positions, one in which the closure when depressed, swings down into the chute and the other in which it closes the chute, said counterweight biasing said closure to the latter position, an enlarged counter enclosing chamber at one side of the closure formed by spaced apart inner and outer chute walls, a disc counter within said chamber supported adjacent the inner wall, and operative means between said disc counter and said closure to operate the counter in the tilting of said closure on its pivot.

2. A device as claimed in claim 1 further including a plurality of separated pins supported on the rear face of the disc forming a part of said operative means, an actuating lever for said disc operatively connected to said closure for actuation thereby and forming a part of said operative means, a finger carried by said lever in position to engage with a pin upon said disc to actuate said disc in the reciprocation of the lever, said lever being formed with a depression at the rear of said finger and a rider portion carried by said lever to engage with an adjacent pin upon said disc and raise said lever.

3. A device as claimed in claim 1 in which said outer wall is out-turned between its ends to form a support to rest upon said table, and said inner and outer walls at their upper ends being connected by a horizontal wall section to bring about a stiffening support for the purpose set forth.

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