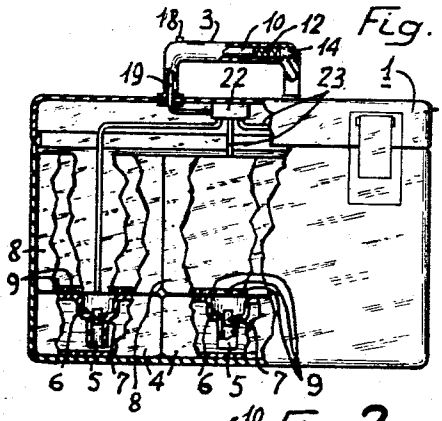
Oct. 3, 1967 R. TOUYET 3,344,757

ARRANGEMENT FOR THE SAFE CONVEYANCE OF BILLS AND NOTES

Filed June 3, 1965

Fig. 1



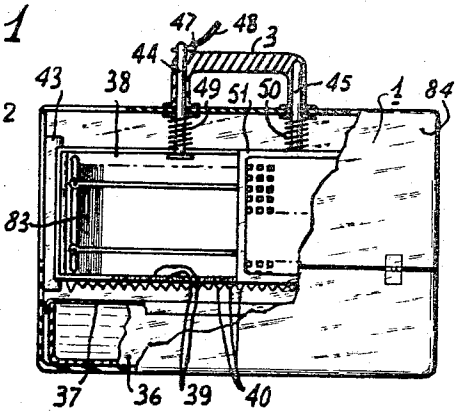


Fig. 6

Fig. 2

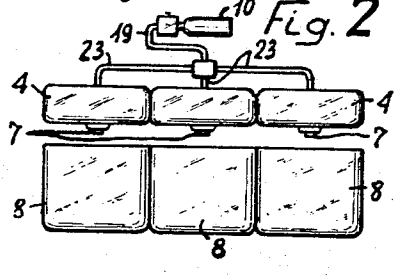


Fig. 7

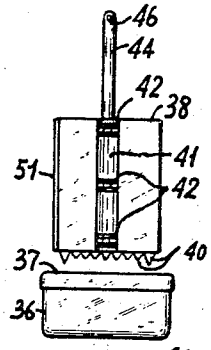


Fig. 8

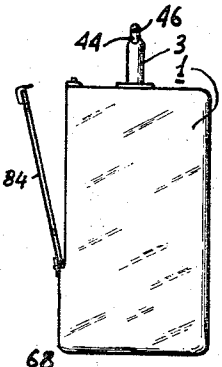


Fig. 3

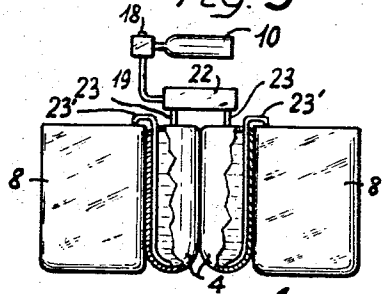


Fig. 10

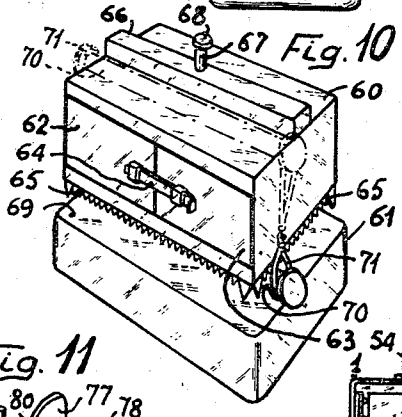


Fig. 4

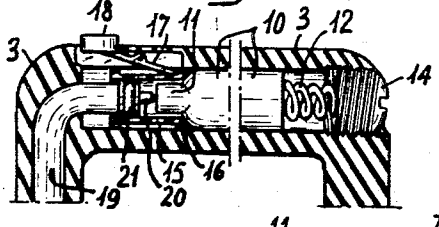


Fig. 11

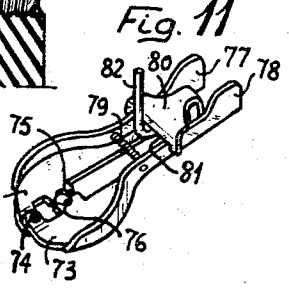


Fig. 5

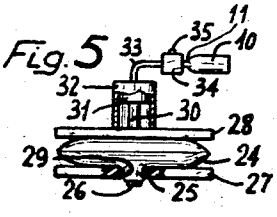
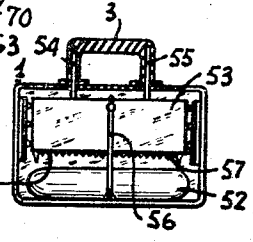


Fig. 9



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3,344,757

ARRANGEMENT FOR THE SAFE CONVEYANCE OF BILLS AND NOTES

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Claims priority, application France, June 6, 1964, 977,382; Jan. 13, 1965, 1,796 (addition); May 14, 1965, 17,027 (addition)

4 Claims. (Cl. 109—25)

My invention has for its object the indelible marking of bills and notes in the case where such bills and notes are stolen during their conveyance, with a view to preventing thieves from making use of such bills and notes with impunity. Numerous indelible marking arrangements have already been proposed for bills and notes during their conveyance or otherwise. The main drawback of such prior marking arrangements, as proposed hitherto, results from the fact that such arrangements do not provide in a perfect manner the marking of all the bills and notes to be conveyed.

My invention is a safety system adapted to protect bills and notes, in particular banknotes during their conveyance with a view to ensuring, in the case of a theft, the indelible marking of all the bills and notes which are being conveyed.

The safety arrangement according to my invention, includes at least one rack or tray adapted to carry the bills and notes to be conveyed and at least one container for the indelible marking fluid to be used. My invention consists in providing an arrangement including at least one energy-storing system adapted, under the action of a suitable control, to actuate means for setting under pressure the marking fluid, so that the latter may pass through suitable channels out of its container into the corresponding rack.

According to a further feature of my invention, the energy-storing system includes a chamber containing a fluid under pressure while the means for putting the marking fluid under pressure include at least one pipe connecting the chamber containing the compressed fluid with the container carrying the marking fluid.

According to a still further feature of my invention, the channels serving for the passage of the marking fluid out of a container into a corresponding rack carrying the bills and notes are provided with closing members releasing corresponding ports as soon as the marking fluid has been subjected to pressure.

Further features and advantages of my invention will appear in the reading of the following description, reference being made to the accompanying drawings wherein:

FIG. 1 is a side view of an embodiment of the arrangement according to my invention,

FIG. 2 is a diagrammatic side view of a first modification,

FIG. 3 is a diagrammatic side view of a second modification,

FIG. 4 is a side view of an embodiment of the control mechanism,

FIGS. 5 and 6 are side views respectively of a third and of a fourth modification of the arrangement according to my invention,

FIG. 7 is a front view of a rack adapted to carry bills and notes in association with a container for the marking fluid as incorporated with the fourth modification,

FIG. 8 is a front view of the casing provided for this fourth modification,

FIG. 9 is a side view of a fifth modification,

FIG. 10 is a perspective view of the inner parts incorporated in a sixth modification,

FIG. 11 is a perspective view, on a larger scale, of a control mechanism for said sixth modification.

Turning now to FIG. 1, the safety arrangement illustrated includes, according to my invention, a casing 1 forming the note holder. The casing 1 is provided with a pivoting cover 2 carrying a handle 3 for transportation purposes. The bottom of the compartment formed by the lower section of the casing 1 carries containers 4 containing indelible marking fluid and provided each with a central pipe 5 which flares upwardly at 6 and is closed fluidtightly by a stopper 7. Inside the same compartment, racks 8 are arranged above said containers 4, which racks are adapted to receive the notes and bills to be conveyed. The bottom of the racks 8 is perforated as shown at 9.

FIG. 2 illustrates a modification wherein the containers 4 are arranged above the racks 8 whereas, in the modification illustrated in the case of FIG. 3, the containers 4 and the racks 8 are arranged side by side.

In the case of the embodiment according to FIG. 1 and its modification illustrated in FIG. 2, each container 4 is closed by a stopper 7 for instance, or else by a valve or the like closing means while a mere pipe opens into the rack of FIG. 3.

In the embodiment and modifications illustrated in FIGS. 1 to 5, the energy-storing means include a chamber 10 carrying a compressed or liquefied gas such as carbon dioxide for instance. The chamber 10 may be housed within the handle 3 of the casing 1 and is provided with a nozzle 11 carrying an inner valve. As is readily apparent from inspection of FIG. 4, the chamber 10 is urged by a spring 12, compressed by means of a screw cap 14 against a tubular member 15 provided with an outer peripheral flange 16. This flange 16 abuts against an end of a pivoting lever 17 the other end of which carries a control knob 18 projecting above the upper surface of the handle 3. In one of the vertical sections of the handle 3, there is fitted a rigid pipe 19 provided with a hollow end-piece 20 adapted to engage the nozzle 11 terminating the chamber, said end-piece carrying a fluidtight packing 21 adapted to ensure a fluidtight connection between the chamber 10 and the pipe 19. The pipe 19 is connected at its end opposed to the chamber 10 with a distributing case 22 inside which the fluid can expand. Said case 22 is connected in its turn 1,2 and 3) at an upper portion of container 4 above the lower end of pipe 5.

FIG. 5 illustrates a modification wherein my improved arrangement includes a container 24 of yielding material. The container 24 is adapted to carry the marking fluid and is provided with a neck 25 closed by a stopper 26. The container 24 is fitted between two plates 27 and 28. The lower plate 27 is stationary and is provided with a perforation 29 for the passage of the neck 25. The upper plate 28 is secured to the lower end of a rod 30 of which the upper end is rigid with a piston 31 carried inside a corresponding cylinder 32. The cylinder 32 communicates through a pipe 33 with a distributing case 34 in which the driving fluid can expand and which is connected with the nozzle 11 of a chamber 10 filled with the compressed driving fluid. The case 34 is equipped with a conventional control mechanism adapted, when subjected to the action of a control knob 35, to release the fluid under pressure which is contained inside the chamber 10 and thereby ensure the admission of said fluid into the cylinder 32 through the pipe 33.

FIGS. 6, 7 and 8 illustrate a further embodiment of the safety arrangement forming the object of my invention. In said modification, the arrangement includes also a casing 1 forming a note holder and equipped with a handle 3 for conveyance. Inside the casing 1, and in the lower

section of the latter, is arranged a container 36 carrying the liquid ensuring indelible marking. The upper open end of the container 36 is closed by a diaphragm 37 adapted to be torn open.

Inside the casing 1 and above the container 36, is located a rack 38 which is to carry the bills and notes to be conveyed. The rack 38 may for instance be given the general shape of a rectangular parallelopipedon. The bottom of the rack 38 is perforated as shown at 39 and carries sharp teeth 40 projecting downwardly. Each lateral vertical wall of the rack 38 is provided with a vertical groove 41 having for instance a semicircular cross-section. In each vertical groove 41 are fitted ball bearings 42. Each groove 41 encloses a vertical guiding member 43 secured to and projecting inwardly from the adjacent vertical wall of the outer casing 1. The balls forming part of the bearings 42 are urged against the side surfaces of the corresponding guiding members 43. Thus, the rack 38 is fitted in the casing 1 so as to be capable of sliding vertically inside the latter. The upper wall of the rack 38 is fitted in the casing 1 so as to be capable of sliding vertically inside the latter. The upper end of the rack 38 is rigidly secured to two vertical rods 44 and 45. Each of the rods 44 and 45 is fitted inside a housing formed in the corresponding vertical section of the handle 3. One of the rods, say the rod 44, is longer than the other so as to project above the upper surface of the handle 3 and is provided with a transverse bore 46 which serves for the insection of a pin 47 adapted to be torn out and which engages the upper surface of the handle 3 so as to prevent the rod 44 and consequently the rack 38 from sliding downwardly inside the casing 1.

The pin 47 is carried by one end of a connecting member 48, constituted for instance by a chain. The other end of the connecting member 48 engages for instance a wrist-band which may be fitted round the arm of the person carrying the casing. Before inserting the rods 44 and 45 inside the corresponding housing, it is necessary to fit coil springs 49 and 50 round them, said springs being compressed between the upper walls of the casing 1 on the one hand and of the rack 38 on the other hand when the rods 44 and 45 of said rack are urged into the corresponding housings formed in the vertical sections of the handle 3.

According to this latter modification, the springs 49 and 50 form the energy-storing system and the pin 47 forms the member adapted to release the operation of said energy-storing system.

The rack 38 includes perforated sidewalls or else sidewalls constituted by a grid for instance. The rack 38 is provided with doors 51 in one of its vertical longitudinal surfaces.

In the modification illustrated in FIG. 9, the safety arrangement forming the object of my invention includes also a casing 1 forming a note holder and equipped with a handle 3 for its conveyance. Inside the casing 1 and at the bottom of the latter is arranged a container 52 of which the upper wall includes a sheet of yielding material which may be torn open. The container 52 carries the indelible marking fluid. Inside the casing 1 and above the container 52 is fitted a rack 53 adapted to carry the bills and notes to be conveyed. said rack 53 being constituted in a manner similar to the rack 38 of the precedingly disclosed modification. The upper wall of the rack 53 is rigid with the rods 54 and 55. Said rods 54 and 55 are held in corresponding housings formed in the vertical sections of the handle 3 by a pin (not shown) adapted to be torn out and which is connected by a yielding connecting member with the wrist of the person carrying the casing, said pin extending through one of the vertical sections of the handle and the corresponding rod 54 or 55.

As precedingly, perforations are provided in the bottom of the rack 53 and possibly in the walls of the latter. The bottom of the rack 53 carries toothed blades 57. In this modification, the energy-storing system is constituted by elastic connecting members such as 56 secured to the bottom of the casing at one end while their other end engages the upper section of the rack 53 so as to urge the container and rack towards each other. The vertical side walls of the rack 53 engage for instance rollers fitted on the inner corresponding surfaces of the casing 1.

Generally speaking, the members guiding the vertical sliding movement of the rack may be constituted by slideways of any type whatever.

FIG. 10 illustrates the inner parts of a still further modification. These inner parts include chiefly a rack 60 for the bills and notes and a container 61 carrying the indelible marking liquid. The rack 60 is provided with lateral doors 62 and 63 and with a latch mechanism 64 for the mutual locking of said doors. To the bottom of the rack 60 are secured blades 65 having sharp downwardly projecting teeth. The upper wall of the rack 60 is rigid with an outer beam 66 to which is secured a vertical pin 67 having an expanded head 68. The pin passes upwardly through the top wall of casing 1 and cooperates with the retaining mechanism shown in FIG. 11. The upper wall 69 of the container 61 is formed by a thin sheet of yielding material adapted to be torn open.

A cylindrical bar 70 the ends of which have a larger diameter, is held with reference to the opposite side walls of the casing by means of elastic connecting members 71 fixed to casing 1 and forming a loop and being adapted to enter selectively two positions. For its inoperative position, illustrated in solid lines in FIG. 10, the bar 70 lies between the rack 60 and the container 61 so as to prevent any shifting of the rack 60 with reference to the container 61. When the cylindrical bar is in its operative position, illustrated in dot and dash lines in FIG. 10, the bar 70 extends over the upper wall of the rack 60 and, for this position, the elastic connecting members 71 are energetically tensioned while the rack 60 is held away from the container 61 by the mechanism illustrated in FIG. 11. Said retaining mechanism is mounted on the top wall of casing 1 and includes two parts 72 and 73 pivotally secured together at 74 and secured to a casing enclosing the arrangement at this pivotal point. Each of the parts 72 and 73 has a semi-circular notch, 75 and 76 respectively, said notches registering with each other, in order to define an aperture of variable size coaxial with the hole provided through the top wall of the casing 1 for the passage of pin 67 with its head 68. Each part 72 and 73 includes also a vertical flange extending towards the end remote from the pivotal point 74 so as to form pusher members, 77 and 78 respectively. Between these vertical flanges, a coil spring 79 extending over the parts 72 and 73, is compressed. A locking member constituted by an elastic blade 80 notched at 81, engages through the outer edges of its notch the vertical flanges of the parts 72 and 73, which ensures the maintenance of the spring 79 under pressure. A releasing member 82, in the shape of a hook, engages the notch 81 and a traction exerted on said hook-shaped member raises the upper part of the locking member 80, which leads consequently to a sudden shifting apart of the parts 72 and 73 under the action of the expanding spring 79. For this spaced apart position of the parts 72 and 73, the head 68 of the pin 67 on the rack 60 can engage the gap formed between the two notches 75 and 76. The movement of the parts 72 and 73 towards each other, as provided by the operation of the pusher-members 77 and 78, closes the notches 75 and 76 over the pin 67 underneath the head 68 of the latter, so that the rack 60 is held then in its uppermost position inside the casing of the arrangement. The locking of the parts 72 and 73 in the position for which they are nearest each other is ensured by the locking member 80. A further traction exerted on the hook-shaped member 82 produces the release of the parts 72 and 73 and consequently of the rack 60.

It is of course to be understood that the containers 4, 24, 36, 52 and 61 all contain a fluid as described above,

such as an indelible marking fluid or a dye or a corrosive liquid; and it will also be understood that the structures of FIGS. 2, 3, 5, 7 and 10 are to be disposed in casings 1 as in FIGS. 1, 6, 8 and 9.

The operation of the safety system forming the object of my invention is as follows:

In the case of the embodiment illustrated in FIG. 1, a pressure exerted downwardly on the pusher-knob 18 (FIG. 4), produces a pivotal movement of the lever 17 and consequently a release of the tubular member 15. At such a moment and by reason of the expansion of the spring 12, the chamber carrying compressed gas is shifted whereby its nozzle 11 engages the cooperating end-piece 20 and consequently the inner valve of the nozzle 11 is actuated by said end-piece 20. The gas thus released enters case 22 through the agency of the rigid pipe 19 so that the case 22 distributes the gas under a suitable pressure into the containers 4, through the agency of the pipes 23. When the containers 4 have been thus subjected to pressure, the stoppers 7, which are merely pressed into the upper ends of pipes 5, are urged outwardly along the flaring sections 6 of the pipes 5; this results in the marking fluid flowing energetically into the racks 8 through the perforations 9 in the bottom of said racks, which ensures a perfect impregnation of the bills and notes carried inside said racks.

In the embodiment illustrated in FIG. 2, the actuation of the pusher-knob 18 produces again a release of the compressed gas carried inside the chamber 10 and the subjection of the containers 4 to pressure through the agency of the gas fed into the case 22 and distributed by the latter under a suitable pressure into the containers 4. The stoppers 7 of the containers 4 are urged outwardly and the mraking fluid flows speedily into the racks 8.

In the modification illustrated in FIG. 3, the actuation of the pusher-knob 18 subjects containers 4 to pressure, said containers being fed under a suitable pressure with the fluid fed out of the container 10 and passing out of the case 22 and the pipes 23. The pressurization of the containers 4 urges the marking fluid inside said container back into the racks 8 through the pipes 23'. Said pipes 23' start from the bottom of the containers 4 and register with openings formed in the upper ends of the corresponding racks 8.

In the case of the modification illustrated in FIG. 5, the actuation of the pusher-knob 35 starts the feeding of the compressed gas carried inside the chamber 10 into the cylinder 32, which leads to a shifting of the piston 31 and consequently to a crushing of the yielding container 24 between the plates 27 and 28. The stopper 26 is then urged out of the container 24 and the marking fluid carried by the latter is urged energetically into the rack carrying the bills and notes and extending above said container.

In the modification illustrated in FIGS. 6 to 8, the tearing out of the pin 47 releases the rack 38 which, under the action of the expansion of the springs 49 and 50, moves downwardly so that the sharp teeth 40 of the rack 38 tear the diaphragm 37. The rack enters then the container 36, the marking fluid carried by which is thus subjected to pressure and impregnates the bills and notes 83 carried in the rack 38.

In the further modifications illustrated in FIGS. 9 and 10, the tearing out of the retaining pin or the operation of the releasing member 82 allows the rack 53 or 60 to move, which rack, under the action of the traction exerted by the elastic connecting members, 56 or 71 according to the case, is urged downwardly so that the teeth or blades 57 or 65 perforate the upper wall of the corresponding container, 52 or 61. The container 52 is crushed during the continued movement of the rack 53 while the rack 60 enters the container 61 after the diaphragm 69 has been torn. The marking fluid, carried inside the container 52 or 61 thus set under pressure, impregnates then the bills and notes carried in the rack 53 or 60.

With reference to the safety and conveying means for bills and notes which have been proposed hitherto, my improved safety system shows the main advantage consisting in that it guarantees, at the moment a theft is being attempted, the perfect impregnation of all the bills and notes which are being conveyed with the indelible marking fluid carried inside the containers 4, 36, 52 or 60. It will be remarked that, in all conditions of normal use, the bills and notes carried in their racks are separated in a perfectly reliable manner from the indelible marking fluid carried in the containers provided for this purpose.

The fluid used for marking the bills and notes in an indelible manner, is preferably a liquid, preferably a dyestuff, a corrosive liquid or the like.

Numerous modifications and additions may be brought to the above-disclosed safety arrangement without widening the scope of the invention as defined in the accompanying claims; said invention may in fact be readily understood from the reading of the individual embodiments and modifications thereof, which have been described hereinabove by way of example in a non limiting sense. In particular it is possible to provide further modifications wherein any number of racks and containers are arranged in any desired relative positions and are movable with reference to one another through a translational movement, each rack carrying on one of its surfaces facing a container at least one member, such as a sharp tooth for instance, adapted during the relative movement between the rack and the cooperating container, to tear a yielding diaphragm closing at least one opening in the corresponrding wall of the container, said yielding diaphragm forming if desired at least one wall of said container.

Of course, the casing 1 may be given any suitable shape and may be rigid, semi-rigid or yielding. It may be provided with openings of any type, with covers such as 2, doors such as 84 (FIGS. 6 and 8) or else with pivoting panels, removable or otherwise, which are associated with any desired closing mechanism.

What I claim is:

1. In a casing for the conveyance of bills, notes and the like valuables, the provision of a safety arrangement protecting said valuables through their indelible marking at the moment of a theft, said arrangement comprising a handle for the casing, at least one partly perforated rack housed inside the casing and adapted to carry the valuables, at least one container provided with a yielding wall also housed inside the casing and carrying an indelible marking fluid, the number of said racks being at the utmost equal to that of the containers, an energy-storing system, a control mechanism adapted to release the energy stored in said energy-storing system, and means whereby said released energy produces a relative movement of the racks with reference to the containers to thereby make the racks deform the yielding walls of the containers and subject the marking fluid in the latter to pressure and make it enter the racks through the perforations in the latter.

2. In a casing for the conveyance of bills, notes and the like valuables, the provision of a safety arrangement protecting said valuables through their indelible marking at the moment of a theft, said arrangement comprising a handle for the casing, at least one partly perforated rack housed inside the casing and adapted to carry the valuables, at least one container also housed inside the casing and carrying an indelible marking fluid, the wall of said container including a shearable section, cutting means carried by the racks and facing the shearable wall sections of cooperating containers, the number of said racks being at the utmost equal to that of the containers, an energy-storing system, a control mechanism adapted to release the energy stored in said energy-storing system, and means whereby said released energy produces a relative movement of the racks with reference to the containers to thereby make the cutting means on the racks

cut through the shearable wall sections of the cooperating containers and allow the racks to enter said cooperating containers and subject the marking fluid in the latter to pressure and urge it into the racks through the perforations in the latter.

3. In a casing for the conveyance of bills, notes and the like valuables, the provision of a safety arrangement protecting said valuables through their indelible marking at the moment of a theft, said arrangement comprising a handle for the casing, at least one partly perforated rack housed inside the casing and adapted to carry the valuables, at least one container having at least one yielding wall also housed inside the casing and carrying an indelible marking fluid, cutting means carried by the racks and facing the cooperating containers, the number of said racks being at the utmost equal to that of the containers, an energy-storing system, a control mechanism adapted to release the energy stored in said energy-storing system and means whereby said released energy produces a relative movement of the racks with reference to the containers to thereby make the cutting means on the racks cut through the wall of the cooperating containers and make the racks crush the containers and subject the marking fluid in the latter to pressure and urge it into the racks through the perforations in the latter.

4. In a casing for the conveyance of bills, notes and the like valuables, the provision of a safety arrangement protecting said valuables through their indelible marking

at the moment of a theft, said arrangement comprising a handle for the casing, at least one partly perforated rack housed inside the casing and adapted to carry the valuables, at least one container also housed inside the casing and carrying an indelible marking fluid, slideways provided in the casing and guiding the relative movement of the racks with reference to the containers, the number of said racks being at the utmost equal to that of the containers, an energy-storing system, a control mechanism adapted to release the energy stored in said energy-storing system, and means whereby said released energy produces a relative movement of the racks towards the containers to thereby make the racks subject the marking fluid in the latter to pressure and urge it out of said containers into the racks through the perforations in the latter.

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