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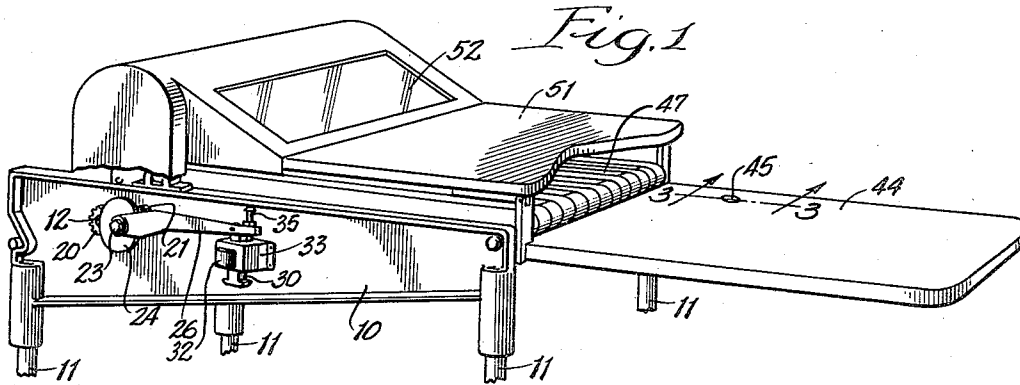
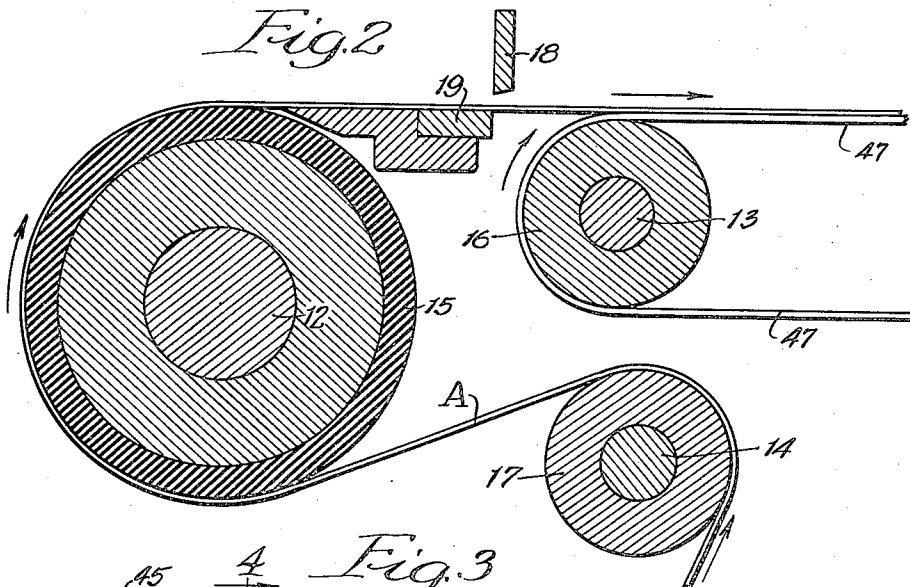
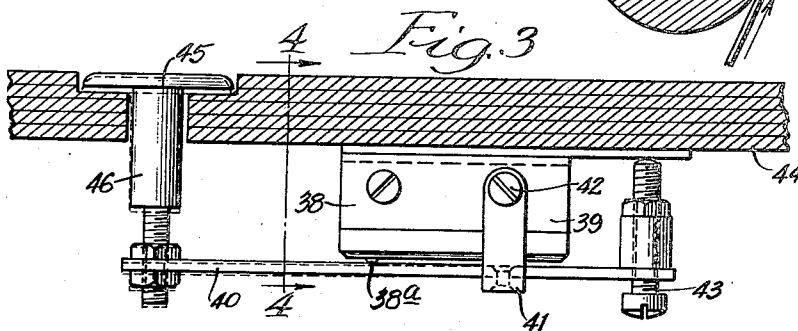
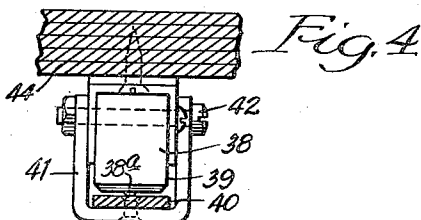
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2,176,571

COMPENSATOR FOR SHEETERS

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2 Sheets-Sheet 1



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COMPENSATOR FOR SHEETERS

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Application February 25, 1938, Serial No. 192,474

6 Claims. (Cl. 164—49)

In cutting sheets from a rolled web, the sheets are often printed so that it is essential that the sheets shall be severed at or near a given line, otherwise the printed matter will not appear at the desired location on the sheet. This is particularly true where the sheets, as Cellophane, are used for wrapping packages.

The sheeting machine is set so as to sever the sheet as near the desired line as practicable. Due, however, to shrinkage or expansion of the material of the web, the desired line will not long remain at the desired point of severance.

It, therefore, is an object of this invention to provide means for quickly and readily compensating for these differences so that the line of severance will always fall at the desired point. This I propose to do by setting the feeding mechanism to feed the web forward each time an amount slightly less than the desired length of the sheet to be cut and compensating for this slight difference by manually advancing the sheet a small amount after every few sheets are cut as the operator shall see is necessary to keep the line of severance within certain limits as indicated by suitable markings on the sheet.

These and other objects as will hereinafter appear are accomplished by this invention which is fully described in the following specification and shown in the accompanying drawings, in which

Figure 1 is a perspective view of a sheeting machine embodying the invention;

Fig. 2 is a partial enlarged longitudinal section through the machine showing the driving roll;

Fig. 3 is an enlarged longitudinal section through the machine on the line 3—3 of Fig. 1;

Fig. 4 is a transverse section on the line 4—4 of Fig. 3;

Fig. 5 is a view of the web prior to being cut into sheets;

Fig. 6 is a side elevation of the driving roll of Fig. 2 showing the driving means;

Fig. 7 is a view similar to Fig. 6 on a reduced scale showing an operating lever for driving means; and

Fig. 8 is a partial view showing the opposite side of the driving lever.

The embodiment illustrated comprises a sheeting machine having a main frame 10 supported on legs 11 and having suitably journaled therein shafts 12, 13 and 14, which respectively carry rolls 15, 16 and 17 (Fig. 2) around which passes a web A which is fed from a roll, not shown, of material which is to be cut into sheets. A vertical

movable knife 18 cooperates with a stationary blade 19 to sever the sheet.

The means for intermittently driving the roll 12 and the means for actuating the knife 18 are shown in detail in my co-pending application, entitled Gluing and sheeting machine, filed February 24, 1938, Serial No. 192,332.

Referring to Figs. 6, 7 and 8, the shafts 12 and 13 have gears 20 and 21 keyed thereon and these gears mesh with a gear 22 which is rotatably mounted on a pin or screw 23 carried by the frame 10. The gear 22 is secured to a ratchet wheel 24 as by means of rivets 25 so as to be rotatable therewith. The ratchet wheel 24 is preferably provided with a series of longitudinal teeth which are preferably formed by means of a suitable knurling tool.

An operating lever 26 is pivotally mounted on the pin 23 and carries a pawl 27 which is pivotally mounted on a pin 28 on the lever 26 and is yieldably held in contact with the knurl periphery of the ratchet wheel 24 by means of a spring 29. The outer end of the lever 26 has a core 30 pivotally connected thereto by means of a pin 31. This core passes through a solenoid coil 32 which is carried by means of a housing 33 which is secured to the side of the frame as by means of screws or rivets 34. An adjusting screw 35 is screwed through a threaded hole in the end of the lever and is locked in an adjusted position by means of a nut 36. This screw normally rests upon the upper portion of the housing when the solenoid is not energized. Leads 37 connect the ends of the solenoid 32 with a suitable source of electric current B through a switch 38 which is shown in detail in Fig. 3 which will later be described.

Upon closing the switch 38, the core 30 will be drawn up until the enlarged end of the core 30^a strikes the bottom of the housing 33, at which time the lever 26 will have assumed the dotted-line position of Fig. 7. Upon opening the switch 38 the solenoid will be de-energized and the weight of the lever 26 will return to the full-line position.

The switch 38 is preferably a micro-switch having an operating member 38^a (Fig. 3) which opens and closes the switch upon a very small movement of this member. The switch is enclosed in a housing 39 and has an operating lever 40 which is preferably connected intermediate its length on a U-shaped member 41 which is pivotally connected at its upper ends to the housing by means of a screw 42. One end of the operating lever carries an adjusting screw 43 which

bears upon a metal plate on the under side of a table 44, the housing 39 also being secured to the under side of this table. The opposite and longer end of the operating lever 40 carries an operating button 45 which is adjustably secured thereto. This button has a shank 46 passing through the table 44, the upper portion of the button preferably being substantially even with the upper surface of the table.

Since the switch 38 is a micro-switch, a very small movement of the button 45 will be sufficient to cause the operating member 38^a to close the switch thereby energizing the solenoid and causing the operating lever 26 to move from the full-line position to the dotted-line position of Fig. 7.

The shaft 13 carries a roll 16 which serves to intermittently drive a small belt conveyer 47 which extends to the front of the machine as shown in Fig. 1. Each time the roll 15 is actuated, it advances the web a predetermined amount and then remains stationary for an interval during which the knife 18 descends, severing the web to form a sheet. This may have the appearance of the web A of Fig. 5 wherein the dotted vertical lines 48, 49 indicate lines of severance which would occur due to the normal action of the sheeting machine if the compensating device of Fig. 7 was not used.

It will be noted that a series of spots 50 are printed on the side of the web to indicate the permissible variations of the line of severance. In other words, the line of severance should pass through some portion of this spot. At 50^a the line of severance passes through the center of the spot, but the line 48 is nearer the left-hand side of this spot while the line 49 is substantially at the left-hand side. The operator watching the sheets as they come through, sees that the line of severance is working back toward the left-hand side of the spot 50 and depresses the button 45, thereby advancing the sheet by a desired amount, say the width of the spot 50, the amount being adjusted by means of the adjusting screw 35. If he sees that one actuation is not enough, he may close the switch a second time. A little practice, however, will teach the operator how often the compensator needs to be actuated in order to keep the sheet within the desired limits.

For safety, the machine is provided with a cover 51 which has a window 52 through which the operator may observe the cuts as they are made.

I claim:

1. In a sheeting machine, means for intermittently advancing a web a predetermined amount at each actuation, means for severing the web, and means for advancing the web a relatively small amount to bring the web to a desired point for cutting, the last mentioned means including a ratchet, a lever arm associated with the ratchet, a spring-pressed pawl on the arm operating on

the ratchet, and means under control of a human operator for operating the lever arm.

2. In a sheeting machine, means for intermittently advancing a web a predetermined amount at each actuation, means for severing the web, and means for advancing the web a relatively small amount to bring the web to a desired point for cutting, the last mentioned means including a ratchet, a lever arm associated with the ratchet, a spring-pressed pawl on the arm operating on the ratchet, a solenoid for operating the lever arm, a source of electric current, and a switch in series circuit under manual control of an operator.

3. In a sheeting machine, means for intermittently advancing a web a predetermined amount at each actuation, means for severing the web, and means for advancing the web a relatively small amount to bring the web to a desired point for cutting the last mentioned means including a ratchet, a lever arm associated with the ratchet, a spring-pressed pawl on the arm operating on the ratchet, a solenoid for operating the lever arm, a source of electric current, and a switch in series circuit under manual control of an operator and remote from the solenoid.

4. In a sheeting machine, means including a roll for intermittently advancing a web, means for transversely severing the web during a stationary interval, a ratchet wheel geared to said roll, a lever, a pawl thereon operable on the ratchet wheel, and means under manual control of an operator for operating the lever to cause the roll to advance the web a predetermined small amount.

5. In a sheeting machine, means including a roll for intermittently advancing a web slightly less than a predetermined sheet length at each actuation, means for transversely severing the web during a stationary interval, a ratchet wheel geared to said roll, a lever, a pawl thereon operable on the ratchet wheel, and means under manual control of an operator for operating the lever to cause the roll to advance the web a predetermined small amount at each actuation to cause the web to approach said predetermined sheet length.

6. In a sheeting machine, means including a roll for intermittently advancing a web slightly less than a predetermined sheet length at each actuation, means for transversely severing the web during a stationary interval, a ratchet wheel geared to said roll, a lever, a pawl thereon operable on the ratchet wheel, a solenoid operably connected to the lever, a source of current, and a switch in series circuit with the solenoid under manual control of an operator for causing the roll to advance the web a predetermined small amount at each actuation to cause the web to approach said predetermined sheet length.

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