(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 083 537 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
14.03.2001 Bulletin 2001/11

(51) Int Cl.[7]: **G09F 3/03**

(21) Application number: **00307038.0**

(22) Date of filing: **17.08.2000**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **18.08.1999 JP 23098799**

(71) Applicants:
- **Kotec's Co. Ltd.**
  Tokyo (JP)
- **J.E. Co., Ltd.**
  Tokyo (JP)

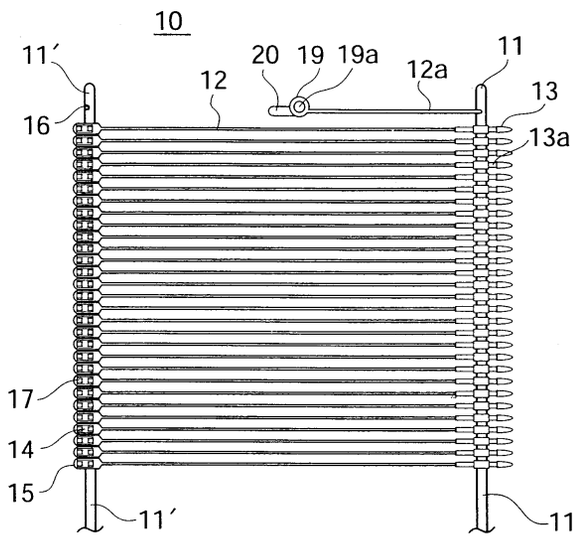
(72) Inventors:
- **Ueno, Hideyuki**
  Yokohama-shi, Kanagawa (JP)
- **Hirai, Tomoyuki**
  Chiba-shi, Chiba (JP)

(74) Representative: **Dealtry, Brian**
Eric Potter Clarkson,
Park View House,
58 The Ropewalk
Nottingham NG1 5DD (GB)

(54) Sealing implement

(57) A sealing implement has a plurality of single sealing implements having a flexible filament part, an insertion head part having an appropriate engaging part provided on one end part of the filament part, and a socket part having a hole for the purpose of irreversibly inserting the insertion head part provided on the other end of the filament, the arrangement of the plurality of single sealing implements being made so that the filament parts thereof are mutually parallel and adjacent, each of the plurality of insertion head parts, or socket parts in proximity thereto, or parts thereof being caused to be connected to separately provided connection bar parts. A filament part with a stopping ring that mates with a part of the other connection bar is mounted on at least one part of one of a connection bar, and that a grabbing piece is formed on the stopping ring. By adopting this configuration, the upper end part is held in a curved condition when the sealing implement is loaded into a shooting apparatus, thereby preventing jams and failures.

Fig. 1



EP 1 083 537 A2

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to a sealing implement for sealing by affixing a tag such as a brand label, price tag, material explanation, or handling instructions to a product such as a garment, shoes, or bag, and more particularly it relates to a sealing implement capable of performing an operation of smoothly affixing a tag when the above-noted tag is set into a special attachment apparatus (gun).

2. Description of Related Art

[0002] Various sealing implements have been proposed in the past for the general bundling of articles such as garments, women's boots, sandals, and bags and shoes, or for affixing to such products a brand label, price tag or the like.

[0003] For example, such an implement can have a configuration formed by a filament forming a loop that is passed through a tag, an insertion head part formed on one end the filament and a socket part having an insertion hole for the purpose of passing the insertion head part, provided on the other end of the filament. A plurality of sealing implements are temporarily attached to two mutually parallel connection bars so as to enable removal therefrom.

[0004] The sealing implement can be, for example, integrally formed of a synthetic resin, and in particular the filament part thereof is drawn and exhibits extremely high strength with respect to pulling tension.

[0005] When the insertion head part is inserted through a narrow part of the socket part, a hook acting as an engaging piece provided in proximity to the insertion hole opens, so that the neck part of the insertion head part is irreversibly held within the socket part, thereby completing the sealing, in a condition in which the label is affixed with the implement forming a loop.

[0006] In the past, such sealing implements were loaded into a special ejecting apparatus (attachment gun), a lever thereof being pulled, thereby enabling use chiefly in bundling of such items as boots, sandals, and shoes, and also in fixing of a price tag, or a tag T having instructions for use of the product to the product.

[0007] Additionally, there was the problem that, when loading the sealing implements into the attachment gun a force acting so as to return the top end of the implement caused to an original condition so that a distance formed between the two connecting bars parallely arranged to each other, would be expanded outwardly.

[0008] As a result, not only did the attachment gun not operate normally, resulting in faulty attachment, that is a condition in which an insertion head part could not correctly be engaged into the socket part, but also a sealing implement could become jammed inside the attachment gun, thereby requiring that the sealing implement be removed therefrom and reloaded, this representing an extra work step.

[0009] To solve the above-noted problem, there is a proposal of disposing a stopping member having a stopping ring at an end of the sealing implement, so that the sealing implement is held in the attachment gun in a curved condition.

[0010] With a sealing implement of the past as described above, however, when attaching a stopping ring to an opposite connection bar, for example, it was necessary to hold the sealing implement with a hand in the curved condition, and to grab the stopping ring with the other hand and fix it to the connection bar, and when holding it by the stopping member in the curved condition, it is difficult to insert the stopping ring into the connection bar, thereby causing a worsening of efficiency.

[0011] Accordingly, it is an object of the present invention to provide a sealing implement which improves the ease of performing the task of loading into a special attachment apparatus (gun), which maintains the proper direction of the insertion head part at all times, and which prevents jams.

SUMMARY OF THE INVENTION

[0012] To achieve the above-noted objects, the present invention adopts the following base technical constitution.

[0013] Specifically, the present invention is a sealing implement having a plurality of single sealing implements having a flexible filament part, an insertion head part having an appropriate engaging part provided on one end part of the filament part, and a socket part having a hole for the purpose of irreversibly inserting the insertion head part provided on the other end of the filament, the arrangement of the plurality of single sealing implements being made so that the filament parts thereof are mutually parallel and adjacent, each of the plurality of insertion head parts or a portion proximity thereto and socket parts or a portion proximity thereto being caused to be connected to separately provided connection bar parts.

[0014] A feature of the present invention is that a filament part with a stopping ring that mates with a part of the other connection bar is mounted on at least one part of one of a connection bar, and that a grabbing piece is formed on the stopping ring.

[0015] Because to solve the problem of the prior art described above a filament part with a stopping ring is mounted to a part of a connection bar and a grabbing piece is formed on the stopping ring, a sealing implement according to the present invention improves the work efficiency of the task of setting the implements into a shooting gun.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] Fig. 1 is a front view showing an embodiment of a sealing implement according to the present invention.

[0017] Fig. 2 is a partial enlarged side view showing a connection bar used in the embodiment shown in Fig. 1.

[0018] Fig. 3 is a partial enlarged side view showing a stopping ring used in the embodiment shown in Fig. 1.

[0019] Fig. 4 is a plan view showing the condition of use of the embodiment shown in Fig. 1.

[0020] Fig. 5 is a perspective view showing the condition of loading the sealing implement according to the present invention into a special shooting gun.

[0021] Fig. 6 is a front view of a sealing implement showing another embodiment of the present invention.

[0022] Fig. 7 is a partially enlarged side view showing another embodiment of a connection bar used in a sealing implement according to the present invention.

[0023] Fig. 8 is a partial enlarged front view of a sealing implement showing another embodiment having a separately provided stopping ring.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] Embodiments of the present invention are described in detail below, with references being made to relevant accompanying drawings.

[0025] Specifically, Fig. 1 is a front view showing an embodiment of a sealing implement according to the present invention, and Fig. 2 is a partial enlarged side view showing the same sealing implement.

[0026] In these drawings, a plurality of sealing implements 10 each having a flexible filament part 12, an insertion head 13 having an appropriate engaging part, and provided on one end of the filament part 12, and a socket part 15 having an insertion hole 14 for irreversible passing of the insertion head part 13, and provided on the other end of the filament part 12 are arranged so that the filament parts 12 thereof are mutually adjacent and parallel, with each of the plurality of insertion head parts 13 or a portion proximity thereto and socket parts 15 or a portion proximity thereto, being caused to be connected to separately provided connection bar parts 11 and 11', a filament part 12a having a stopping ring 19 being mounted to a part of a connection bar 11, and a grabbing piece 20 being formed on the stopping ring 19.

[0027] The sealing implement 10 according to the present invention is integrally formed of a synthetic resin, such as the usual Nylon, polypropylene, or polyester, such as was the case with sealing implements of the past.

[0028] By way of further description of a first embodiment of the sealing implement 10, referring to Fig. 1, the basic configuration of the sealing implement 10 according to the present invention is substantially the same as a sealing implement of the past, and additionally has formed a filament part 12a with a stopping ring 19 on an end (top end) of the connection bar 11, and a grabbing piece 20 formed on this stopping ring 19.

[0029] The stopping ring 19 has an inner diameter formed so as to enable insertion of the connection bar part 11.

[0030] Within the hole part 19a provided on the stopping ring 19 is formed a protrusion 19b that engages with a cutout formed on the connection bar part 11 (refer to Fig. 3).

[0031] The grabbing piece 20 mounted to the stopping ring 19 has the shape of a flat tongue, so as to make it easy to grab by the fingers.

[0032] Additionally, the center axis line of the stopping ring 19 is formed so as to be in the perpendicular to the longitudinal direction of the filament part 12a or in parallel with a plane formed by a plurality of filaments 12 of each one of the implements, each being uniformly arranged to each other.

[0033] The length of the filament part 12a is formed so as to be substantially 1/2 that of the filament part 12, An un-drawn filament can be used as the filament part 12a.

[0034] A cutout 16 such as shown in Fig. 2 is formed on a corresponding position of the connection bar part 11, so that it is difficult to pull out a stopping ring 19 once it has been inserted. The corresponding position at which is formed the cutout 16 is ideally a position on the connection bar part 11 which is on the outside when the filament part 12 is bent in a U-shape.

[0035] In this embodiment of the present invention, the cutout 16 is made as a V-shape having an elevation angle of 30 ° and depression angle of 45 ° , so that it has a V-shape having an angle-of 75° when the connection bar part 11 is in the vertical position.

[0036] The cutout 16 is not restricted to this angle, and can be made any angle between 30 ° and 90° .

[0037] An engaging part 17 is formed in the insertion hole 14 of the socket part 15, to enable engagement with an engaging part 13a having a narrowed diameter at a step on part of the insertion head part 13. The engaging part 17 is formed so as to protrude and be deformable into the insertion hole 14.

[0038] The sealing implements 10 are temporarily held to the connection bars 11 so that they are mutually parallel. Therefore, after loading into an attachment gun, by merely pulling a lever 18a, it is easy for one sealing implement at a time to become separated and shot out, thereby enabling mounting of labels and the like.

[0039] Fig. 4 is a plan view showing the condition of use of a sealing implement of the present invention.

[0040] What is shown in this drawing is the condition in which, to hold the sealing implement 10 in the curved condition, the grabbing piece 20 is grabbed by the fingers and the stopping ring 19 is inserted into the head part of the connection bar part 11 engaging with the socket part 15.

[0041] Although the task of inserting the small stopping ring 19 into the head part of the connection bar part 11, because the grabbing piece 20 is grabbed when this task is performed, the ease of the task is improved compared with the past.

[0042] Fig. 5 is a perspective view showing the condition in which a sealing implement 10 according to the present invention is loaded into a special attachment apparatus (gun).

[0043] In this condition, the attachment gun 18 has formed in it a vertical groove 21 into which the connection bar parts 11 are inserted. For example, the connection bar part 11 linked to a socket part 15 of the sealing implement 10 is inserted into the vertical groove 21, and the connection bar 11 linked to the insertion head part 13 is inserted into the vertical groove 22.

[0044] A shooting pin (not shown in the drawing) is arranged in a sideways direction of the vertical groove 22, this pin being driven by the lever 18a of the shooting apparatus 18, the insertion head part 13 being separated from the linking part lla of the connection bar part 11, and pushed out and frontward, along a cylindrically shaped guide pin 24.

[0045] The socket 15 supported by the connection bar part 11 is inserted into the vertical groove 22 is separated by a push-out belt (not shown in the drawing) from the connection bar part 11, and is pushed out and frontward one by one, along a curved socket part guide 26.

[0046] The socket part 15 that is pushed out along the socket part guide 26 is changed by 90 ° so that there is mating with the insertion head part 13 pushed out by the push-out pin (not shown in the drawing) at the insertion hole 14.

[0047] The inside of the socket part guide 26 is formed in the shape of a cylinder, so as to enable a change of 90 ° in direction, and to enable forward movement of the push-out belt while bending.

[0048] The configuration is such that the timing at which the end of the push-out belt reaches the tip end of the socket part guide 26 coincides with the timing at which the push out pin reaches the end of the socket part guide 26. By doing this, the sealing implement 10 can be used to perform continuous successive mounting of labels on products, for example.

[0049] In another embodiment of the present invention, as shown in Fig. 6, the center axis of the hole part 23a of the stopping ring 23 is formed so as to be in parallel with the longitudinal direction of the connection bar part 11.

[0050] The flat surface of the grabbing piece 20 is also disposed so as to be perpendicular to the longitudinal direction of the connection bar part 11.

[0051] In the case of the above-noted configuration, after the sealing implement 10 is bent, it is easy to insert the stopping ring 23 into the connection bar part 11. This is because the axis line of the connection bar part 11 coincides with the center axis line of the hole part 23a of the stopping ring 23.

[0052] Fig. 7 is an enlarged side view showing the main part of another embodiment of a connection bar part 11 used in a sealing implement according to the present invention.

[0053] In this example, a protrusion 27 for preventing pull-off is formed near the upper end part of the connection bar part 11.

[0054] The corresponding position at which the protrusion 27 is formed is, ideally a position on the connection bar part 11 which is on the outside when the filament part 12 is bent into a U-shape.

[0055] If this configuration is adopted, when the stopping ring 19 is inserted into the connection bar part 11, because of the presence of the protrusion 27, it is difficult for the stopping ring 19 to be pulled off once it is inserted.

[0056] Therefore, when the sealing implement is loaded into the attachment apparatus 18 in the curved condition, even should external force be applied, there is no danger of pulling off of the engaging part stopping ring 19.

[0057] Fig. 8 is a side view of the main part of a sealing implement, showing another embodiment having a separately provided stopping member. In this configuration, the sealing implement has a separately provided stopping member having stopping rings 29 and 30 enabling partial insertion of the connection bar part 11 into both ends of a filament 28 that is shorter than the separate filament part 12.

[0058] A grabbing piece 31 is mounted on the side of the stopping ring 29 opposite the filament 28.

[0059] The grabbing piece 31 has a flat shape so as to make it easy to grab by the fingers.

[0060] With the above-noted configuration, it is possible to use a single stopping member for a plurality of sealing implements.

[0061] The grabbing piece 20 used in the sealing implement according to the present invention can be a flat semicircle, and can alternately be tongue-shaped, elliptical, a sheet, or rectangular. Additionally, it is desirable that the socket part be made with a size that provides ease of use and a small outer appearance.

[0062] By adopting the constitution described above, using the present invention, when loading the sealing implements into a shooting apparatus, it is possible to hold the sealing implement in the curved condition by the stopper ring and the filament part, the result being that there is no danger of disturbing the direction of the insertion head part, which could cause jamming.

[0063] Additionally, when the sealing implement is caused to curve, because the grabbing piece is grabbed by the fingers and the stopping ring is inserted into the head part of the connection bar part, the troublesome task of inserting a small stopping ring into the head part of the connection bar part is made easy, in comparison with the past.

Claims

1. A sealing implement comprising a plurality of single sealing implements comprising:

   a flexible filament part;
   an insertion head part having an appropriate engaging part provided on one end part of said filament part; and
   a socket part having a hole for the purpose of irreversibly inserting said insertion head part provided on another end of said filament,
   wherein arrangement of the plurality of single sealing implements is made so that said filament parts thereof are mutually parallel and adjacent, each of said plurality of insertion head parts or a portion proximity thereto and socket parts or a portion proximity thereto being caused to be connected to separately provided connection bar parts, and wherein a filament part with a stopping ring that mating with a part of another connection bar is mounted on at least one part of one of said connection bar, and a grabbing piece is formed on said stopping ring.

2. A sealing implement according to claim 1, wherein a cutout part is formed on a part of said connection bar part mating with said stopping ring.

3. A sealing implement according to claim 1 or claim 2, wherein a cutout part formed on a connection bar part mating with said stopping ring has an angle between 30° and 90° .

4. A sealing implement according to claim 1, wherein a protrusion is formed on a part of said connection bar part mating with said stopping ring.

5. A sealing implement according to according to any one of claim 1 to claim 4, wherein a hole part of said stopping ring is formed so as to have a center axis line that is perpendicular to a longitudinal direction of said connection bar part.

6. A sealing implement according to any one of claim 1 to claim 4, wherein a hole part of said stopping ring is formed so has to have a center axis line that is parallel to a longitudinal direction of said connection bar part.

7. A sealing implement according to any one of claim 1 to claim 6, wherein said filament having a stopping ring is undrawn.

8. A sealing implement according to any one of claim 1 to 7, wherein said grabbing piece provided on said stopping ring is flat.

9. A sealing implement according to any one of claim 1 to claim 7, wherein said grabbing piece provided on said stopping ring is sheet-shaped.

10. A sealing implement according to any one of claim 1 to claim 9, wherein the inside of said hole part provided on said stopping ring is provided with a protrusion engaging with a cutout formed on said connection bar part.

11. A sealing implement according to any one of claim 1 to claim 9, wherein said grabbing piece extends in a longitudinal direction of said filament part.

12. A sealing implement according to any one of claim 1 to claim 11, wherein said grabbing piece is disposed at a position so that, when said stopping ring is engaged with part of said connection bar part and said filament is curved, it is on an extension line of a straight line connecting said two connection bar parts.

13. A sealing implement comprising a plurality of single sealing implements comprising:

   a flexible filament part;
   an insertion head part having an appropriate engaging part provided on one end part of said filament part; and
   a socket part having a hole for the purpose of irreversibly inserting said insertion head part provided on another end of said filament,
   wherein arrangement of the plurality of single sealing implements is made so that said filament parts thereof are mutually parallel and adjacent, each of said plurality of insertion head parts or a portion proximity thereto and socket parts or a portion proximity thereto being caused to be connected to separately provided connection bar parts, and wherein a separate stopping member is provided which having stopping rings each enabling partial insertion of said connection bar part at both ends of a filament shorter than said filament part.

Fig. 1

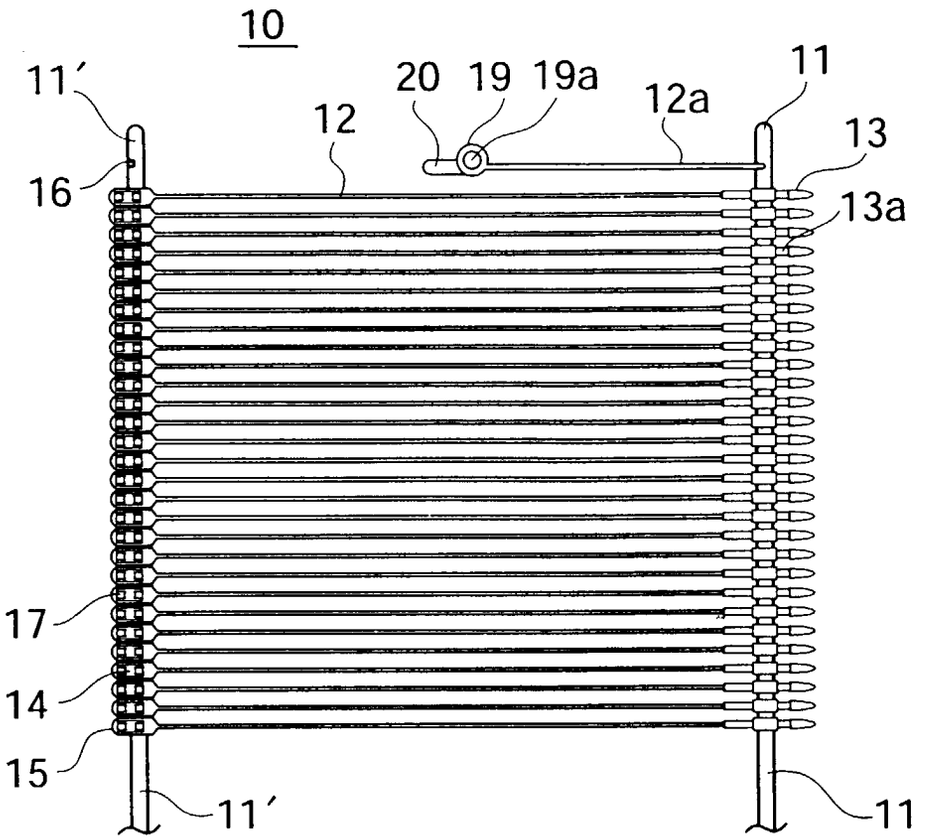


Fig. 2

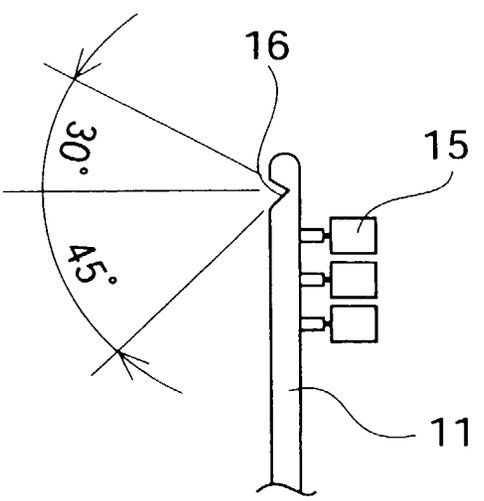


Fig. 3

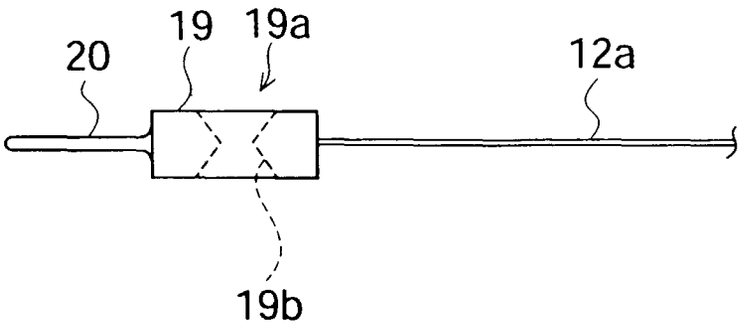


Fig. 4

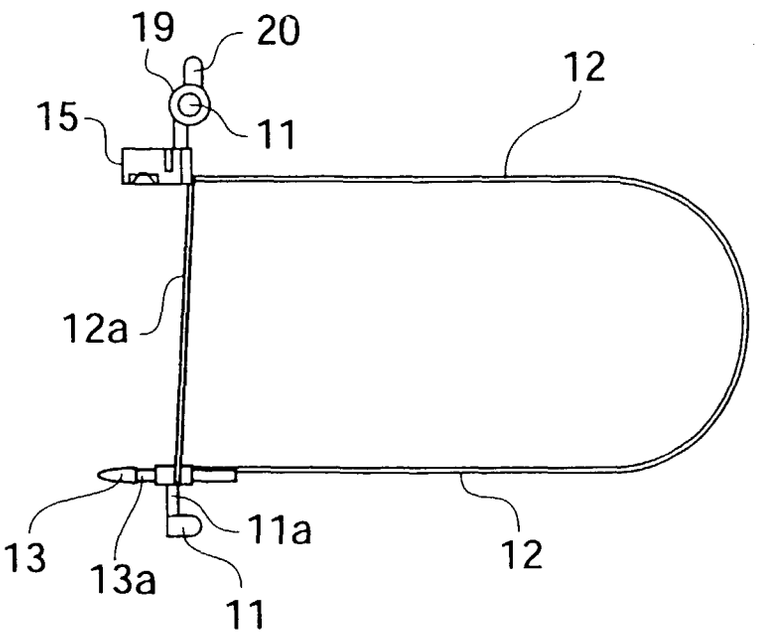


Fig. 5

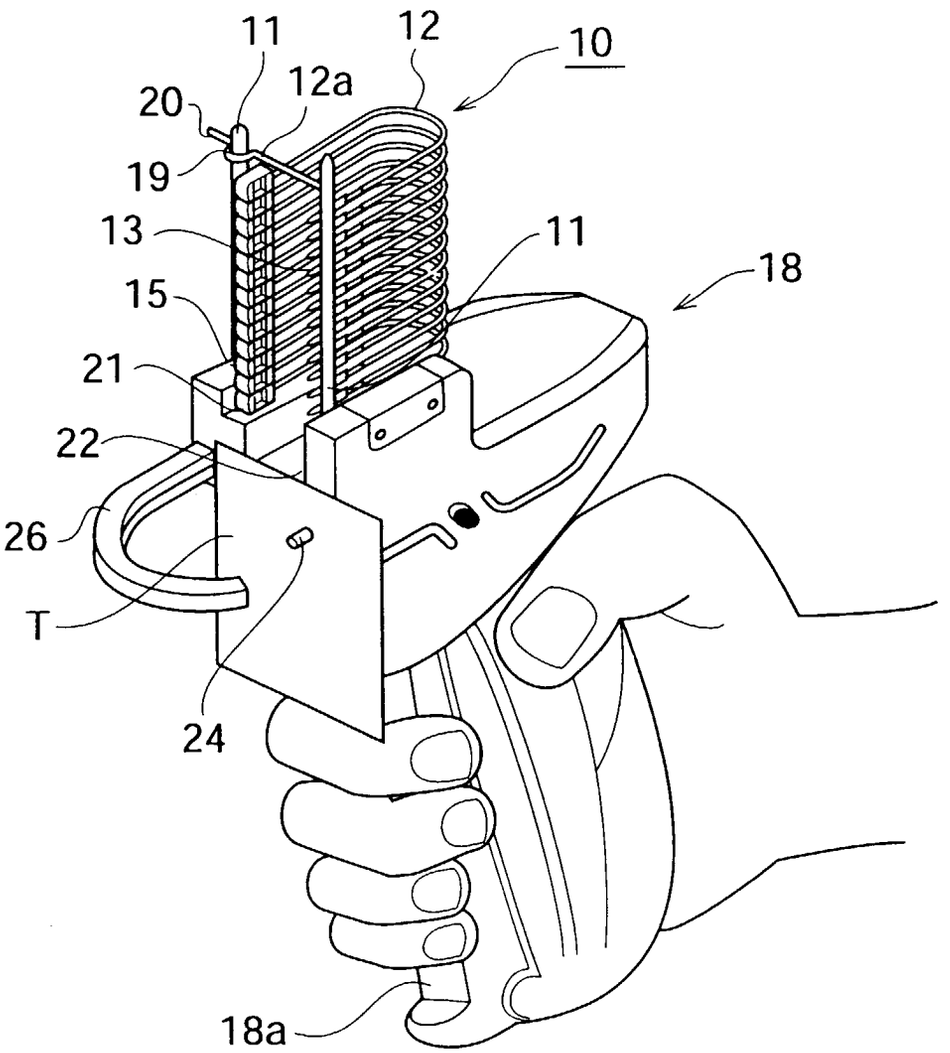


Fig. 6

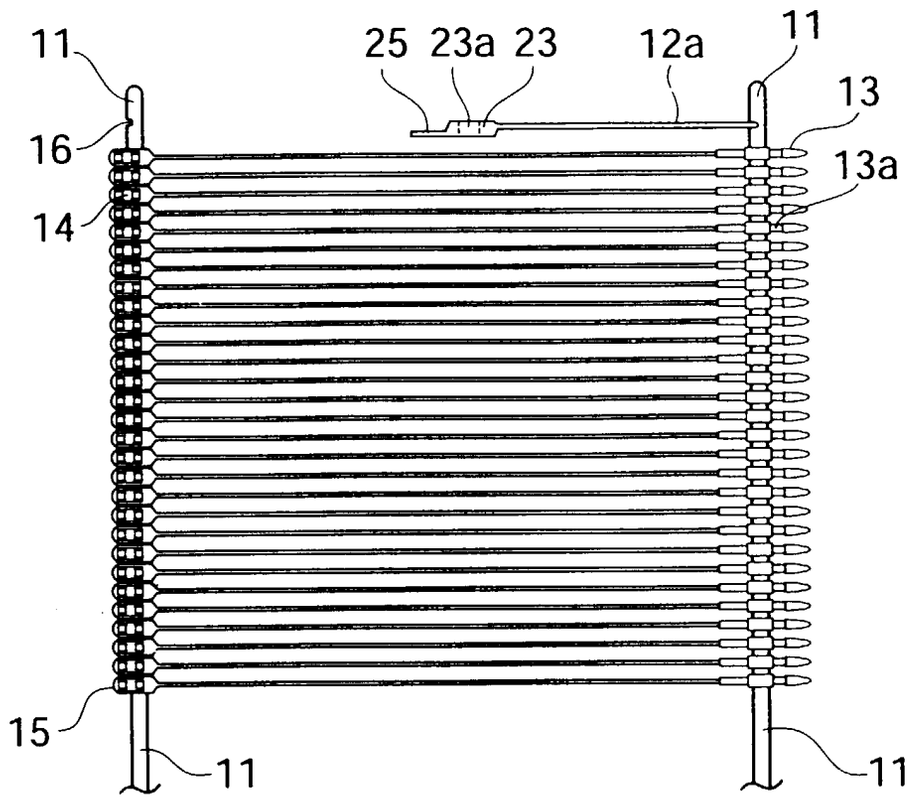


Fig. 7

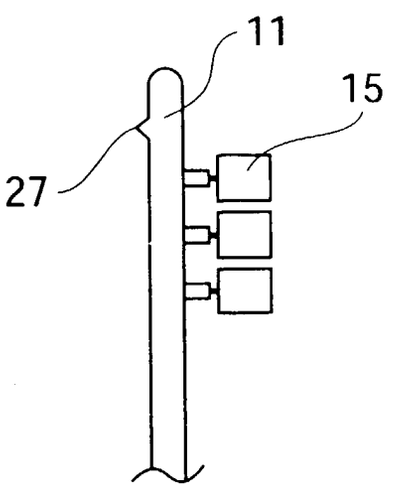


Fig. 8