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(71) Applicant: **Carimbos Nykon Indústria e Comércio S.A.**
88702-360 Tubarão (BR)

(72) Inventor: **NUNES, Erico Luiz**
88702-060 Tubarão (BR)

(74) Representative: **Pereira Garcia, João Luís Simões, Garcia, Corte-Real e Associados**
Rua Castilho, 167, 2°
1070-050 Lisboa (PT)

(54) RAPID-ACTION PORTABLE INK STAMP

(57) The present invention provides a quick-drive portable stamp comprising: a main body (1) in a parallelepiped shape having two side walls (18), an upper wall (10) and a lower half wall (12); a cover (2) having side walls (28) fixedly fitted to the side walls (18) of the main body (1) and having a rear closing wall (21); a sliding carriage (3); a rotating holder (4) for a marker element (45); a lower cover (5); an ink pad holder (7); and an actuation button (6), wherein:

the rotating holder (4) is pivotally attached to the sliding carriage (3), wherein the sliding carriage (3) comprises pins (30) at an outermost end fitted in holes (40) in the central region of the rotating holder (4), wherein the pins (30) and holes (40) are offset to a longitudinal centerline of the main body (1);

the sliding carriage (3) is positioned internally to the main body (1) in contact with the inner portion of the upper wall (10), wherein the actuation button (6) is positioned externally to the main body (1) on the upper wall (10) and attached to the sliding carriage (3) by side tabs (60), wherein the side tabs (60) are adapted to slide longitudinally along the upper rails (11) of the upper wall (10); and

the ink pad holder (7) is attached to the lower cover (5), wherein the lower cover (5) comprises side tabs with curved rails (51) at an inner end, wherein the curved rails (51) are slidably fitted to center side pins (31) of the sliding carriage (3).

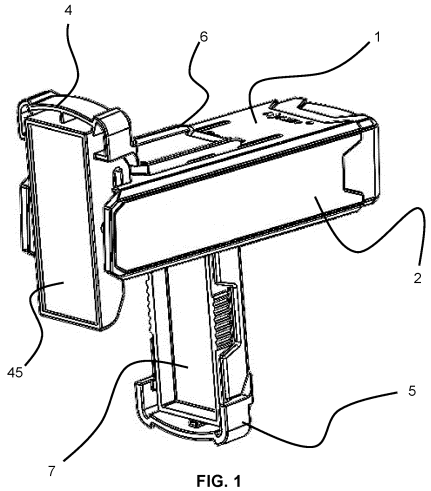

FIG. 1

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a portable stamp that can be driven with only one hand simply by sliding a driving button.

BACKGROUNDS

[0002] As widely known, stamps are objects used to reproduce different types of markings quickly and with high reliability. Therefore, the stamp has always been linked to a concept of authenticity and recognition of value. For centuries, kings and various authorities had their signatures accompanied by royal seals or stamps, usually made of wax, to seal and guarantee the veracity of documents. The symbol of the king was recognized by all, just like his signature. Today the signet is still used to mark a certain symbol in wax to seal correspondence, such as in elaborate wedding invitations.

[0003] The oldest known stamps were figures carved on stone scrolls, still in Mesopotamia, 3,000 years before Christ.

[0004] The best-known stamps have been around for at least 100 years without modification, such as wood and rubber stamps. Nowadays, wooden stamps have been replaced by self-inking plastic stamps that have a built-in cushion, which are much easier to use, maintain, and transport.

[0005] With the evolution and popularization of the use of stamps, several models of these devices appeared over time to facilitate and speed up their use. Among these models, the portable stamps, which can be operated with only one hand, have been highlighted.

[0006] These types of stamps comprise a driving system such that, when the stamp is not in use, the printing face is stored and protected inside the device so that it is in direct contact with the ink pad. When the stamp is activated, the face is automatically exposed in use position.

[0007] Several models of these devices are described in the prior art. In the following some exemplary documents describing such devices will be indicated.

[0008] Document PI 0455373-7 A is directed to a portable stamp that includes a housing having an elongated slit and a tongue. A handle is movably mounted to the housing. A character unit is pivotally mounted on a distal end of the handle, with a first torsion spring. An ink pad is pivotally mounted under the character unit with a second torsion spring and abuts the character plate of the character unit. A control unit is movably mounted in the elongated slot and stably mounted on the cable. A cover is detachably mounted on the open end of the housing. When the control unit is pushed toward the open end of the housing, the character unit and ink pad will respectively be pivoted under the forces of torsion springs to positions perpendicular to the handle to stamp the character plate.

[0009] Document EP3015273, on the other hand, is directed to a portable stamp comprising a stamp housing and an driving member, an ink member and a stamp seat mounted in the stamp housing. An operating member is mounted through a guide slot of the stamp housing and is connected to the driving member. Each of the ink and stamp seat members is pivotally connected to the driving member. By pushing the driving member, the ink member and stamp seat can be moved to rotate out of the housing or be folded into the stamp housing. When the portable stamp is folded, a stamping surface of a stamp pad on the stamp seat will certainly touch an ink pad of the ink member and be coated with the ink uniformly.

[0010] Document AT520700A1, in turn, describes a transportable stamp comprising at least a stamp housing, a sliding element, a printing element having a text plate attached thereto, and a pad receiving element having an insertable and interchangeable stamp pad, wherein the pad receiving element and the printing element are each connected by means of a shaft with a displaceably mounted base member, wherein the sliding element from outside the stamp housing, is displaceable preferably in the longitudinal direction of the stamp housing with the base member.

[0011] The applicant is the holder of a utility model patent in force in Brazil, number MU 8801723-0, which is directed to a pocket stamp comprising a handle with an elongated slot in the upper part thereof. A control base is movably inserted in the handle. A character unit is pivotally mounted at one end of the control base by a pivot with a first torsion spring. An ink-cover is pivotally mounted at another end under the control base by another pivot with a second torsion spring, and abuts the character unit. A control unit is movably mounted on the control base in the elongated slot. When the control unit is pressed and pushed along the elongated slot, the character unit and the ink-cover will respectively be pivoted under the forces of the torsion springs to positions perpendicular to the control base. Thus, such construction allows the user to perform the stamping procedure with only one hand, without the need to use another hand, and also makes it impossible for the cover to dismember from the device.

[0012] Thus, it can be observed that the prior art already knows about a great diversity of stamps that allow the actuation using only one hand, including a patent owned by the applicant. However, it was observed that the use of springs to drive the stamp has shown to be a great inconvenience in practice, once these elements can easily detach, causing malfunctioning of the stamp, or even making it obsolete. In addition, the springs are more fragile elements that frequently fail or break, also making it unfeasible to use the stamp.

[0013] Therefore, the applicant decided to invest in research to develop a stamp that can be used with only one hand, similar to the stamp already protected by patent MU 8801723-0, however, with the advantage that it

would not be necessary to use any spring to activate the device.

[0014] As will be better detailed below, the present invention aims to solve the above-described problems of the prior art in a practical and efficient way. In other words, a stamp was developed with an entirely new mechanics and elements that allow its actuation without the use of springs. The developed device will be described in detail in the following sections.

SUMMARY OF THE INVENTION

[0015] The present invention aims to provide a quick-drive portable stamp, which can be operated with only one hand and does not make use of springs inside the stamp.

[0016] In order to achieve the above-described objectives, the present invention provides a quick-drive portable stamp comprising: a main body in a parallelepiped shape having two side walls, an upper wall and a lower half wall; a cover having side walls fixedly fitted to the side walls of the main body and having a rear closing wall; a sliding carriage; a rotating holder for a marker element; a lower cover; an ink pad holder; and an actuation button, wherein:

the rotating holder is pivotally attached to the sliding carriage, wherein the sliding carriage comprises pins at an outermost end fitted in holes in the central region of the rotating holder, wherein the pins and holes are offset to a longitudinal centerline of the main body;

the sliding carriage is positioned internally to the main body in contact with the inner portion of the upper wall, wherein the actuation button is positioned externally to the main body on the upper wall and attached to the sliding carriage by side tabs, wherein the side tabs are adapted to slide longitudinally along upper rails of the upper wall; and

the ink pad holder is attached to the lower cover, wherein the lower cover comprises side tabs with curved rails at one inner end, wherein the curved rails are slidably fitted to center side pins of the sliding carriage.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The detailed description presented below makes reference to the attached figures and their respective reference numbers.

Figure 1 illustrates a perspective view of the quick-drive portable stamp of the present invention in its position of use.

Figure 2 illustrates a perspective view of the quick-drive portable stamp of the present invention in its closed position.

Figures 3, 4 and 5 illustrate exploded views of the quick-drive portable stamp of the present invention illustrating the assembling sequence thereof.

Figures 6, 7, 8 and 9 illustrate sectional views of the portable quick-drive stamp of the present invention illustrating the process of opening the stamp from its closed position (Figure 6) to its position of use (Figure 9).

DETAILED DESCRIPTION OF THE INVENTION

[0018] Preliminarily, it is emphasized that the description that follows will start from a preferred embodiment of the invention. As will be evident to anyone skilled in the art, however, the invention is not limited to this particular embodiment.

[0019] Figure 1 illustrates a perspective view of the quick-drive portable stamp of the present invention in its position of use. Figure 2 illustrates a perspective view of the quick-drive portable stamp of the present invention in its closed position.

[0020] More generally, the portable stamp proposed by the present invention can be opened and closed with only one hand simply by sliding the actuation button 6. Similarly, by moving the actuation button 6 in the opposite direction, the whole assembly closes, so that the marker element 45 (comprising the characters and/or information and/or images to be marked/stamped) is protected inside the stamp and in contact with the ink pad also positioned internally.

[0021] Figures 3, 4 and 5 illustrate exploded views of the quick-drive portable stamp of the present invention illustrating the assembling sequence thereof.

[0022] The developed portable stamp comprises in its basic structure only seven elements: a main body 1; a cover 2; a sliding carriage 3; a rotating holder 4 for a marker element 45; a lower cover 5; an ink pad holder 7; and an actuation button 6. Such elements are illustrated separately in Figure 3.

[0023] In Figure 4, it is observed that, for assembling the portable stamp, the sliding carriage 3 is pivotally coupled to the rotating holder 4 for the marker element 45, so that the sliding carriage 3 and the rotating holder 4 move together, but the rotating holder 4 may pivot with respect to the sliding carriage 3. The lower cover 5, on the other hand, is fixedly fitted to the ink pad holder 7, so that the lower cover 5 and the ink pad holder 7 move together in a fixed manner.

[0024] In Figure 5 it is observed that after assembling the sliding carriage 3, the rotating holder 4 for a marker element 45, the lower cover 5 and the ink pad holder 7, the last elements to be attached are the cover 2 which is attached laterally to the main body 1, and the actuation button 6 attached to the sliding carriage 3 via upper rails 11 of the main body 1. Optionally, the fitting between the cover 2 and the main body 1 is by a fitting system of pin 25 and holes 15, however, other methods can be used, such as glue or other fitting systems.

[0025] To this end, the actuation button 6 comprises

side tabs 60 that are connected to the sliding carriage 3, so that these side tabs 60 can slide along the upper rails 11 in the upper portion of the main body 1. Therefore, the upper rails 11 allow the sliding carriage 3 to be moved back and forth, which allows the opening and closing of the stamp.

[0026] The operation of the portable stamp, as well as the elements that compose it, are better detailed in Figures 6, 7, 8 and 9, which illustrate sectional views of the quick-drive portable stamp of the present invention illustrating the opening process of the stamp, from its closed position (Figure 6) to its position of use (Figure 9).

[0027] Therefore, the portable stamp proposed by the present invention comprises: a main body 1 in a parallelepiped shape having two side walls 18, an upper wall 10 and a lower half wall 12; a cover 2, having side walls 28 fixedly fitted to the side walls 18 of the main body 1 and having a rear closing wall 21; a sliding carriage 3; a rotating holder 4 for a marker element 45; a lower cover 5 lower; an ink pad holder 7; and an actuation button 6.

[0028] After assembling of the assembly, the rotating holder 4 is pivotally attached to the sliding carriage 3, wherein the sliding carriage 3 comprises pins 30 at an outermost end fitted in holes 40 in the central region of the rotating holder 4, wherein the pins 30 and the holes 40 are offset to a longitudinal centerline of the main body 1. In addition, the sliding carriage 3 is positioned internally to the main body 1 in contact with the inner portion of the upper wall 10, wherein the actuation button 6 is positioned externally to the main body 1 on the upper wall 10 and secured to the sliding carriage 3 by the side tabs 60, wherein the side tabs 60 are adapted to slide longitudinally along the upper rails 11 of the upper wall 10.

[0029] Thus, the stamp can be actuated by the sliding of the actuation button 6 which will cause the sliding carriage 3 and the rotating holder 4 to be moved together with the stamp.

[0030] Additionally, the ink pad holder 7 is attached to the lower cover 5, wherein the lower cover 5 comprises side tabs 70 with curved rails 51 at an inner end, wherein the curved rails 51 are slidably fitted to center side pins 31 of the sliding carriage 3. Thus, when the sliding carriage 3 is moved outward, the movement between the pins 31 and the upper rails 11 causes the lower cover 5 to pivot/rotate at the inner end causing the stamp ink pad holder 7 to be opened.

[0031] Therefore, since the stamp pad holder in use comprises a stamp pad, this movement means that, in addition to freeing up space for the stamp to be opened, the marked element will also be free from contact with the ink pad. The sequence of movements is illustrated in Figures 6, 7, 8 and 9. It is also noted that the lower half wall 12 comprises a length of approximately half of the upper wall 10, which allows the lower cover 5 to be opened (rotate) before the rotating holder 4, which prevents the stamp from locking.

[0032] Due to the movement described so far, the stamp of the present invention keeps the marker element 45 and the ink pad in contact when the stamp is closed, releasing the marker element 45 only for use, thus the marker element 45 will always be with the ink required for use when opened.

[0033] With respect to the movement of the rotating holder 4, as already described, the rotating holder 4 is pivotally attached to the sliding carriage 3, wherein the sliding carriage 3 comprises pins 30 at an outermost end fitted into holes 40 in the central region of the rotating holder 4, wherein the pins 30 and the holes 40 are offset to a longitudinal centerline of the main body 1. In other words, the pins 30/holes 40 are not positioned in a median region of the rotating holder 4 but are slightly offset to the inside of the stamp. Thus, when moving the sliding carriage 3, the pins 30 will exert a displaced force from the center of gravity of the rotating holder 4 causing it to rotate, to be in a perpendicular position relative to the stamp, enabling the stamp to be used.

[0034] In the opposite movement, that is, to close the stamp, it is observed that the upper wall 10 and the lower wall 12 will exert the necessary force to "push", respectively, the rotating holder 4 and the lower cover 5 so that they rotate, and the stamp can be closed. This movement is executed entirely by simply sliding the actuation button 6. This movement can be observed by looking at Figures 6, 7, 8, and 9 in the opposite order (Figures 9, 8, 7, 6).

[0035] It is also noted that, the stamp may comprise an elongate fastener 24 in its lower portion. To this end, the cover 2 comprises an elongated fastener 24 extending at least partially through the lower half wall 12 of the main body 1.

[0036] Therefore, the present invention provides a quick-drive portable stamp that can be actuated with only one hand and that, unlike the prior art, does not need the use of any spring in its operation.

[0037] Numerous variations affecting the scope of protection of the present application are allowed. Thus, it is emphasized that the present invention is not limited to the particular configurations/embodiments above described.

Claims

1. QUICK-DRIVE PORTABLE STAMP comprising: a main body (1) in a parallelepiped shape with two side walls (18), an upper wall (10) and a lower half wall (12); a cover (2) with side walls (28) fixedly fitted to the side walls (18) of the main body (1) and with a rear closing wall (21); a sliding carriage (3); a rotating holder (4) for a marker element (45); a lower cover (5); an ink pad holder (7); and an actuation button (6), **characterized by**:

   the rotating holder (4) is pivotally attached to the sliding carriage (3), wherein the sliding carriage (3) comprises pins (30) at an outermost end fitted in holes (40) in the central region of the ro-

tating holder (4), wherein the pins (30) and holes (40) are offset to a longitudinal centerline of the main body (1);
the sliding carriage (3) is positioned internally to the main body (1) in contact with the inner portion of the upper wall (10), wherein the actuation button (6) is positioned externally to the main body (1) on the upper wall (10) and attached to the sliding carriage (3) by side tabs (60), wherein the side tabs (60) are adapted to slide longitudinally along the upper rails (11) of the upper wall (10); and
the ink pad holder (7) is attached to the lower cover (5), wherein the lower cover (5) comprises side tabs (50) with curved rails (51) at an inner end, wherein the curved rails (51) are slidably fitted to center side pins (31) of the sliding carriage (3).

2. STAMP according to claim 1, **characterized by** the fitting between the cover (2) and the main body (1) is by a fitting system of pins (25) and holes (15).

3. SYSTEM, according to claim 1 or 2, **characterized by** the cover (2) comprises an elongate fastener (24) extending at least partially through the lower half wall (12) of the main body (1).

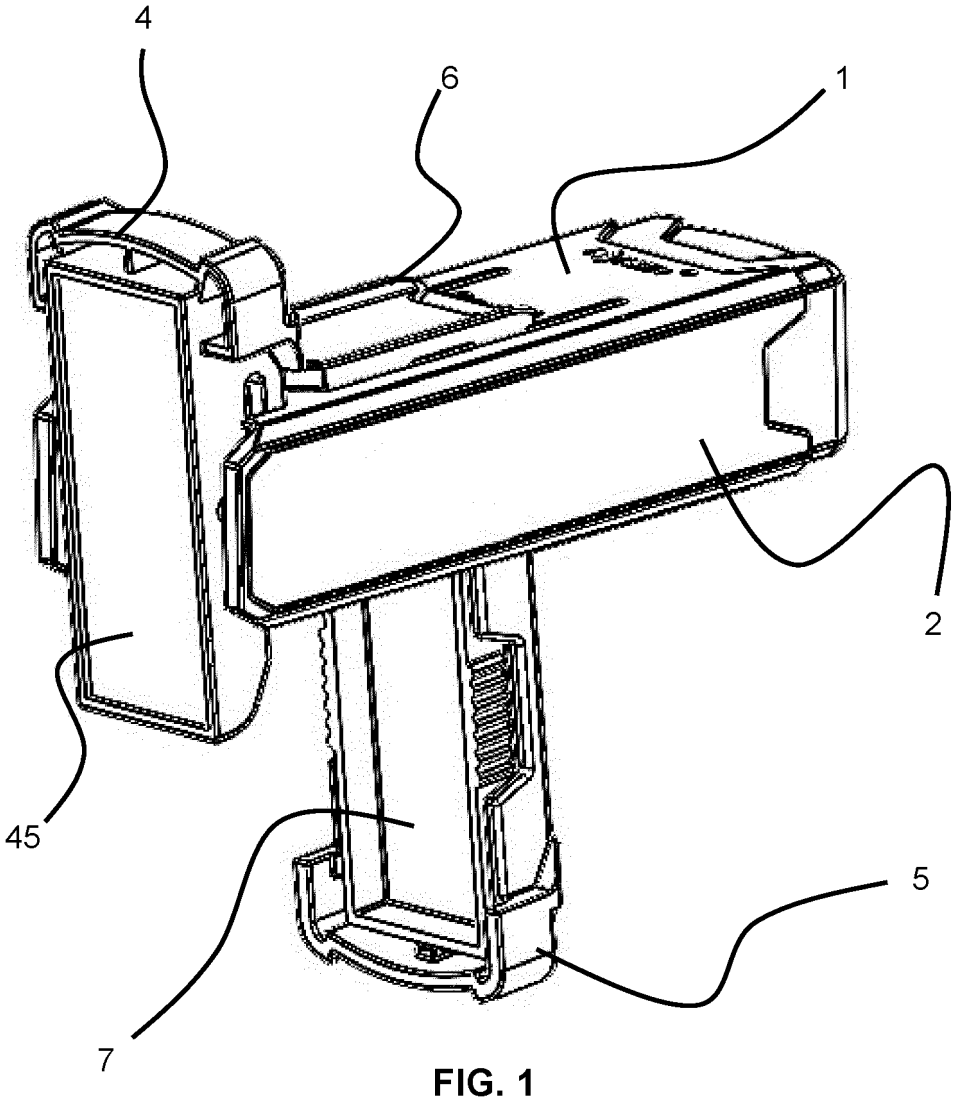

FIG. 1

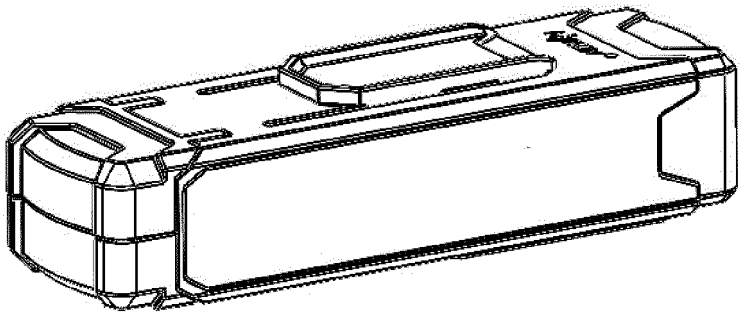

FIG. 2

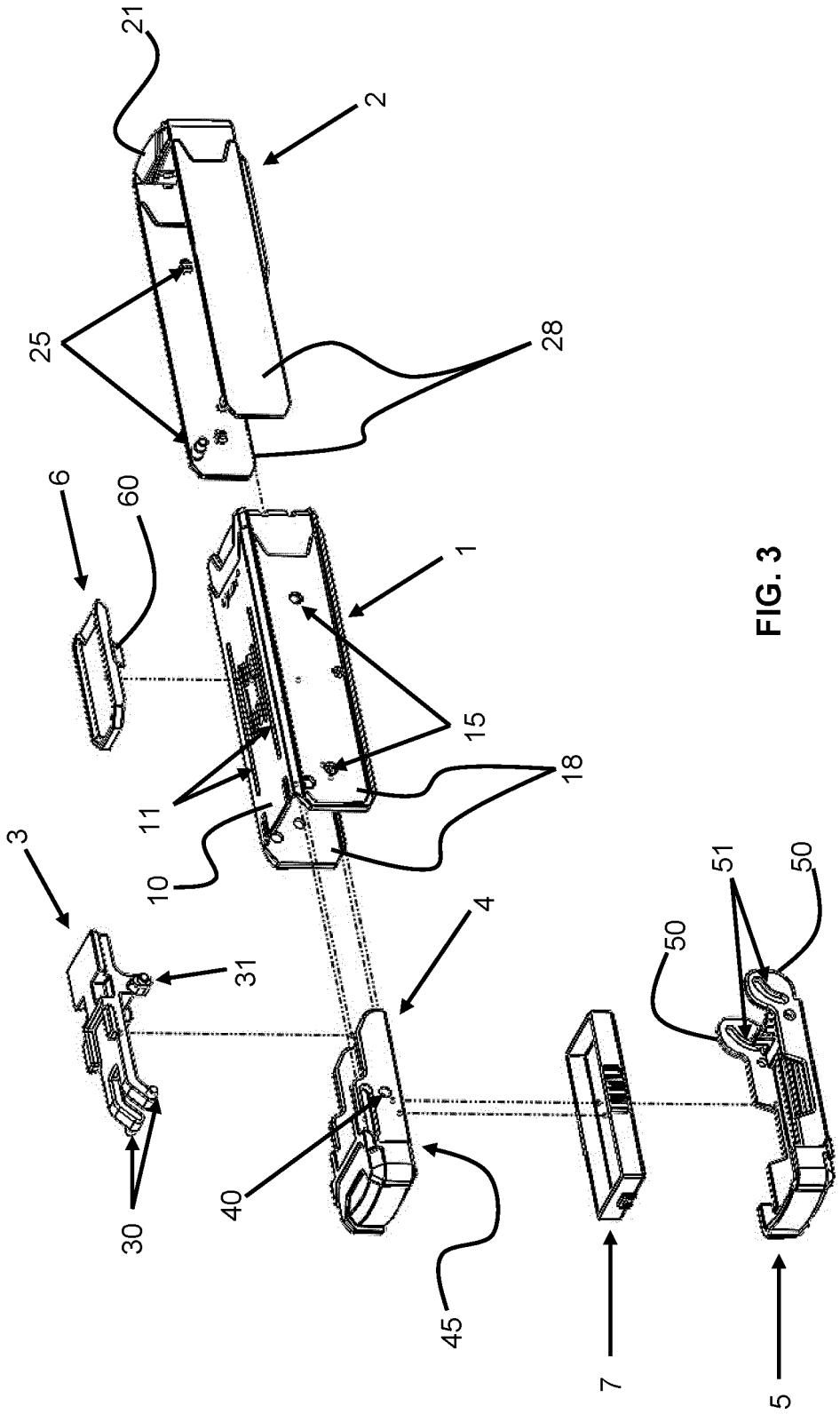

FIG. 3

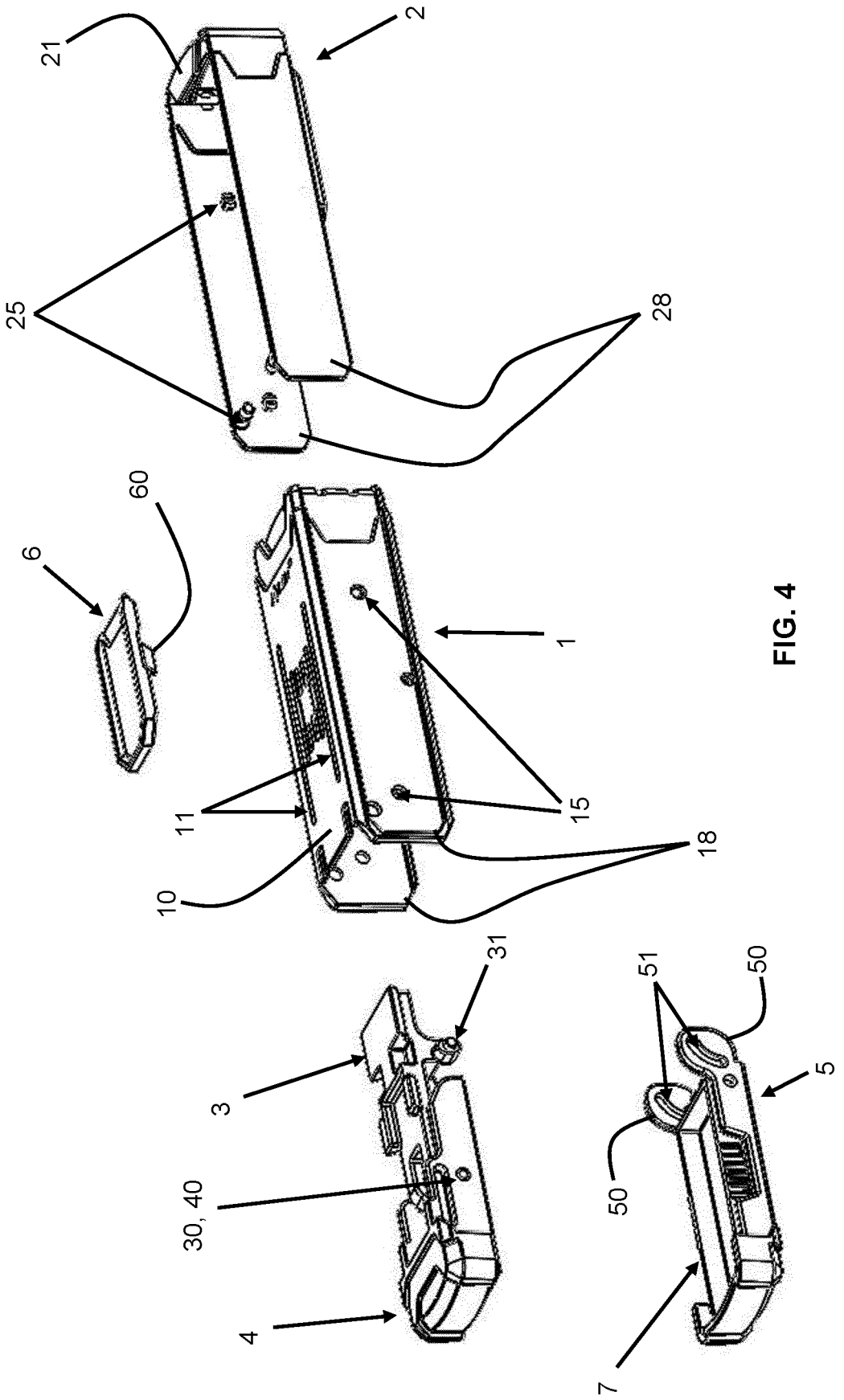

FIG. 4

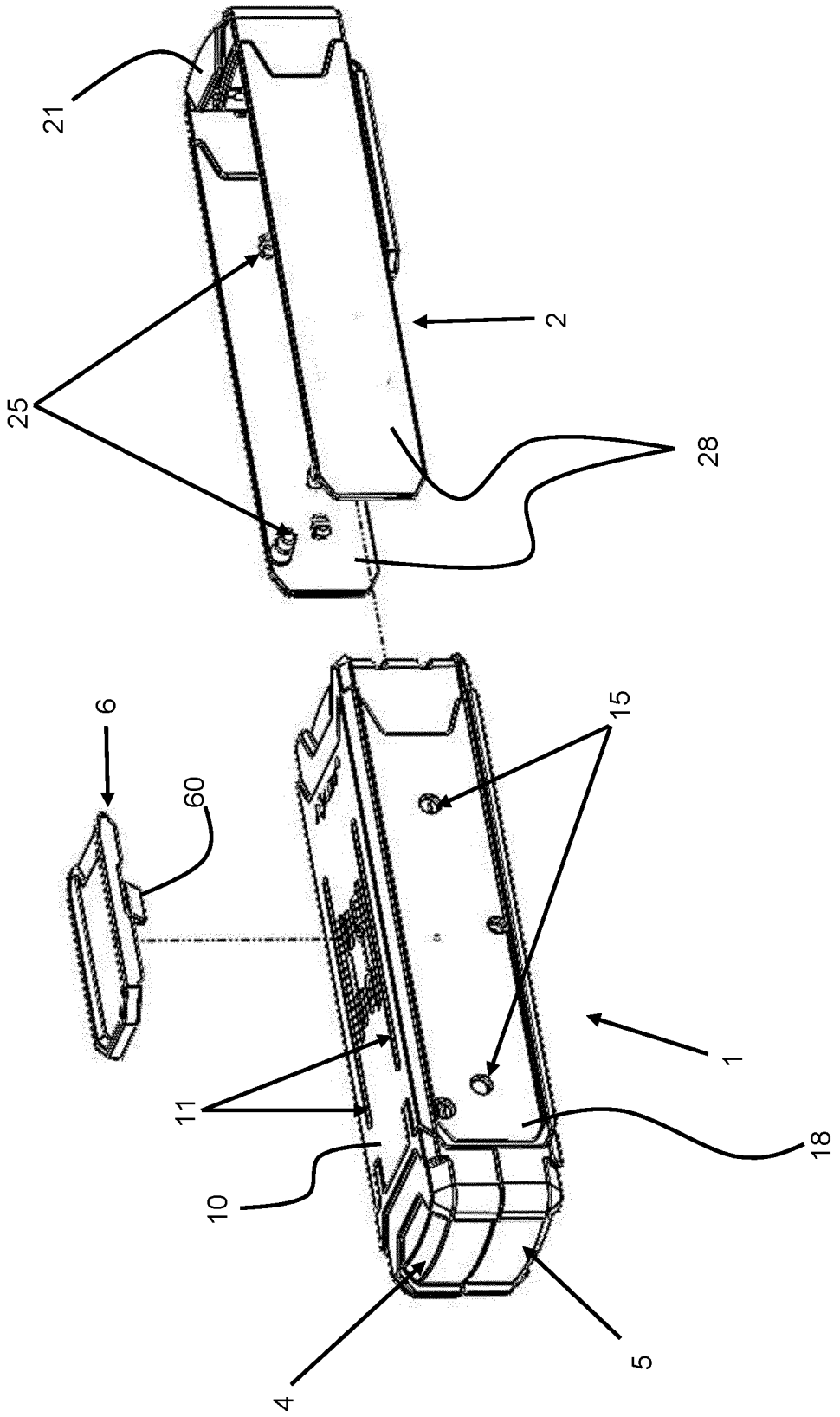

FIG. 5

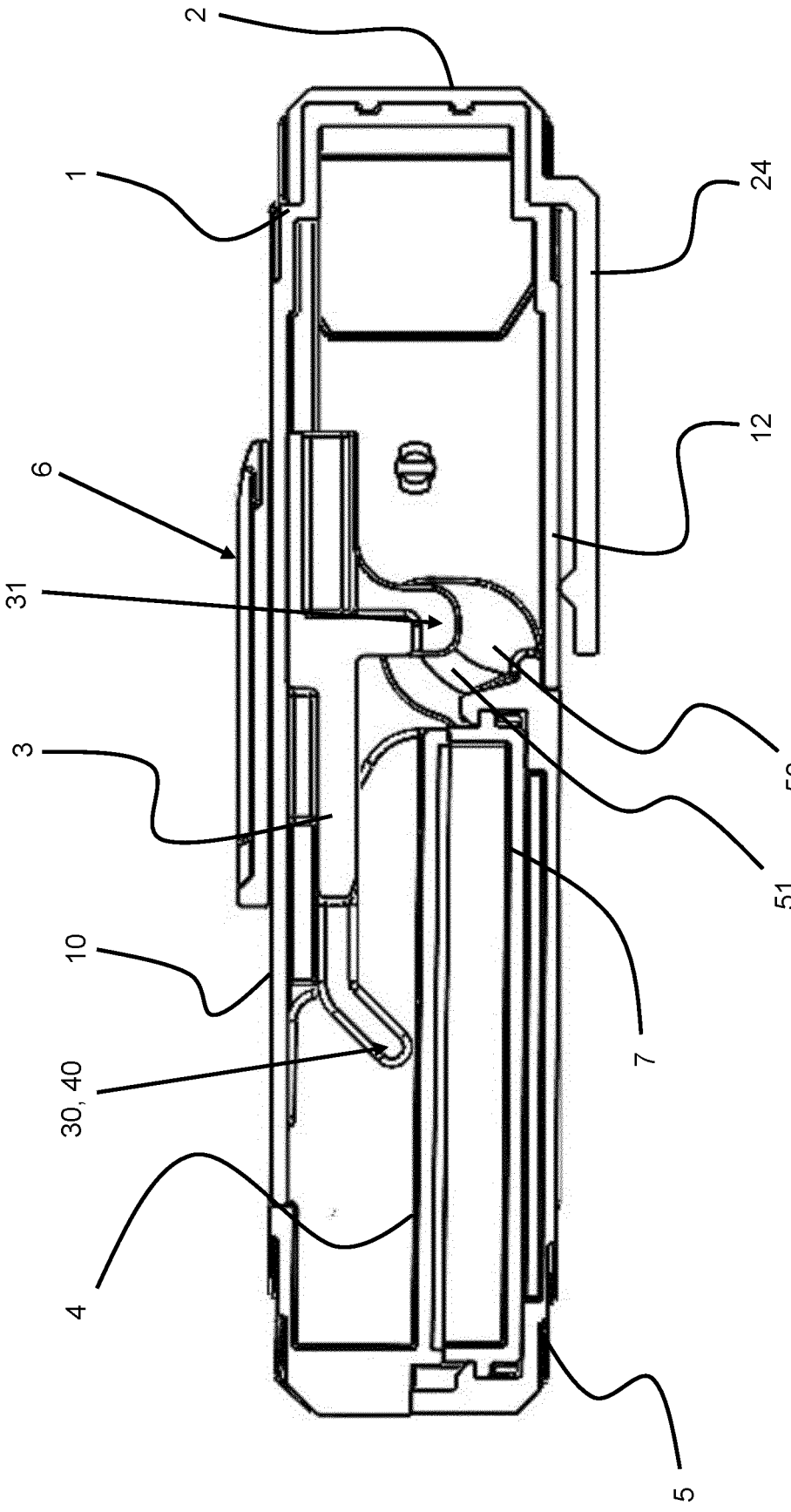

FIG. 6

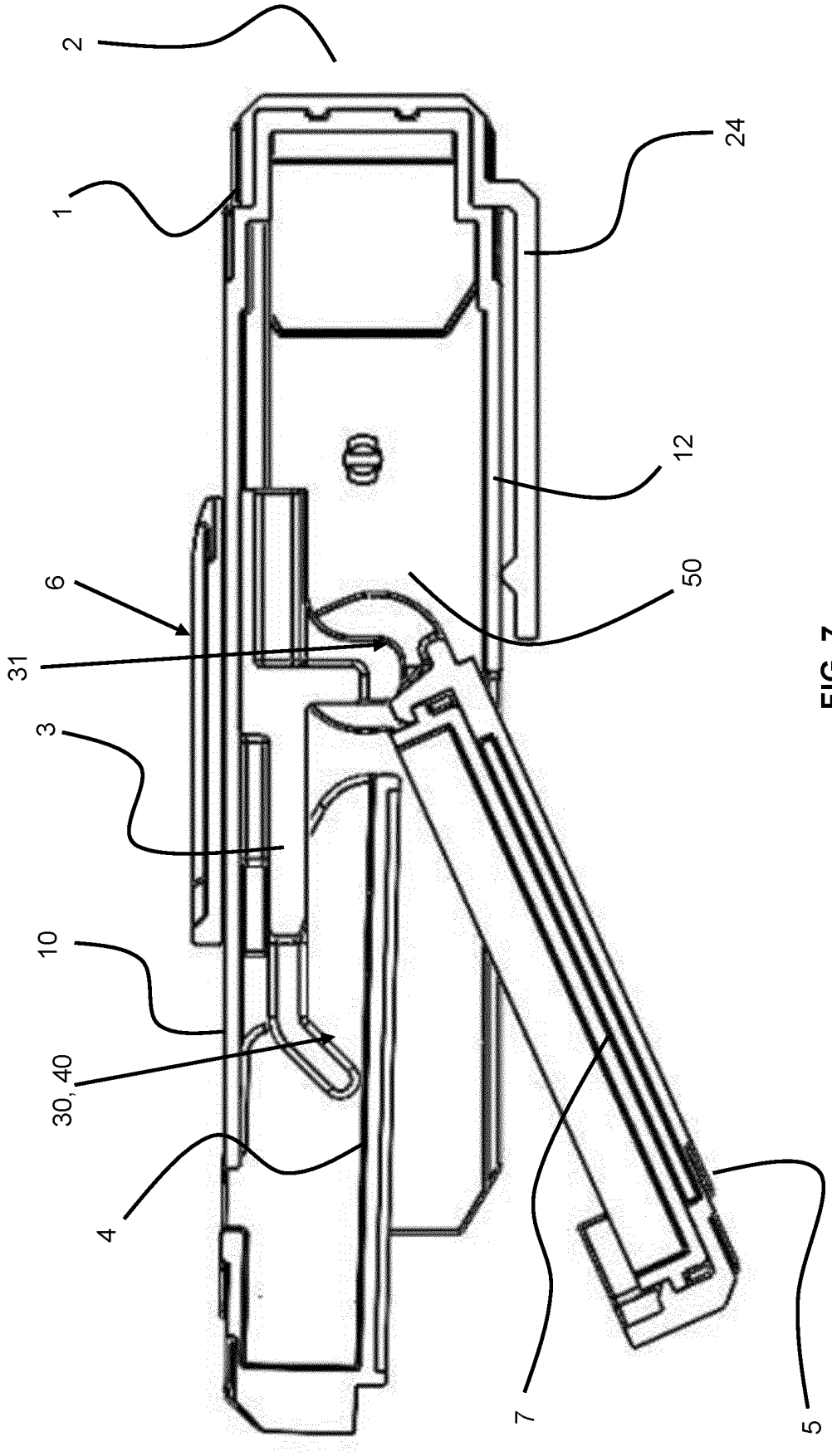

FIG. 7

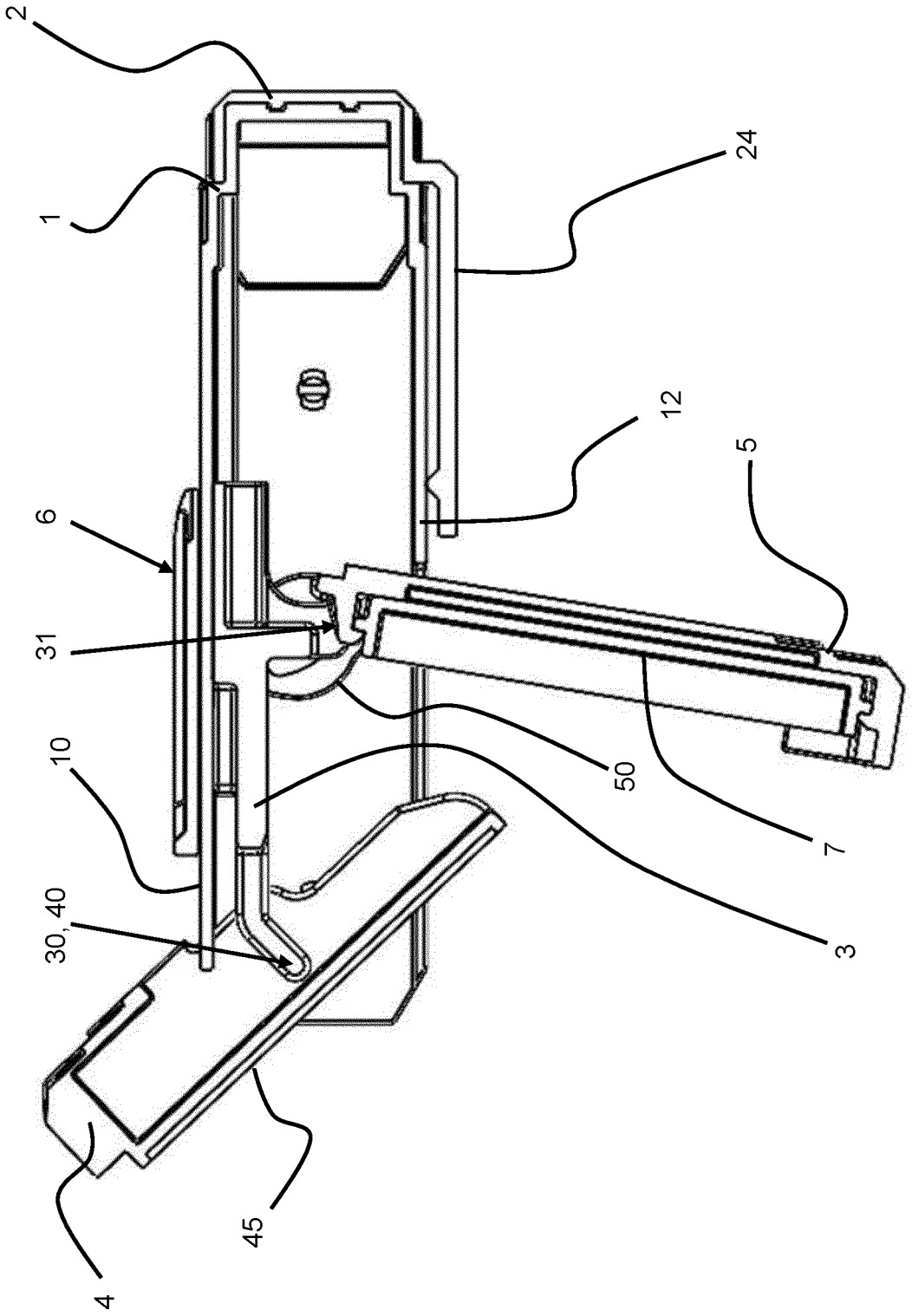

FIG. 8

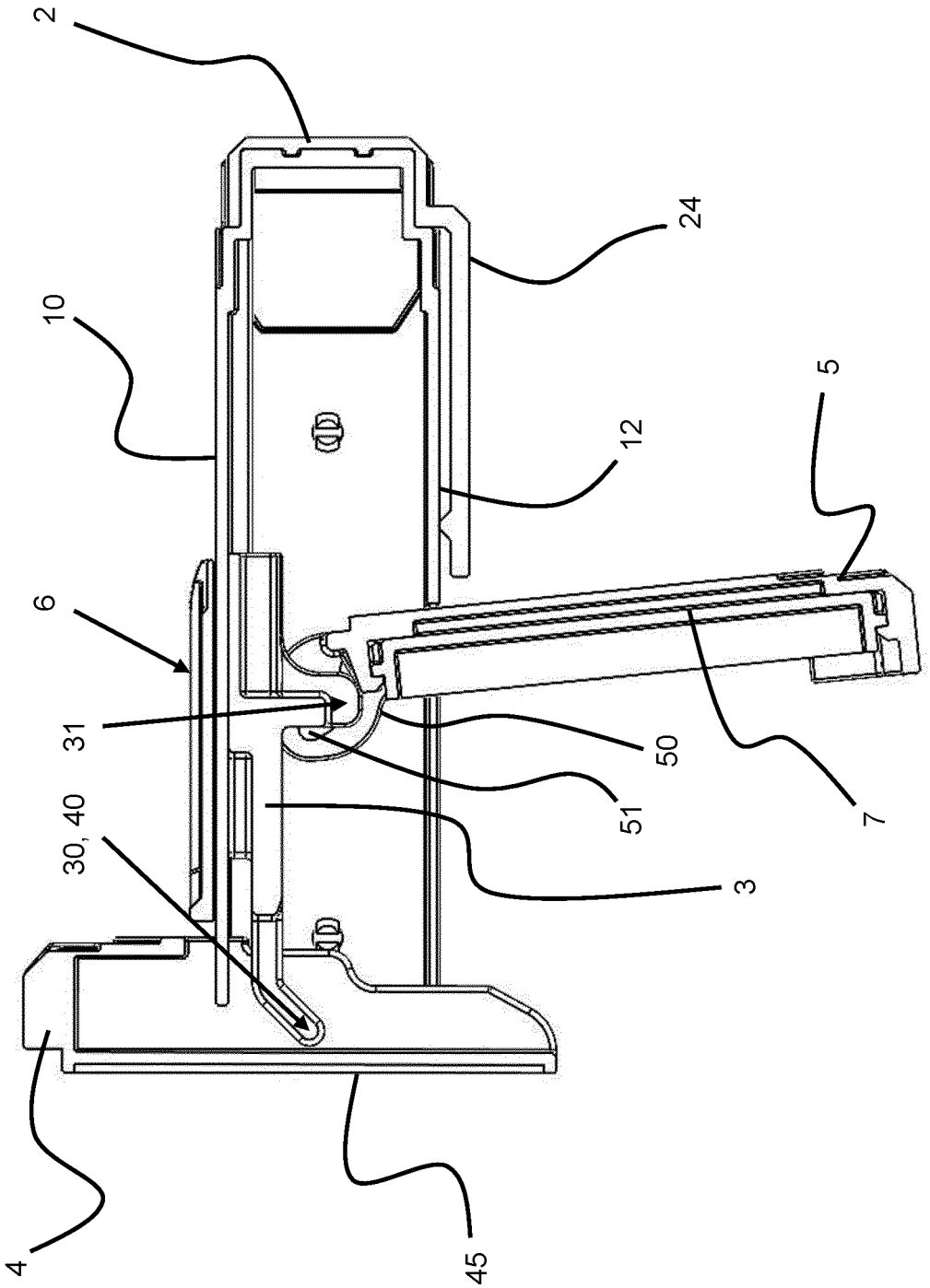

FIG. 9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR2022/050068

A. CLASSIFICATION OF SUBJECT MATTER

IPC: B41K1/00 (2006.01), B41K1/02 (2006.01), B41K1/36 (2006.01), B41K1/58 (2006.01), CPC: B41K1/006

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

B41K1/00, B41K1/02, B41K1/36, B41K1/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Base de Patentes do INPI-BR

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Derwent World Patents Index (DWPI), ESPACENET

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	**AT 520674 BI (TRODAT GMBH [AT]) 15 February 2020 (2020-02-15) Abstract; paragraph 0041-0043; Claims 1-9;**	1 - 3
A	**BR MU8902561 U2 (INKSTAND IND E COM LTDA [BR]) 04 January 2011 (2011-01-04) Abstract;**	1 - 3
A	**BR MU8801723 U2 (F E IND E COM DE CARIMBOS LTDA [BR]) 23 February 2010 (2010-02-23)**	1 - 3
A	**BR 202018006821 U2 (INKSTAND IND E COMERCIO LTDA EPP [BR]) 22 October 2019 (2019-10-22)**	1 - 3

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
10/05/2022	25/05/2022
Name and mailing address of the **ISA/BR**	Authorized officer
Facsimile No.	Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/BR2022/050068

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Form PCT/ISA/210 (continuation of second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

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