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(54) **Paper feed cassette**

Papiertransportkassette

Cassette pour l'alimentation en papier

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- **PATENT ABSTRACTS OF JAPAN** vol. 1996, no. 05, 31 May 1996 (1996-05-31) -& JP 08 002705 A (CANON INC), 9 January 1996 (1996-01-09)
- **PATENT ABSTRACTS OF JAPAN** vol. 2002, no. 02, 2 April 2002 (2002-04-02) -& JP 2001 301994 A (MINOLTA CO LTD), 31 October 2001 (2001-10-31)

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Description

[0001] The present invention relates to a paper feed cassette for a printer, a copier, a fax machine, or the like, having a first housing, whereby a second housing for receiving sheets is positioned in the first housing, the second housing being mounted so it is movable in the first housing, and a blocking device is provided for a motion direction of the second housing in relation to the first housing.

[0002] The JP 2001 301994 A discloses a sheet feeding device with a first housing part and a second housing part provided inside the first housing part.

[0003] The US 2004/000750 A1 shows a paper tray assembly where a second housing is provided in a first housing. The second housing is for one size of paper and may be changed to provide a different size of paper.

[0004] The DE 38 44 325 A1 discloses a printer, where the paper may be provided in a fixed paper tray or a removable paper tray. The EP 0 700 851 A shows a sheet feeding device intended to be mounted on an image-forming apparatus with a slide and a tray.

[0005] The EP 0 296 820 A shows a paper feed cassette comprising a housing and a tiltable box within the housing.

[0006] The JP 08 002 705 A discloses a paper feeding device for a printer, copying machine or the like. Within its housing a base plate for stacking a pile of paper is provided.

[0007] The EP 0 398 220 A shows a paper feed cassette for a copying machine.

[0008] The US 3 989 236 A shows a copying machine for printing on both sides of a sheet of paper. The machine comprises two separate paper holders that are both supported by a plurality of parallel levers of the same length.

[0009] Paper feed cassettes of this type offer a paper reserve to a printer, a copier, a fax machine, or the like, the paper feed cassettes working together with a paper receiving device, the paper stack being pressed down by the paper receiving device and the paper subsequently being received. The processable stack height of the paper is limited by the maximum travel height of the paper receiving device.

[0010] The object of the present invention is to specify a paper feed cassette of the type described at the beginning, which avoids the known disadvantages and in which a quantity of paper exceeding the processable stack height of the paper receiving device may be provided.

[0011] This is achieved according to the present invention in that the blocking device has at least one first wedge element and at least one diametrically opposite second wedge element, the first wedge element being assigned to the first housing and the second wedge element being assigned to the second housing, and the first wedge element is positioned so it is displaceable in relation to the first housing and/or the second wedge element is positioned so it is displaceable in relation to the second hous-

ing.

[0012] The advantage thus results that the second housing may be blocked in relation to the first housing by the blocking device when paper is removed, particularly when paper is removed against the force direction of the paper receiving device, through which yielding of the paper stack through the pressure of the paper receiving device is prevented and perfect functioning of the paper removal may be ensured. An elevated quantity of paper may thus be provided to a paper receiving device by the paper feed cassette according to the present invention, because of which paper has to be refilled less often. In this way, it may be ensured, particularly in the event of long absence, that a fax machine has a sufficient paper reserve and the danger of data loss because of a lack of output and/or memory capacity is significantly reduced.

[0013] The wedge elements represent a simple embodiment of the blocking device, automatic setting of the blocking device to the fill level of the paper feed cassette being able to be ensured through the displaceable positioning of at least one of the wedge elements.

[0014] According to a further embodiment of the present invention, the displaceable wedge element may be spring-loaded using a pre-tensioning device in the direction of the diametrically opposing wedge element when the paper feed cassette is inserted. Through the pre-tensioning device, it may be ensured that the wedge elements are always engaged and the motion direction of the first housing in relation to the second housing is effectively blocked in the direction of the wedge elements.

[0015] In a further embodiment of the present invention, a driver element for activating the pre-tensioning device, which may be actuated when the paper feed cassette is inserted, may be provided. Through the driver element, the activation of the pre-tensioning device may be caused easily without an additional operating procedure when the paper feed cassette is inserted, the blocking device being deactivated and refilling of sheets being made possible when the paper feed cassette is removed.

[0016] Paper feed cassettes of this type offer a paper reserve to a printer, a copier, a fax machine, or the like, the paper feed cassettes working together with a paper receiving device, the paper stack being pressed down by the paper receiving device and the paper subsequently being received.

[0017] The processable stack height of the paper is limited by the maximum travel height of the paper receiving device.

[0018] In a further embodiment of the present invention, the present invention relates to a paper feed cassette for a printer, a copier, a fax machine, or the like having a first housing, where it is the object of the present invention is to specify a paper feed cassette of the type described at the beginning, which avoids the known disadvantages and in which a quantity of paper exceeding the processable stack height of the paper receiving de-

vice may be provided, whereby this is achieved according to a second aspect of the present invention in that a second housing for receiving sheets is positioned in the first housing, the second housing being mounted in the first housing so it is movable using at least one lever arm.

[0019] The advantage thus results that the second housing is easily movable in relation to the first housing, only slight friction occurring. Through the interaction of a paper receiving device with the second housing, the sheets of a paper stack may be completely removed using a paper receiving device whose travel height is less than the thickness of the paper stack. An increased quantity of paper may thus be provided to a paper receiving device by the paper feed cassette according to the present invention, because of which paper has to be refilled less often. In this way, it may be ensured, particularly in the event of long absence of an operator, that a fax machine has a sufficient paper reserve and the danger of data loss because of a lack of output and/or memory capacity is significantly reduced.

[0020] In a refinement of the present invention, the sheets in the second housing may be positioned on the narrow side of the sheets at a predefinable angle of incidence, and the motion of the second housing in relation to the first housing may occur between an upper end position and a lower end position essentially along a circuit, the circuit approximating a straight line with the angle of incidence and the maximum deviation - measured perpendicularly to this straight line - being less than 1 cm, preferably less than 8 mm, particularly less than 5 mm, through which the sheets may be provided uniformly over the entire stack height and reliable removal by a paper receiving device may be ensured.

[0021] According to another embodiment of the present invention, the second housing may have a floor corresponding to the format of the sheets, two long side walls, and at least one narrow side wall. In this way, reliable guiding of the sheets in the second housing may be ensured.

[0022] In a further implementation of the present invention, one front lever arm and one rear lever arm may be positioned on each of the long side walls, each two of the lever arms being positioned diametrically opposite and the lever arms having equal lever lengths, through which uniform and reliable motion of the second housing in relation to the first housing may be ensured.

[0023] In this connection, in a refinement of the present invention, the rear lever arms may be connected to one another using a connection element at their ends facing away from the second housing. Through the connection element, a high stability of the mounting of the second housing in the first housing and a high uniformity of the relative motion may be ensured.

[0024] In a further embodiment of the present invention, an equalization element for positioning the current uppermost sheet may be positioned between the first housing and the second housing. If sheets are removed from the second housing, the height of the uppermost

sheet falls. Through the equalization element, this height may be compensated for, through which the height of the uppermost sheet is kept approximately constant for at least a part of the stack projecting over the second housing, and reliable removal of the uppermost sheet via the paper receiving device may be ensured.

[0025] According to a further embodiment of the present invention, a blocking device as described at the beginning may be provided, through which the motion of the second housing in relation to the first housing may be blocked easily if necessary.

[0026] The present invention will be described in greater detail with reference to the attached drawing, in which an embodiment is shown.

Figure 1 shows a paper feed cassette according to the present invention in section;

Figure 2 shows a diagonal view of the first housing shown in Figure 1;

Figures 3 through 5 show diagonal views of the second housing shown in Figure 1;

Figure 6 shows an enlarged illustration of the front part of the second housing; and

Figure 7 shows an enlarged illustration of the front part of the second housing, additional first wedge elements being shown.

[0027] An embodiment of a paper feed cassette 1 according to the present invention having a first housing 2 is shown in Figures 1 through 7. The paper feed cassette 1 is suitable for use with a printer, a copier, a fax machine, or similar devices which remove sheets from a supply stack. A second housing 3 for receiving sheets is positioned in the first housing 2, the second housing 3 being mounted so it is movable in the first housing 2. Through the motion of the second housing 3, the sheets received in the second housing 3 may be moved in relation to the first housing 2. The sheets may be made of paper, cardboard, a film, or other materials typical for such devices. Furthermore, a blocking device 4 for a motion direction of the second housing 3 in relation to the first housing 2 is provided. Using the blocking device 4, in the embodiment shown, the downward motion of the second housing 3 in the first housing 2 may be blocked. When sheets are removed from the paper feed cassette 1 by a paper receiving device, the paper receiving device presses the second housing 3 in the direction of the first housing 2, the second housing 3 being held by the blocking device 4. In this case, it is sufficient if the maximum travel height of the paper receiving device corresponds to the depth of the second housing 3. If a paper feed cassette 1 is filled completely, the second housing 3 is positioned lowered in the first housing 2 and the stack of sheets projects over the second housing 3. During removal by the paper receiving device, only a slight travel is necessary, since the travel motion executed is limited by the stack itself. If the height of the stack is greater than the maximum travel height of the paper receiving device, if the second housing 3 is connected fixed to the first housing 2, only a part of the stack may be removed. In the paper feed

cassette 1, the second housing 3 is positioned so it is movable in the first housing 2. If the second housing 3 is raised in relation to the first housing 2, it may be ensured that the paper receiving device may engage the uppermost sheet of the stack, even if the stack only comprises one sheet. Using the blocking device 4, unintentional displacement of the second housing 3 in relation to the first housing 2 by the paper receiving device may be prevented, so that only the depth of the second housing is active in relation to the paper receiving device. In this way, using the paper feed cassette 1, a stack of sheets which is higher than the maximum travel height of the paper receiving device may be processed by the paper receiving device.

[0028] The blocking device 4 may have at least one first wedge element 41 and at least one diametrically opposite second wedge element 42, the first wedge element 41 being assigned to the first housing 2 and the second wedge element 42 being assigned to the second housing 3. In the embodiment shown, the first wedge element 41 is positioned so it is displaceable in relation to the first housing 2. In other embodiments, the second wedge element 42 may also be positioned so it is displaceable in relation to the second housing 3. However, both the first wedge element 41 and the second wedge element 42 may be positioned so they are displaceable in relation to the first housing 2 and the second housing 3, respectively.

[0029] In this case, the displaceable wedge elements 41, 42 may be displaceable in essentially perpendicularly to the motion direction of the second housing 3 in relation to the first housing 2. Depending on the position of the wedge elements 41, 42 to one another, the motion of the second housing 3 in relation to the first housing 2 may be blocked in different positions.

[0030] The displaceable wedge element 41, 42 is preferably spring-loaded in the direction of the diametrically opposite wedge element 41, 42 using a pre-tensioning device 43 when the paper feed cassette 1 is inserted. In this case, in the event of a motion of the second housing 3 in relation to the first housing 2 against the blocked motion direction, the displaceable wedge element 41, 42 is moved along, so that the action of the blocking device 4 in the particular position occurs essentially immediately.

[0031] When the paper feed cassette 1 is removed, the blocking device may be deactivated, through which unobstructed displacement of the second housing 3 in relation to the first housing 2 is made possible and the paper feed cassette 1 may be loaded with sheets. In this case, a driver element 46, which may be actuated when the paper feed cassette 1 is inserted, may be provided for activating the pre-tensioning device 43.

[0032] The mode of operation of a preferred embodiment of the blocking device 4 may be seen in Figure 6. In this case, multiple first wedge elements 41 and multiple second wedge elements 42 are provided, second wedge elements 42 particularly being positioned in the region

below the paper receiving device - in the inserted state. In this embodiment, the first wedge elements 41 are positioned so they are displaceable in relation to the first housing 2, these elements being connected to a guide element 44 and the guide element 44 being mounted so it is displaceable in the first housing 2. Furthermore, a tension element 45 is mounted so it is displaceable in the first housing 2, the tension element 45 also being displaceable in relation to the guide element 44. The guide element 44 and the tension element 45 are connected to one another using a first tension spring element 47. Furthermore, the tension element 45 is connected to the first housing 2 using a second tension spring element 48. Furthermore, the tension element 45 has the driver element 46.

[0033] When the paper feed cassette 1 is inserted, the tension element 45 is moved against the action of the second tension spring element 48 using the driver element 46. In this case, the first wedge elements 41 are spring-loaded against the second wedge elements 42 by the guide element 44 using the first tension spring element 47. If the second housing 3 is raised in relation to the first housing 2, a space is produced between the first wedge elements 41 and the second wedge elements 42, the first wedge elements 41 being displaced, because of the action of the first tension spring element 47, until the first wedge elements 41 engage again with the second wedge elements 42.

[0034] If the paper feed cassette 1 is removed from the printer, the copier, the fax machine, or the like, the driver element 46 is disengaged and the tension element 45 is displaced by the action of the second tension spring element 48. In this case, the guide element is also displaced in such a way that the first wedge elements 41 are moved against the direction of the second wedge elements 42, the blocking device 4 being deactivated and the second housing 3 able to be moved freely in relation to the first housing 2.

[0035] The second housing 3 may be mounted so it is movable in the first housing 2 using at least one lever arm 51, 52. A circular motion is predefined by the lever arm 51, 52, friction forces particularly being able to be kept low. In other embodiments of the paper feed cassette 1, the second housing 3 may also be movable along a slide rail or the like in relation to the first housing 2.

[0036] Through the lever arms 51, 52, a simple construction results for the motion of the second housing 3 in relation to the first housing 2, the axes of rotation being able to be implemented by projections molded onto the lever arms 51, 52 and diametrically opposed recesses in the first housing 2 and/or the second housing 3. In this case the construction may be manufactured having a small overall volume from components which are simple to implement, particularly one-piece plastic parts.

[0037] The sheets may be positioned in the second housing 3 at a predefinable angle of incidence on the narrow side of the sheets, the motion of the second housing 3 in relation to the first housing 2 between an upper

end position and a lower end position being essentially approximated by a straight line having the angle of incidence and the maximum deviation - measured perpendicularly to this straight line - being less than 1 cm, preferably less than 8 mm, particularly less than 5 mm. In an embodiment having lever arms 51, 52, the motion occurs along a circuit, the circuit being approximated by the straight line having the angle of incidence. The deviations from the straight line are essentially a function of the lever length and the angle of incidence in this case.

[0038] Reliable guiding of the sheets through the second housing 3 may be ensured if the second housing 3 has a floor 31 corresponding to the format of the sheets, two long side walls 32, and at least one narrow side wall 33. In this case, the narrow side wall 33 may be implemented as the rear wall and the diametrically opposite delimitation of the sheets may be implemented by the first housing 2. The implementation of angle of incidence in particular may be ensured by the first housing 2, as is shown in Figure 2.

[0039] In this case, the dimensions predefined by the printer, the copy or, the fax machine, or the like and its paper receiving device may be maintained easily if the implementation of angle of incidence is ensured by the first housing 2, because of which no additional components are required by the second housing in the region in which the paper receiving device removes sheets.

[0040] One front lever arm 51 and one rear lever arm 52 may be positioned on each of the long side walls 32, each two of the lever arms 51, 52 being positioned diametrically opposite and the lever arms 51, 52 having equal lever lengths. Using this positioning of the lever arms 51, 52, uniform motion of the second housing 3 in the first housing 2 is ensured and a stable construction is achieved. Furthermore, the rear lever arms 52 may preferably be connected to one another at their ends facing away from the second housing 3 using a connection element 53. Through this measure, especially uniform motion and especially stable construction may be achieved.

[0041] An equalization element 54 for positioning the current uppermost sheet may be positioned between the first housing 2 and the second housing 3, reliable removal of the particular uppermost sheet by the paper receiving device being able to be ensured. Using the equalization element 54, it is ensured that, independently of the fill level of the second housing 3, the current uppermost sheet is positioned in the operating region of the paper receiving device. If sheets are removed from the second housing 3, the height of the uppermost sheet falls. In this case, the equalization element 54 may have an elongation which is a function of the total weight of the stack of sheets, it being able to be implemented as a spring element, for example. Using the equalization element 54, the altered height of the stack of sheets is thus compensated for, through which the height of the uppermost sheet may be kept approximately constant, at least for a part of the stack projecting above the second housing 3.

for the precision requirement of the equalization element 54, it is sufficient if it is ensured that the current uppermost sheet is located in the operating region of the paper receiving device, this applying for a large number of different types of sheets, particularly paper, film, and cardboard. From a predefinable lower fill level of the second housing 3, the second housing 3 may be kept in the upper end position by the equalization element 54.

[0042] In other embodiments, the equalization element 54 may also be implemented by a motion of the second housing 3 using the blocking device 4 or a lever mechanism, for example.

15 Claims

1. A paper feed cassette (1) for a printer, a copier, a fax machine, or the like, having a first housing (2), whereby a second housing (3) for receiving sheets is positioned in the first housing (2), the second housing (3) being mounted so it is movable in the first housing (2), and a blocking device (4) is provided for a motion direction of the second housing (3) in relation to the first housing (2), **characterized in that** the blocking device (4) has at least one first wedge element (41) and at least one diametrically opposite second wedge element (42), the first wedge element (41) being assigned to the first housing (2) and the second wedge element (42) being assigned to the second housing (3), and the first wedge element (41) is positioned so it is displaceable in relation to the first housing (2) and/or the second wedge element (42) is positioned so it is displaceable in relation to the second housing (3).
2. The paper feed cassette (1) according to Claim 1, **characterized in that** the displaceable wedge element (41, 42) is spring-loaded using a pre-tensioning device (43) in the direction of the diametrically opposite wedge element (41, 42) when the paper feed cassette (1) is inserted.
3. The paper feed cassette (1) according to Claim 2, **characterized in that** a driver element (46), which may be actuated when the paper feed cassette (1) is inserted, is provided for activating the pre-tensioning device (43).
4. The paper feed cassette (1) according to Claim 1, 2 or 3, **characterized in that** the second housing (3) being mounted so it is movable in the first housing (2) using at least one lever arm (51, 52).
5. The paper feed cassette (1) according to Claim 4, **characterized in that** the sheets in the second housing (3) may be positioned with a predefinable angle of incidence on the narrow side of the sheets, and the motion of the second housing (3) in relation

to the first housing (2) occurs essentially along a circuit between an upper end position and a lower end position, the circuit being approximated by a straight line having the angle of incidence and the maximum deviation - measured perpendicular to this straight line - being less than 1 cm, preferably less than 8 mm, particularly less than 5 mm.

6. The paper feed cassette (1) according to Claim 4 or 5,
characterized in that the second housing (3) has a floor (31) corresponding to the format of the sheets, two long side walls (32), and at least one narrow side wall (33).
7. The paper feed cassette (1) according to Claim 6,
characterized in that one front lever arm (51) and one rear lever arm (52) is positioned on each of the long side walls (32), each two of the lever arms (51, 52) being positioned diametrically opposite and the lever arms (51, 52) having equal lever lengths.
8. The paper feed cassette (1) according to Claim 7,
characterized in that the rear lever arms (52) are connected to one another using a connection element (53) on their ends facing away from the second housing (3).
9. The paper feed cassette (1) according to one of Claims 4 through 8,
characterized in that an equalization element (54) for positioning the current uppermost sheet is positioned between the first housing (2) and the second housing (3).
10. The paper feed cassette (1) according to one of Claims 4 through 9,
characterized in that a blocking device (4) according to one of Claims 1 through 4 is provided.

Patentansprüche

1. Papiertransportkassette (1) für einen Drucker, einen Kopierer, ein Faxgerät oder dergleichen, mit einem ersten Gehäuse (2), wobei im ersten Gehäuse (2) ein zweites Gehäuse (3) zur Aufnahme von Blättern positioniert ist und das zweite Gehäuse (3) so montiert ist, dass es im ersten Gehäuse (2) beweglich ist, und wobei eine Blockiervorrichtung (4) für eine Bewegungsrichtung des zweiten Gehäuses (3) im Verhältnis zum ersten Gehäuse (2) vorgesehen ist, **dadurch gekennzeichnet**, dass die Blockiervorrichtung (4) mindestens ein erstes Keilelement (41) und mindestens ein diametral gegenüber angeordnetes zweites Keilelement (42) aufweist, wobei das erste Keilelement (41) dem ersten Gehäuse (2) zugeordnet ist und das zweite Keilelement (42) dem

zweiten Gehäuse (3) zugeordnet ist, und wobei das erste Keilelement (41) so angeordnet ist, dass es im Verhältnis zum ersten Gehäuse (2) versetzt werden kann, und/oder das zweite Keilelement (42) so angeordnet ist, dass es im Verhältnis zum zweiten Gehäuse (3) versetzbar ist.

2. Papiertransportkassette (1) gemäß Anspruch 1, **dadurch gekennzeichnet, dass** das versetzbare Keilelement (41, 42) unter Anwendung einer Vorspannvorrichtung (43) in Richtung des diametral gegenüber angeordneten Keilelementes (41, 42) feder gespannt wird, wenn die Papiertransportkassette (1) eingeführt wird.
3. Papiertransportkassette (1) gemäß Anspruch 2, **dadurch gekennzeichnet, dass** das Mitnehmerelement (46), das betätigt werden kann, wenn die Papiertransportkassette (1) eingerührt wird, zur Aktivierung der Vorspannvorrichtung (43) vorgesehen ist.
4. Papiertransportkassette (1) gemäß Anspruch 1, 2 oder 3, **dadurch gekennzeichnet, dass** das zweite Gehäuse (3) so montiert ist, dass es im ersten Gehäuse (2) unter Anwendung von mindestens einem Hebelarm (52, 52) beweglich ist.
5. Papiertransportkassette (1) gemäß Anspruch 4, **dadurch gekennzeichnet, dass** die Blätter im zweiten Gehäuse (3) in einem vorher bestimmbaren Einfallswinkel auf der Schmalseite der Blätter positioniert werden können und die Bewegung des zweiten Gehäuses (3) im Verhältnis zum ersten Gehäuse (2) im wesentlichen entlang einem Kreis zwischen einer oberen Endposition und einer unteren Endposition stattfinden, wobei dem Kreis eine Gerade im Einfallswinkel angenähert wird und die Maximalabweichung - die senkrecht zu dieser Geraden gemessen wird - weniger als 1 cm beträgt, vorzugsweise weniger als 8 mm und insbesondere weniger als 5 mm.
6. Papiertransportkassette (1) gemäß Anspruch 4 oder 5, **dadurch gekennzeichnet, dass** das zweite Gehäuse (3) einen Boden (31) aufweist, der dem Format der Blätter entspricht, außerdem zwei lange Seitenwände (32) und mindestens eine schmale Seitenwand (33).
7. Papiertransportkassette (1) gemäß Anspruch 6, **dadurch gekennzeichnet, dass** ein vorderer Hebelarm (51) und ein hinterer Hebelarm (52) an jeder der langen Seitenwände (32) angeordnet ist, wobei die Hebelarme (51, 52) einander diametral gegenüber angeordnet sind und die Hebelarme (51, 52) gleich lang sind.
8. Papiertransportkassette (1) gemäß Anspruch 7, **da-**

durch gekennzeichnet, dass die hinteren Hebelarme (52) aneinander unter Verwendung eines Verbindungselements (53) an ihren vom zweiten Gehäuse (3) abgewandten Enden befestigt sind.

9. Papiertransportkassette (1) gemäß einem der Ansprüche 4 bis 8, **dadurch gekennzeichnet, dass** zwischen dem ersten Gehäuse (2) und dem zweiten Gehäuse (3) ein Ausgleichselement (54) zur Positionierung des jeweils obersten Blatts angeordnet ist.

10. Papiertransportkassette (1) gemäß einem der Ansprüche 4 bis 9, **dadurch gekennzeichnet, dass** eine Blockiervorrichtung gemäß einem der Ansprüche 1 bis 4 vorgesehen ist.

Revendications

1. Cassette d'alimentation en papier (1) pour une imprimante, un copieur, un télécopieur ou similaire, possédant un premier boîtier (2), un second boîtier (3) destiné à recevoir des feuilles étant positionné dans le premier boîtier (2), le second boîtier (3) étant monté de façon à pouvoir se déplacer dans le premier boîtier (2), et un dispositif de blocage (4) est prévu pour un sens de déplacement du second boîtier (3) par rapport au premier boîtier (2), **caractérisée en ce que** le dispositif de blocage (4) possède au moins un premier élément en forme de coin (41) et au moins un second élément en forme de coin (42) diamétralement opposé, le premier élément en forme de coin (41) étant affecté au premier boîtier (2) et le second élément en forme de coin (42) étant affecté au second boîtier (3), et le premier élément en forme de coin (41) est positionné de façon à être déplaçable par rapport au premier boîtier (2) et/ou le second élément en forme de coin (42) est positionné de façon à être déplaçable par rapport au second boîtier (3).

2. Cassette d'alimentation en papier (1) selon la revendication 1, **caractérisée en ce que** l'élément en forme de coin (41, 42) déplaçable est contraint par ressort à l'aide d'un dispositif de mise en tension (43) en direction de l'élément en forme de coin (41, 42) diamétralement opposé lorsque la cassette d'alimentation en papier (1) est insérée.

3. Cassette d'alimentation en papier (1) selon la revendication 2, **caractérisée en ce qu'un** élément d'entraînement (46), qui peut être actionné quand la cassette d'alimentation en papier (1) est insérée, est prévu pour activer le dispositif de mise en tension (43).

4. Cassette d'alimentation en papier (1) selon la reven-

dication 1, 2 ou 3, **caractérisée en ce que** le second boîtier (3) est monté de façon à pouvoir être déplacé dans le premier boîtier (2) à l'aide d'au moins un bras de levier (51, 52).

5. Cassette d'alimentation en papier (1) selon la revendication 4, **caractérisée en ce que** les feuilles dans le second boîtier (3) peuvent être positionnées avec un angle d'incidence pouvant être prédéfini sur le petit côté des feuilles, et le mouvement du second boîtier (3) par rapport au premier boîtier (2) s'effectue pour l'essentiel le long d'un circuit entre une position finale inférieure et une position finale supérieure, le circuit étant approximativement décrit par une ligne droite ayant un angle d'incidence et une déviation maximale, mesurés perpendiculairement à cette ligne droite, de moins de 1 cm, de préférence moins de 8 mm et en particulier moins de 5 mm.

6. Cassette d'alimentation en papier (1) selon la revendication 4 ou 5, **caractérisée en ce que** le second boîtier (3) possède un fond (31) correspondant au format des feuilles, deux grands côtés latéraux (32) et au moins un petit côté latéral (33).

7. Cassette d'alimentation en papier (1) selon la revendication 6, **caractérisée en ce qu'un** bras de levier avant (51) et un bras de levier arrière (52) sont placés sur chacun des grands côtés latéraux (32), chaque paire de bras de levier (51, 52) étant diamétralement opposée et les bras de levier (51, 52) ayant une longueur de levier égale.

8. Cassette d'alimentation en papier (1) selon la revendication 7, **caractérisée en ce que** les bras de levier arrière (52) sont reliés l'un à l'autre par un élément de liaison (53) à leurs extrémités écartées du second boîtier (3).

9. Cassette d'alimentation en papier (1) selon l'une des revendications 4 à 8, **caractérisée en ce qu'un** élément d'égalesation (54) pour positionner la feuille se trouvant sur le dessus est placé entre le premier boîtier (2) et le second boîtier (3).

10. Cassette d'alimentation en papier (1) selon l'une des revendications 4 à 9, **caractérisée en ce qu'un** dispositif de blocage (4) selon l'une des revendications 1 à 4 est prévu.

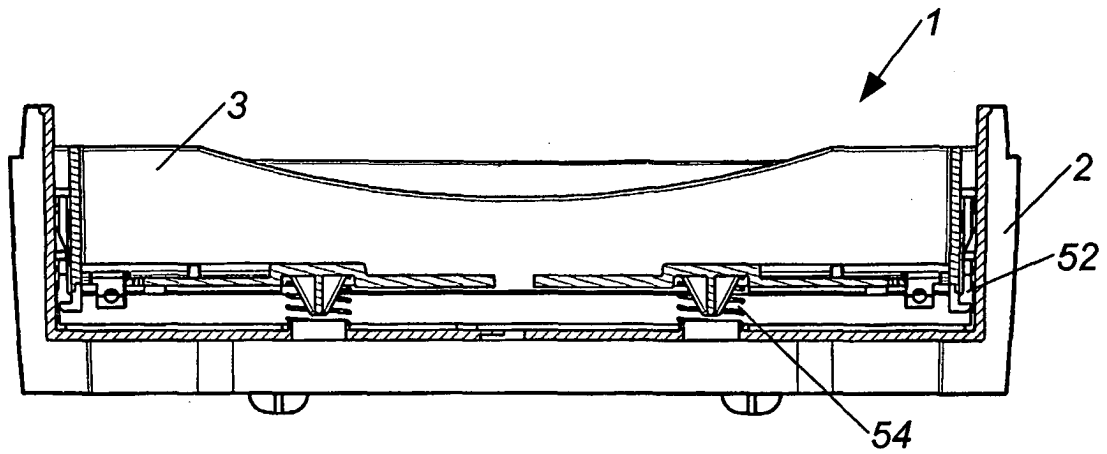


Fig. 1

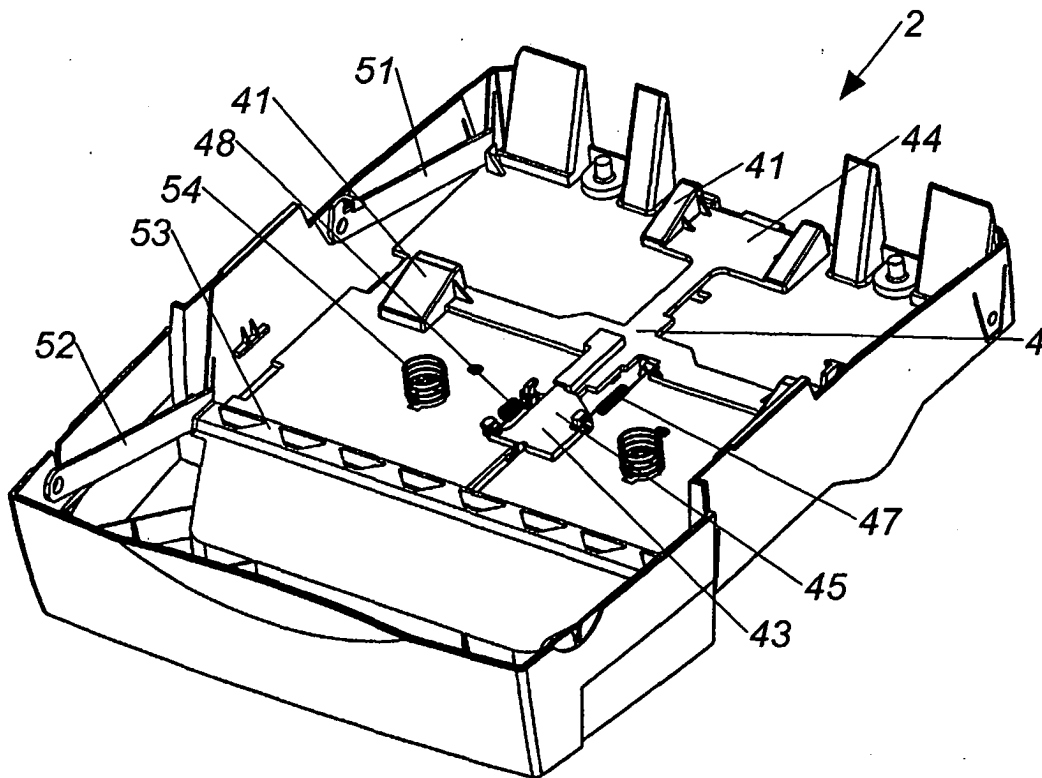


Fig. 2

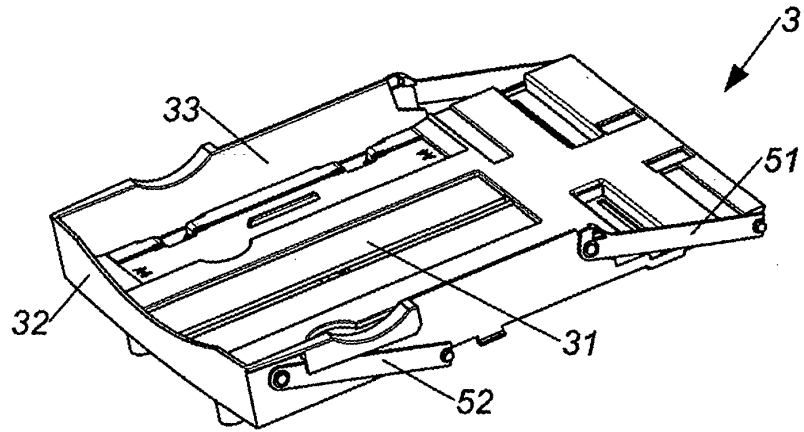


Fig. 3

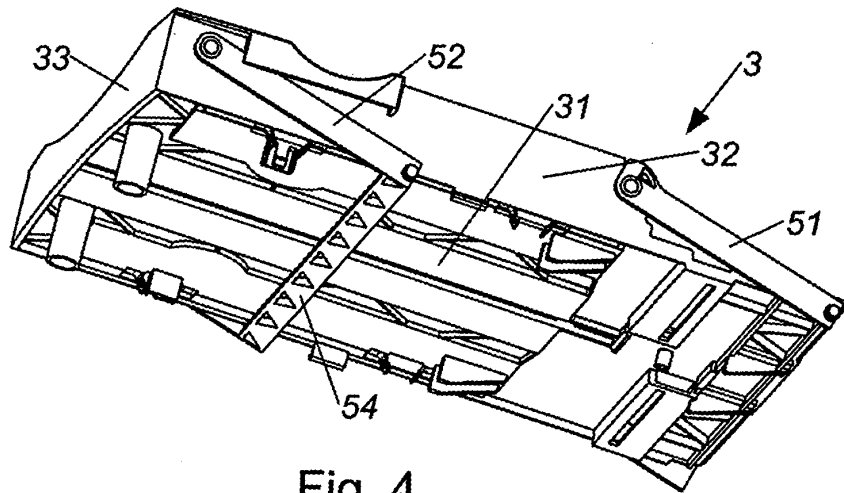


Fig. 4

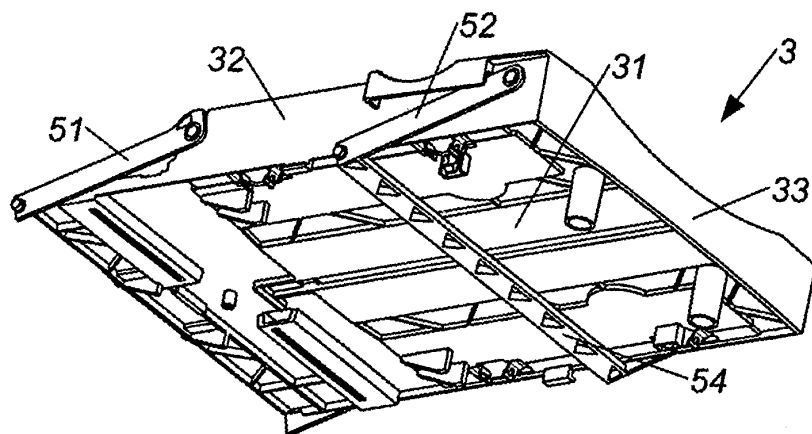


Fig. 5

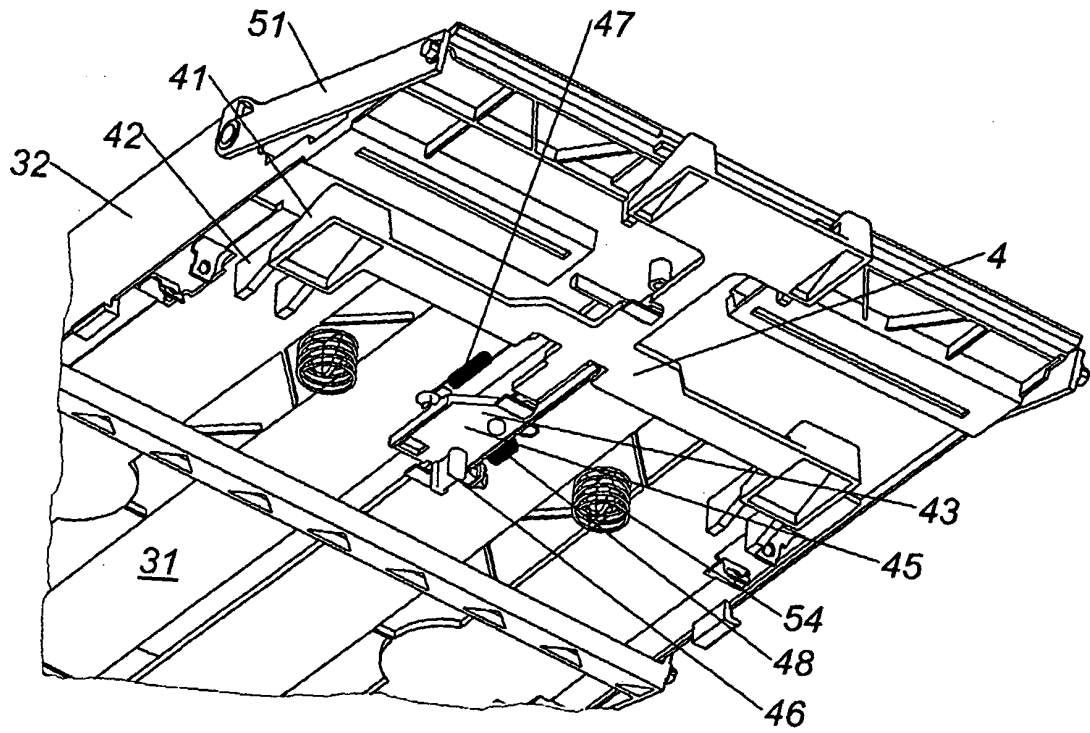


Fig. 6

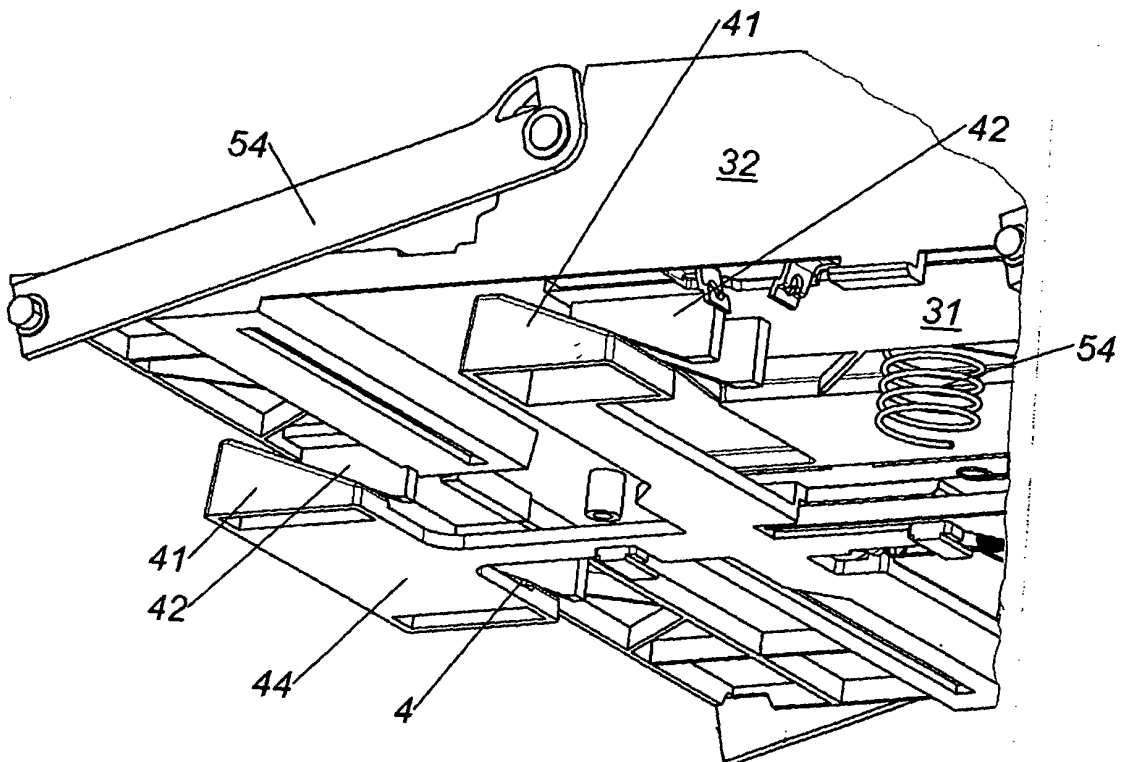


Fig. 7

REFERENCES CITED IN THE DESCRIPTION

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