

Description

The invention relates to a hand-held labelling machine comprising: a housing having a front portion, a rear portion and a manually engageable handle, the housing having means for holding a label supply roll having labels releasably adhered to a carrier web, means within the housing for defining a pathway for the carrier web, wherein the housing has an exit opening for the carrier web, means for printing on a label at a printing position, means for peeling the printed label from the carrier web, label applying means disposed adjacent the peeling means, means driven by an electric motor for advancing the carrier web to peel a printed label from the carrier web at the peeling means and for advancing the printed label into label applying relationship with the label applying means and for advancing another label into the printing position, means including a keyboard mounted on the housing for entering selected data to be printed, the printing means including a thermographic printing head having a plurality of individually selectable printing elements arranged in a single line array disposed substantially transverse to the direction of advancement of the carrier web for printing on a label at the printing position, the motor and the head being powered by a rechargeable battery, means coupled to the keyboard for receiving and electrically processing data representative of the selected data entered by the keyboard, means electrically coupling the data receiving and processing means and the thermographic printing head, and means for causing the data receiving and processing means to operate the thermographic printing head to print the selected data on the label.

In the case of a prior art labeler of this type (EP-A-657) the handle is attached to the upper rear end of the housing. The battery is housed in a separate battery box within the housing. The carrier web exit opening is located adjacent the label exit location. In addition, the label exit location is situated opposite to the handle. The handle is relatively far away from the label applicator located at the label exit location.

The length of the label carrier web increases continuously as a function of the number of labels spent. As the labels are being applied, the portion of the spent carrier web beyond the exit opening gets into the label exit area to a correspondingly increasing extent. It is necessary to remove frequently this portion of the carrier web by hand. Most of the labeler components are situated between the label exit location and the handle, so as to generate a moment of rotation against the holding hand. This moment must be counteracted by the operator's hand and contributes to operator fatigue.

In the case of another labeler of the thermographic type (DE-A-28 16 161) the weight distribution of the components relative to the

handle is most disadvantageous. In particular, the handle extends away from the end of the housing remote from the label applicator. The spent carrier exits where it can interfere with label applying action.

The invention aims at developing the labeler of the thermographic type which can be manipulated with great ease and most simply, and which makes it possible for the operator to place the labels accurately without fatigue.

The thermographic labeler according to the invention solves this problem in that the handle is provided by the outer shell of the rechargeable battery, wherein the handle depends downwardly of the front and rear portions of the housing, and wherein the carrier web exit opening is disposed at the rear portion of the housing so that the carrier web exits behind the handle.

It is apparent that persons in the thermographic labeler art have constructed and arranged labeler components quite differently from those disclosed and claimed in the present application. It is also apparent that the inventor of DE-A-22 53 565 faced with the problem of locating a rechargeable battery for a labeler chose a quite different solution from that according to the invention.

The handle of the present labeler is disposed on the underside of the housing adjacent and in front of the label exit location, so that the labels can be applied accurately and easily without entanglement with the spent carrier web. It is impossible for the spent carrier web to interfere with the area where the labels are dispensed, as the spent carrier web exits in an out-of-the-way location.

Certain mechanical labelers such as disclosed in US-A-3,957,562 have a hollow handle and an associated actuator lever. The exit opening is behind the handle, but such mechanical labelers do not have to cope with the problems of weight distribution and fatigue.

According to a specific embodiment of the invention, the housing further includes a central portion disposed between the front and rear portions, wherein the advancing means includes an electric motor disposed at the central portion. The weight distribution with respect to the handle is favoured in this way.

With another advantageous embodiment, the advancing means further includes a feed wheel engageable with the carrier web and driven by the electric motor.

Further details, advantages and features of the invention are evident from the following description in connection with the drawings, wherein:

Fig. 1 is a perspective view of a hand-held labeler.

Fig. 2 is a perspective view of a portion of the labeler showing structure located in the housing;

Fig. 3 is a perspective partially exploded view of a drive mechanism for a toothed feed wheel;

Fig. 4 is a fragmentary sectional view showing the relationship of thermographic printing elements to a platen roller;

Fig. 5 is a fragmentary, partly broken away, side elevational view of the labeler;

Fig. 6 is an exploded perspective view of a print head assembly and structure to which it is mounted;

Fig. 7 is a functional block diagram of the electronic control circuitry of the labeler.

Referring initially to Fig. 1, there is shown a hand-held labeler generally indicated at 20. The labeler 20 includes a housing generally indicated at 21 comprised of housing sections 22 and 23 which define opposite sides of the labeler 20. The housing 21 also includes a movable housing section 24 as shown to be pivotally mounted on the same axis as the label applicator 25 which is shown to comprise a rotatable roll. The housing also includes a handle 26 provided by the outer shell of a rechargeable battery. The handle 26 is removable as shown by phantom lines in Fig. 1. As seen, the applicator 25 is disposed at the front portion of the housing 21 and a label roll R is mounted to a rear portion of the housing 21. A keyboard 27 having a plurality of manually selectable keys 28 is shown to be disposed at a top portion of the housing 21. A visual display 29 is disposed adjacent the keyboard 27 and is shown to face upwardly and rearwardly. More specifically, the keyboard 27 and the display 29 are mounted on the movable section 24 of the housing 21. The movable section 24 can be latched in the closed position by means of latch teeth 30 (Fig. 2) which cooperate with manually movable latches 31 mounted by the respective housing sections 22 and 23. However, the latches 31 are movable to release the movable section 24 so that the movable section 24 can be pivoted to the open position shown in Fig. 2.

With reference to Fig. 2, there is a diagrammatically illustrated a printed circuit board 32 disposed in underlying relationship with respect to the keyboard 27. The circuit board is shown to be adjacent and generally parallel to the keyboard 27, as also shown in Fig. 5. A flexible, ribbon connector 33 comprised of a suitable number of side-by-side electrical conductors (not shown) is connected to a switch 34, to a stepping motor 35 (Fig. 3), and to a plurality of electrically selectable printing elements 36' disposed on a print head 36. The switch 34 has a switch button 37 disposed at the handle 26 in a position to be operated by the user's index finger. The stepping motor 35 has an output shaft 38 to which a spur gear 39 is secured. The spur gear 39 is a pinion and is relatively small. The spur gear 39 meshes with a relatively large gear 40 to which is secured a relatively small gear 41. The gear 41 is a pinion for a relatively large gear 42. A drive shaft 43 secured to the gear 42 drives a feed wheel 44 having a plurality of peripherally spaced teeth 45. The teeth 45 engage a carrier web W at cuts C to draw the carrier web W and labels L which it carries from the label roll R. As best shown in Fig. 5, the web W is drawn

over the roll R and passes over a resilient device 46 to between a brake roll 47 and a brake surface 48, to and partially around a roll 49, to between the printing elements 36' and the platen 50, through a sharp bend about a delaminator 51 where the leading label on the web W is dispensed into label applying relationship with respect to applicator 25, partially around a roll 52, partially around a roll 53, into engagement with the toothed feed wheel 44, and out of the apparatus as indicated at 54. With reference to Fig. 4, it will be noted that in the event there is no carrier web W between the printing elements 36' and the platen 50, flanges or rolls 50' contacting the platen support 58 at locations 50'' will prevent the printing elements 36' from contacting the platen roll 50. This will prevent damage to both the platen 50 and to the printing elements 36' which can result from energization of the printing elements 36'. For example, if the labeler 20 has a thermographic print head 36, the printing elements will not burn or fuse onto the platen 50, and the printing elements 36' will not be ruined.

With reference to Fig. 6, there are shown fragmentary portions of subframe sections 55 and 56 mounted on the housing 21. The subframe sections mount a platen assembly generally indicated at 57. The subframe sections 55 and 56 also mount the delaminator 51 and the roller 52. The platen assembly 57 includes a support 58 for the print head 36. As shown, the print head 36 includes plurality of separate printing elements 36'. The printing elements 36' are each connected to one of the conductors of the ribbon connector 33 and are separately energizable. Alternatively, a serial-to-parallel converter (not shown) may be mounted adjacent to the head 36 and interposed between the elements 36' and the ribbon connector 33 in order to reduce the number of conductors required in the ribbon connector 33. The use of such a converter is particularly advantageous when a long array containing a large number of elements is used as the print head 36. The labels L are sensitive to heat and the heated area of the label L which a heated printing element 36' contacts will change color, for example, become darker. A deflector 59 guides a delaminated label into label applying relationship with respect to the applicator 25. The support 58 rotatably mounts the roll 49 about which the carrier web W passes. A retainer plate 60 having a plurality of hold-down fingers 61 holds the ribbon connector 33 in position. Screws 62 are threadably received by the support 58. A retainer 63 also holds the ribbon connector 33 in position. Screws 64 are threadably received by the support 58. The support 58 has oppositely extending projections 65 and 66. The respective projections 65 and 66 threadably receive a threaded portion 67 of a pin 68. Each pin 68 has an enlarged portion providing a shoulder 69. A spring 70 nests in a pocket 71 and bears against the respective subframe sections 55 and 56. The other end of the respective spring 70 bears against the shoulder 69 to urge the support 58 and the print head 36 which it carries in the

counter-clockwise direction. The support 58 is pivotally mounted on a pin 72 which also mounts the roll 49. The pin 72 is received in elongated holes 72' in respective subframe sections 55 and 56. The springs 70 urge the printing elements 36' into contact with the adjacent label L as best shown in Fig. 4. The printing elements 36' exert a selected amount of pressure against the label L in accordance with the adjustment of the threaded pins 68. Because the pin 72 is undersize with respect to the holes 72' in which it is received, the support 58 and the print head 36 can skew with respect to the platen 50. As shown, the printing elements 36' are arranged in a line which extends transversely to the direction of movement of the carrier web W. If, for example, either end portion of the line of printing elements 36 is bearing too heavily against the label L, the respective threaded pin 68 adjacent that end can be turned to reduce the spring pressure. It is a feature of the embodiments shown to be able to skew the support 58 by adjusting means which are disposed at spaced apart locations. Both housing sections 22 and 23 have enlarged cutouts or holes 75 into which the projections 65 and 66 respectively project. The projections 65 and 66 extend far enough so that they can be easily actuated by the user. During threading of the labeler 20, the carrier web W is passed along the path illustrated in Fig. 5. When the leading end of the carrier web W is in position to be passed between the print head 36 and the platen 50, the user pushes on the projections 65 and 66 to pivot the support clockwise as viewed in Figs. 5 and 6 to move the printing elements 36' away from the platen 50. In this way the leading end of the carrier W can be pushed through the space between the printing elements 36' and the platen 50. If desired, the print head 36 can be fixedly held in position and the platen 50 can be selectively moved toward and away from the print head 36 by an alternative construction, not shown. When the threading of the labeler is complete, the projections 65 and 66 can be released whereupon the springs 70 urge the support 58 and the print head 36 counter-clockwise to their normal position as shown in Figs. 4 and 5.

Referring now to Fig. 7, there is shown the interrelationship between many of the previously described mechanical and electromechanical portions of the labeler such as the keyboard 27, the display 29, the stepping motor 35, the print head 36, the trigger 37 and the control circuitry which is responsive to inputs from the keyboard 27 and the trigger 37 and serves to control the display 29, the stepping motor 35 and the print head 36. The control circuitry is generally designated by the reference numeral 200 in Fig. 12, and comprises a microcomputer 202 which includes a central processing unit, a read-only memory and a random access memory (not shown in Fig. 12 but described in a subsequent portion of the application) which cooperate to perform the functions required to receive data from the keyboard 27 and provide the required computations to drive the

display 29, the stepping motor 35 and the print head 36 in accordance with the instructions received from the keyboard 27. The control signals from the microcomputer 202 that drive the display 29 are applied to a display driver 204 and are processed thereby to convert the data from the microcomputer 202 to segment driving data that activate predetermined segments of the display 29. A motor driver 206 is responsive to step data from the microcomputer 202 and serves to energize various windings of the stepping motor 35 in a predetermined sequence in response to the step data in order to cause the motor 35 to rotate. A print head driver 208 provides power to the individual elements of the print head 36. The print head driver may be simply a plurality of amplifiers, one for each element, which amplify signals from the microcomputer 202, or may include a serial-to-parallel converter that converts serial digital data from the microcomputer 202 to parallel data for driving each of the individual elements of the print head 36. When a serial-to-parallel converter is employed, the print head driver 208 is preferably located on the same hybrid circuit board as the print head 36 in order to substantially reduce the number of leads required between the microcomputer 202 and the assembly containing the print head 36. This substantial reduction is achieved because each element of the print head 36 must have an individual lead connected thereto, and if the print head driver 208 contained only amplifiers, or if it were not located on the same circuit board as the print head 36, the cable interconnecting the print head circuit board and the microcomputer would require a lead for each element. Since several hundred elements can be contained in the print head, it would not be practical to build such a cable. However, by including a serial-to-parallel converter in the print head driver, and by locating the print head driver 208 on the same hybrid circuit board as the print head 36, only that number of leads required to supply the required data at the desired printing rate need be provided.

A switch 210 is controlled by the trigger 37 and causes the microcomputer 202 to advance the stepping motor 35 in order to cause the motor 35 to feed the web whenever the trigger 37 is depressed. A stop feed switch 212, which may be controlled, for example, by a cam 35' driven by the motor 35, or by a notch or the like in the web, is coupled to the microcomputer 202 and serves to terminate the advancement of the web after the web has been advanced a predetermined amount, generally the length or width of a label. A reset circuit 214 is coupled to the source of power for the labeler, such as, for example, the output of the regulated voltage which powers the control circuitry, resets the microcomputer 202 each time the power is turned on to assure that no extraneous data is present in the microcomputer 202 prior to the entry of any data by the keyboard 27.

In operation, data to be printed is entered into the microcomputer 202 manually via the key-

board 27, or automatically from another computer or data output source, such as, for example, a cassette recorder (not shown). The entered data may be numeric, alphanumeric and may be of various fonts and sizes, depending on the complexity of the program stored in the microcomputer 202. For example, if the data were entered from the keyboard 27, any of the digits 0 through 9 could be entered, as well as a dollar sign, slash and period. Also, with an appropriate program, the font can be changed to larger or block letters, for example, by depressing the BK key on the keyboard 27. Spaces can be entered by depressing the S key, and the memory can be cleared in the event of an error by depressing the C key. Also, different fonts can be entered by depressing various combinations of keys, for example, by simultaneously pressing the BK and \$ keys prior to or while entering data if the microcomputer 202 is programmed to recognize such combinations.

Each line of entered data is displayed on the display 29 as it is being entered, and if two lines of data are being entered, the display is cleared after the entry of the first line so that the second line can be displayed. Once the input data has been correctly entered, as evidenced by the display 29, any number of labels can be printed by depressing the trigger 37 to close the switch 210. The closing of the switch 210 causes the microcomputer 202 to energize the motor 35 via the motor driver 206, and to maintain the motor 35 energized until the switch 212 is closed, for example, by a notch or other indexing mark on the web, or by a cam 35' or the like driven by the motor 35 which indicates that a complete label has been printed. The motor is then deenergized, and the printing will stop until the trigger 37 is depressed again.

During the time that the motor 35 is being driven by the microcomputer 202, the various elements in the print head 36 are energized by the microcomputer 202 via the print head driver 208 in the sequence necessary to cause the input data to be printed in the desired font. The data from the microcomputer 202 is applied to the print head driver 208 in parallel or serial form, preferably in serial form, in which case the print head driver converts the input information into parallel form for simultaneously energizing all of the elements in the line array that need to be energized in order to define one line of the array forming the character or characters being printed.

Further details of the electrical control and printing system are disclosed in parent European patent 066777.

Claims

1. A hand-held labelling machine comprising: a housing (21) having a front portion, a rear portion and a manually engageable handle (26), the housing having means for holding a label supply roll (R) having labels (L) releasably adhered to a carrier web (W), means (49, 52, 53) within the

housing for defining a pathway for the carrier web, wherein the housing (21) has an exit opening (54) for the carrier web, means for printing on a label at a printing position, means (51) for peeling the printed label from the carrier web, label applying means (25) disposed adjacent the peeling means, means (44) driven by an electric motor (35) for advancing the carrier web to peel a printed label from the carrier web at the peeling means and for advancing the printed label into label applying relationship with the label applying means and for advancing another label into the printing position, means including a keyboard (27) mounted on the housing for entering selected data to be printed, the printing means including a thermographic printing head (36) having a plurality of individually selectable printing elements (36') arranged in a single line array disposed substantially transverse to the direction of advancement of the carrier web for printing on a label at the printing position, the motor (35) and the head (36) being powered by a rechargeable battery, means (202) coupled to the keyboard for receiving and electrically processing data representative of the selected data entered by the keyboard, means (208) electrically coupling the data receiving and processing means and the thermographic printing head, and means (37; 210) for causing the data receiving and processing means to operate the thermographic printing head to print the selected data on the label, characterised in that the handle is provided by the outer shell of the rechargeable battery wherein the handle (26) depends downwardly of the front and rear portions of the housing, and wherein the carrier web exit opening (54) is disposed at the rear portion of the housing so that the carrier web (W) exits behind the handle (26).

2. A hand-held labelling machine as defined in claim 1, wherein the housing (21) further includes a central portion disposed between the front and rear portions, and wherein the electric motor (35) is disposed at the central portion.

3. A hand-held labeler as defined in claim 2, wherein the advancing means further includes a feed wheel (44) engageable with the carrier web (W) and driven by the electric motor (35).

4. A hand-held labeler as defined in claim 3, including a speed reducer (39 to 42) drivingly coupling the electric motor (35) and the feed wheel (44).

5. A hand-held labeler as defined in claim 3, including a toothed means (39 to 42) drivingly coupling the electric motor (35) and the feed wheel (44).

6. A hand-held labeler as defined in any one of claims 2 through 5, wherein the electric motor (35) is generally aligned with the depending handle (26).

Patentansprüche

1. Handetikettiergerät, umfassend ein Gehäuse (21) mit einem vorderen Bereich, einem hinteren Bereich und einem Handgriff (26), wobei das

board 27, or automatically from another computer or data output source, such as, for example, a cassette recorder (not shown). The entered data may be numeric, alphanumeric and may be of various fonts and sizes, depending on the complexity of the program stored in the microcomputer 202. For example, if the data were entered from the keyboard 27, any of the digits 0 through 9 could be entered, as well as a dollar sign, slash and period. Also, with an appropriate program, the font can be changed to larger or block letters, for example, by depressing the BK key on the keyboard 27. Spaces can be entered by depressing the S key, and the memory can be cleared in the event of an error by depressing the C key. Also, different fonts can be entered by depressing various combinations of keys, for example, by simultaneously pressing the BK and \$ keys prior to or while entering data if the microcomputer 202 is programmed to recognize such combinations.

Each line of entered data is displayed on the display 29 as it is being entered, and if two lines of data are being entered, the display is cleared after the entry of the first line so that the second line can be displayed. Once the input data has been correctly entered, as evidenced by the display 29, any number of labels can be printed by depressing the trigger 37 to close the switch 210. The closing of the switch 210 causes the microcomputer 202 to energize the motor 35 via the motor driver 206, and to maintain the motor 35 energized until the switch 212 is closed, for example, by a notch or other indexing mark on the web, or by a cam 35' or the like driven by the motor 35 which indicates that a complete label has been printed. The motor is then deenergized, and the printing will stop until the trigger 37 is depressed again.

During the time that the motor 35 is being driven by the microcomputer 202, the various elements in the print head 36 are energized by the microcomputer 202 via the print head driver 208 in the sequence necessary to cause the input data to be printed in the desired font. The data from the microcomputer 202 is applied to the print head driver 208 in parallel or serial form, preferably in serial form, in which case the print head driver converts the input information into parallel form for simultaneously energizing all of the elements in the line array that need to be energized in order to define one line of the array forming the character or characters being printed.

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Claims

1. A hand-held labelling machine comprising: a housing (21) having a front portion, a rear portion and a manually engageable handle (26), the housing having means for holding a label supply roll (R) having labels (L) releasably adhered to a carrier web (W), means (49, 52, 53) within the

housing for defining a pathway for the carrier web, wherein the housing (21) has an exit opening (54) for the carrier web, means for printing on a label at a printing position, means (51) for peeling the printed label from the carrier web, label applying means (25) disposed adjacent the peeling means, means (44) driven by an electric motor (35) for advancing the carrier web to peel a printed label from the carrier web at the peeling means and for advancing the printed label into label applying relationship with the label applying means and for advancing another label into the printing position, means including a keyboard (27) mounted on the housing for entering selected data to be printed, the printing means including a thermographic printing head (36) having a plurality of individually selectable printing elements (36') arranged in a single line array disposed substantially transverse to the direction of advancement of the carrier web for printing on a label at the printing position, the motor (35) and the head (36) being powered by a rechargeable battery, means (202) coupled to the keyboard for receiving and electrically processing data representative of the selected data entered by the keyboard, means (208) electrically coupling the data receiving and processing means and the thermographic printing head, and means (37, 210) for causing the data receiving and processing means to operate the thermographic printing head to print the selected data on the label, characterised in that the handle is provided by the outer shell of the rechargeable battery wherein the handle (26) depends downwardly of the front and rear portions of the housing, and wherein the carrier web exit opening (54) is disposed at the rear portion of the housing so that the carrier web (W) exits behind the handle (26).

2. A hand-held labelling machine as defined in claim 1, wherein the housing (21) further includes a central portion disposed between the front and rear portions, and wherein the electric motor (35) is disposed at the central portion.

3. A hand-held labeler as defined in claim 2, wherein the advancing means further includes a feed wheel (44) engageable with the carrier web (W) and driven by the electric motor (35).

4. A hand-held labeler as defined in claim 3, including a speed reducer (39 to 42) drivingly coupling the electric motor (35) and the feed wheel (44).

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6. A hand-held labeler as defined in any one of claims 2 through 5, wherein the electric motor (35) is generally aligned with the depending handle (26).

Patentansprüche

1. Handetikettiergerät, umfassend ein Gehäuse (21) mit einem vorderen Bereich, einem hinteren Bereich und einem Handgriff (26), wobei das



Gehäuse Mittel zum Halten einer Etikettenvorratsrolle (R) enthält, die an einem Trägerstreifen (W) lösbar befestigte Etiketten (L) aufweist, in dem Gehäuse befindliche Mittel (49, 52, 53), die eine Bewegungsbahn für den Trägerstreifen bestimmen, wobei das Gehäuse (21) eine Auslaßöffnung (54) für den Trägerstreifen aufweist, Mittel zum Bedrucken eines Etiketts in einer Druckposition, Mittel (51) zum Ablösen des bedruckten Etiketts vom Trägerstreifen Etikettenanbringmittel (25), die neben den Ablösemitteln angeordnet sind, von einem Elektromotor (35) angetriebene Mittel (44) zum Vorwärtsbewegen des Trägerstreifens, um ein bedrucktes Etikett von dem Trägerstreifen an den Ablösemitteln abzulösen, und um das bedruckte Etikett in Bezug auf die Etikettenanbringmittel in eine Anbringposition zu bewegen, und um ein anderes Etikett in die Druckposition zu bewegen, Mittel mit einer an dem Gehäuse angebrachten Tastatur (27) zur Eingabe von ausgewählten Daten, die gedruckt werden sollen, wobei die Druckmittel einen Thermodruckkopf (36) enthalten, der eine Vielzahl von einzeln wählbaren Druckelementen (36') aufweist, die in einer einzelnen Zeile angeordnet sind, die sich im wesentlichen quer zu der Vorschubrichtung des Trägerstreifens zum Bedrucken eines Etiketts in der Druckposition erstreckt, wobei der Motor (35) und der Druckkopf (36) von einer wiederaufladbaren Batterie angetrieben werden, mit der Tastatur gekoppelte Mittel (202) zum Empfang und zur elektrischen Verarbeitung von Daten, die die mit der Tastatur eingegebenen ausgewählten Daten wiedergeben, Mittel (208), die die Datenempfangs- und -verarbeitungsmittel und den Thermodruckkopf elektrisch verbinden, und Mittel (37, 210), die bewirken, daß die Datenempfangs- und -verarbeitungsmittel den Thermodruckkopf betätigen, um die ausgewählten Daten auf das Etikett zu drucken, dadurch gekennzeichnet, daß der Handgriff vom äußeren Gehäuse der wiederaufladbaren Batterie gebildet wird, wobei sich der Handgriff (25) vom vorderen und vom hinteren Bereich des Gehäuses nach unten erstreckt, und wobei die Trägerstreifen-Austrittsöffnung (54) am hinteren Bereich des Gehäuses angeordnet ist, so daß der Trägerstreifen (W) hinter dem Handgriff (26) austritt.

2. Etikettiergerät nach Anspruch 1, wobei das Gehäuse (21) ferner einen mittleren Bereich umfaßt, der sich zwischen dem vorderen und dem hinteren Bereich befindet, und wobei der Elektromotor (35) in dem mittleren Bereich angeordnet ist.

3. Handetikettiergerät nach Anspruch 2, wobei die Vorschubmittel ferner ein mit dem Trägerstreifen (W) in Eingriff bringbares und von dem Elektromotor (35) angetriebenes Vorschubrad (44) umfassen.

4. Handetikettiergerät nach Anspruch 3, umfassend ein Untersetzungsgetriebe (39-42), das den Elektromotor (35) mit dem Vorschubrad (44) verbindet.

5. Handetikettiergerät nach Anspruch 3, umfassend ein Zahnradgetriebe (39-42), das den

Elektromotor (35) mit dem Vorschubrad (44) verbindet.

6. Handetikettiergerät nach einem der Ansprüche 2 bis 5, wobei der Elektromotor (35) mit dem nach unten ragenden Handgriff (26) im allgemeinen fluchtet.

Revendications

1. Etiqueteuse à main comportant: un carter (21) ayant une partie avant, une partie arrière et une poignée (26) que l'on peut tenir à la main, le carter comprenant des moyens pour tenir un rouleau d'alimentation d'étiquette (R) ayant des étiquettes (L) adhérent, de façon amovible, à un ruban support (W), un moyen (49, 52, 53) placé dans le carter et délimitant un trajet pour le ruban support, le carter (21) ayant une ouverture de sortie (54) de ruban support, un moyen pour imprimer une étiquette occupant la position d'impression, un moyen (51) pour séparer l'étiquette imprimée du ruban support, un moyen (25) pour appliquer une étiquette disposée près du moyen séparateur, un moyen (44) entraîné par un moteur électrique (35) pour faire avancer le ruban support afin qu'une étiquette imprimée soit séparée du ruban support par le moyen séparateur et que l'étiquette imprimée avance en position d'application, par rapport au moyen applicateur d'étiquette et qu'une autre étiquette avance en position d'impression, un moyen comprenant un clavier (27) monté sur le carter pour la saisie de données choisies à imprimer, le moyen d'impression comprenant une tête d'impression thermographique (36) présentant une pluralité d'éléments d'impression à sélectionner individuellement (36') disposés suivant une ligne unique pratiquement en direction transversale à la direction d'avance du ruban support afin qu'une étiquette occupant la position d'impression soit imprimée, le moteur (35) et la tête (36), étant alimentés par une batterie d'accumulateurs, un moyen (202) couplé au clavier pour recevoir et traiter électriquement des données représentatives des données sélectionnées saisies avec le clavier, un moyen (208) couplant électriquement le moyen de réception et de traitement de données et la tête d'impression thermographique, et un moyen (37, 210) pour obliger le moyen de réception et de traitement de données à manoeuvrer la tête d'impression thermographique pour qu'elle imprime les données sélectionnées sur l'étiquette, caractérisée en ce que la poignée est formée par l'enveloppe externe de la batterie d'accumulateurs, et la poignée (26) dépasse sous les parties avant et arrière du boîtier, et l'ouverture (54) de sortie de ruban support est disposée à la partie arrière du carter afin que le ruban support (W) sorte derrière la poignée (26).

2. Etiqueteuse à main selon la revendication 1, dans laquelle le carter (21) comporte en outre une partie centrale placée entre les parties avant et arrière, et dans laquelle le moteur électrique (35) est disposé à la partie centrale.



3. Etiqueteuse à main selon la revendication 2, dans laquelle le moyen pour faire avancer comporte en outre une roue d'avance (44) placée au contact du ruban support (W) et entraînée par le moteur électrique (35).

4. Etiqueteuse à main selon la revendication 3, comprenant un réducteur de vitesse (39 à 42) assurant l'accouplement d'entraînement entre le moteur électrique (35) et la roue d'avance (44).

5. Etiqueteuse à main selon la revendication 3, comprenant un moyen denté (39 à 42) assurant l'accouplement d'entraînement entre le moteur électrique (35) et la roue d'avance (44).

6. Etiqueteuse à main selon l'une quelconque des revendications 2 à 5, dans laquelle le moteur électrique (35) est aligné de façon générale sur la poignée (26) qui dépasse vers le bas.

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