Feb. 19, 1935. L. H. GREGORY ET AL 1,991,926

WEB WINDER AND CUTTER

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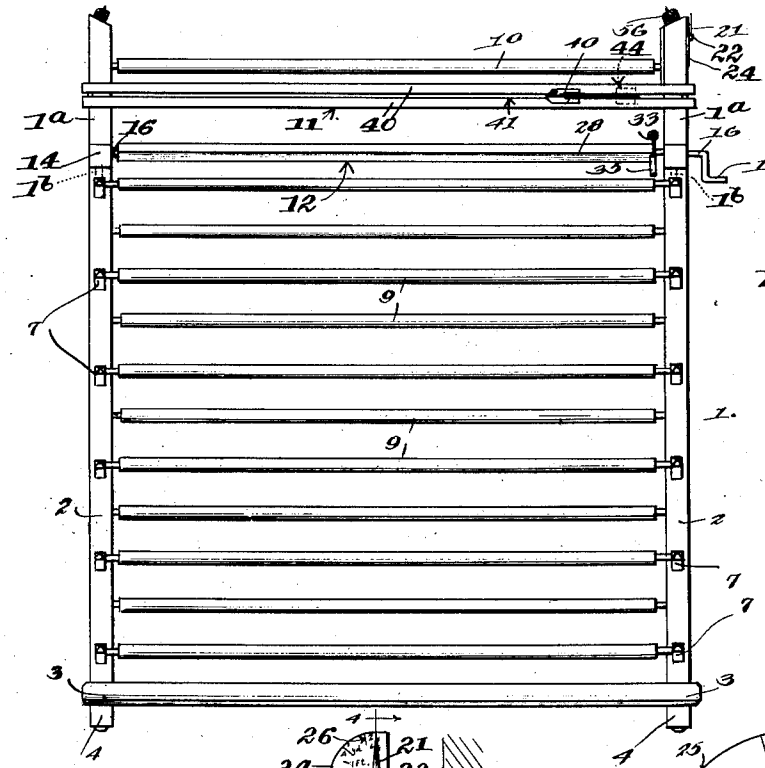


Fig. 1.

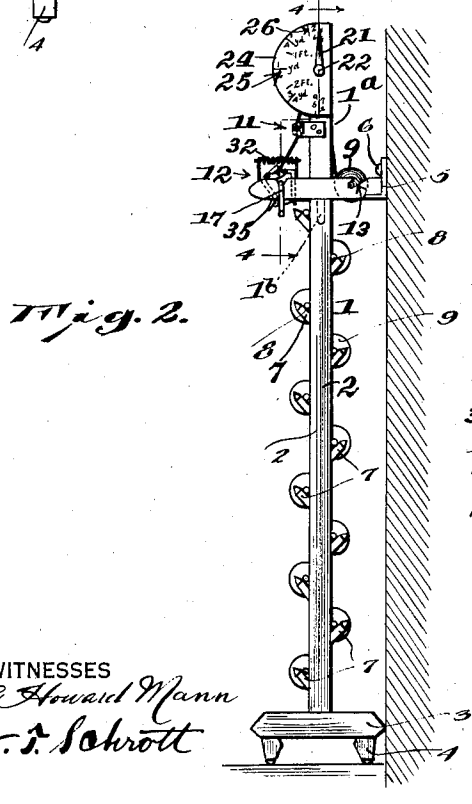


Fig. 2.

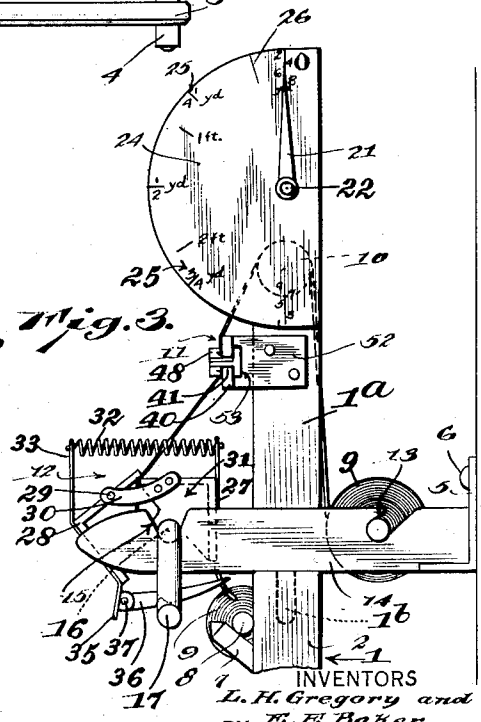


Fig. 3.

WITNESSES

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Fig. 4.

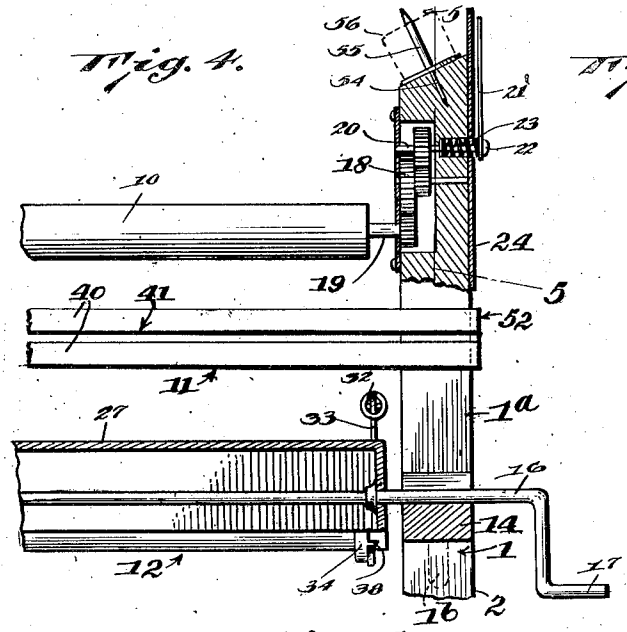


Fig. 5.

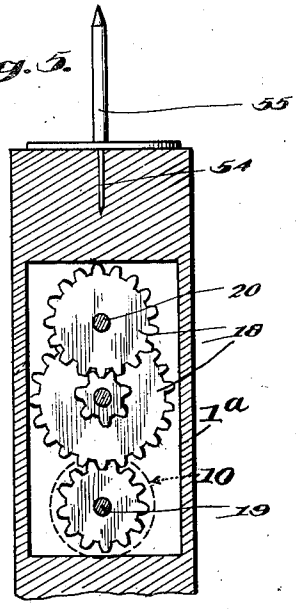


Fig. 6.

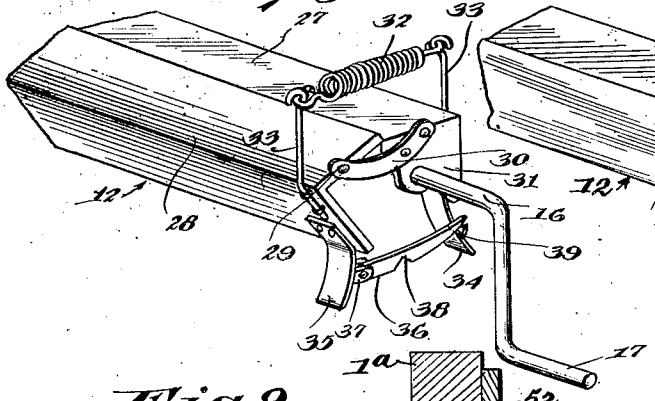


Fig. 7.

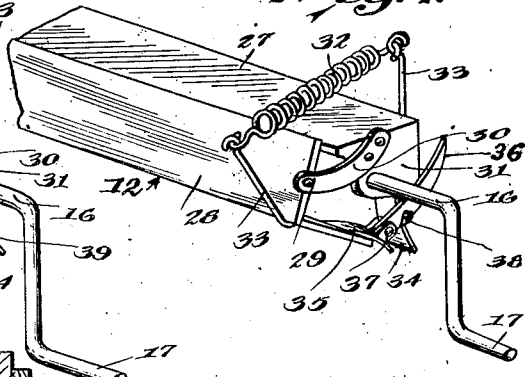


Fig. 9.

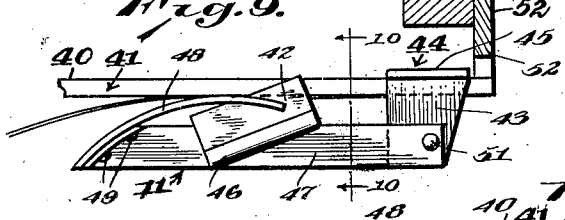


Fig. 10.

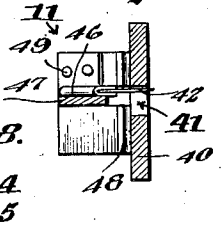
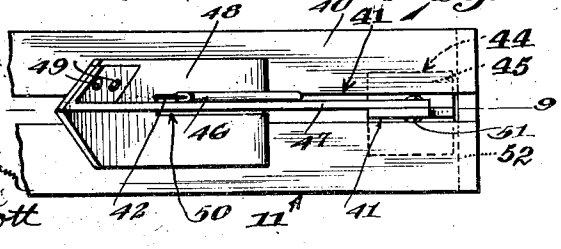


Fig. 8.



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UNITED STATES PATENT OFFICE

1,991,926

WEB WINDER AND CUTTER

Luther H. Gregory and Edward E. Baker,
Winters, Calif.

Application October 16, 1930, Serial No. 489,206

1 Claim. (Cl. 242—55.3)

This invention relates to improvements in winders and cutters, and it consists of the constructions, combinations and arrangements herein described and claimed.

An object of the invention is to provide an apparatus by which the measuring, winding and cutting of any web or band of material is made easily, accurately and with dispatch.

A further object of the invention is to provide such an apparatus for use in selling oilcloth, although it may be used for the handling of any sheet material herein generally known as the web, prior to being turned over to the purchaser.

A further object of the invention is to provide an apparatus in which the winding, measuring and cutting means are common to all of a plurality of web rolls any one of which can be removed from its display location on the frame and placed in a paying off position in reference to said means.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawings, in which:—

Figure 1 is a front elevation of the improved web winder and cutter.

Figure 2 is a view of the right end.

Figure 3 is a somewhat enlarged view particularly showing the winding, measuring and cutting means.

Figure 4 is a section taken approximately on the line 4—4 of Figure 2.

Figure 5 is a detail section taken on the line 5—5 of Figure 4, illustrating the gear train for actuating the pointer from the register roller.

Figure 6 is a perspective view of one end of the winder bar showing its members closed as in gripping the web.

Figure 7 is a similar view showing the members of the winder bar open.

Figure 8 is a detail front elevation of the cutter means.

Figure 9 is a detail horizontal section taken on the line 9—9 of Figure 8.

Figure 10 is a cross section taken on the line 10—10 of Figure 9.

The herein disclosed apparatus is intended for use by sales persons in stores of various kinds for quickly and accurately measuring off and winding required lengths of the web from a roll of material regardless of what that might be. Oilcloth is merely chosen for example, but the web might be some other material.

A frame 1 comprises standards 2 that are fixedly mounted on a base 3 (Fig. 2) for support. This base has legs 4 so that the frame can be stood on a counter. A superframe 1^a includes a pair of irons 5 which are appropriately slotted so that the end of a screw 6 or the like may be received by each. The superframe is hung up by means of the irons, while the main frame is stood on the counter, this arrangement insuring immovability of the two parts in ordinary use.

A plurality of horizontally alined supports 7 jutting out alternately from opposite sides of the standards 2 (Fig. 2) are intended to carry rods 8 which in turn have rolls 9 of web material. The end of any selected roll will be carried over a register roller 10 (Fig. 3), past the cutter means 11 and gripped by the winder means 12 which will be turned until the desired length has been removed from the roll.

The supports 7 merely provide places where the web rolls 9 are rested in display positions. The selected roll 9 is intended to be removed from its supports 7 and have the ends of its rod 8 inserted in the slots 13 (Fig. 3) of a pair of holders 14 which comprise the base of the foregoing superframe 1^a. These holders have dowels 1^b by which the superframe is removably fitted on the standards 2. Somewhat similar slots 15 receive the ends of a shaft 16 forming part of the winder means 12. The winder means can be lifted completely away from the holders 14 in order to remove the wound portion of the web, or the sales person may merely lift the left end and slip such portion off. The shaft 16 is bent into a crank 17 by which turning is accomplished.

A train of gears 18 (Figs. 4 and 5) connects the shaft 19 of the register roller 10 with the spindle 20 of a pointer 21. The pointer 21 is loose on the spindle 20 but the latter has a head 22 against which the pointer is pressed by a spring 23. The pressure is hard enough to compel the pointer to turn with the spindle 20 without slipping, but should the sales person wish to make an adjustment of the pointer in reference to the spindle this can be done by simply moving the pointer in the desired direction.

This pointer turns in reference to a dial 24 (Fig. 3) which is graduated at 25 in fractions of a yard. There is a special mark 26 on the dial indicating the place where the sales person should set the pointer 21 after having brought the web over into gripping position by the means 12.

The distance between the mark 26 and the zero point of the graduations 25 accounts for the distance between the cutter and winder means 11, 12. It will be understood that the web must be carried past the cutter means to the gripping position at the winder means and since the web is

severed at the cutter means it becomes necessary to make the latter the basis of measurement as well as to provide some compensation in the measuring means in order that there may not be an erroneous reading.

A pair of angle or other cross sectionally shaped members 27, 28 (Fig. 6) comprise the gripper of the winder means 12. The member 28 is hinged at 29 to brackets 30 which are fixed to the member 27 and extend out approximately as shown. The fastenings of these brackets occur in the neighborhood of fillers 31 in which the shaft 16 has bearing.

A spring 32, attached at its ends to supports 33 extending from the respective angle members, tends to close the gripper upon the end of the web. Finger pieces 34, 35 on the respective angle members enable an opening of the latter (Fig. 7) against the tension of the spring 32 so that the web is released. A detent 36 pivoted at 37 to one of the angle members, has a notch 38 that is adapted to receive a stud 39 on the other angle member, and by thus resisting the spring 32 will hold the gripper open until the detent is released.

The cutter means consists of a pair of bars 40 (Fig. 8) spaced only so far apart at 41 as necessary to admit the blade 42 (Fig. 9) and the shank 43 of a cutter slide 44. This slide includes flanges 45 that bear in back of the bars 40.

A spring clip 46, attached to an arm 47 for example by welding or riveting (Figs. 9 and 10) grips and holds the blade 42 in the preferred angled position with one point of the blade in the space or slot 41. A curved guard 48 of resilient material is attached to the arm 47 as at 49 and has a slot 50 that makes room for the blade 42. The sales person will grip the front point of the guard 48 and draw the slide 44 across the bars 40 whereupon the blade 42 will cut the web along the line of the slot 41.

The curved guard 48 presses the web down against the bars 40 and prevents the web from slipping during the cutting operation. In addition to this function, the guard 48 also provides the necessary finger hold as already indicated. A pivot 51 connects the arm 47 with the shank 43, enabling the swinging out of the arm when bringing the web down over the face of the bars 40. The arm is also swung out when the blade 42 is to be renewed or sharpened.

End members 52 (Fig. 3) provide mounts for the bars 40 by which the latter are supported in front of the superframe 1^a. These members are secured to the superframe and have slots 53 at which the slide 44 is insertible in originally assembling the parts. It is here that the slide may also be removed from the cutter means should the necessity ever arise. The bars 40 are suitably attached to the end members, for example by brazing.

At the top of each of the standards 2 there is a pin 54 (Fig. 5) on which a twine holder 55 is revolubly mounted. A ball of twine 56 (Fig. 4) is fitted on each holder and is thus in a convenient position for the sales person when tying the portion of the web wound on the winder means 12.

The operation is readily understood. The selected one of the rolls 9 (Fig. 2) is placed on the holders 14 (Figs. 2 and 3) whereupon the end of the web is trained over the register roller 10, past the cutter means 11 and gripped by the angle members 27, 28 of the winder means 12. These members are supposed to be open, but upon inserting the end of the web the detent 36 is tripped from the stud 39 so that the spring 32 can close the angle members.

Upon starting measuring, the sales person must set the pointer 21 to begin at the mark 26, the distance between this and zero on the dial representing the distance between the cutter and winder means 11, 12. The crank 17 is turned until the desired amount of web is wound on the angle members 27, 28. The blade 42 is drawn across the cutter means 11 from one side to the other so as to sever the measured portion of the web. The measured portion is tied with twine while still on the winder means, whereupon the left end of the latter is lifted from its support and the finger pieces 34, 35 (Fig. 6) are pressed together so as to enable slipping the wound portion off of the angle members.

It is notable that the winder means provides a convenient place for the tying of the measured web. Some materials are difficult to handle in roll form, especially when so little has been measured off as not to impart a degree of stiffness to the roll. The winder means provides a core that supports the measured roll until the ends can be tied and when the tied roll is slipped off of the core it can be handed to the customer at once.

The separability of the main and superframes 1, 1^a is an advantageous feature both in the matter of packing and shipping of the device as well as when repairs of the measuring, cutting or winding means become necessary. In the latter case all that one has to do is to lift off the superframe which comes apart from the main frame at the dowels 1^b. The main frame with its more or less heavy burden of rolls 9 does not need to be disturbed.

While the construction and arrangement of the improved web winder and cutter is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claim.

We claim:—

In winding apparatus, means on which a web is adapted to be rolled comprising a crank shaft, a pair of members of which one is affixed to the crank shaft, brackets on said one member and means for hingedly mounting the other member to said brackets, supports upstanding from both members, a spring attached to the supports to turn said other member on the hinge mounting into a gripping position against said one member, finger pieces on both members being movable to oppose the spring and turn said other member from the gripping position, and coacting means on the respective finger pieces then interengaging to hold said other member.

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