Dec. 18, 1934. A. ROSENTHAL 1,984,657

APPARATUS FOR CUTTING AND FOLDING LABELS

Filed Dec. 16, 1932 5 Sheets-Sheet 1

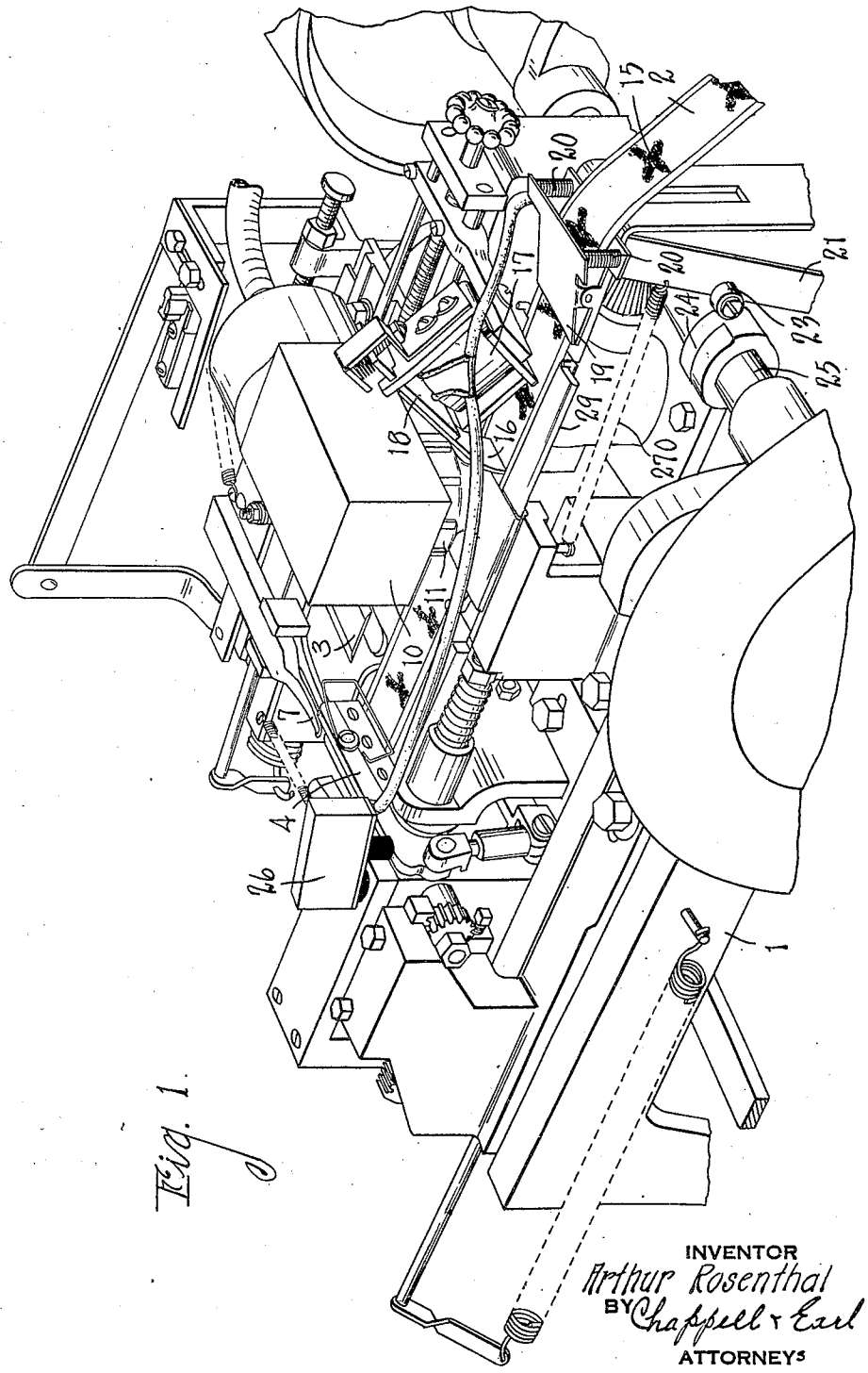



Fig. 1.

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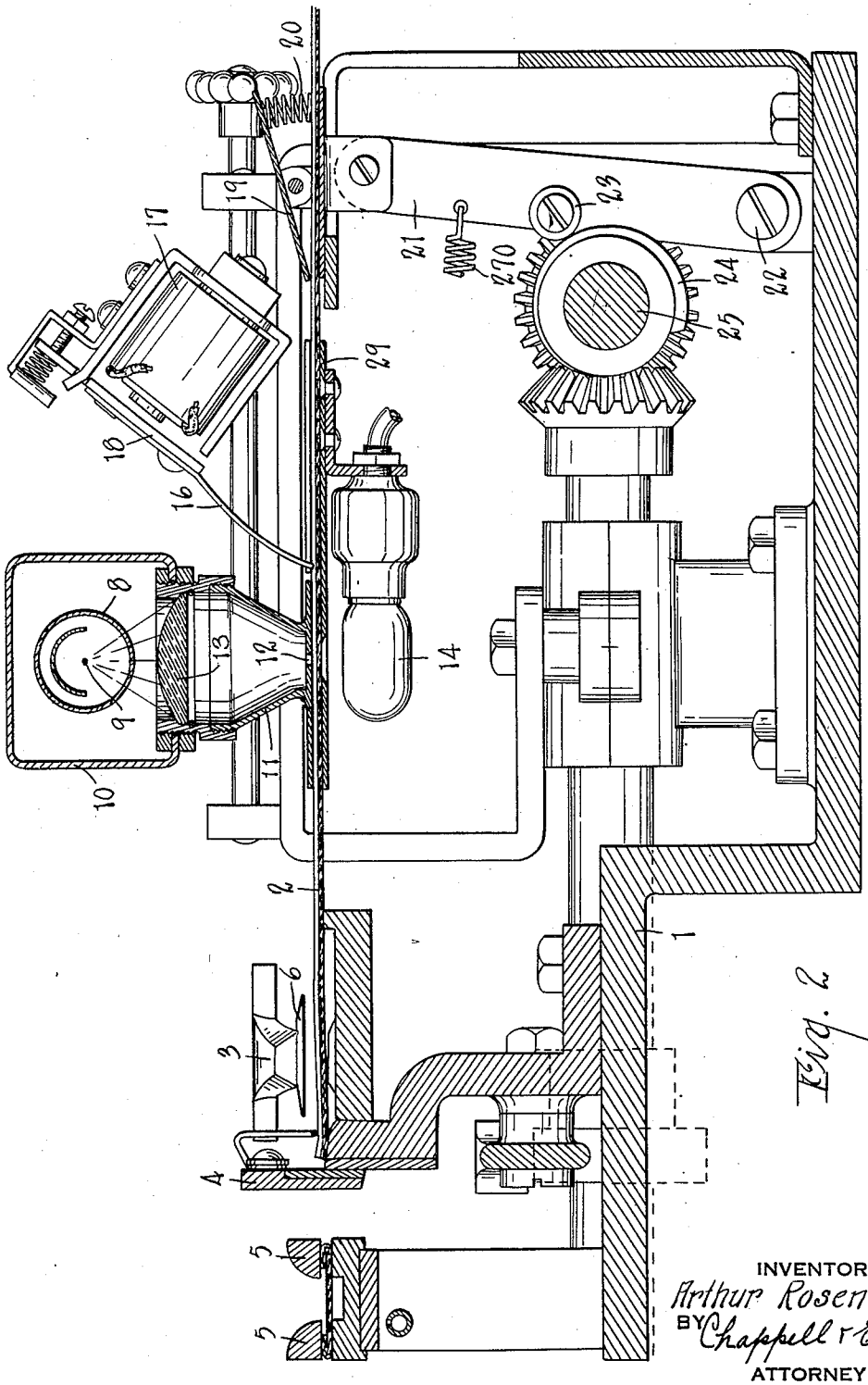



Fig. 2

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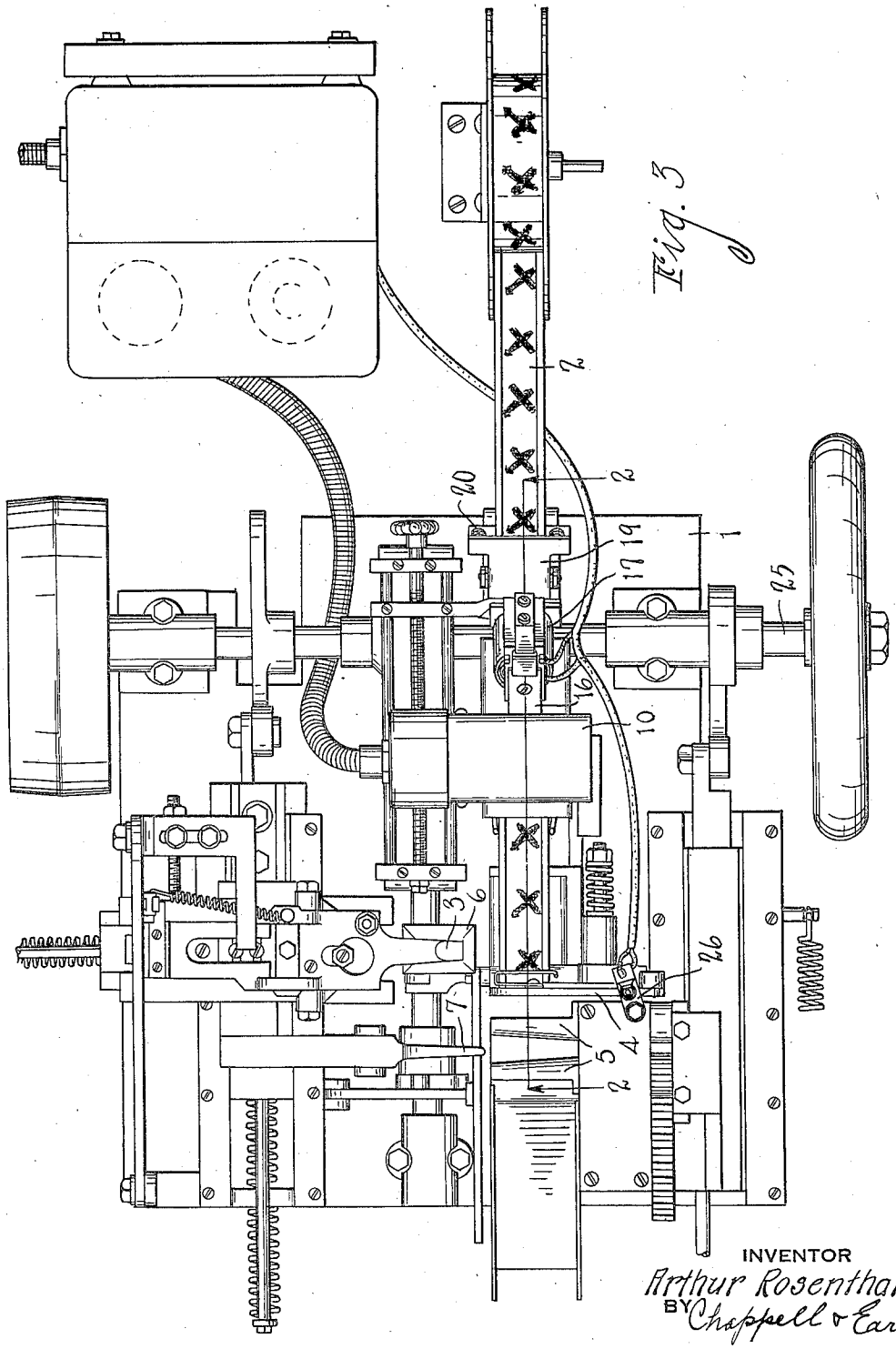



Fig. 3

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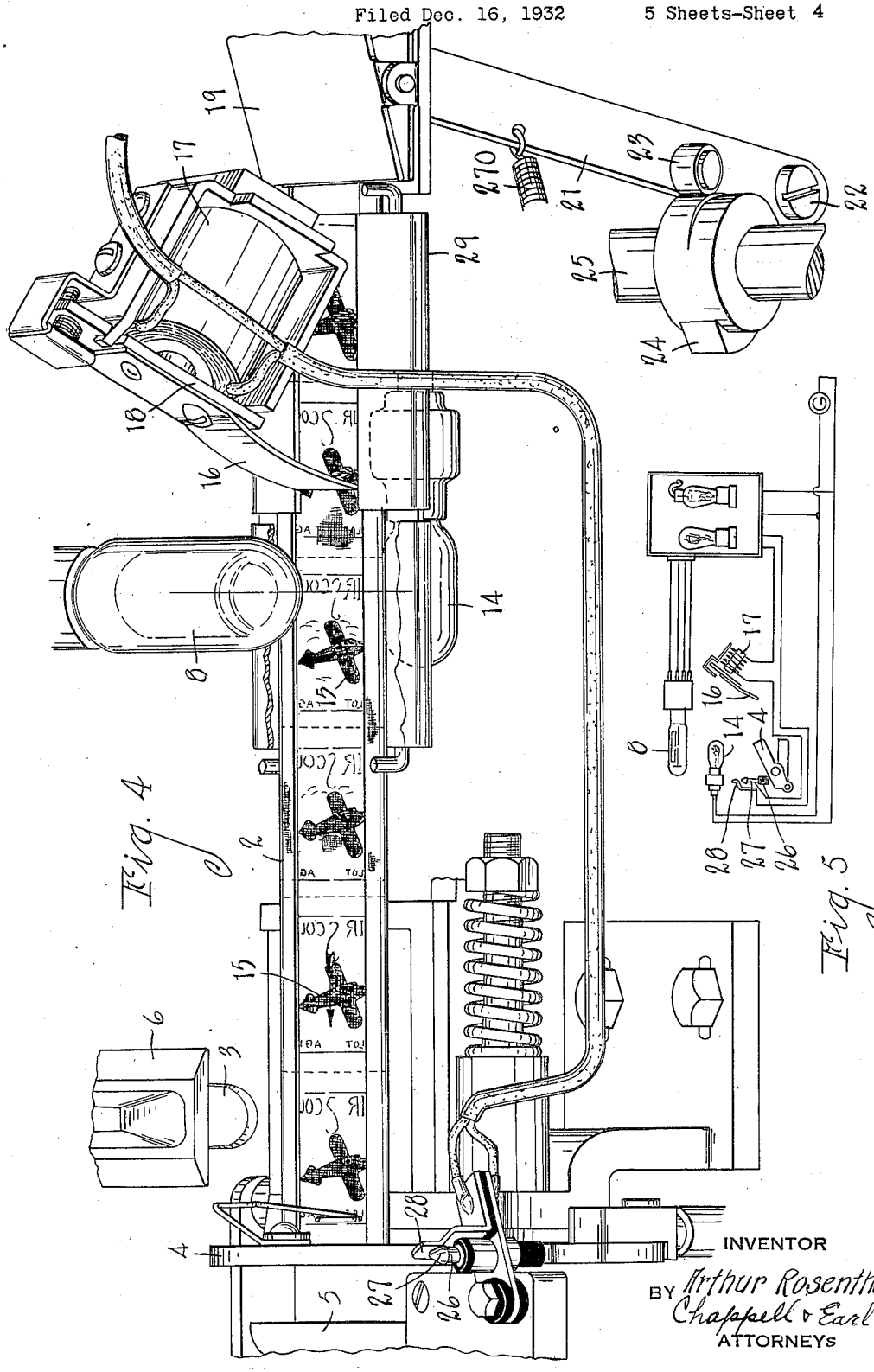



Fig. 4




Fig. 5

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BY Arthur Rosenthal

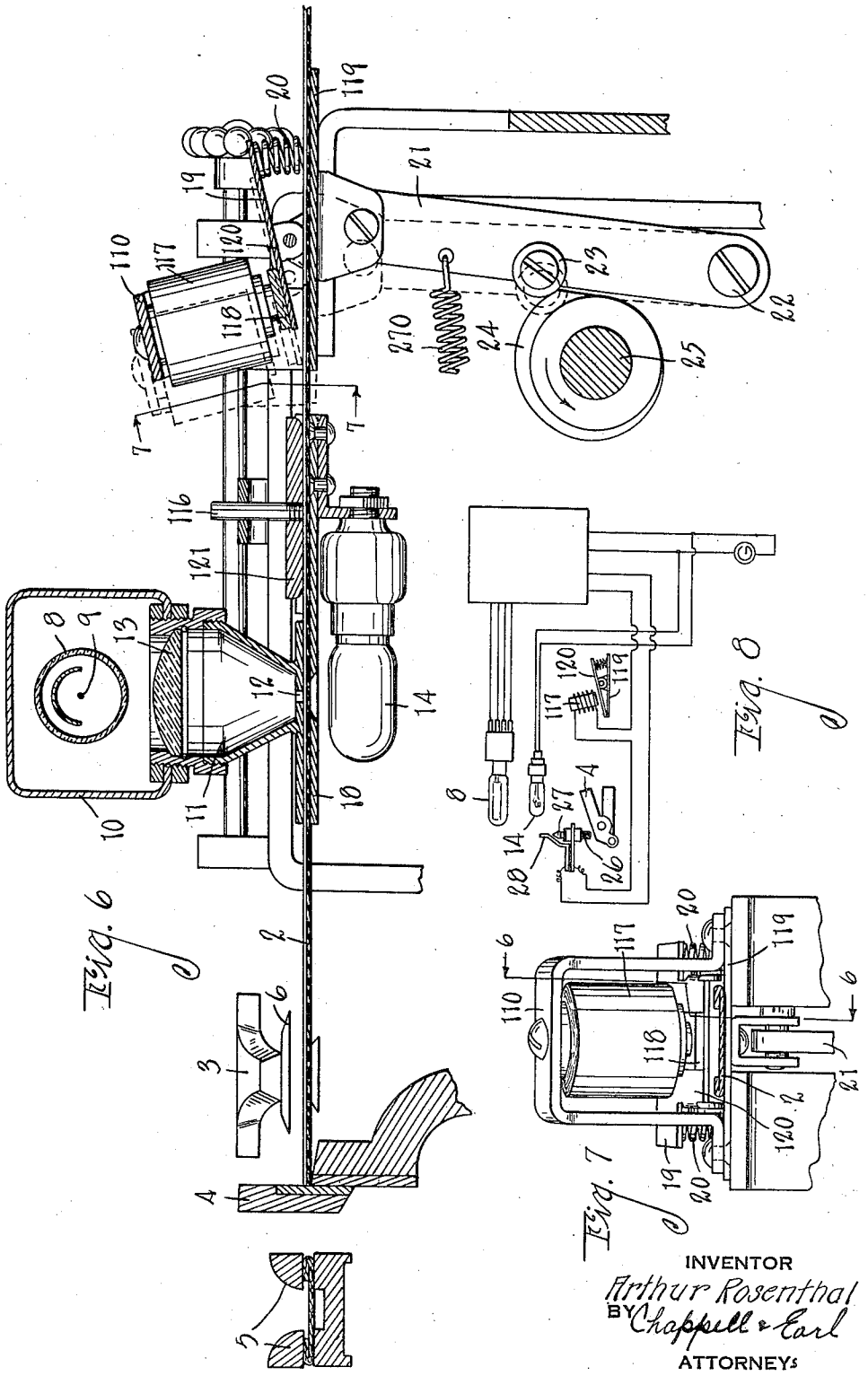
Chappell & Earl

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Dec. 18, 1934. A. ROSENTHAL 1,984,657

APPARATUS FOR CUTTING AND FOLDING LABELS

Filed Dec. 16, 1932 5 Sheets-Sheet 5




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Patented Dec. 18, 1934 1,984,657

# UNITED STATES PATENT OFFICE

1,984,657

## APPARATUS FOR CUTTING AND FOLDING LABELS

Arthur Rosenthal, Grand Rapids, Mich., assignor to The Rose Patch & Label Company, Grand Rapids, Mich.

Application December 16, 1932, Serial No. 647,534

24 Claims. (Cl. 164—42)

The objects of this invention are:

First, to provide a machine that will cut and fold labels from a label strip and will feed and balance either engraved or woven labels under positive control.

Second, to provide such a machine in which a photo-electric cell or an "electric eye", as it is often called, controls the feeding and balancing of the labels.

Third, to provide such a machine in which the photo-electric cell operates on a portion of the label or on a specially created line or spot to control the feeding and balancing of the label.

Fourth, to provide such a machine in which the photo-electric cell operates on the label on a slow short backward movement of the label strip which provides more accurate operation than controlling the feed on the faster and longer forward feeding movement.

Fifth, to provide a machine adapted to cut from any strip of paper or cloth or the like, pieces on which certain printed or other matter appears, making such pieces of equal size and having the matter appearing thereon properly positioned or balanced.

Sixth, to provide such a machine in which a photo-electric cell controls the feeding on a slow backward movement of the strip past the cell.

Seventh, to provide a method of feeding and balancing labels or the like in which a photo-sensitive element is employed.

Eighth, to provide such a method in which a slow, short backward movement of the strip to be fed is employed to assure efficient action of the photo-electric cell.

Other objects and advantages pertaining to details and economies of construction and operation will appear from the description to follow. The invention is defined in the claims. A preferred embodiment of my invention is illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a label cutting and folding machine embodying my invention.

Fig. 2 is an elevational sectional view, taken on line 2—2 of Fig. 3, showing the balancing and controlling mechanism.

Fig. 3 is a plan view of the machine.

Fig. 4 is a perspective view of details of the control mechanism.

Fig. 5 is a wiring diagram of the form of my invention shown in Figs. 1 to 4.

Fig. 6 is a partial sectional view of a modified form of my invention.

Fig. 7 is a sectional view taken on line 7—7 of Fig. 6, showing the gripper means.

Fig. 8 is a wiring diagram of the modification of my invention shown in Figs. 6 and 7.

This invention relates to the mechanism for balancing and controlling the feeding of labels or the like. It may have application to gum or bread wrappers or to any situation in which it is desired to sever from a strip of repeated designs portions carrying the repeated design properly centered in the severed portion. In the drawings I have illustrated my invention as applied to a label cutting and folding machine of the type illustrated in my patent for Label cutting and folding machine No. 1,528,511 granted March 3, 1925. The details of the feeding and cutting mechanism are there shown in detail, and in this application I will only generally describe the structure.

1 is the frame of the machine, and the strip of labels 2 is fed from a roll (not shown in this application) from the right hand of Figs. 1 and 3. The feeding jaws 3 grasp the label strip and feed the strip one label length past the cutter 4, which is here illustrated of the shear type, having an upper movable shear member and a lower stationary shear member. The cutter severs a single label length. The severed labels are then fed to folders 5 that rock over the form 6 of the feeding jaw to fold the ends of the labels. The feeding jaw is then retracted from the folder in the plane of the label and is brought around the cutter and is advanced to grip and advance the label strip. A supplemental pair of jaws 7 take the folded labels as the feeding jaw 3 is moved to grasp a new label length and pass the label on to the packing tube when the label strip is advanced by the feeding jaws. The details of this operation are fully described in the aforesaid patent and for that reason I am giving here a very brief description.

In feeding the label lengths I have found that the varying conditions of humidity and the tightness of the weave of cloth and a certain slippage in the feeding will eventually cause the machine to feed the label strip so that the cutters cut through the symbol on the label strip. It is necessary to provide some means for balancing the symbol so that it will be in the center of the severed label length. This is accomplished by positioning the strip after each cutting operation to make sure that the proper part of the strip is fed to the cutter. It is to this balancing that my present invention is

directed. Heretofore it has been possible to balance woven labels by operating upon the projections upon the surface of the label but in printed or engraved labels it has been necessary either to cut slits in the label strip to provide for this balancing or to have a machine operator constantly in attendance to balance the labels. The present invention does away with the necessity for this and makes it possible for one operator to attend a great many machines.

I accomplish the balancing of the labels by causing the contrasting portions of the label to be exposed to a photo-electric cell which controls holding or releasing mechanism to leave the label strip in the proper position so that when the feeding jaws 3 operate on the label strip, the symbol on the labels will fall into proper place on the severed label. I refer to the printed matter which is of a different color or shade than the background of the label, or to the weaving on the label which likewise contrasts with the background or the rest of the strip, as the contrasting portion of the label. The symbol itself or a portion thereof is caused to be exposed to the photo-electric cell to effect this action, or if desired a special line or spot may be provided on the label to affect the photo-electric cell.

I use a photo-electric cell 8 having necessary tubes and other electrical equipment which are here shown as enclosed in a box 10. For the purpose of my invention I have used a photo-electric cell manufactured by the General Electric Company but any commercial photo-electric cell may be used. The details of the cell are no part of this invention and are consequently not here illustrated.

The photo-electric sensitive element 9 of the cell unit is disposed adjacent the label strip so that as the strip passes, the contrasting portion of the label are exposed to the cell. To insure accuracy of operation I have enclosed the photo-sensitive element 9 in a case 10 having a hood 11 with a small opening 12 disposed in close proximity to the strip. A lens 13 is disposed within the hood to focus the light ray on the element 9. To insure complete illumination I dispose a light bulb 14 on the opposite side of the label strip from the electric cell so it will shine through the label strip and the opening 12 to illuminate the cell. I have found that this method of illumination is especially valuable for woven labels because in woven labels the weft threads used to make up the symbols continue on the back of the labels to make a very sharp line of demarcation. With the light 14 the difference in opacity makes a very marked line clear across the label strip. The ink used in the engraved or printed labels forms a sufficiently strong contrast so that symbols, such as 15, that are printed on a label strip will give a variation sufficient to cause operation of the photo-electric cell unit. In instances where the printed matter on a label is not of sufficient density to cause this operation, the labels may be printed with a separate line thereon that is no part of the label, which can be used to balance the labels by the use of my invention.

Although I have shown a light shining through the label strip, it will be understood that the light used to affect the photo-sensitive element 9 may be reflected from the label with or without the aid of illumination additional from that ordinarily present in a room. With my arrangement, as the label strip passes by the photo-sensitive element 9, the change in light either passing through the label or reflected thereon affects the photo-sensitive element to make it operate my stop means.

In the modification of the invention shown in Figs. 1 to 5, I provide a pressure foot or holding element 16 under which the strip slides. A solenoid 17 is provided having an armature 18 to which the pressure foot 16 is fastened. The solenoid is so arranged that when it is energized the magnetic force will hold the pressure foot 16 against the label to hold it against the table (here shown as 29) to prevent movement thereof until the solenoid releases the pressure foot. The photo-sensitive element controls the operation of the solenoid so that when a symbol or some contrasting portion of the label strip passes into the range of the element 9, the solenoid is energized to stop movement of the label strip. The operation of the solenoid is so timed that the pressure foot is released when the feeding jaws 3 feed a new label length.

In feeding and cutting labels, it is desirable that the labels be fed at a rate to permit several thousand to be cut and folded in the course of an hour. The speed required is such that in some instances the photo-electric cell will not be affected by the contrasting portion exposed thereto by the passage of the labels at the rate of speed required. In the present machine there is a considerable lapse of time from the releasing of the feeding jaws 3 until it is retracted and again advanced to take a new label length for feeding. To take advantage of this I have provided means for insuring operation of the photo-sensitive element as it is exposed to the label strip. I provide means for moving the strip a distance much shorter than that of the forward feeding and at a much slower rate to position the label strip for its forward feed. To this end I provide gripper jaws 19 adapted to yieldingly grip the label strip through operation of a compression spring 20 spaced between the jaws of the gripper. The gripper jaws are mounted on a lever 21 pivoted at 22 and carrying a cam follower 23 adapted to engage a cam 24 on the main shaft 25 of the machine. The shaft rotates in a counter-clockwise direction, as shown in Fig. 2, to cause the gripper means 19 to slowly retract the label length from the cutter means. The operation of the cam is so timed that this is done after the cutter has operated and when the feeding jaws 3 are not in engagement with the label strip or at any time when the machine is not feeding the strip.

To prevent operation of the photo-electric cell as the label strip is being advanced by the feeding jaws 3, I provide a switch 26 operated by the cutting mechanism. The switch shown is of the plunger type having a plunger 27 adapted to make contact with a contacting member 28 when the cutting jaws are closed. The cutting jaws are timed to open just before a new label length is fed, and the opening of the jaws breaks the circuit and makes the holding element inoperative. As here shown, the switch 26 is in series circuit relationship with the solenoid 17 so that the solenoid cannot be energized when the switch is open, which is accomplished by the opening of the cutter for an additional feeding of the label length. When the cutter has closed to sever a label length, the switch is closed and the cam 24 causes the lever 21 to move in a direction to the right, as illustrated in Fig. 2, causing the gripper 19 to slowly

pull the label strip back across the opening 12 between the light 14 and the photo-sensitive element 9. When a contrasting portion of the label strip is exposed to the element, the cell causes the energizing of the circuit in which is the solenoid 17, causing the holding member to hold the label strip. The gripper means 19, having a yielding grip on the label strip, slides along the strip until the end of the cam is reached, when the spring 270 pulls the lever 21 ahead for a further operation of the cycle. The cam 24 as illustrated extends substantially around the shaft 25 so that the backward movement of the label strip is very gradual, and being for a much shorter distance than the advance of the label on feeding, is of such speed that it can easily register on the photo-sensitive element to insure operation.

The source of electrical energy may be any ordinary current, depending upon the photo-electric cell used, and it will be fully understood that the solenoid can be in series circuit relationship with the photo-electric cell or a switch can be operated thereby, it being only important that it be controlled by the photo-electric cell. It will also be understood that, although it is very convenient to have the switch 26 operated by the cutter, it can be operated by any other part of the mechanism, just so it is timed to render the holding means inoperative during the feeding movement of the label strip.

In the modification of the invention shown in Figs. 6, 7 and 8, I have a simpler arrangement for controlling the balancing. As the label strip is fed forward a switch 26 renders the balancing apparatus inoperative. As the cutter operates, the switch 26 is closed, rendering the apparatus operative. The gripper jaws 19 are spring pressed by the spring 20, as above described, but the solenoid 117 is mounted on a bracket 110 which is mounted on the lower jaw 119 of the gripper means. The armature 118 is affixed to the upper jaw 120 of the gripper member so that when the solenoid 117 is energized the solenoid releases the gripper means. The solenoid is operated under control of the photo-sensitive element 9, as before described, so that as a contrasting portion of the label strip, such as the symbol 15, passes beneath the photo-sensitive element, the circuit is closed, energizing the solenoid and thus releasing the label strip. Holding means 116 are provided to hold the label strip in position as it is released. These means comprise a weight or plate 121 which is held so that it bears yieldingly against the strip but does not interfere with the movement of the strip, either by the feeding jaws 3 or the gripper means 19. As above explained, it is only necessary that the solenoid be controlled by the photo-sensitive element, and the circuit shown here does not necessarily have to be used. Any suitable circuit to attain my result may be used.

It will be readily seen that my invention furnishes a positive control for balancing and feeding of labels or the like, and that the method used, namely, of slowly retracting the label strip from the cutter until the photo-sensitive element is actuated, makes for very positive operation of the photo-sensitive element, and is especially adapted to use in the machine shown here, in which the feeding operation takes a very small portion of time while the greater portion of time for each operation is consumed with folding the label ends and with shifting the feed mechanism to a position for further feeding.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a solenoid adapted to operate said holding means, a source of electrical energy in series circuit relationship with said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a hood extending from said photo-electric cell to a point adjacent said label strip having an opening therein adapted to expose a portion of said label strip to said photo-electric cell, a switch actuated by said cutter and in series circuit relationship with said solenoid and said source of electrical energy adapted to be opened when said cutter is open and said label strip is being fed to said cutter and to be closed when said cutter has operated and said feeding jaws are being moved to their initial position, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell through said opening in said hood, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip is freed from said feeding jaws and said cutter and when said switch is closed to cause said gripper means to withdraw said label strip from said cutter between said opening in said hood and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to energize said solenoid to operate said holding means to hold said label strip in position for further feeding.

2. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a solenoid adapted to operate said holding means, a source of electrical energy in series circuit relationship with said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch actuated by said cutter and in series circuit relationship with said solenoid and said source of electrical energy adapted to be opened when said cutter is open and said label strip is being fed to said cutter and to be closed when said cutter has operated and said feeding jaws are being moved to their initial position, a light positioned on the side of said

label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip is freed from said feeding jaws and said cuttter and when said switch is closed to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to energize said solenoid to operate said holding means to hold said label strip in position for further feeding.

3. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a solenoid adapted to operate said holding means, a source of electrical energy in series circuit relationship with said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch in series circuit relationship with said solenoid and said source of electrical energy adapted to be opened when said label strip is being fed to said cutter and to be closed when said feeding jaws are being moved to their initial position, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip has been fed and cut to cause said gripper means to withdrawn said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to energize said solenoid to operate said holding means to hold said label strip in position for further feeding.

4. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a solenoid adapted to operate said holding means, a source of electrical energy in series circuit relationship with said solenoid, a photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch in series circuit relationship with said solenoid and said source of electrical energy adapted to be opened when said label strip is being fed to said cutter and to be closed when said feeding jaws are being moved to their initial position, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to grip said label strip and having a cam adapted when said strip has been fed and cut to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to energize said solenoid to operate said holding means to hold said label strip in position for further feeding.

5. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to advance said strip a predetermined distance at predetermined intervals, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a solenoid adapted to operate said holding means, a source of electrical energy in series circuit relationship with said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch in series circuit relationship with said solenoid and said source of electrical energy adapted to be opened when said label strip is being fed to said cutter and to be closed when said feeding means are not feeding said strip, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip has been fed and cut to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to energize said solenoid to operate said holding means to hold said label strip in position for further feeding.

6. In a machine for cutting labels and the like, having a frame, means for delivering a label strip, a cutter and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels, comprising holding means adapted to hold said label strip, a solenoid adapted to control the operation of said holding means, a source of electrical energy for said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a hood extending from said photo-electric cell to a point adjacent said label strip having an opening therein adapted to expose a portion of said label strip

to said photo-electric cell, a switch actuated by said cutter and adapted to control the flow of electrical energy to said solenoid to permit operation of said holding means when said cutter has operated and said feeding jaws are being moved to their initial position, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell through said opening in said hood, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip is freed from said feeding jaws and said cutter and when said switch is in position to permit operation of said holding means to cause said gripper means to withdraw said label strip from said cutter between said opening in said hood and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

7. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels, comprising holding means adapted to hold said label strip, a solenoid adapted to control the operation of said holding means, a source of electrical energy for said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch adapted to control the flow of electrical energy to said solenoid to permit operation of said holding means when said cutter has operated and said feeding jaws are being moved to their initial position, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip is freed from said feeding jaws and said cutter and when said switch is in position to permit operation of said holding means to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

8. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when the cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial position to feed a new label length, the combination of means for controlling the balancing and feeding of the labels, comprising holding means adapted to hold said label strip, a solenoid adapted to control the operation of said holding means, a source of electrical energy for said solenoid, a photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch adapted to control the flow of electrical energy to said solenoid to permit operation of said holding means when said cutter has operated and said feeding jaws are being moved to their initial position, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to yieldingly grip said label strip and having a cam adapted when said strip is freed from said feeding jaws and said cutter and when said switch is in position to permit operation of said holding means to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

9. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to feed said strip periodically a predetermined distance, the combination of means for controlling the balancing and feeding of the labels, comprising holding means adapted to hold said label strip, a solenoid adapted to control the operation of said holding means, a source of electrical energy for said solenoid, a photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch adapted to control the flow of electrical energy to said solenoid to permit operation of said holding means between feeding periods, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to grip said label strip and having a cam adapted between feeding periods to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light whereby the passage of contracting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

10. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to feed said strip periodically a predetermined distance, the combination of means for controlling the balancing and feeding of the labels, comprising holding means adapted to hold said label strip, a photo-electric cell positioned on one side of said label strip and adapted to control the operation of said holding means, means to permit operation of said holding means only between feeding periods, a light positioned on the side of said label

strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to grip said label strip and having a cam adapted between feeding periods to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of the feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly between said photo-electric cell and said light whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

11. In a machine for cutting labels and the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to feed said strip periodically a predetermined distance, the combination of means for controlling the balancing and feeding of the labels, comprising holding means adapted to hold said label strip, a photo-electric cell positioned on one side of said label strip and adapted to control the operation of said holding means, means to permit operation of said holding means only between feeding periods, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to grip said label strip and having a cam adapted between feeding periods to cause said gripper means to withdraw said label strip from said cutter between said cell and said light, whereby said label strip is drawn between said photo-electric cell and said light whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

12. In a machine for cutting labels and the like, means for periodically feeding a label strip a predetermined distance, means for controlling the feeding of said label strip and the balancing of labels comprising holding means adapted to hold said label strip, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the operation of said holding means, means adapted to prevent operation of said holding means when said label strip is being fed, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to grip said label strip and draw it in a direction counter to the feeding direction between said cell and said light at a rate relatively slower than the rate of feeding of the strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

13. In a machine for cutting labels and the like, means for periodically feeding a label strip a predetermined distance, means for controlling the feeding of said label strip and the balancing of labels comprising holding means adapted to hold said label strip, a photo-electric cell positioned on one side of said label strip and adapted to control the operation of said holding means, means adapted to prevent operation of said holding means when said label strip is being fed, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, gripper means adapted to grip said label strip and draw it in a direction counter to the feeding direction between said cell and said light at a rate relatively slower than the rate of feeding of the strip, whereby said label strip is drawn slowly between said photo-electric cell and said light, whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

14. In a machine for cutting labels or the like having a frame, means for delivering a label strip, a cutter, and an automtically controlled feeding means adapted to feed said strip a predetermined distance periodically, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a solenoid adapted to control the operation of said holding means, a source of electrical energy for said solenoid, a photo-electric cell positioned adjacent said label strip and adapted to be affected by the passage of contrasting portions of said strip and adapted to control the flow of electrical energy to said solenoid, a switch adapted to control the flow of electrical energy to said solenoid to permit operation of said holding means, gripper means adapted to grip said label strip yieldingly and adapted between feeding periods to withdraw said label strip from said cutter past said photo-electric cell for a distance shorter than the distance of feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly past said photo-electric cell whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

15. In a machine for cutting labels or the like having a frame, means for delivering a label strip, a cutter, and an automatically controlled feeding means adapted to feed said strip a predetermined distance periodically, the combination of means for controlling the balancing and feeding of the labels comprising holding means adapted to hold said label strip, a photo-electric cell positioned adjacent said label strip and adapted to be affected by the passage of contrasting portions of said strip and adapted to control the operation of said holding means, and gripper means adapted to grip said label strip yieldingly and adapted between feeding periods to withdraw said label strip from said cutter past said photo-electric cell for a distance shorter than the distance of feeding of the strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn slowly past said photo-electric cell whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

16. In a machine for cutting labels or the like, means for periodically feeding a label strip a predetermined distance, means for controlling the feeding of said label strip and the balancing of labels, comprising holding means adapted to hold said label strip, a photo-electric cell adjacent said label strip adapted to be affected by the passage of contrasting portions of said label strip and adapted to control the operation of said holding means, means adapted to prevent operation of said holding means when said label

strip is being fed, and gripper means adapted to grip said label strip yieldingly and draw it in a direction counter to the feeding direction and past said cell at a rate relatively slower than the rate of feeding of the strip, whereby said label strip is drawn slowly past said photo-electric cell, whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

17. In a machine for cutting labels or the like, means for periodically feeding a label strip a predetermined distance, means for controlling the feeding of said label strip and the balancing of labels, comprising holding means adapted to hold said label strip, a photo-electric cell adjacent said label strip adapted to be affected by the passage of contrasting portions of said label strip and adapted to control the operation of said holding means, means adapted to prevent operation of said holding means when said label strip is being fed, gripper means adapted to grip said label strip yieldingly and draw it in a direction counter to the feeding direction and past said cell, whereby said label strip is drawn past said photo-electric cell, whereby the passage of contrasting portions of said strip affects said cell to operate said holding means to hold said label strip in position for further feeding.

18. In a machine for cutting labels or the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to advance said strip a predetermined distance at predetermined intervals, the combination of means for controlling the balancing and feeding of labels comprising a photo-electric cell positioned to be exposed to said label strip, means adapted to withdraw the label strip from the cutter past said cell when said strip is freed from the feeding jaws and the cutter for a distance shorter than the distance of feeding said strip and at a rate relatively slower than the rate of feeding of said strip, means adapted to make said photo-electric cell operative when said strip is being withdrawn, and means adapted to stop the withdrawal of said strip under control of said photo-electric cell.

19. In a machine for cutting labels or the like, a frame, means for delivering a label strip, a cutter, and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when said cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial positions to feed a new label length, the combination of means for controlling the balancing and feeding of labels comprising gripper means adapted to grip the label strip, a solenoid adapted to release said gripper means from said label strip, a source of electrical energy for said solenoid, an adjustably mounted photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch adapted to control the flow of electrical energy to said solenoid to permit operation of said solenoid when said cutter has operated and said feeding jaws are being moved to their initial positions, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, and cam means adapted to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of said feeding and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn between said photo-electric cell and said light, whereby the passing of contrasting portions of said strip affects said cell to cause said gripper means to release said label strip in position for further feeding.

20. In a machine for cutting labels or the like, having a frame, means for delivering a label strip, a cutter and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when said cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial positions to feed a new label length, the combination of means for controlling the balancing and feeding of labels comprising gripper means adapted to grip the label strip, a solenoid adapted to release said gripper means from said label strip, a source of electrical energy for said solenoid, a photo-electric cell positioned on one side of said label strip and adapted to control the flow of electrical energy to said solenoid, a switch adapted to control the flow of electrical energy to said solenoid to permit operation of said solenoid when said cutter has operated and said feeding jaws are being moved to their initial positions, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, cam means adapted to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of said feeding and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn between said photo-electric cell and said light, whereby the passing of contrasting portions of said strip affects said cell to cause said gripper means to release said label strip in position for further feeding.

21. In a machine for cutting labels or the like having a frame, means for delivering a label strip, a cutter and automatically controlled feeding jaws adapted to grip the label strip and advance it to the cutter when said cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial positions to feed a new label length, the combination of means for controlling the balancing and feeding of labels comprising gripper means adapted to grip the label strip, a photo-electric cell positioned on one side of said label strip and adapted to control the operation of said gripper means, means adapted to make said photo-electric cell operative when said cutter has operated and said feeding jaws are being moved to their initial positions, a light positioned on the side of said label strip opposite said photo-electric cell and adapted to illuminate said photo-electric cell, and means adapted to cause said gripper means to withdraw said label strip from said cutter between said cell and said light for a distance shorter than the distance of said feeding and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn between said photo-electric cell and said light, whereby the passing of contrasting portions of said strip affects said cell to cause said gripper means to release said label strip in position for further feeding.

22. In a machine for cutting labels or the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feed-

ing jaws adapted to grip the label strip and advance it to the cutter when said cutter is in open position and on cutting of the label strip by the cutter to be opened and moved to their initial positions to feed a new label length, the combination of means for controlling the balancing and feeding of labels comprising gripper means adapted to grip the label strip, a photo-electric cell positioned to be exposed to said label strip and adapted to control the operation of said gripper means, means adapted to make said photo-electric cell operative when said cutter has operated and said feeding jaws are being moved to their initial positions, and means adapted to cause said gripper means to withdraw said label strip from said cutter past said cell for a distance shorter than the distance of said feeding and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn past said photo-electric cell, whereby the passing of contrasting portions of said strip affects said cell to cause said gripper means to release said label strip in position for further feeding.

23. In a machine for cutting labels or the like having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to feed said strip periodically a predetermined distance, the combination of means for controlling the balancing and feeding of labels comprising gripper means adapted to grip said label strip, releasing means adapted to release said gripper means from said label strip, a photo-electric cell adapted to be exposed to said label strip and to control the operation of said releasing means, means adapted to cause said gripper means between feeding periods to to withdraw said label strip from said cutter and for a distance shorter than the distance of the feeding strip and at a rate relatively slower than the rate of feeding of said strip, whereby said label strip is drawn past said photo-electric cell whereby the passage of contrasting portions of said strip affects said cell to operate said releasing means to leave said label strip in position for further feeding.

24. In a machine for cutting labels or the like, having a frame, means for delivering a label strip, a cutter, and automatically controlled feeding means adapted to feed said strip periodically a predetermined distance, the combination of means for controlling the balancing and feeding of labels comprising gripper means adapted to grip said label strip, releasing means adapted to release said gripper means from said label strip, a photo-electric cell adapted to be exposed to said label strip and to control the operation of said releasing means, means adapted to cause said gripper means between feeding periods to withdraw said label strip from said cutter, whereby said label strip is drawn past said photo-electric cell whereby the passage of contrasting portions of said strip affects said cell to operate said releasing means to leave said label strip in position for further feeding.

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