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COUNTER CONTROLLING MECHANISM.  
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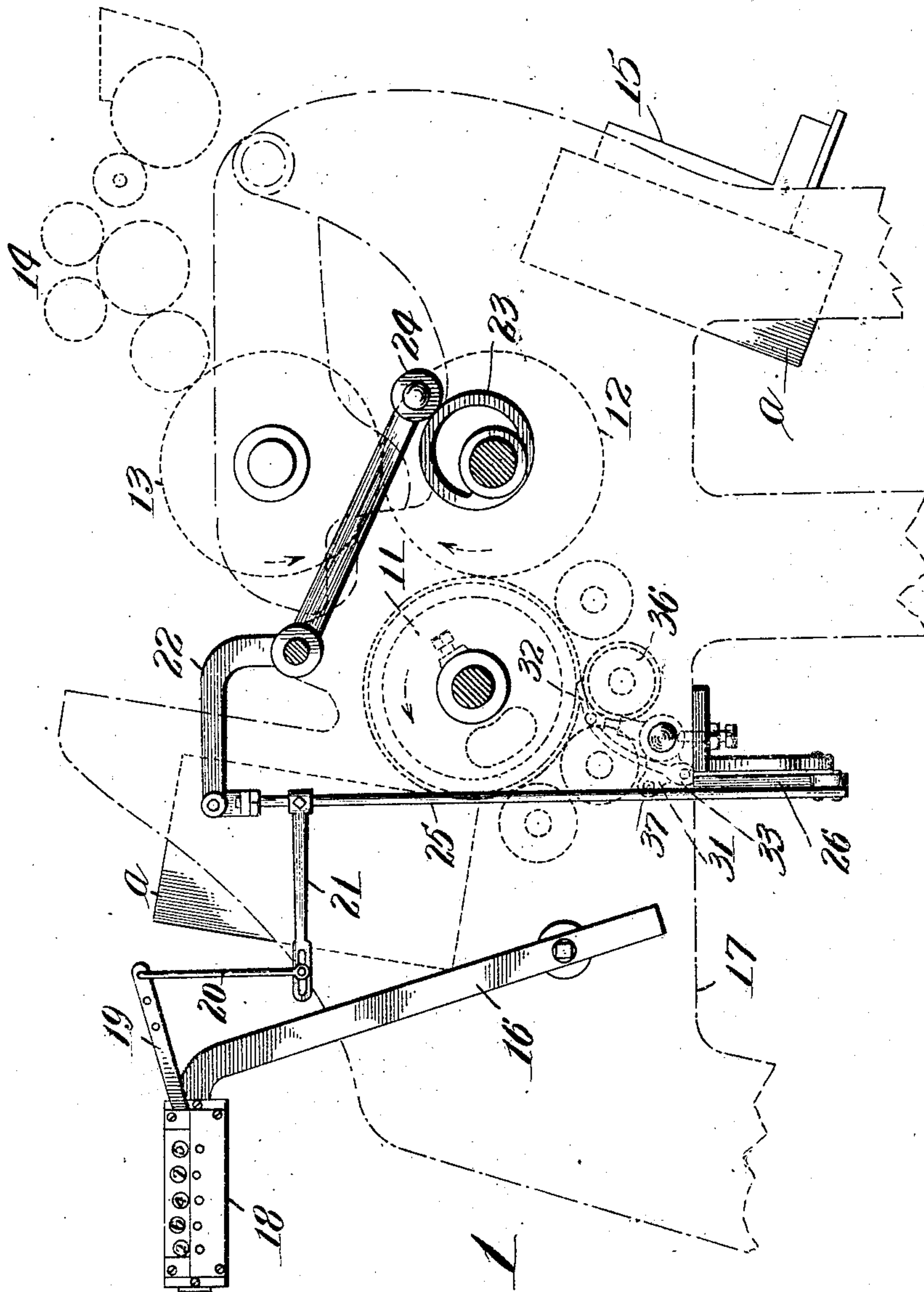


Fig. 1

Witnesses:

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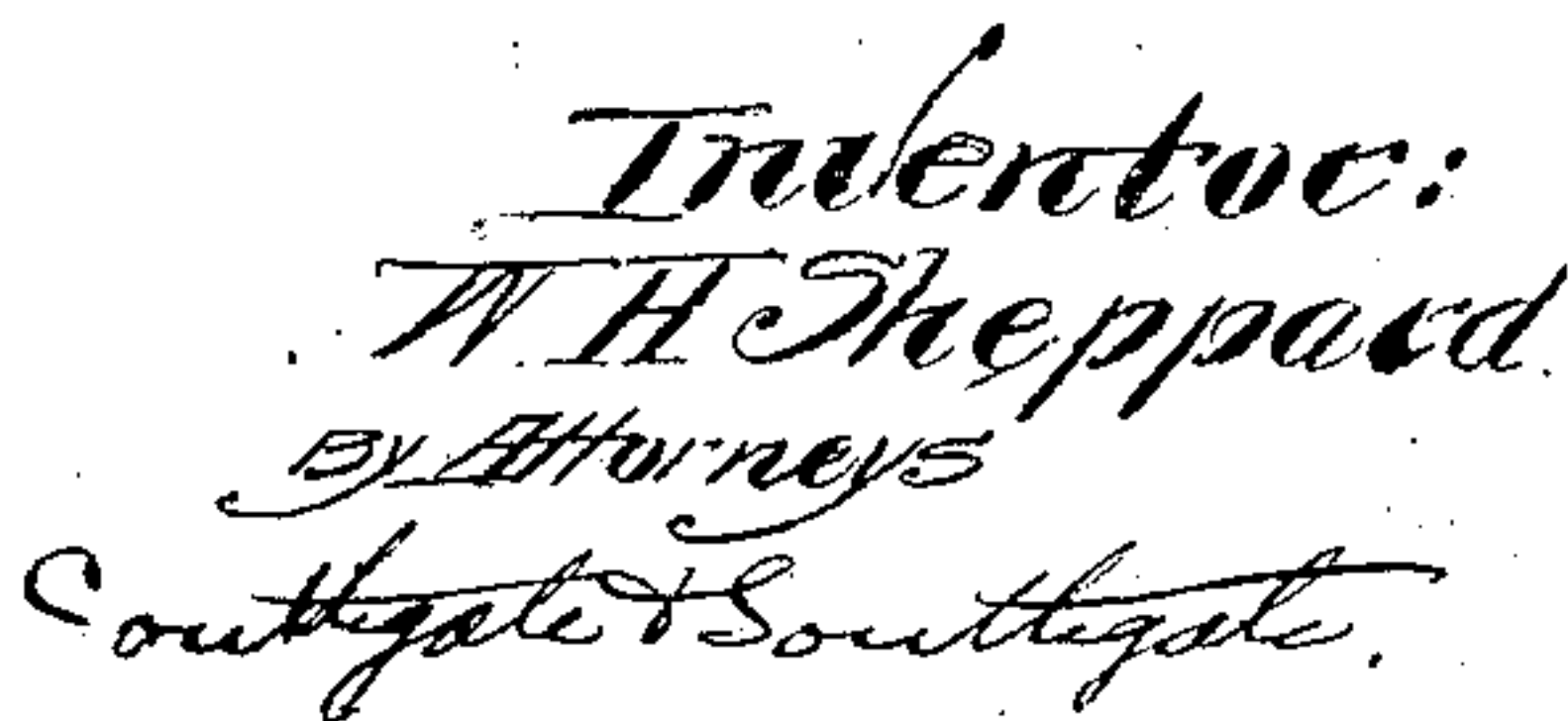
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916,042.

2 SHEETS—SHEET 2.





# UNITED STATES PATENT OFFICE.

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## COUNTER-CONTROLLING MECHANISM.

No. 916,042.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed December 18, 1907. Serial No. 406,970.

*To all whom it may concern:*

Be it known that I, WILLIAM H. SHEPPARD, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Counter-Controlling Mechanism, of which the following is a specification.

This invention relates to the feeding and counting or registering of articles such as envelopes and is especially adapted for use on envelop printing machines and the like, but is not limited thereto. Such machines ordinarily are provided with counting or registering devices and with means for operating the same to count the envelopes or other articles passing through the machine. The principal difficulty with such mechanisms is that usually they are connected so as to be operated every time the feeding or printing mechanism completes a cycle of operations and consequently the counter will register the passage of an envelop or other article every time the machine operates, even if for any reason the operation is defective so that no envelop is fed through the machine.

The principal object of the present invention is to provide a simple, inexpensive, practicable and efficient means for preventing the operation of the counter-operating mechanism when the machine goes through a cycle of operations without feeding an envelop or the like. In order to accomplish this result, the counter-operating mechanism is so arranged that it can be held in inoperative position during a cycle of operations and means is provided for holding it in inoperative position whenever the machine operates without feeding an envelop.

The invention will be further described and further objects and advantages of the same will be referred to hereinafter.

Reference is to be had to the accompanying drawings which show one embodiment of the invention and in which,

Figure 1 is a side elevation of an envelop machine showing how the same may be applied thereto. Fig. 2 is an end elevation of a portion of the same. Fig. 3 is a side elevation of certain parts upon an enlarged scale, and Fig. 4 is a similar view showing the parts in a different position.

Although the invention is capable of application to many other forms of machinery it is shown in the drawings as applied to an envelop machine in which envelopes *a* are fed through an ordinary form of machine involv-

ing a series of feed rolls 11, an impression cylinder 12, and a plate cylinder 13 which is shown as provided with the usual inking devices 14 and the like, and delivered into a hopper 15. In this type of machine a frame 16 is mounted on the frame 17 of the envelop machine to carry a counter 18, which may be of any ordinary or known type. As the construction of the counter is not a feature of this invention, it is not shown herein in detail. It is usually provided with an arm 19 operated from some convenient point on the envelop machine; in the present case it is shown as operated through a link 20, arm 21, lever 22, eccentric 23 on the impression cylinder shaft and eccentric roll 24. According to this invention the eccentric 23, or other element employed to operate the counter, is so arranged that the element which it operates, as the eccentric roll 24, can be held in inoperative position during a portion of the feeding or printing operation, so that the counter will not act. In order to hold the roll up in this way, a rod 25 is shown in the present instance as connected with the lever 22 and carrying the arm 21 so that here it constitutes a connection between these two elements. This rod is connected by a lever 26 with a reciprocating plunger 27. Obviously, each operation of the counter will result in reciprocating this plunger but if the plunger is prevented from moving in one direction, the lever 22 will be prevented from moving in one direction and the eccentric roll 24 may be held up away from the eccentric 23 when the latter rotates, consequently the parts 25, 26 and 27 constitute means for disconnecting the counter from the feeding means and for stopping the operation of the counter. For accomplishing this purpose, the plunger is made to reciprocate through an opening 30 in a plate 31 mounted in any convenient position on the machine and a feeler 32 is movably mounted on the machine and is provided with an end or counter-weight 33 adapted normally to hold the feeler in a certain position by gravity and also adapted to cover the opening 30 when the feeler is held in that position. The feeler is so constructed that when the weight 33 is allowed to move over the opening 30, the end of the feeler will project upwardly into a groove 34 in one of the feed rolls. This is the position which the parts occupy when no envelop or other article is fed through the machine. This



obviously prevents the counter operating device from working when the machine is operated without feeding an envelop or other article.

5 Now when an envelop *a* is fed through the machine, it moves along the surface of the feed rollers and covers the groove 34 so as to hold the end of the feeler down in a groove 35 on a roller 36 which coöperates with the  
10 feed roll 11. This holds the counter-weight 33 of the feeler up in the position shown in Fig. 4 against a stop 37 so as to uncover the opening 30 and allow the plunger 27 to operate in a normal mannner.

15 In order to avoid the direct impact of the end of the feeler against the envelop or other article being fed which might tear or dent the paper, the feeding roll which is provided with a groove 34 is also provided with an  
20 abutment 40 which extends across the groove and in fact defines the two ends thereof. The surface of this abutment is in the cylindrical surface of the feed roll and it is so located that the front end of the envelop *a*  
25 or the like is carried upon it, as indicated in Figs. 2 and 4, so that there will be a positive backing for the envelop when it strikes the feeler to push the feeler into the groove 35. After the feeler is once moved, the envelop  
30 will keep it in that position without any danger of tearing or mutilating it. When the device operates with no envelop in position, of course the abutment 40 will temporarily force the feeler out away from the opening 30 but it will immediately drop back  
35 again before the time for the counter-operating mechanism to act and will prevent the operation thereof.

40 While I have illustrated the invention as applied to a particular kind of a machine and have shown only one embodiment of the invention, I am aware that it is applicable to many similar types of machines and that it may be embodied in many other forms with-  
45 out departing from the scope of this invention as expressed in the claims.

Having thus fully described the invention, what I claim is:—

50 1. The combination with a paper feeding means, a counter therefor, and means connected with the feeding means for operating the counter at each feeding operation, of means for disconnecting the counter from the feeding means, and independent means con-  
55 trolled by the articles being fed for operating the disconnecting means and preventing the operation of the counter operating means when the feeding means operates without feeding an article therethrough.

60 2. The combination with a paper feeding means, of a counter, means operated positively by the paper feeding means for operating the counter a predetermined number of times for each revolution, means connected  
65 with said last named means and normally

operated thereby at each operation thereof for disconnecting it from the feeding means, and means controlled by the feeding means when held inoperative in one position for preventing the operation of said disconnect-  
70 ing means, said preventing means being adapted to be held out of operative position by an article being fed through the feeding means.

3. The combination with a paper feeding  
75 means comprising feed rolls for the reception of an article to be fed, of an eccentric fixed to a rotating part of the paper feeding means, a lever adapted to be operated by said eccen-  
80 tric, a counter connected with said lever and operated thereby, means movable to a position to hold said lever away from the eccentric so as to prevent the operation of the counter, and means controlled by the pas-  
85 sage of an article between said rolls for retaining said holding means in said position when an article is being fed between the rolls.

4. A feeding machine having means for controlling the registration of its operations comprising a pivoted feeler, and a constantly  
90 rotating feed roll having a circumferential groove which said feeler is adapted to enter, said groove having an abutment across it.

5. A feeding machine having a counter operating device operated by said feeding ma-  
95 chine, a rod longitudinally reciprocable thereby, and means controlled by the presence in the feeding machine of an article to be fed for preventing said rod from operating.

6. The combination with a feeding mech-  
100 anism, a counter therefor, and means for operating the counter at each feeding operation, said feeding mechanism comprising a feed roll having a groove extending part way around the same and provided with an abut-  
105 ment extending across the groove and having its outer surface co-incident with the surface of said feed roll, of a feeler mounted to engage said abutment and to move normally into said groove as the feed roll rotates and to  
110 be held out of the groove by an article being fed through the machine, and means controlled by said feeler for preventing the operation of the counter-operating means when the feeler projects into said groove.  
115

7. The combination with a feeding mech-  
anism, a counter therefor, and means for op-  
erating the counter at each feeding operation, said feeding mechanism comprising a con-  
120 stantly rotating feed roll having a groove extending part way around the same, of a feeler mounted to move normally into said groove as the feed roll rotates and to be held out of the groove by an article being fed through the machine, a roll contacting with said feed-  
125 ing roll and having a continuous circumferential groove, the first named roll having means for moving the feeler out of the groove at each revolution and means controlled by  
130 said feeler for preventing the operation of the



counter-operating means when the feeler projects into the first named groove.

8. The combination with a feeding mechanism, a counter therefor, and means controlled by the feeding mechanism for operating the counter, said feeding mechanism comprising a feed roll having a groove, of a feeler mounted to move normally into said groove as the feed roll rotates, and means controlled by said feeler for preventing the operation of the counter-operating means when the feeler projects into said groove, said last named means comprising a link connected with the counter-operating means, and a rod connected with said link and adapted to engage the feeler and be stopped thereby when the feeler is in the groove in the feed roll.

9. The combination with a feeding mechanism, and a counter operating means, said feeding means comprising a feed roll having a groove therein, of a feeler adapted to project into said groove when an article is not being fed by the machine and to be held out of the groove by such an article, and means controlled by said feeler for preventing the operation of the counter-operating means when the feeler projects into the groove, said last named means comprising a reciprocating rod, and means for connecting said rod with the counter-operating mechanism, said rod being normally shifted at each motion thereof past the feeler and the feeler being in position to stop the rod and hold the counter-operating mechanism in inoperative position when the feeler extends into said groove.

10. An envelop feeding machine having a feed roller provided with a circumferential groove, and an abutment across said groove limiting and defining the ends thereof, a counter operating device, and means operated by the abutment for controlling the counter-operating device.

11. The combination with a feeding mechanism, and a counter operating means, of

means connected with the counter operating means for holding the latter in inoperative position during the feeding operation provided no article is fed through the machine, said means comprising a movable rod, and a feeler adapted to move into position at the end of the rod for preventing the motion of said rod when the machine operates without feeding an article.

12. A feeding machine having means for controlling the registration of its operations comprising a pivoted feeler, a feed roll having a groove which said feeler is adapted to enter, and a counter-operating device comprising a sliding rod, said feeler having means for obstructing the path, and limiting the motion of said rod to prevent the counter-operating device from operating.

13. In a machine for feeding articles, the combination of a feeding means a pivoted feeler located in position to project into the path of the articles as they are fed, and a sliding rod, said feeler having means for obstructing the rod and preventing its sliding motion beyond a certain point, when the feeding means operates without feeding an article.

14. In a machine for feeding articles, the combination of a feeding means, a movably mounted feeler, means for moving the feeler at each feeding operation, and a reciprocating rod movable across the path of the feeler, whereby when the feeler is in a certain position it will obstruct the reciprocation of the rod.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

WM. H. SHEPPARD.

Witnesses:

LOUIS W. SOUTHGATE,  
C. FORREST WISSOM.