

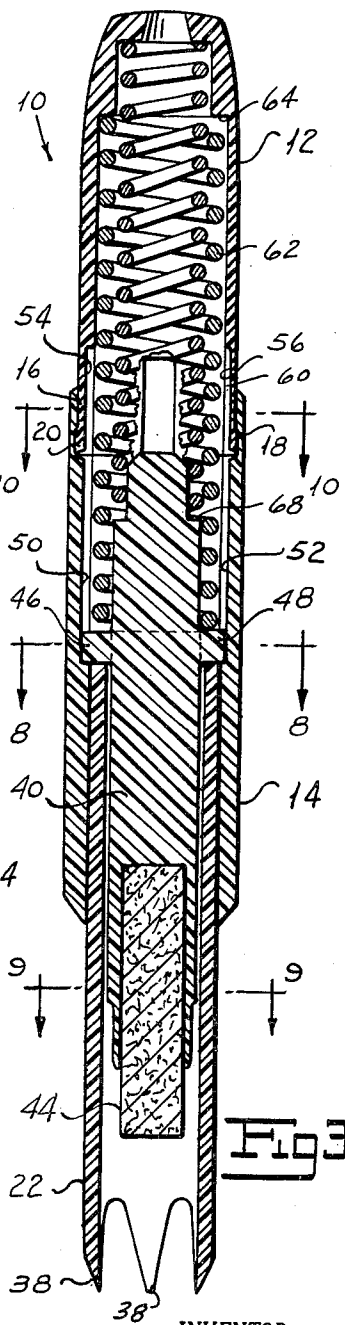
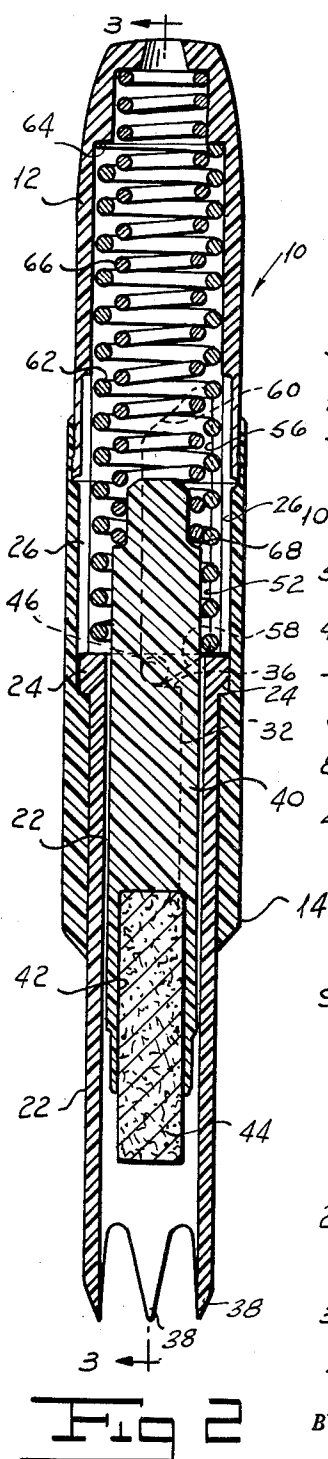
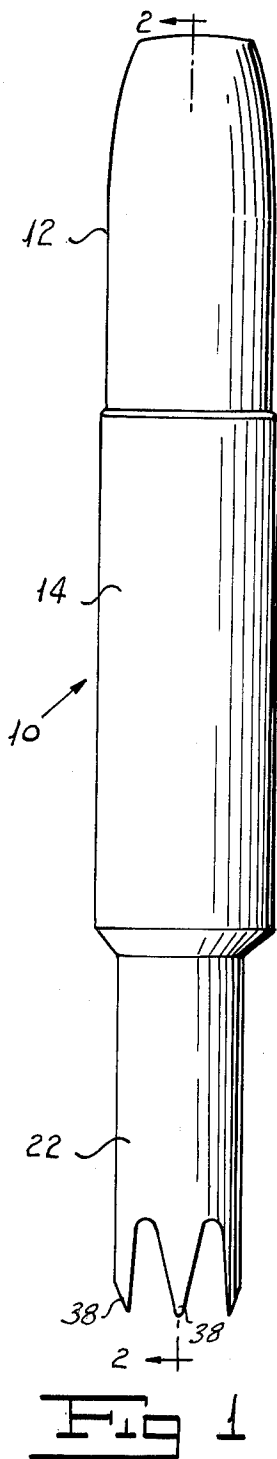
July 24, 1962

T. PETTERSON
BALLOT MARKER

3,045,593

Filed Nov. 21, 1960

3 Sheets-Sheet 1



INVENTOR.
TOR PETTERSON
BY *Harold Shaver*
ATTORNEY

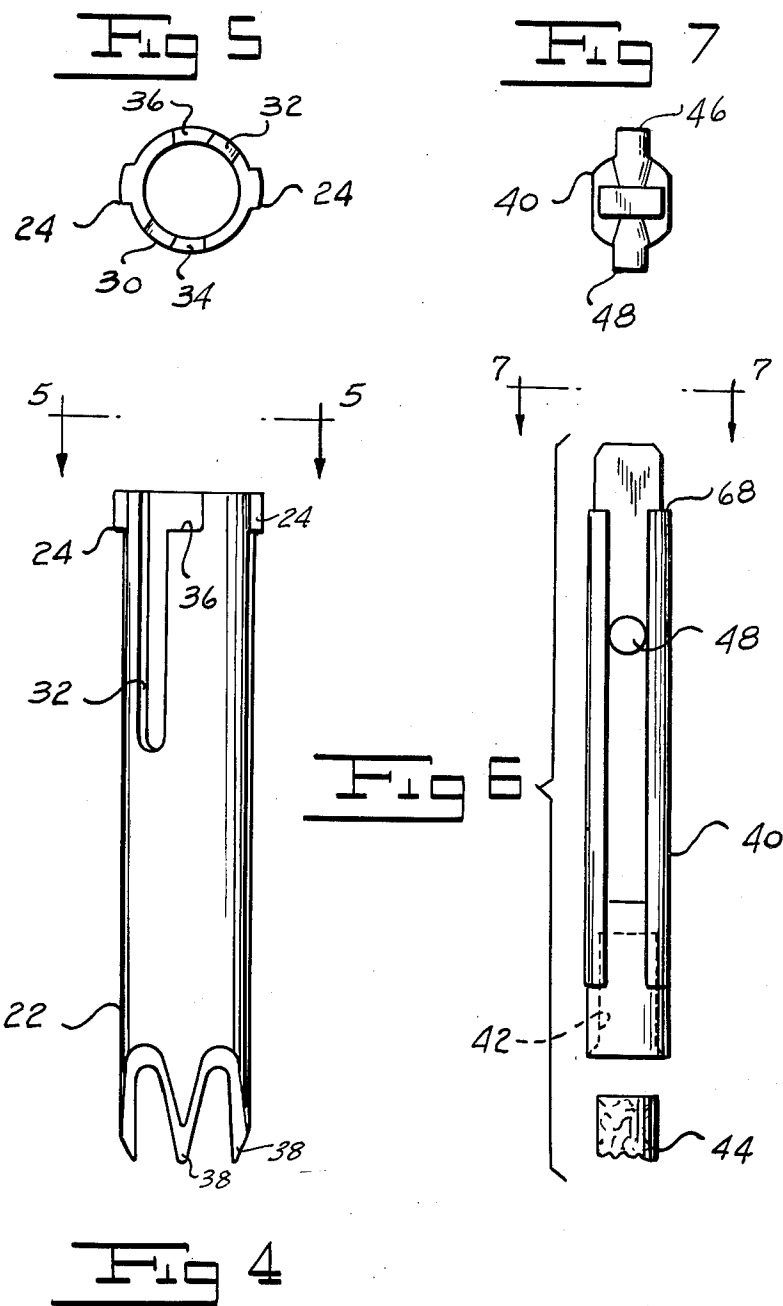
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T. PETTERSON
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3 Sheets-Sheet 2



INVENTOR.
TOR PETTERSON
BY *Henry L. Skewier*
ATTORNEY

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T. PETTERSON
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3 Sheets-Sheet 3

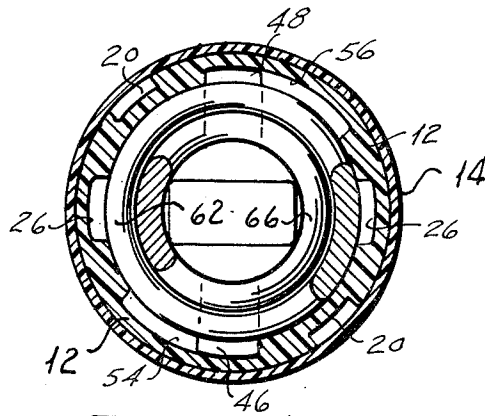
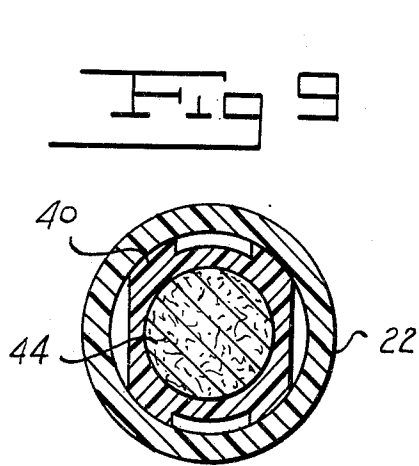
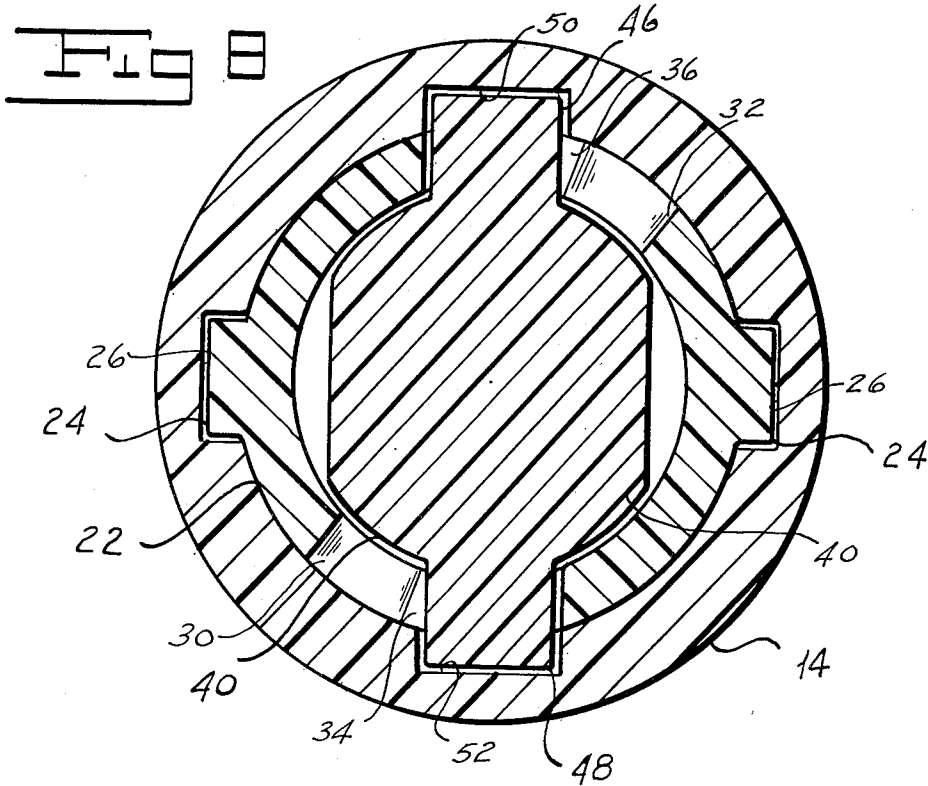


Fig 10

INVENTOR.
TOR PETTERSON
BY *Henry H. Shewer*
ATTORNEY

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3,045,593

BALLOT MARKER

Tor Petterson, Laguna Beach, Calif., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

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8 Claims. (Cl. 101-368)

My invention relates to a ballot marker and, more particularly, to an improved device for causing a marking member to strike the surface being marked with a uniform force.

In many systems presently in use, such as for counting and sorting of ballots or the like, the ballots of a stack of marked ballots are automatically scanned to count the ballots or to sort and count the ballots. Customarily, this is done by examining deposits of material placed on the ballots by voters. For example, a photoelectric system may be employed to detect marks and to determine their location on a ballot. In many systems, special inks such as are suited to the particular scanning system to be employed are used to mark the ballots. They may be particularly suited for a photoelectric scanning system or they may be magnetic or conductive inks.

In marking ballots, it is desirable that the deposit of the marking medium on all ballots be as uniform as is possible. Where the ballots are marked manually by the individuals of a large group, the chances that marks made with pencils or other known marking devices will be uniform are substantially nil. Thus, if such a marking means is employed, the scanning system may have to be sensitive to marks which differ widely in size and in characteristic. The desirability of uniform marks will be apparent.

I have invented a ballot marker which is especially adapted for use to mark ballots which are to be handled by automatic tallying systems. My marker is so constructed that it always makes a mark of the same character, no matter how actuated. I provide my marker with means for insuring that the marking pad strikes the ballot, or the like, with a uniform force on each actuation. My ballot marker is simple in construction and inexpensive to manufacture for the result achieved thereby.

One object of my invention is to provide a ballot marker which is especially adapted for use in marking ballots which are to be counted or sorted on automatic tallying machinery.

Another object of my invention is to provide a ballot marker which makes a uniform mark on each actuation thereof.

Another object of my invention is to provide a ballot marker which causes the marking pad to strike the ballot with a uniform force upon each manual operation thereof.

A further object of my invention is to provide a ballot marker which is simple in construction and inexpensive to manufacture.

A still further object of my invention is to provide a manually-operable ballot marker which is rugged and reliable.

Other and further objects of my invention will appear from the following description.

In general, my invention contemplates the provision of a ballot marker including an inking pad which is normally telescoped within a sleeve carried by a handle. After the sleeve has been brought into engagement with the paper, and as the handle is moved downwardly against the action of a return spring, a separate printing spring is loaded. When the handle has been moved through a predetermined displacement, the marking pad holder is triggered to permit the printing spring which is uniformly loaded on each operation, to drive the pad into engagement with the paper with the same force on each operation. When

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the handle is released, the pad holder is returned to its initial position under the action of the return spring.

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and which like reference numerals indicate like parts in the various views:

FIGURE 1 is an elevation of my ballot marker.

FIGURE 2 is a sectional view of my ballot marker taken along the line 2-2 of FIGURE 1.

FIGURE 3 is a sectional view of my ballot marker taken along the line 3-3 of FIGURE 2.

FIGURE 4 is an elevation of the sleeve of my ballot marker.

FIGURE 5 is an end view of the sleeve of my ballot marker taken along the line 5-5 of FIGURE 4.

FIGURE 6 is an elevation of the pad holder of my ballot marker.

FIGURE 7 is an end view of the pad holder of my ballot marker taken along the line 7-7 of FIGURE 6.

FIGURE 8 is a sectional view of my ballot marker taken along the line 8-8 of FIGURE 3 and drawn on an enlarged scale.

FIGURE 9 is a sectional view of my ballot marker taken along the line 9-9 of FIGURE 3 and drawn on an enlarged scale.

FIGURE 10 is a sectional view of my ballot marker taken along the line 10-10 of FIGURE 3 and drawn on an enlarged scale.

Referring now to FIGURES 1 to 3 of the drawings, my ballot marker, indicated generally by the reference character 10, has a handle top 12 and a handle bottom 14 formed from any suitable material such, for example, as Bakelite or the like. The outer diameter of the top 12 is slightly greater than the inner diameter of a counter bore 16 formed in the upper end of the bottom 14 as viewed in FIGURES 1 to 3. When the top and bottom are to be assembled, the top is forced into the counter bore 16 and is rotated until locking lugs 18 formed on the outside of the top 12 ride into the complementary notches 20 formed in the counter bore 16. It will be appreciated that the material of which the top and bottom are formed is sufficiently resilient to permit the top thus to be snapped into position. As can best be seen by reference to FIGURES 1 to 5, the handle bottom 14 slidably receives a sleeve 22 formed of the same material as are the top and the bottom. I provide the sleeve 22 with a pair of oppositely extending guide lugs 24 which ride in longitudinally extending grooves 26 formed within the bottom 14 to guide the sleeve in its movement with respect to the handle in a manner to be described hereinafter. As can be seen by reference to FIGURES 2, 4, 5 and 8 sleeve 22 is provided with a pair of pad holder guide slots 30 and 32 having enlarged ends to form respective shoulders 34 and 36. We form the end of the sleeve remote from lugs 24 with a plurality of prongs 38 to facilitate the operation of holding the ballot marker against the paper to be marked in a manner to be described hereinafter.

Referring now to FIGURES 2, 3, and 6 to 9, the sleeve 22 is adapted to house a pad holder 40, one end of which is provided with a recess 42 which frictionally holds a pad 44 of porous material, such as sponge rubber, which is adapted to be saturated with a suitable marking fluid, such as ink.

I provide the pad holder 40 with a pair of oppositely extending cross-pins 46 and 48 which extend into recesses 50 and 52 formed in the inner surface of the bottom 14. I provide the inner surface of the top 12 with recesses 54 and 56 which are complementary to recesses 50 and 52. The bottom of each recess 50 and 52 forms a cam surface 58, while each recess 54 and 56 forms a cam surface 60. With the parts retracted in the position shown

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in FIGURE 2 of the drawings, cross-pin 46 is held against the shoulder 36 of the guide slot 32 in the sleeve 22 by the cam surface 58.

The handle made up of the top 12 and the bottom 14 houses a return spring 62 which bears between a shoulder 64 formed in the top 12 and the upper end of the sleeve 22 normally to urge the sleeve downwardly, as viewed in FIGURES 1 to 3 to a position at which the lugs 24 are in engagement with the closed ends of the guide slots 26. In this position of the parts, a spring 66 bearing between the upper end of the handle top 12 and an annular shoulder 68 formed on the upper end of pad holder 40 normally urges the pad holder 40 downwardly as viewed in FIGURES 2 and 3 to a position at which the cross-pins 46 and 48 engage the shoulders 34 and 36 to which positions they are guided by the cam surfaces 58 of the recesses 50 and 52.

In operation of my ballot marker, I grasp the handle formed by top 12 and bottom 14 and press the prongs 38 against the paper to be marked. When a downward force is exerted on the handle, it moves downwardly, as viewed in FIGURES 1 to 3, in the course of which movement springs 62 and 66 are compressed. When the handle has been moved through a sufficient distance that the cam surfaces 60 in the recesses 54 and 56 engage the pins 46 and 48, they cam the pins off the shoulders 34 and 36 as by moving the pin 46 to the right as viewed in FIGURE 2. When the pins 46 and 48 are thus cammed off the shoulders, they are free to move downwardly as viewed in FIGURES 2 and 3, along the slots 30 and 32. In this position of the parts, the compressed spring 66 drives the pad holder 40 downwardly as viewed in FIGURES 2 and 3 to cause the pad 44 to strike the paper being marked to leave an impression thereon. It will be noted that, owing to the fact that no matter with what force the handle is moved downwardly after the sleeve is brought into engagement with the paper, the pad 44 strikes the paper in the same force, since print spring 66 always is loaded or cocked to the same extent by the travel of the handle with respect to the sleeve.

When the pressure on the handle is relieved and the handle moves upwardly, the sleeve 22 moves relatively out of telescoped relation to the handle while the pad holder remains stationary with respect to the handle. In use the sleeve remains in contact with the surface while the handle and the pad holder move upwardly. The pad holder is constrained to move upwardly with the handle by the engagement of cam surfaces 53 with pins 46 and 48. As the sleeve 22 completes this relative movement with respect to the handle, the slots 30 and 32 clear the pins 46 and 48 and the cam surfaces 58 move the pins 46 and 48 back onto the shoulders 34 and 36 thus to reset the device for its next operation.

It will be seen that I have accomplished the objects of my invention. I have provided a ballot marker which is especially adapted for the manual marking of ballots or the like which are to be handled by an automatic scanning or sorting machine. My ballot marker produces a mark of the same character upon each actuation thereof. I so arrange my ballot marker that the marking pad strikes the ballot with a uniform force each time the marker is actuated. My ballot marker is rugged and is reliable in use. My marker is simple in construction and inexpensive to manufacture.

It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention, what I claim is:

1. A device adapted to be brought into engagement

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with a surface to place a mark thereon including in combination housing means comprising a handle, a marking element, means mounting said marking element on said housing means for movement between a retracted position and a marking position, means adapted to urge said marking element to said marking position, means normally retaining said marking element in said retracted position, and means responsive to relative movement of said element and said handle after said device is brought into engagement with said surface for releasing said retaining means to permit said urging means to propel said marking element to said marking position to place a mark on said surface.

2. A device adapted to be brought into engagement with a surface to place a mark thereon including in combination housing means comprising a handle, a marking element, means mounting said marking element for telescoping movement with respect to said housing means, means adapted to urge said marking element to move out of said housing means, means normally retaining said marking element within said housing means, means responsive to relative movement of said element and said handle after said device is brought into engagement with said surface for releasing said retaining means to permit said urging means to propel said marking element out of said housing means to place a mark on said surface and means for resetting said retaining means.

3. A device for applying a mark to material to be marked including in combination a handle, a sleeve, means mounting said sleeve for telescoping movement with respect to said handle, means normally urging said sleeve to a position at which it extends out of said handle, a marking element, means mounting said marking element for telescoping movement with respect to said sleeve, means adapted to urge said marking element to a position at which it extends out of said sleeve, means normally retaining said marking element at a position within said sleeve and means responsive to a predetermined movement of said sleeve into said handle against the action of said sleeve urging means for biasing said marking element urging means and for releasing said marking element retaining means to permit said element urging means to propel said element out of said sleeve.

4. A device for applying a mark to material to be marked including in combination a handle, a sleeve, means mounting said sleeve for telescoping movement with respect to said handle, a first spring normally urging said sleeve to a position at which it extends out of said handle, a marking element, means mounting said marking element for telescoping movement with respect to said sleeve, a second spring adapted to urge said marking element to a position at which it extends out of said sleeve, means normally retaining said marking element at a position within said sleeve, means responsive to a predetermined movement of said sleeve into said handle against the action of said first spring for releasing said marking element retaining means to permit said second spring to propel said element out of said sleeve and means responsive to movement of said sleeve out of said handle for resetting said marking element retaining means.

5. A device for applying a mark to material to be marked including in combination a handle, a sleeve, means mounting said sleeve for telescoping movement with respect to said handle, a return spring normally urging said sleeve to move out of said handle, means for limiting the movement of said sleeve out of said handle, a marking element, means mounting said marking element for telescoping movement with respect to said sleeve, a marking spring for urging said marking element to move out of said sleeve, releasable means for retaining said marking element within said sleeve against the action of said marking spring, said sleeve being adapted to be brought into engagement with said material when a mark is to be placed thereon, and means responsive to relative movement of said sleeve and said handle after said sleeve is brought into engagement with said material for releas-

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ing said retaining means to permit said marking spring to propel said marking element out of said sleeve to mark said material.

6. A device for applying a mark to material to be marked including in combination a handle, a sleeve, means mounting said sleeve for telescoping movement with respect to said handle, a return spring normally urging said sleeve to move out of said handle, means for limiting the movement of said sleeve out of said handle, a marking element, means mounting said marking element for telescoping movement with respect to said sleeve, a marking spring for urging said marking element to move out of said sleeve, releasable means for retaining said marking element within said sleeve against the action of said marking spring, said sleeve being adapted to be brought into engagement with said material when a mark is to be placed thereon, means responsive to relative movement of said sleeve and said handle after said sleeve is brought into engagement with said material for releasing said retaining means to permit said marking spring to propel said marking element out of said sleeve to mark said material and means responsive to relative movement of said sleeve and said handle for resetting said retaining means.

7. A device for applying a mark to material to be marked including in combination a handle formed with an internal groove having cam surfaces at its ends, a sleeve having a wall formed with a slot having an offset shoulder at the mouth thereof, means mounting said sleeve for telescoping movement with respect to said handle with said groove and said slot aligned, a return spring normally urging said sleeve to move out of said handle, means for limiting the movement of said sleeve out of said handle, a marking element provided with a guide pin, means mounting said marking element for telescoping movement with respect to said sleeve with said pin disposed in said groove, a marking spring for urging said marking element to move out of said sleeve, said marking spring normally urging said pin into engagement with one of said cam surfaces to cause said cam surface to move said pin into engagement with said shoulder to retain said marking element in said sleeve, said sleeve being adapted to be brought into engagement with said material, and means responsive to a predetermined relative movement of said sleeve and said handle after said sleeve engages said ma-

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terial for bringing said pin into engagement with the other cam surface to move said pin off said shoulder to permit said marking spring to propel said pin along said groove to move said element into engagement with said material.

8. A device for applying a mark to material to be marked including in combination a handle formed with an internal groove having cam surfaces at its ends, a sleeve having a wall formed with a slot having an offset shoulder at the mouth thereof, means mounting said sleeve for telescoping movement with respect to said handle with said groove and said slot aligned, a return spring normally urging said sleeve to move out of said handle, means for limiting the movement of said sleeve out of said handle, a marking element provided with a guide pin, means mounting said marking element for telescoping movement with respect to said sleeve with said pin disposed in said groove, a marking spring adapted to urge said marking element to move out of said sleeve, said marking spring normally urging said pin into engagement with one of said cam surfaces to cause said cam surface to move said pin into engagement with said shoulder to retain said marking element in said sleeve, said sleeve being adapted to be brought into engagement with said material, means responsive to a predetermined relative movement of said sleeve and said handle after said sleeve engages said material for bringing said pin into engagement with the other cam surface to move said pin off said shoulder to permit said marking spring to propel said pin along said groove to cause said marking element to strike said material and means responsive to relative movement between said sleeve and said handle for engaging said pin with said one cam surface to return said pin to the position at which it engages said shoulder.

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