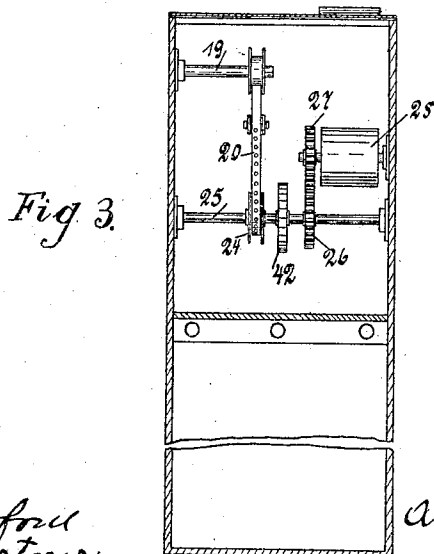
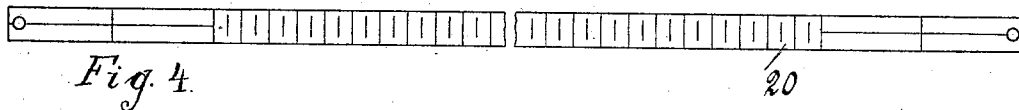
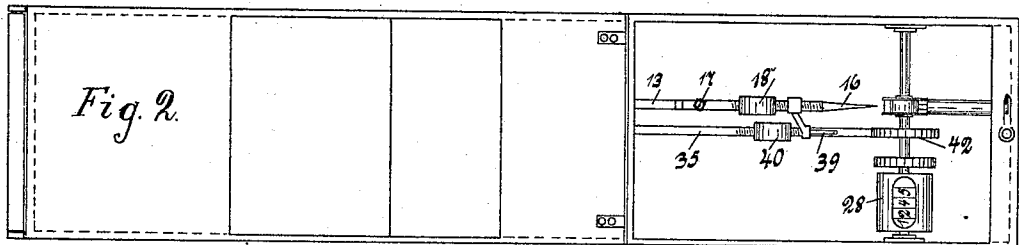
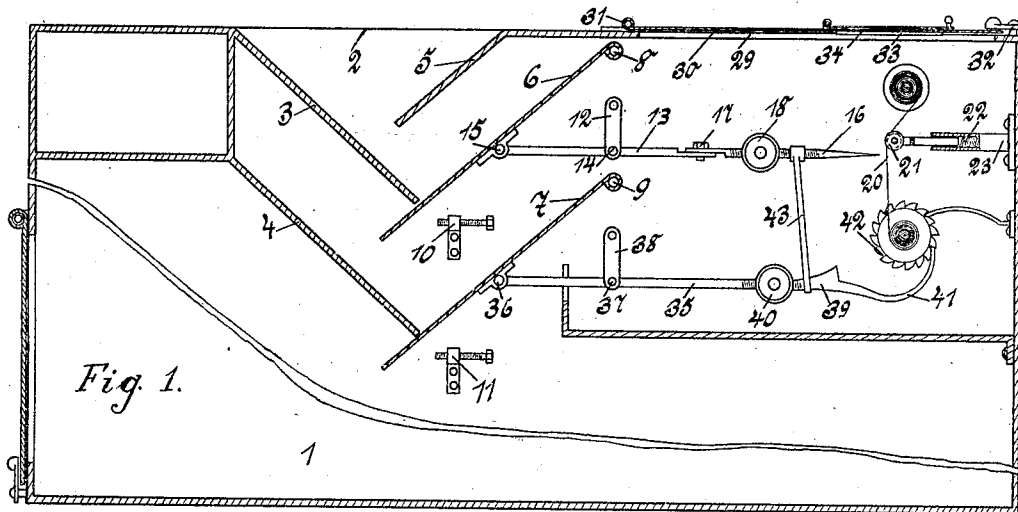


A. BRETSCHNEIDER.
ARTICLE COUNTER.
APPLICATION FILED FEB. 3, 1909.

940,851.

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UNITED STATES PATENT OFFICE.

ARTHUR BRETSCHNEIDER, OF HALLE-ON-THE-SAALE, GERMANY.

ARTICLE-COUNTER.

940,851.

Specification of Letters Patent.

Patented Nov. 23, 1909.

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To all whom it may concern:

Be it known that I, ARTHUR BRETSCHNEIDER, a subject of the Emperor of Germany, and residing at Halle-on-the-Saale, Germany, have invented a new and useful Improvement in Article-Counters, of which the following is a specification.

This invention relates to improvements in counting devices for articles, such for instance as screws or similar small sized goods, and provides for accurately counting the same and keeping a record of the count and also disclosing the counts to the operator whenever the machine is inspected for such purpose.

The invention is adapted for use in counting small articles wherein the same are discharged singly and not in bulk.

The invention will be more fully described in connection with the accompanying drawing and will be more particularly pointed out and ascertained in and by the appended claims.

In the drawing:—Figure 1 is a longitudinal vertical section of a counter embodying the main features of my invention. Fig. 2 is a vertical sectional view thereof. Fig. 3 is a horizontal sectional view thereof. Fig. 4 is a detached view of a counting step employed.

Like numerals of reference designate similar parts throughout the different figures of the drawing.

As shown the invention includes a casing 1 provided with an opening 2 in which is disposed a plurality, preferably two, stationary downwardly inclined guides 3 and 4 arranged in superposed relation and in a manner to deliver toward and into the casing. A supplemental stationary guide 5 is provided and is reversely disposed with respect to the guides 3 and 4 and arranged in a manner to deliver toward the guide 3. Guide 5 is also downwardly inclined. A plurality, preferably two, superposed pivotally mounted guides 6 and 7 are downwardly inclined and underlap the guides 3 and 4 by engaging their lower margin. Said guides 6 and 7 are pivotally mounted at 8 and 9. Stops 10 and 11 are arranged to arrest movement of the guides 6 and 7 downwardly beyond a predetermined point and preferably said stops are adjustable as shown.

A pivotally mounted hanger 12 supports a rod 13 and is pivotally connected therewith

at 14. Said rod is pivotally connected with guide 6 at 15 and when the guide 6 is depressed the hanger 12 permits the rod 13 to shift to the right as will be obvious by reference to Fig. 1. The rod 13 is provided with a section 16 to which it is pivotally connected at 17 and the section 16 is provided with a weight 18 arranged adjustably thereon by means of screw threads. At its outer end the section 16 is pointed as shown. It will be obvious that the function of the weight is to return the guide 6 to the position shown in Fig. 1 after it has been depressed by passage of an article between guides 3 and 6.

Means are provided preferably in the form of an indicator tape or strip adapted to be moved abreast of the pointed ends of the section 16 so as to be perforated or marked thereby so as to indicate on the tape just how many articles have passed through the guides 3 and 6. As shown a spring controlled roller is mounted upon a stud 19 and the spring is arranged to retard unwinding of the tape on said roller. The tape is indicated at 20 and as shown is held abreast of and in alinement with the pointed ends of the section 16 by a roller 21 over which the tape or strip passes. The roller 21 is yieldingly held in the position shown by a spring 22 which is interposed between the stem of the roller and the bracket 23 in which the roller stem is guided. The tape extends downwardly about a roller 24 about which it is wound and said roller 24 is mounted upon a shaft 25. The shaft 25 is provided with a gear 26 meshing with a gear 27 which operates an indicator 28. The function of the indicator 28 is to disclose to the operator the progress of the count so as to determine the amount of stock counted at any time during the operation whereas the tape is for the purpose of totalizing the entire count when the same is completed.

In order to render the mechanism just described readily accessible the casing 1 is provided with an opening 29 adapted to be closed by a lid 30 which may be hinged at 31 and provided with a suitable fastening 32. In order to render the indicator visible without opening the lid 30 the latter is provided with an opening in which any transparent material such as glass may be disposed, as indicated at 33, and in order to

protect the glass a separate lid 34 may be hinged to the lid 30 as indicated. In order to insure alternate or sequential operation of the guides 6 and 7 and prevent simultaneous operation thereof the guide 7 is provided with a rod 35 which is pivoted to the guide 7 at 36 and is also pivotally connected at 37 with a pivotally mounted hanger 38 whereby said rod is supported. A cam 39 is disposed on said rod at a point to the right of the hanger 38 and the weight 40 is adjustably mounted on said rod by means of a threaded connection as shown. The ends of the rod 35 terminate in a ratchet pawl 41 which coöperates with a ratchet wheel 42 mounted on shaft 25. It will be seen that as the article passes between the guides 4 and 7 the latter will be depressed and the rod 35 will be shifted to the right longitudinally causing the pawl to engage the ratchet wheel and rotate the shaft 25 a slight distance so as to advance the indicating tape and also the indicating apparatus 28. In order to prevent simultaneous action of rods 13 and 35 a locking member in the form of a lever or arm 43 is rigid on the rod 13 and has a forked extremity the base of which rides on the cam 39 and the forked portion of which laterally engages the rod 35 so as to maintain engagement of the parts as shown. When the guide is actuated the arm 43 rides upon the higher portion of the cam 39 and is held in engagement therewith by the weight 18. This action throws the ratchet pawl 41 out of engagement with the ratchet wheel 42 and prevents operation thereof. The pivotal connection 17 permits the section 16 to rise slightly when the forked arm lies upon the cam 49. After the article has passed downwardly through the guides 3 and 6 and the weight 18 has returned the guide 6 to the position shown in Fig. 1 the forked arm 43 will return to the position shown and will permit depression of the guide 7 to let the article pass into the casing 1 and such depression will actuate the member 35 and likewise the tape and indicating device.

It will be obvious that my invention is not limited to the use of both a tape and an indicating device as either one may be used alone or both may be used as shown in accordance with the service desired.

I claim:—

1. An article counter comprising in combination, a plurality of stationary guides, a plurality of movable guides engaging said stationary guides and arranged to be successively actuated by the articles to be counted, and means associated with movable guides for recording and indicating the count.

2. An article counter comprising in combination, a plurality of stationary guides, a plurality of movable guides arranged in

underlapping relation with respect to said stationary guides and adapted to be successively actuated by the articles to be counted, and means actuated by the movable guides for recording the count.

3. An article counter comprising in combination, a plurality of downwardly inclined stationary guides, a plurality of downwardly inclined movable guides arranged in underlapping relation with respect to said stationary guides and adapted to be successively actuated by the articles to be counted, and means actuated by the movable guides for indicating the count.

4. An article counter comprising in combination, a plurality of stationary guides downwardly inclined, a receptacle to which said guides deliver, a plurality of downwardly inclined movable guides arranged in underlapping relation with respect to said stationary guides and adapted to be actuated by the articles to be counted, and means actuated by the movable guides for indicating and recording the count.

5. An article counter comprising in combination, a casing provided with an opening downwardly inclined superposed stationary guides arranged in said opening to deliver into the casing, a stationary guide reversely arranged with respect to said superposed guides and delivering thereto, movable downwardly inclined guides arranged in said opening in underlapping relation with respect to said stationary guides and adapted to be actuated by the articles to be counted, and means actuated by said movable guides for recording and indicating the count.

6. An article counter comprising in combination, a plurality of stationary guides, a plurality of movable guides coöperating with said stationary guides and adapted to be actuated by the articles to be counted, means actuated by the movable guides for recording and indicating the count, and devices included in said means for preventing simultaneous operation of said movable guide.

7. An article counter comprising in combination, a plurality of movable guides actuated by the articles to be counted, means for moving a recording tape step by step, an element associated with one of said guides for making an impression on said tape, and means associated with another of said guides for advancing said tape.

8. An article counter comprising in combination, a plurality of movable guides actuated by the articles to be counted, an indicating device, means for supporting a recording tape, an element associated with one of said guides for recording the count upon said tape, and means associated with another of said guides for advancing said tape step by step and actuating said indicating device.

9. An article counter comprising in com-

5 bination, a plurality of movable guides actuated by the articles to be counted, means for movably supporting a tape, an element associated with one of said guides for recording the count upon said tape, an indicating device, a device associated with one of said guides for operating said tape and indicating device, and means associated with said

device and element for insuring alternate operation thereof.

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

ARTHUR BRETSCHNEIDER.

Witnesses:

RUDOLPH FRICKE,
ERNST SCHMIDT.

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