

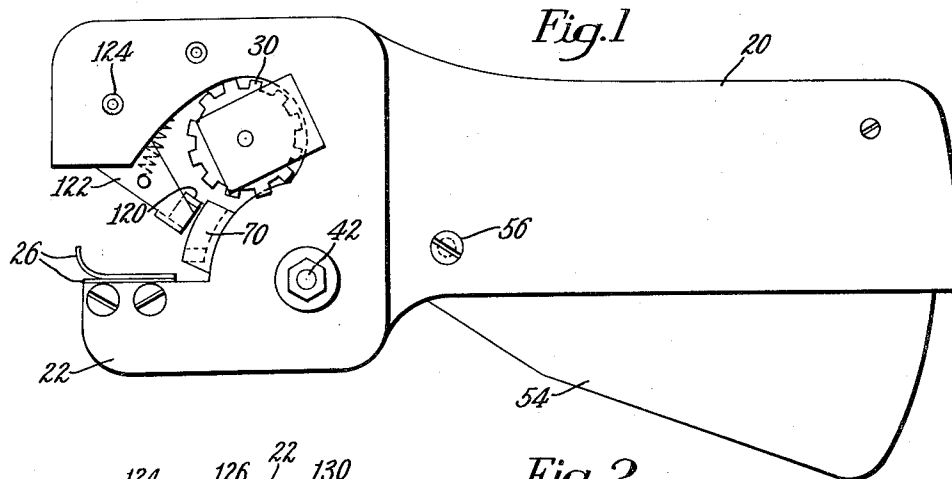
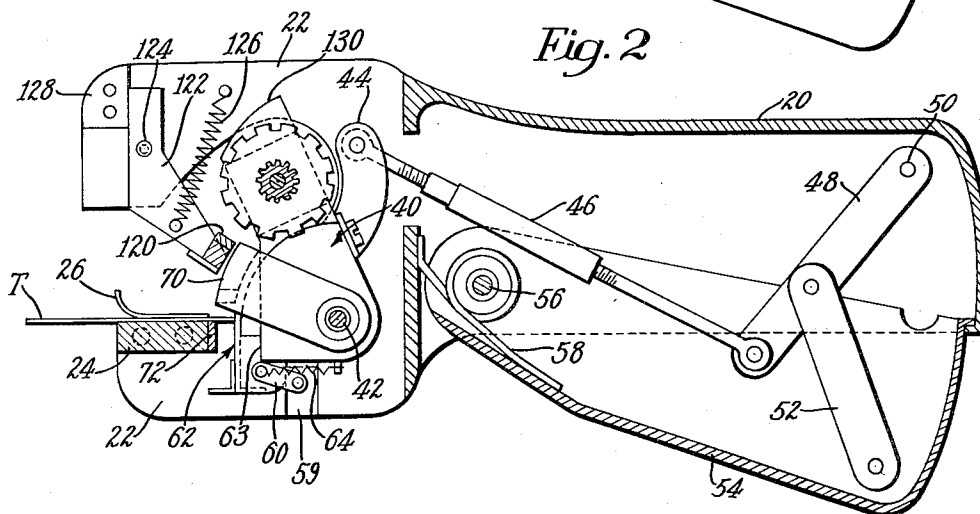
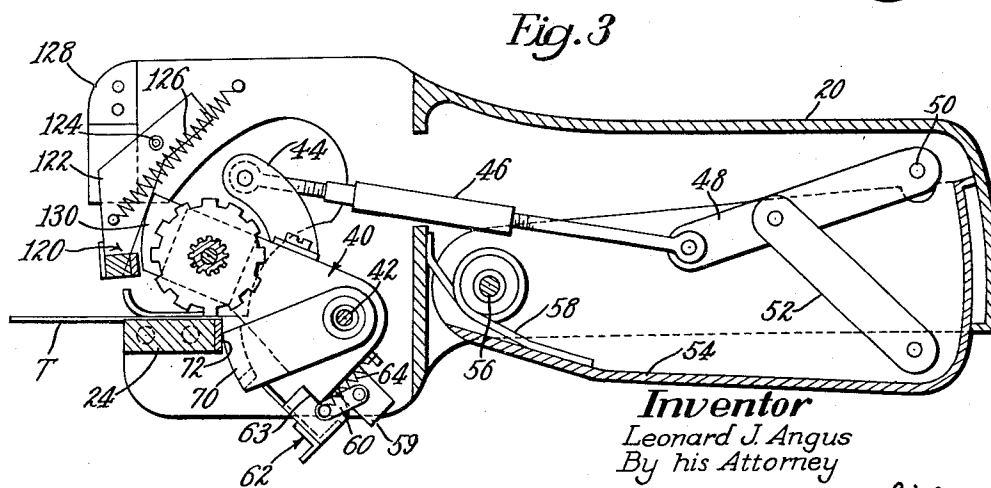
March 13, 1962

L. J. ANGUS
HAND REMARKERS

3,024,724

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3 Sheets-Sheet 1



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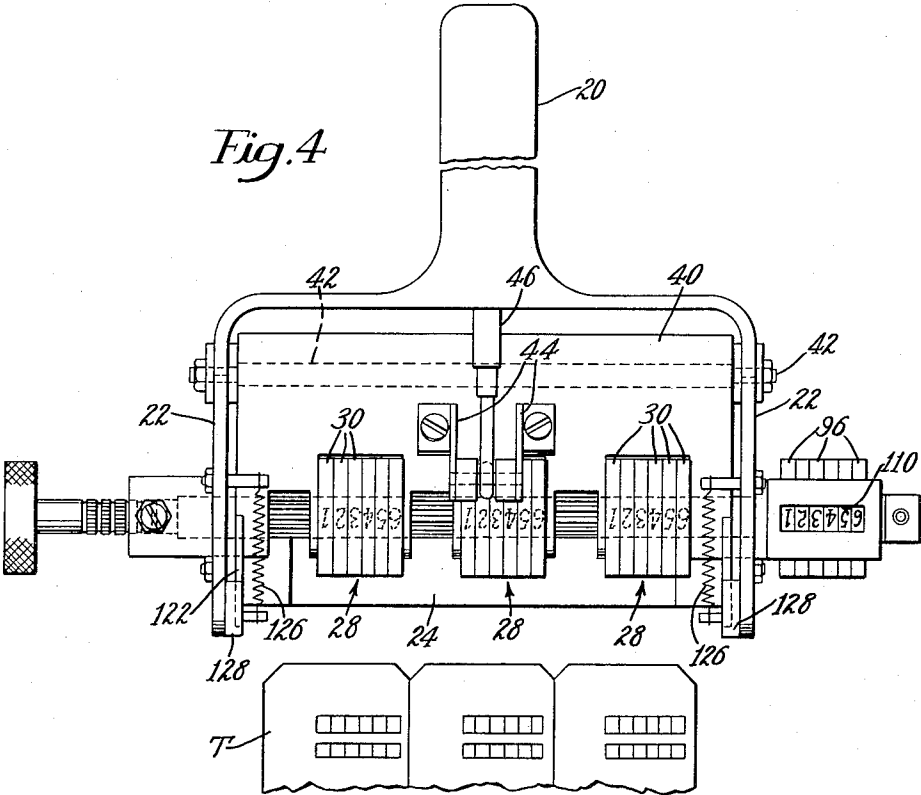
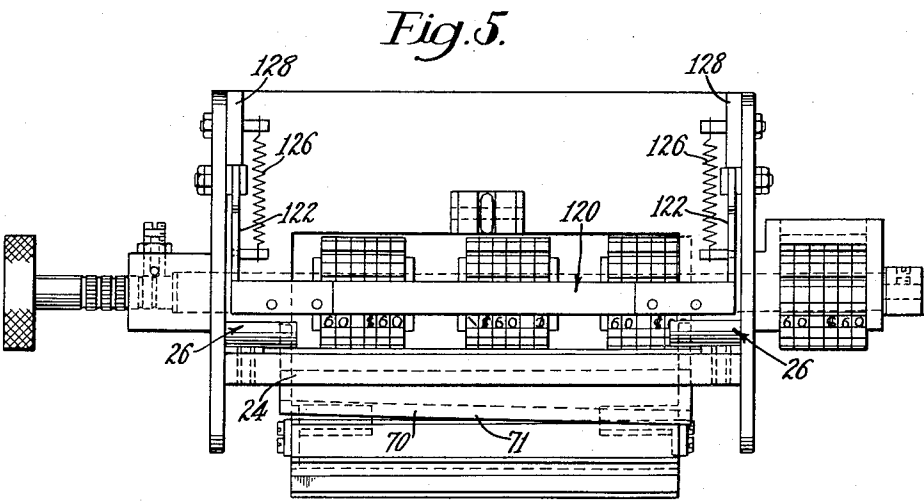
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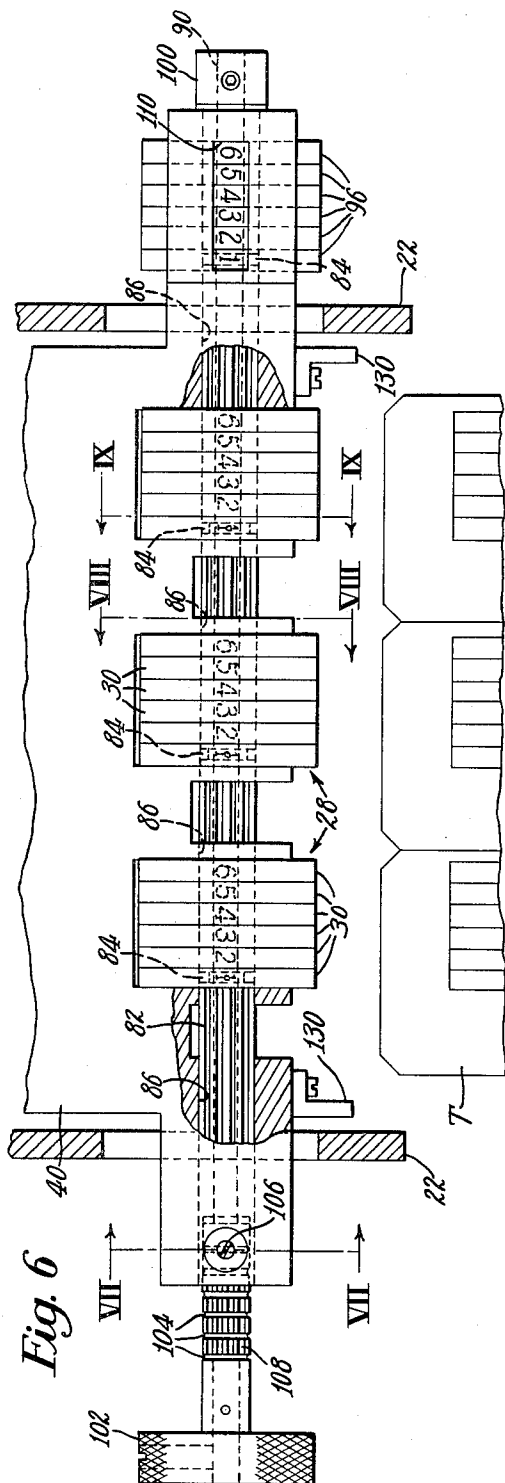


Fig. 7

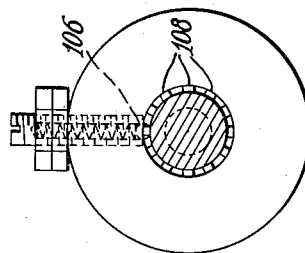


Fig. 8

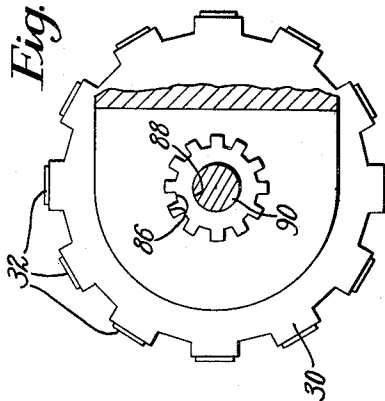


Fig. 9

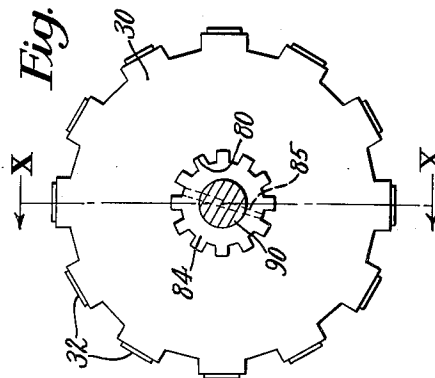
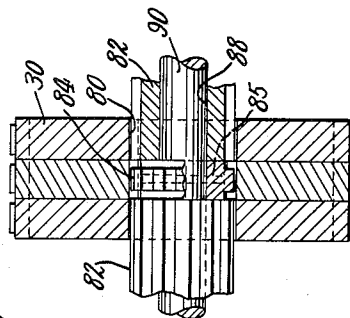


Fig. 10



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3,024,724

HAND REMARKERS

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3 Claims. (Cl. 101—110)

This invention relates to apparatus for printing tags. More particularly, the invention relates to a hand-held device particularly suited for remarking price tags attached to merchandise.

Price tags generally are preprinted at one end with the normal selling price of an article to which they are attached. Modern merchandising practices, however, generally require that the selling price of merchandise be changed periodically thus also requiring a corresponding change in the price tag. For this reason price tags usually are provided with space above the normal price for marking a new price. With this arrangement the old price can be cut off upon marking with a new price.

There are presently available remarking devices which are adapted to print a new price on the tag and to remove the portion of the tag having the normal price. These devices generally utilize printing elements which because of the required small size of the device and disposition of the elements are difficult to reset without soiling the operator's hands with ink. Since the operators are handling many salable articles in a remarking operation, a serious problem is created in avoiding damage to such merchandise. For this reason presently available remarking devices have not been widely used and most remarking operations are done manually.

Accordingly, it is a general object of the invention to provide an improved remarking device which overcomes the above objections. According to one feature the setting of the printing elements are easily changed by manipulating a single conveniently placed knob with the setting of the elements being indicated on visible dials.

According to another feature of the invention the printing elements comprise print wheels which are individually settable first by axial movement of the setting knob to select the wheel and corresponding indicator dial to be set and then by rotary movement of the knob to vary the setting of the print wheel and its dial.

It is common for price tags to have two or more separable parts each of which may be detached separately from the merchandise for accounting or inventory purposes. Thus, according to another feature the remarking device is provided with two or more sets of print wheels which are adapted to print identical information on each tag part. With this feature corresponding print wheels of each set and their corresponding indicator dial are arranged to be set simultaneously upon manipulation of the setting knob.

In accordance with the above features the device is provided with a tag support for locating a tag to be remarked in a predetermined position and is also provided with a movable frame for moving the print wheels against the tag. For carrying the print wheels and indicator dials, splined sleeves are mounted in splined bores in the frame for axial but not rotary movement relative to the frame. A shaft journaled coaxially in the sleeves for rotation has fixed thereto splined keys which are interspersed between adjacent sleeves. The spacing between each key corresponds to the spacing between the sets of print wheels and the set of indicator dials. Thus, a key is received in each corresponding print wheel while another key is received in the corresponding indicator dial so that rotation of the shaft will cause each corresponding print wheel and the corresponding indicator dial to be set simultaneously. The sleeves and keys are received in

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matching splined bores in the print wheels and dials. Thus to set the print wheels, the operator selects the individual corresponding print wheels for setting by axial movement of the shaft which moves the keys and sleeves axially within the wheels and dials so that the keys are received only in the selected wheels and their corresponding indicator dial. The selected wheels and dial are then set by rotation of the shaft while the other wheels and dials are fixed against rotation by the sleeves.

The above and other features of the invention including various details of construction and novel combinations of parts will now be described with reference to the drawings and thereafter pointed out in the claims.

In the drawings,

FIG. 1 is a side elevation of a device illustrating one embodiment of the present invention;

FIG. 2 is a sectional side elevation similar to FIG. 1 illustrating a tag inserted for remarking;

FIG. 3 is a view similar to FIG. 2 with the parts shown in position to print the tag;

FIG. 4 is a plan view of the device;

FIG. 5 is a front elevation;

FIG. 6 is a plan view in enlarged scale illustrating the print wheel carrying and setting assemblies;

FIG. 7 is a section on line VII—VII of FIG. 6;

FIG. 8 is a section on line VIII—VIII of FIG. 6;

FIG. 9 is a section on line IX—IX of FIG. 6; and

FIG. 10 is a section on line X—X of FIG. 9.

The device illustrated is provided with a handle 20 having spaced forwardly extending side frames 22 to which is fixed a tag support 24. The support is provided with tag guides 26 (FIGS. 2 and 5) adjacent the side frames for locating a tag on the support heightwise as well as edgewise. As illustrated, the remarking device is adapted to remark tags having one, two or three parts with a portion of a three part tag T being illustrated in FIG. 4. The guides 26 are arranged to accommodate the full width of a three section tag and when a one or two part tag is to be remarked, one edge of the tag is positioned against either one of the guides 26.

For printing on the tag the device is provided with one or more sets 28 (FIG. 4) of print wheels 30. Each print wheel is provided with raised characters 32 equally spaced around its periphery. The print wheels and associated mechanisms are mounted for swinging movement toward and away from the tag support on a movable frame 40 which is pivotally mounted on a shaft 42 fixed in the side frames 22. For swinging the frame 40 down to cause the print wheels to mark the tag, the frame is provided with arms 44 fixed thereto and which are connected to one end of a toggle formed by an adjustable link 46 pivoted to the arms 44 and by another link 48 pivotally mounted on the handle 20 on a pin 50. The link 48 is connected by a link 52 to one end of a movable handle 54. The handle 54 is pivoted to the handle 20 on a pin 56, there being a torsion spring 58 on the pin acting on the handle 54 to maintain the handle in its lower position as seen in FIG. 2. By moving the handle 54 to the position shown in FIG. 3, the toggle formed by the links 46 and 48 is straightened to swing the frame 40 down about its pivot 42.

As seen in FIG. 2, the bottom of the frame 40 has mounted thereon a bracket 59 having links 60 carrying a tag stop 62. The stop may be moved on the links to either of two positions for determining the location of the end of the tag on the support prior to the printing operation. As seen in FIG. 2, the stop is in its upper position and is effective to limit insertion of the tag along the support 24. By moving the stop 62 down on its links, the stop may be rendered ineffective to engage the tag whereupon the tag may be inserted farther into the device until a portion 63 of the frame 40 limits its

movement. A spring 64 extending between the frame and the links 69 maintains the stop in either of its two positions by a modified toggle action. The frame 40 also has mounted thereon a knife 70 which, as seen in FIG. 5, has an inclined cutting edge 71 which coacts with a hardened plate 72 on the tag support to cut the end of the tag on which, it may be assumed, the previous price is printed.

The mounting and setting mechanism for the print wheels will now be described with particular reference to FIGS. 6-10. The print wheels 30 are each provided with splined bores 80 which slidably receive splined sleeves 82 and/or keys 84. The sleeves 82 are mounted for axial movement in splined bores 86 in the frame 40. Each sleeve has a bore 88 in which a shaft 90 is rotatably received. Each of the keys 84 is fixed to the shaft by a pin 85, the keys being located between adjacent sleeves 82. As seen in FIG. 6, the keys 84 are spaced by the sleeves on the shaft 90 so that the keys are received in corresponding print wheels 30 of each set and in a corresponding individual dial 96, the particular wheels in which they are located depending upon the axial portion of the shaft 90. As illustrated, there is one indicator dial for three corresponding individual print wheels of the three sets. Each dial has indicia corresponding to the raised print characters on the print wheels with the corresponding indicia being spaced 180° from the position of the corresponding characters on the print wheels. At its right end, as seen in FIG. 6, the shaft 90 is provided with a stop collar 100 to limit axial movement of the shaft to the left. At its opposite end the shaft has fixed thereto a knob 102 by which the shaft may be moved axially as well as in rotation. Adjacent the knob the shaft is provided with six grooves 104 which coact with a spring-pressed detent ball 106 mounted in the frame to determine separate axial positions of the shaft and hence also to position the keys 84 within selected print wheels. The shaft is also provided with longitudinal grooves 108 which coact with the detent 106 to determine each rotary position of the shaft and the keys 84. Thus, it may be seen that the keys 84 may be moved to any selected print wheels and corresponding dial by axial movement of the shaft 90 so that the selected print wheel 30 may then be rotated to change the character to be printed while the remaining wheels and dials are held against rotation by the sleeves 82 which move axially as a unit with the keys 84 and the shaft 90. Rotation of the selected print wheels also causes rotation of its corresponding indicator dial 96 so that the characters to be printed are indicated visually through an opening 110 in a portion of the frame 40.

During the downward movement of the print wheels, toward printing position, the characters on the print wheels which are to engage the tag, first engage an ink pad 120 (FIGS. 2 and 3) which is carried at opposite ends on a pair of arms 122 pivoted on pins 124 to the side frames 22. Springs 126 connected to the arms 122 urge the arms to the position determined by stops 128 on the side frames as seen in FIG. 2. During their downward movement the print wheels lightly engage the ink pad 120 at which time cam pieces 130 at opposite sides of the frame 40 contact the arms 122 to swing the ink pad down and out of the path of movement of the print wheels and to the position illustrated in FIG. 3.

The operation of the device will now be generally

summarized. Before remarking a tag the operator views the position of the indicator dials in the window 110 to determine which, if any, settings must be made. By moving the knob 102 axially, the operator selects and then rotates any selected print wheels to the desired setting which is visually indicated by movement of the corresponding dial. The tag to be remarked is then inserted between the guides 26 and along the tag support to a position determined by the stop 62 if in its raised position or by a portion of the frame if the stop is in its lower position. The operator then squeezes the handles 20 and 54 causing the frame 40 to be moved down toward the tag. During the first part of the frame movement the knife 70 progressively severs the end of the tag having the undesired price. During the same movement the print wheels engage the ink pad 120. At the end of the downward movement of the frame the print wheels engage the tag on the support to print the desired remarked price.

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

1. In a hand-held tag remarking device, a tag support, a frame movable relative to the support, settable print wheels for printing on a tag on the support, indicator dials each having indicia corresponding to characters on an individual print wheel, said wheels and dials being confined against axial movement by the frame, a print wheel setting assembly including splined sleeves mounted for axial movement in coaxial splined bores in the frame, and in matching splined bores in the wheels and dials, a shaft journaled for rotation in the sleeves, keys fixed to the shaft between adjacent sleeves whereby a key is received in an individual print wheel and in its corresponding indicator dial to allow unitary rotation thereof and whereby the sleeves are received in the other wheels and dials to prevent rotation thereof, and a knob on said shaft for manual rotation and axial movement of the shaft whereby an operator selects an individual print wheel for setting by axial movement of the shaft and sets the selected print wheel and its corresponding indicator dial by rotation of the shaft.

2. The combination according to claim 1, including two mutually opposed handle portions movable relatively toward one another, and means responsive to relative movement of said handle portions toward one another to cause said frame to move relative to said support to bring said print wheels into printing contact with a tag on said support.

3. The combination according to claim 2, including spaced side frames to which one of said handle portions is secured, said print wheels being disposed between said side frames, said indicator dials being disposed outside one of said side frames, said knob being disposed outside the other of said side frames.

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