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(54) **Device for packaging parcels dropped into a safe-deposit box**

Verpackungsanlage für in einem Safe eingelegte Pakete

Dispositif d'emballage pour colis déposés dans un coffre-fort

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Description

[0001] The invention relates to a device for packaging in a plastic bag packets dropped through an insert opening in a safe. Document GB-A-2352006 discloses a packaging device having the features of the preamble of claim 1.

[0002] It is usual nowadays for shopkeepers to pack their daily takings in a small package and to drop this package into a night safe of a bank. As soon as it is wished to empty the night safe, for instance the following day or when the safe is full, the safe must be opened by two bank employees. These two bank employees are necessary in respect of the so-called four-eye principle. This means that one bank employee empties the safe while the other employee monitors the first bank employee. Fraud, through one of the packets being pocketed, is hereby reduced. When the safe is emptied the packets are placed in a plastic bag and this bag is sealed by means of an adhesive edge. Each bag is recorded, so that theft of one of the packets is not possible. This also reduces the chance of fraud.

[0003] The trend has developed in the banking sector to serve more people with fewer branches or with unmanned branches. This also reduces the number of bank employees. Since the emptying of night safes is a labour-intensive task, it is desirable to be able to empty the present safes using fewer personnel, preferably by means of only one person. This requires that emptying of the night safes can take place in a manner such that the chance of fraud is the same as or even less than when emptying safes by means of the four-eye principle.

[0004] It is now an object of the invention to provide a device which allows a night safe to be emptied by one person, wherein the chance of fraud is not increased when compared to the four-eye principle.

[0005] This object is achieved by a device according to claim 1, which device comprises:

- a frame placeable in the safe;
- suspension means for suspending the plastic bag from the frame such that the opening is directed toward the insert opening of the safe,
- sealing means comprising at least two heatable sealing bars displaceable against each other are arranged on the frame and under the suspension means for sealing shut the opening of the plastic bag.

[0006] The suspension means make it possible to hang the plastic bag, in which heretofore the packets were placed by a bank employee, in the safe such that the packets will enter the plastic bag automatically when dropped into the safe. The sealing means further ensure the desired fraud control. Using these sealing means the plastic bag can already be closed in the safe itself without the intervention of an employee. Since each bag is recorded, it is therefore not possible to commit fraud with a bag, since it is known which employee opens the safe.

[0007] A preferred embodiment of the device according to the invention comprises control means for controlling the sealing means, which control means are adapted such that the sealing means are activated immediately prior to unlocking of the safe.

[0008] As soon as a bank employee enters the code on the safe in order to open it, the control means will for instance first control the sealing means so as to ensure that the plastic bag is sealed shut before the safe door is opened.

[0009] In another embodiment of the device according to the invention the suspension means comprise two plates running parallel to each other, wherein the plates comprise pins extending substantially horizontally. The plastic bag can be provided with a number of corresponding perforations so that the bag can be suspended from these pins. The pins are preferably provided with a profiling so that the bag cannot slide off the pins. This can be advantageous when hanging a bag in the suspension means.

[0010] In yet another embodiment of the device according to the invention the plates are displaceable toward each other and spring means are arranged between the plates for holding the plates at a mutual distance. The plates ensure that the opening of the bag is held open. Tension is maintained between the plates by the spring means so that the opening of the bag is always opened to the maximum. This also ensures that the bag is properly held on the pins.

[0011] Yet another embodiment of the device according to the invention comprises detection means for detecting a bag arranged in the suspension means. These detection means detect whether the bag is properly suspended in the suspension means. If there is no bag hanging in the suspension means or if the bag is suspended wrongly, there is the risk that packets dropped into the safe do not fall into the bag, but adjacently thereof.

[0012] The sealing means are arranged under the suspension means. After being hung in a safe, a bag can hereby only be sealed shut once. If the sealing means were located above the suspension means, a bag could then be hung in the safe once again after being reopened.

[0013] The sealing means are formed by at least two heatable sealing bars displaceable against each other.

[0014] In a preferred embodiment at least one of the sealing bars comprises an identification means on the sealing surface for the purpose of arranging an identification in the seal of the bag. This identification is specific to the safe in which the bag is sealed shut. It is thus possible to find out from which safe the bag comes.

[0015] In another preferred embodiment of the device according to the invention, the suspension means are arranged slidably in the frame to enable sliding of the bag hanging from the suspension means to a door opening of the safe. It is hereby easy for the bank employee to take the bag out of the safe.

[0016] Preferably, the device according to the invention comprises monitoring means for monitoring the seal

realized by the sealing means. This monitoring indicates whether the bag is fully closed by the seal or not. In this latter case the safe can for instance indicate a malfunction, so that in that case two bank employees have to open the safe. It is also possible that the sealing means make a second attempt to properly close the bag. The monitoring can for instance take place optically or by monitoring the air-tightness of the bag.

[0017] These and other features of the invention are further elucidated with reference to the annexed drawings.

Fig. 1 shows in cross-section a device according to the invention placed in a safe.

Fig. 2 shows a detail of the device of fig. 1 in a first position.

Fig. 3 shows a detail corresponding with fig. 2 in a second position.

[0018] Fig. 1 shows the device 1 according to the invention. This device 1 is placed in a safe 3 built into wall 2.

[0019] In fig. 2 an insert opening 4 is placed through which packets 5 can be dropped into safe 3. Arranged behind insert opening 4 is a sluice 6 which ensures that packets 5 are dropped one by one into the safe. The insert opening 4 can moreover be closed temporarily with this sluice 6, for instance when safe 3 is emptied.

[0020] The device 1 according to the invention comprises a frame 7 on which is mounted a suspension device 8 on which a plastic bag 9 can be hung. Further provided are a sealing device 10 and a control 11.

[0021] Fig. 2 shows suspension device 8 and sealing device 10 in more detail. Suspension device 8 consists of two elongate plates 12, each provided with hanging pins 13. The plastic bag 9 is suspended from these hanging pins 13. The two elongate plates 12 are urged apart by springs 14. If a bag has to be placed on suspension device 8, the two elongate plates 12 can then be pressed toward each other so that the bag can be pushed over the pins 13.

[0022] Sealing device 10 comprises two sealing bars 15, and one of the sealing bars 15 is mounted fixedly on frame 7. The other sealing bar 15 is arranged on the end of a lever 16 which pivots about pivot point 17. Arranged on the other end of lever 16 is an actuator 18 to enable the sealing bars 15 to be carried toward each other. Since the sealing bars are arranged under suspension device 8, a seal 19 can thus be arranged in the bag (see fig. 3). The elongate plates 12 are herein pressed toward each other by lever 16. Sealing bars 15 lie against each other and a seal 19 is arranged in plastic bag 9 by heating these bars 15.

[0023] In sealing bar 15 can be provided a special insert 20 (see fig. 2) with which a special identification can be arranged in seal 19.

Claims

1. Device (1) for packaging in a plastic bag (9) packets dropped through an insert opening (4) in a safe (3), which device (1) comprises:
 - a frame (7) placeable in the safe (3);
 - suspension means (8) for suspending the plastic bag (9) from the frame (7) such that the opening of the bag is directed toward the insert opening of the safe;
 - sealing means (10) arranged on the frame (7) for sealing shut the opening of the plastic bag (9); **characterized in that** the sealing means (10) are arranged under the suspension means (8); and
 - wherein the sealing means (10) comprise at least two heatable sealing bars (15) displaceable against each other.
2. Device as claimed in claim 1, comprising control means for controlling the sealing means, which control means are adapted such that the sealing means are activated immediately prior to unlocking of the safe.
3. Device as claimed in claim 1 or 2, wherein the suspension means comprise two plates running parallel to each other, wherein the plates comprise pins extending substantially horizontally.
4. Device as claimed in claim 3, wherein the pins are provided with a profiling.
5. Device as claimed in claim 3 or 4, wherein the plates are displaceable toward each other, and spring means are arranged between the plates for holding the plates at a mutual distance.
6. Device as claimed in any of the foregoing claims, comprising detection means for detecting a bag arranged in the suspension means.
7. Device as claimed in any of the foregoing claims, wherein at least one of the sealing bars comprises an identification means on the sealing surface for the purpose of arranging an identification in the seal of the bag.
8. Device as claimed in any of the foregoing claims, wherein the suspension means are arranged slidably in the frame to enable sliding of the bag hanging from the suspension means to a door opening of the safe.
9. Device as claimed in any of the foregoing claims, comprising monitoring means for monitoring the seal realized by the sealing means.

10. System comprising a device (1) according to claim 3, 4, or 5 and a plastic bag (9), wherein the suspension means (8) comprise two plates (12) running parallel to each other, wherein the plates (12) comprise pins (13) extending substantially horizontally, and wherein the plastic bag (9) is provided with a number of corresponding perforations for suspending the bag from these pins.
11. System as claimed in claim 10, the plastic bag (9) having an opening suitable to be sealed shut under the perforations by means of the sealing means comprising the at least two heatable sealing bars displaceable against each other.

Patentansprüche

1. Vorrichtung (1) zum Verpacken von Paketen, die durch eine Einführungsöffnung (4) in einen Safe (3) eingeworfen wurden, in Plastikbeuteln (9), wobei die Vorrichtung (1) umfasst:

- ein Gestell (7), das in dem Safe (3) platzierbar ist;
- ein Aufhängungsmittel (8) zum Aufhängen des Plastikbeutels (9) am Gestell (7), so dass die Öffnung des Beutels zur Einführungsöffnung des Safes ausgerichtet ist;
- ein Versiegelungsmittel (10), das an dem Gestell (7) für ein dichtendes Verschießen der Öffnung des Plastikbeutels (9) angeordnet ist; **dadurch gekennzeichnet, dass** das Versiegelungsmittel (10) unterhalb des Aufhängungsmittels (8) angeordnet ist; und wobei das Versiegelungsmittel (10) wenigstens zwei beheizbare Siegelleisten (15) umfasst, die gegeneinander versetzbar ausgebildet sind.

2. Vorrichtung gemäß Anspruch 1 umfassend ein Steuermittel zum Steuern des Versiegelungsmittels, wobei das Steuermittel derart ausgelegt ist, dass das Versiegelungsmittel unmittelbar vor einem Aufschließen des Safes aktiviert wird.
3. Vorrichtung gemäß Anspruch 1 oder 2, bei der das Aufhängungsmittel zwei parallel zueinander verlaufende Platten umfasst, wobei die Platten Stifte umfassen, die sich im Wesentlichen horizontal erstrecken.
4. Vorrichtung gemäß Anspruch 3, bei der die Stifte mit einer Profilierung versehen sind.
5. Vorrichtung gemäß Anspruch 3 oder 4, bei der die Platten zueinander versetzbar angeordnet sind, und ein Federmittel zwischen den Platten zum Halten der Platten in einer wechselseitigen Entfernung vorge-

sehen ist.

6. Vorrichtung gemäß einem der vorstehenden Ansprüche, umfassend ein Erfassungsmittel zum Erfassen eines Beutels, der in dem Aufhängungsmittel angeordnet ist.
7. Vorrichtung gemäß einem der vorstehenden Ansprüche, bei der wenigstens eine der Siegelleisten ein Identifikationsmittel an der Versiegelungsfläche zum Anordnen einer Identifikation in dem Siegel des Beutels umfasst.
8. Vorrichtung gemäß einem der vorstehenden Ansprüche, bei der das Aufhängungsmittel verschiebbar in dem Gestell angeordnet ist, um ein Verschieben des Beutels, der von dem Aufhängungsmittel herabhängt, zu einer Türöffnung des Safes zu ermöglichen.
9. Vorrichtung gemäß einem der vorstehenden Ansprüche umfassend ein Überwachungsmittel zum Überwachen des Siegels, das über das Versiegelungsmittel realisiert wurde.
10. System umfassend eine Vorrichtung (1) gemäß Anspruch 3, 4 oder 5 und einen Plastikbeutel (9), bei dem das Aufhängungsmittel (8) zwei Platten (12) umfasst, die parallel zueinander verlaufen, wobei die Platten (12) Stifte (13) umfassen, die sich im Wesentlichen horizontal erstrecken, und wobei der Plastikbeutel (9) mit einer Anzahl von korrespondierenden Perforationen zum Aufhängen des Beutels an diesen Stiften vorgesehen ist.
11. System gemäß Anspruch 10, bei dem der Plastikbeutel (9) eine Öffnung aufweist, die ausgelegt ist, um unter den Perforationen mittels des Versiegelungsmittels, das die wenigstens zwei heizbaren Versiegelungsriegel gegeneinander versetzbar umfasst, versiegelt geschlossen zu werden.

Revendications

1. Dispositif (1) destiné à conditionner dans une poche en matière plastique (9) des paquets déposés à travers une ouverture d'insertion (4) dans un coffre (3), lequel dispositif (1) comprend :
- un châssis (7) pouvant être placé dans le coffre (3) ;
 - des moyens de suspension (8) destinés à suspendre la poche en matière plastique (9) à partir du châssis (7) de telle manière que l'ouverture de la poche est orientée vers l'ouverture d'insertion du coffre ;
 - des moyens de scellement (10) agencés sur

- le châssis (7) afin de sceller à l'état fermé l'ouverture de la poche en matière plastique (9) ; **caractérisé en ce que** les moyens de scellement (10) sont agencés en-dessous des moyens de suspension (8) ; et dans lequel les moyens de scellement (10) comprennent au moins deux barres de scellement pouvant être chauffées (15), qui peuvent être déplacées l'une contre l'autre.
2. Dispositif selon la revendication 1, comprenant des moyens de commande destinés à commander les moyens de scellement, lesquels moyens de commande sont adaptés de telle sorte que les moyens de scellement sont activés immédiatement avant le déverrouillage du coffre.
3. Dispositif selon la revendication 1 ou 2, dans lequel les moyens de suspension comprennent deux plaques s'étendant parallèlement l'une à l'autre, dans lequel les plaques comprennent des broches s'étendant sensiblement horizontalement.
4. Dispositif selon la revendication 3, dans lequel les broches présentent un profilage.
5. Dispositif selon la revendication 3 ou 4, dans lequel les plaques peuvent être déplacées l'une vers l'autre, et des moyens formant ressort sont agencés entre les plaques afin de maintenir les plaques à une certaine distance mutuelle.
6. Dispositif selon l'une quelconque des revendications précédentes, comprenant des moyens de détection destinés à détecter une poche agencée sur le moyen de suspension.
7. Dispositif selon l'une quelconque des revendications précédentes, dans lequel au moins l'une des barres de scellement comprend un moyen d'identification sur la surface de scellement dans le but d'assurer l'application d'une identification sur le scellement de la poche.
8. Dispositif selon l'une quelconque des revendications précédentes, dans lequel les moyens de suspension sont agencés de manière à pouvoir coulisser sur le châssis afin de permettre le glissement de la poche en suspension à partir des moyens de suspension vers une ouverture de porte du coffre.
9. Dispositif selon l'une quelconque des revendications précédentes, comprenant un moyen de contrôle destiné à contrôler le scellement réalisé par les moyens de scellement.
10. Ensemble comprenant un dispositif (1) selon la revendication 3, 4 ou 5 et une poche en matière plastique (9), dans lequel les moyens de suspension (8) comprennent deux plaques (12) s'étendant parallèlement l'une à l'autre, dans lequel les plaques (12) comprennent des broches (13) s'étendant sensiblement horizontalement et dans lequel la poche en matière plastique (9) comporte un certain nombre de perforations correspondantes afin de suspendre la poche à partir de ces broches.
11. Ensemble selon la revendication 10, la poche en matière plastique (9) comportant une ouverture adaptée de manière à être scellée à l'état fermé au-dessous des perforations à l'aide des moyens de scellement comprenant les au moins deux barres de scellement pouvant être chauffées, qui peuvent être déplacées l'une contre l'autre.

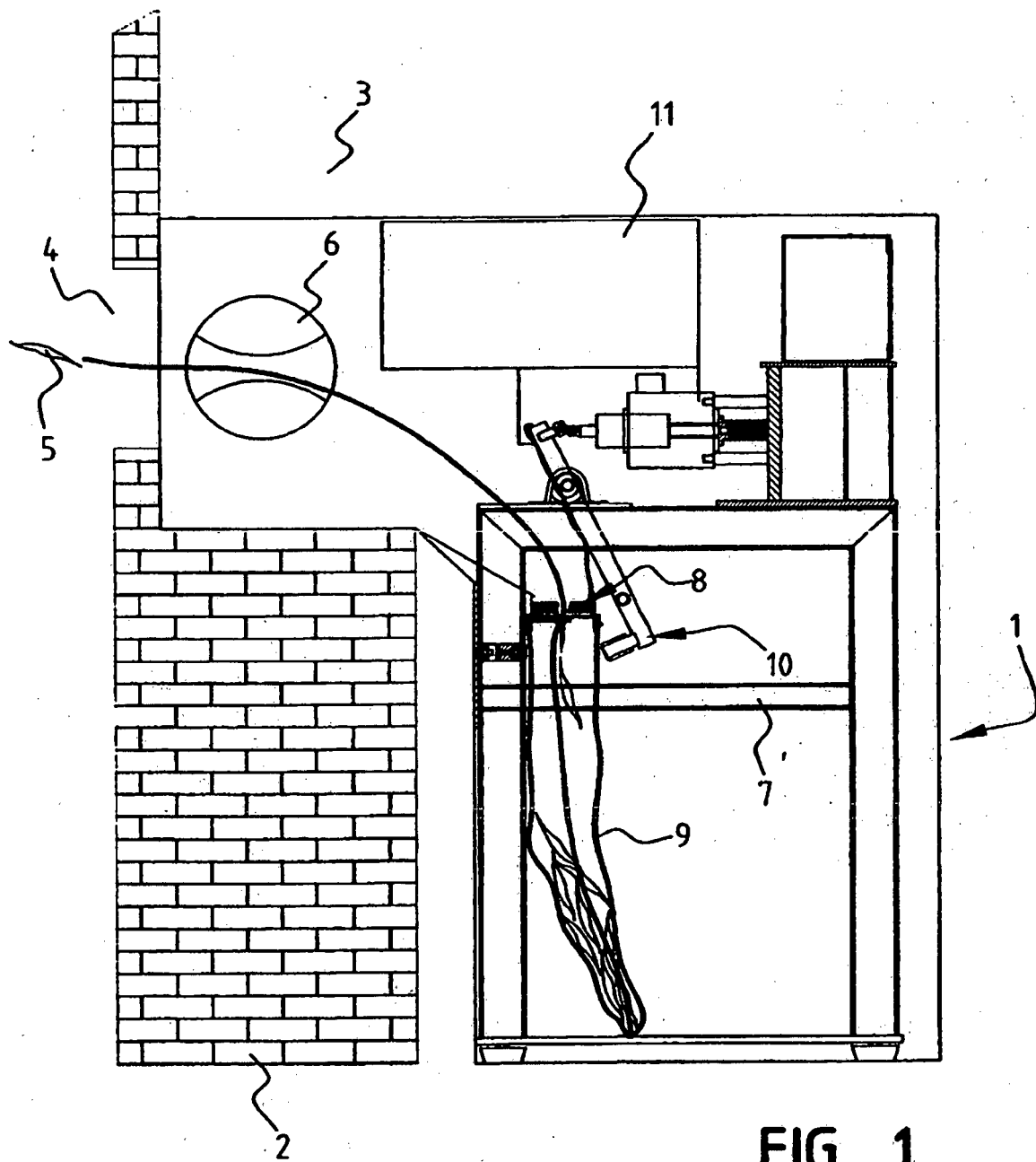


FIG. 1

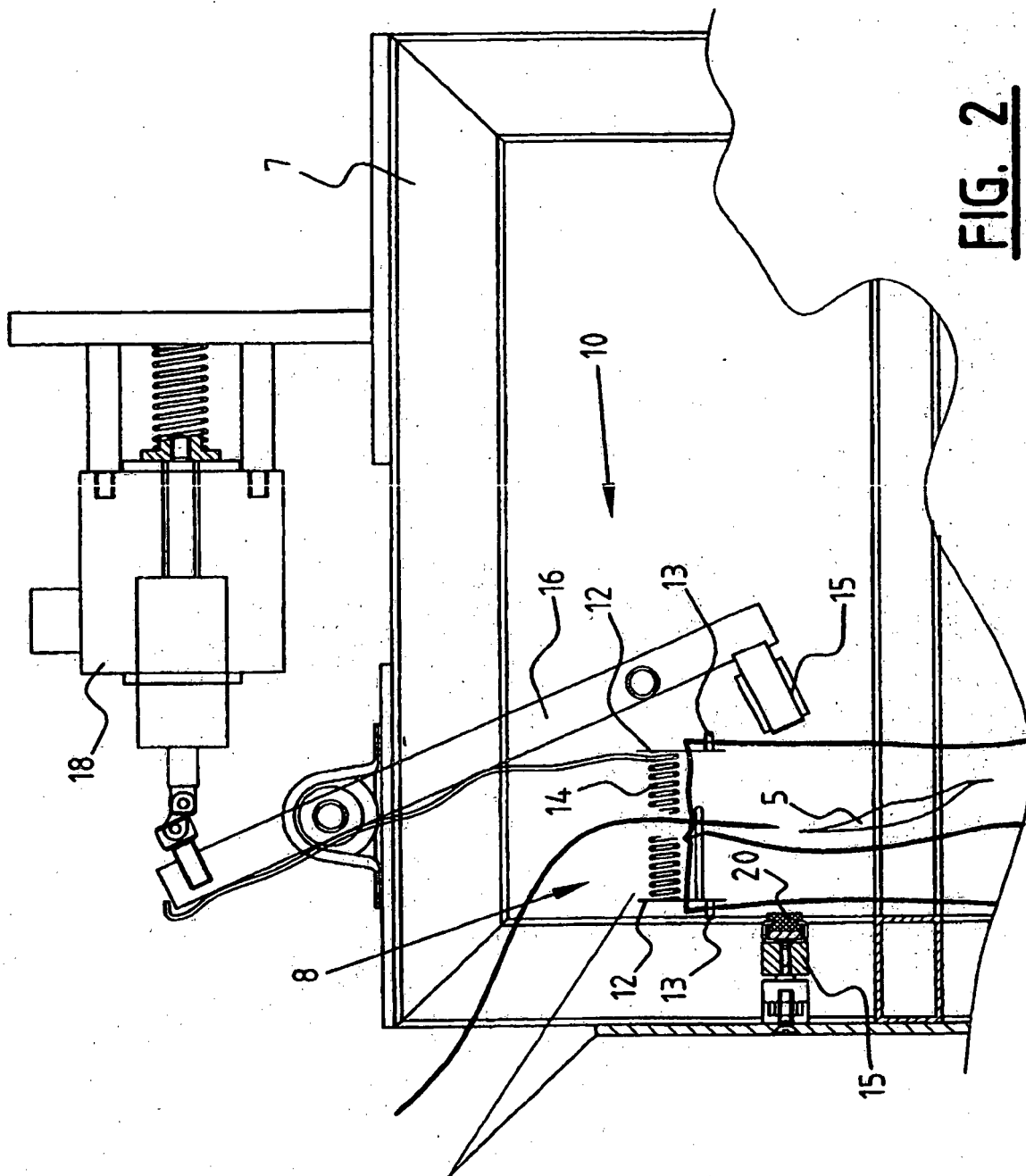
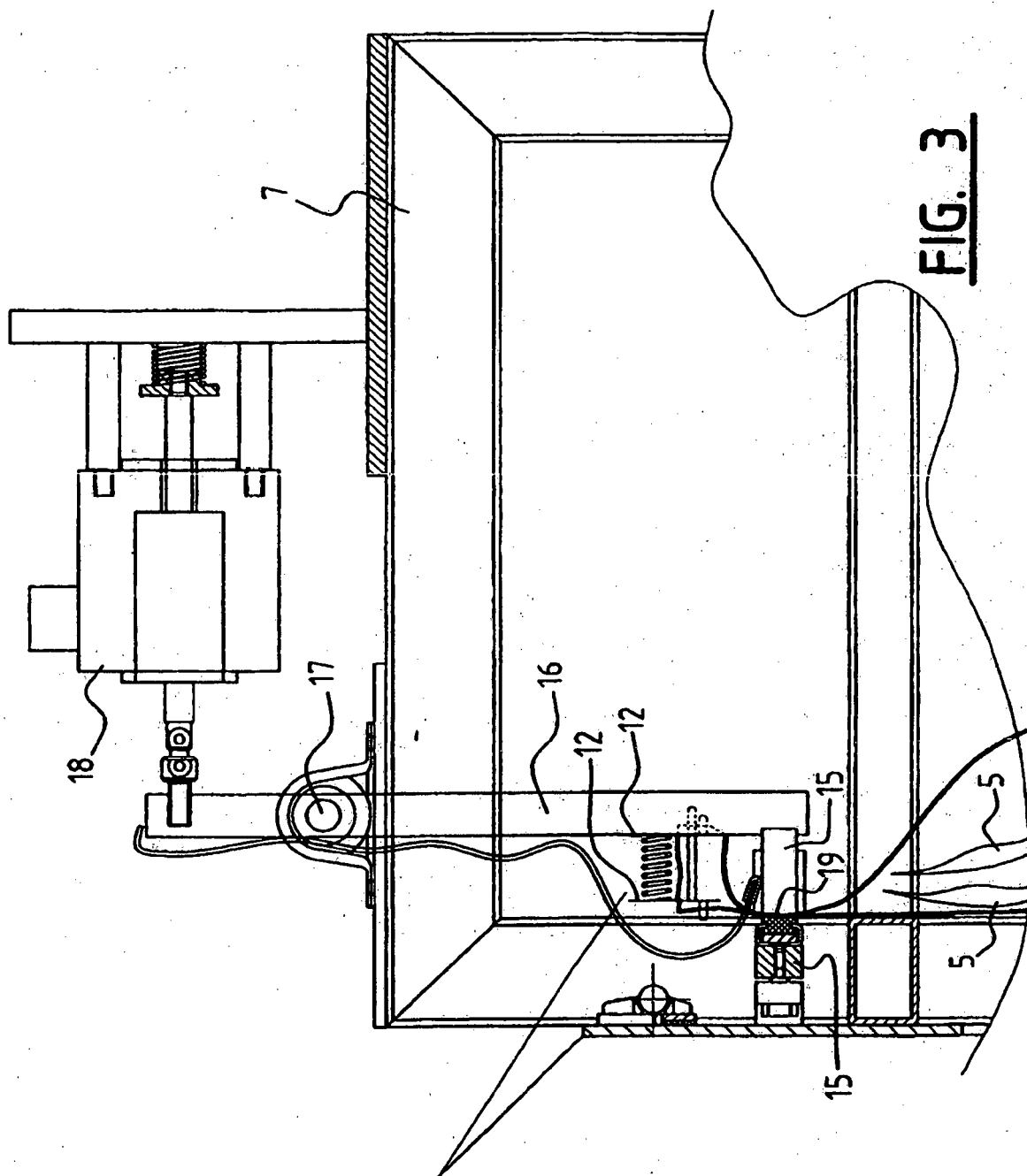


FIG. 2



REFERENCES CITED IN THE DESCRIPTION

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