Aug. 6, 1940. F. K. BENTON 2,210,197

MARKING MACHINE

Filed Oct. 19, 1938 2 Sheets-Sheet 1

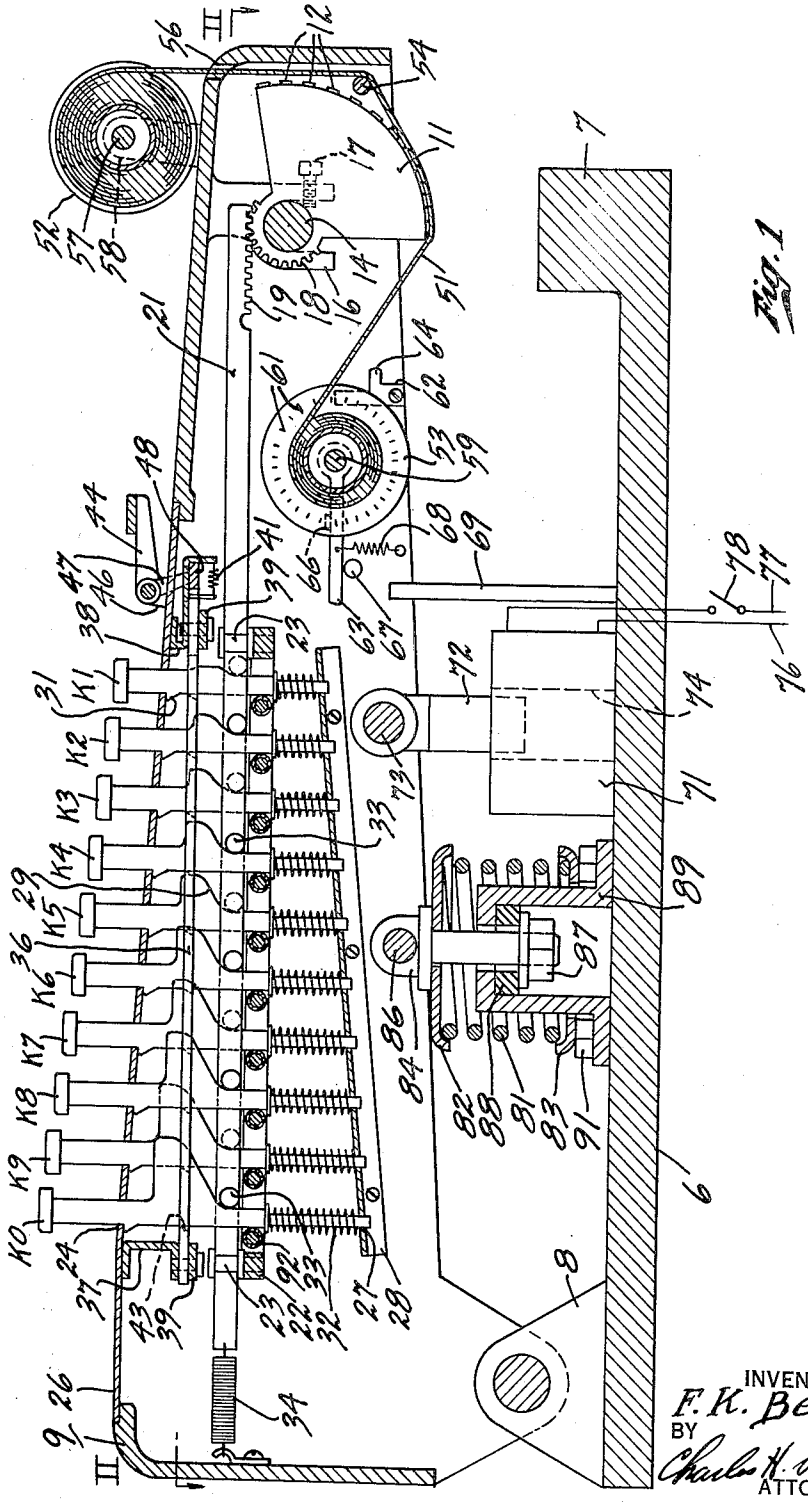


Fig. 1

INVENTOR
F. K. Benton
BY
Charles H. Bassett 2
ATTORNEY

Aug. 6, 1940. F. K. BENTON 2,210,197

MARKING MACHINE

Filed Oct. 19, 1938 2 Sheets-Sheet 2

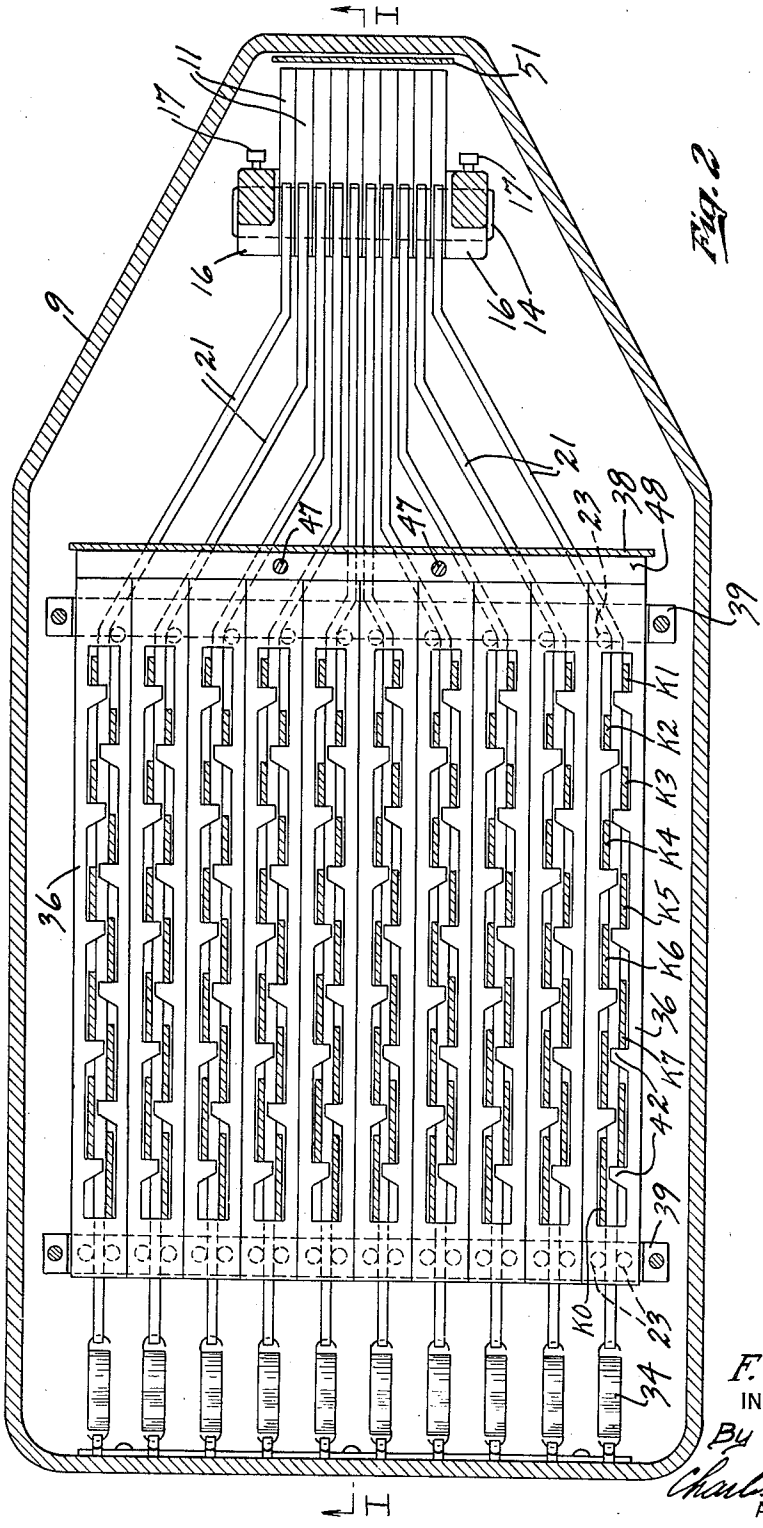


Fig. 2

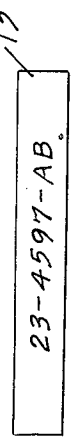


Fig. 3

F. K. Benton
INVENTOR

By Charles H. Bassett
ATTORNEY

Patented Aug. 6, 1940

2,210,197

UNITED STATES PATENT OFFICE

2,210,197

MARKING MACHINE

Fred K. Benton, Birmingham, Ala.

Application October 19, 1938, Serial No. 235,787

3 Claims. (Cl. 101—96)

My invention relates to marking machines and more particularly contemplates the provision of a machine adapted for use in marking clothing or tags to be attached to clothing. Laundries and dry cleaning establishments now employ various means for marking clothing, etc. and it is an object of this invention to provide a machine adapted to facilitate the marking operation.

My invention further contemplates the provision of a marking machine embodying a plurality of marking discs bearing marking type in the form of letters and numbers, the discs being mounted for pivotal movement to bring the selected type into marking position by means of a plurality of keys. The keys are arranged in rows and each row of keys is adapted to actuate one of the disks. After the discs have been pivoted into selected position by means of the keys, a solenoid magnet is employed to move the discs against a marking anvil to impress a mark on a tag or an article of clothing.

My invention embodies other novel features, details of construction, and arrangement of parts which are hereinafter set forth in the specification and claims and illustrated in the accompanying drawings, forming part thereof, wherein:

Fig. 1 is a transverse sectional view taken along the line I—I of Fig. 2, showing my improved machine;

Fig. 2 is a sectional view taken along the line II—II of Fig. 1; and

Fig. 3 is a plan view showing a tag of a type used and as marked in my machine.

Referring now to the drawings for a better understanding of my invention, I show a machine comprising a base 6 formed with an anvil portion 7 and upturned ears 8. A housing 9 is pivotally connected to the ears 8 and has a plurality of disk segments 11 journaled thereon. The disks are formed with marking type 12 on their outer periphery to stamp numbers and letters on a tag 13, shown in Fig. 3. The disks 11 are journaled for independent pivotal movement on a shaft 14 which is secured in position in the brackets 16 formed on the frame, or housing 9, by means of set screws 17. The type 12 may be either in the form of numerals or letters, but it is preferable to provide number type on all the disks with the exception of the last two which mark the tag which is marked with letters. Each disk, as shown in the drawings, is provided with eleven type; the first eight disks having type impressions as follows: 1 2 3 4 5 6 7 8 9 0 while the last two disks have the type arranged in the following form: A B C D E F G H I J.

Each of the disks 11 is formed with teeth 18 for engagement with the teeth 19 formed in its respective rack 21. The racks 21 are mounted for axial movement on a roller frame 22 between rollers 23 and are moved forwardly by means of keys which will now be described. As shown in the drawings, each rack may be operated by one of the ten keys associated therewith, and one row of keys is provided for operating each of the ten racks. As a description of the construction and operation of one rack and its coacting row of keys is the same as for the remaining racks and their associated keys, it is believed that a description of one will serve to describe all.

The keys K are numbered K1, K2, K3, K4, K5, K6, K7, K8, K9, and K0 to correspond with the arrangement of the type 12 on the first eight disks; the last two disks 11 may also be provided with number type but it is preferable to employ letter type. The keys are mounted for vertical movement in apertures 24 formed in the top plate 26 and apertures 27 formed in the spring plate 28. Each key is formed with a cam surface 29 and a locking shoulder 31 and provided with a compression spring 32 to yieldably resist a downward movement of its respective key. A plurality of rollers 33 are mounted on each of the racks for engagement by their respective cam surfaces 29. Five keys K and five rollers 33 being arranged on each side of each of the racks 21. A tension spring 34, having its one end secured to the housing 9 and its other end secured to its respective rack, is employed to yieldably resist a forward movement of the rack.

A locking bar 36 is mounted for axial movement above each rack on brackets 37 and 38, secured to the under-side of the top plate 26, and cross bars 39 secured in spaced relation on their respective brackets. The locking bars are normally held in their forward positions by means of tension springs 41 which have their one ends connected to the bracket 38 and their other ends connected to the locking bars. Locking lugs 42, having their forward edges undercut at 43, are formed on the locking bars for engagement with the locking shoulders 31 when the keys K are in their lower position. A bell crank lever 44 is pivotally mounted on brackets 46 provided on the top plate and has depending arms 47 secured to a push plate 48. The push plate engages the locking bars to move same rearwardly to disengage the keys and permit the springs 32 to move the keys to their upper position, thereby clearing the keyboard.

An inking ribbon 51 having its one end wound on a spool 52 and its other end wound on a ribbon feed spool 53 is provided to extend beneath the disks 11 to coact with the type thereon to mark the tags 13. Suitable guides such as the guide rod 54 and aperture 56 are provided to guide the ribbon. The spool 52 is journaled on a shaft 57 mounted on brackets 58 which are secured to the housing 9. The spool 53 is journaled on a shaft 59 secured to the housing 9 and is formed with teeth 61 for engagement by the pawl 62 and ratchet 63. The pawl is secured to the housing 9 and formed of spring steel having a finger piece 64 for manual engagement to move same out of engagement with the teeth 61. The ratchet is journaled on the shaft 59 and formed with an ear 66 for engagement with the teeth 61. The ratchet is normally held against a stop pin 67 by means of a tension spring 68; and disposed for engagement by an arm 69 mounted on the base 6.

A solenoid 71 is secured to the base 6. A solenoid core 72 has its one end secured to the housing 9 by means of a shaft 73 and its other end disposed within the recess 74 of the solenoid. A pair of conduits 76 and 77 are connected to the solenoid to energize same under the control of a switch 78.

A compression spring 81 is interposed between a pair of spring seat members 82 and 83. A stop member 84 is secured at its one end to the housing 9 by means of the shaft 86 and has its other end threaded to receive a nut 87 for engagement with a rubber pad 88 mounted in the stop member 89 which is secured to the base by screws 91.

Rollers 92 are mounted on the frame 22 for engagement with the back edge of the keys to serve as roller bearings for the keys as they are moved vertically.

In the operation of the machine, the numbers and letters are selected by moving the keys K downwardly. The cam surface on the key K1 is designed to move the rack 21 a sufficient distance to cause the disk 11 to move type 1 into marking position above the anvil 7. The cam surface on key K2 is designed to move the rack twice the distance of the cam surface on K1; and the cam on K3 move the rack three times as far as the cam on K1, etc. The keys K are held in their downward position by means of the shoulders 31 which engage under the locking bar lugs 42. When the locking bar 36 is moved rearwardly by the engagement of another key in the row of keys, it permits the depressed key to move upwardly due to the lugs 42 being undercut at 43. The whole key board may be cleared by actuating the lever 44 which moves all the locking bars 36 rearwardly.

The housing 9 is moved downwardly to cause the type to stamp a tag on the anvil by closing the switch 78 to energize the solenoid 71, and the housing is returned to its upper position by means of the spring 81. Each movement of the housing causes the arm 69 to engage the ratchet 63 and move the spool 53 about its axis to wind the ribbon 51 about the spool.

While I have shown my invention in but one form it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit thereof; and I desire therefore that only such limitations shall be placed thereupon as are imposed by the prior art.

I claim:

1. In a marking machine, a plurality of marking disks mounted for pivotal movement on a common axis, a plurality of type formed on the periphery of the marking disks, teeth formed on each marking disk, racks provided for engagement with the teeth formed on the marking disks and mounted for axial movement, rows of keys mounted for vertical movement and associated with their respective racks, cam means for moving the racks axially when the keys associated therewith are moved downwardly, and a locking plate mounted for axial movement for engaging and holding the depressed keys in their lower position.

2. In a marking machine, a plurality of marking disks mounted for pivotal movement on a common axis, a plurality of type formed on the periphery of the marking disks, teeth formed on each marking disk, racks provided for engagement with the teeth formed on the marking disks and mounted for axial movement, rows of keys mounted for vertical movement and associated with their respective racks, cam means formed on said keys for moving the racks axially when the keys associated therewith are moved downwardly, and locking plates mounted for axial movement for holding the depressed keys in their downward position, said locking plates being moved out of locking position to permit the depressed keys to return to their upper position when a second key in a row of keys is depressed.

3. A machine according to claim 2 in which, spring means is provided for returning the selected type to their first position.

FRED K. BENTON.