

Aug. 22, 1933.

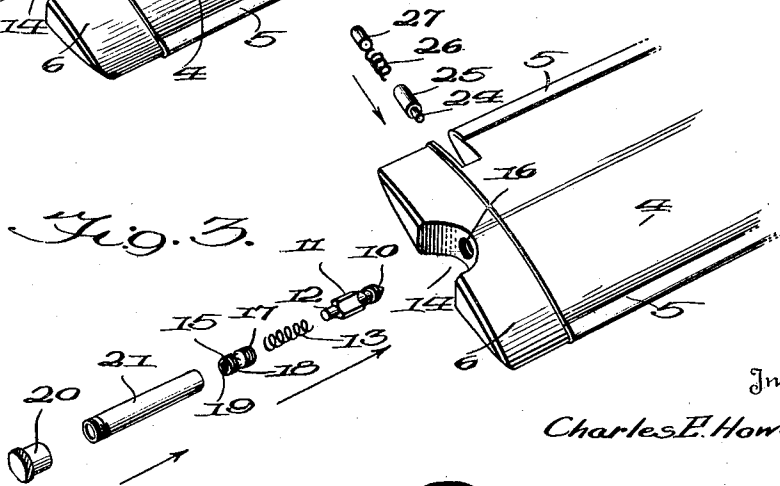
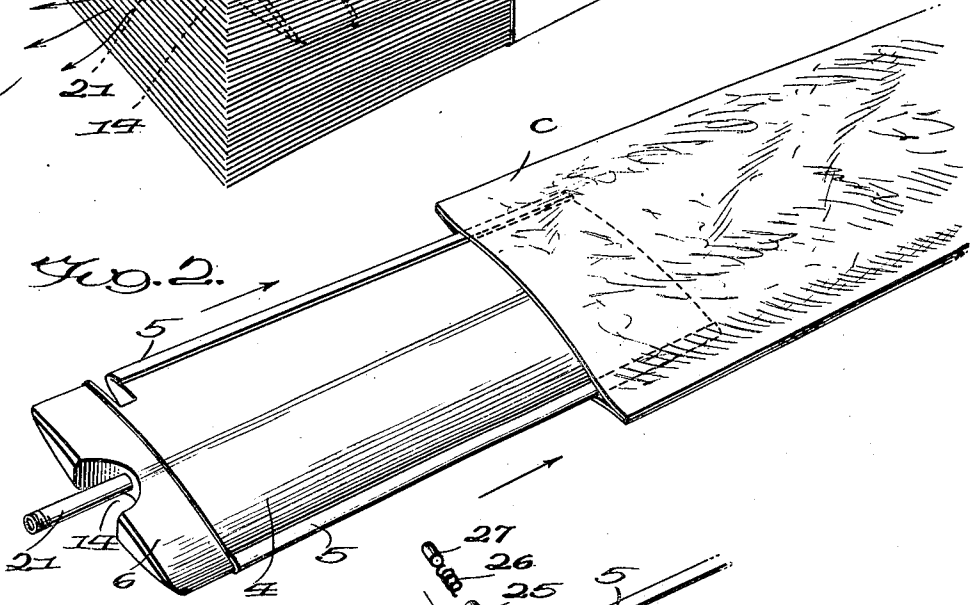
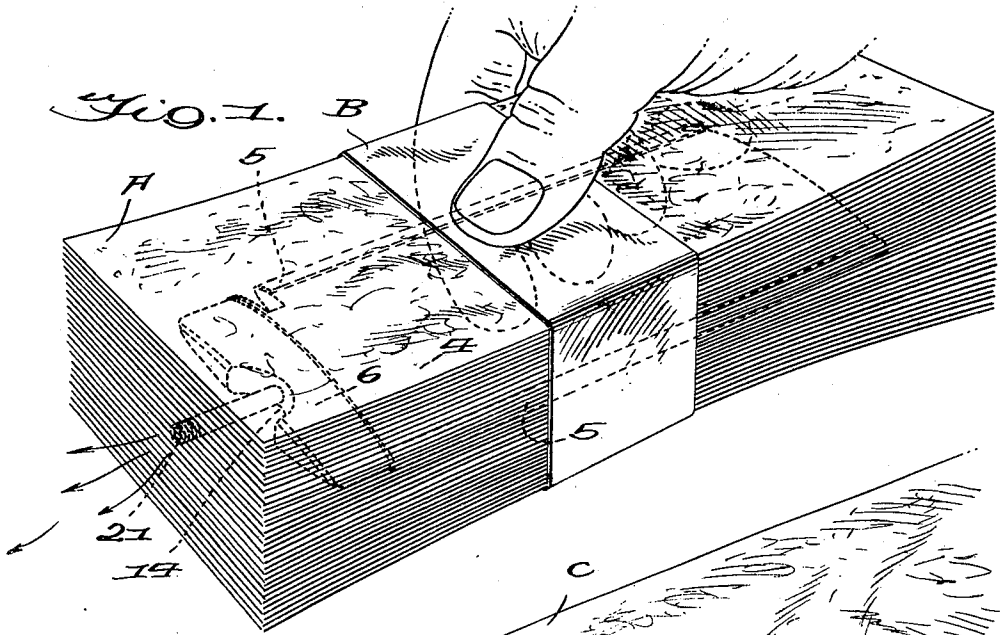
C. E. HOWETT

1,923,979

LIQUID PROJECTING DEVICE

Filed Feb. 6, 1932

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4.

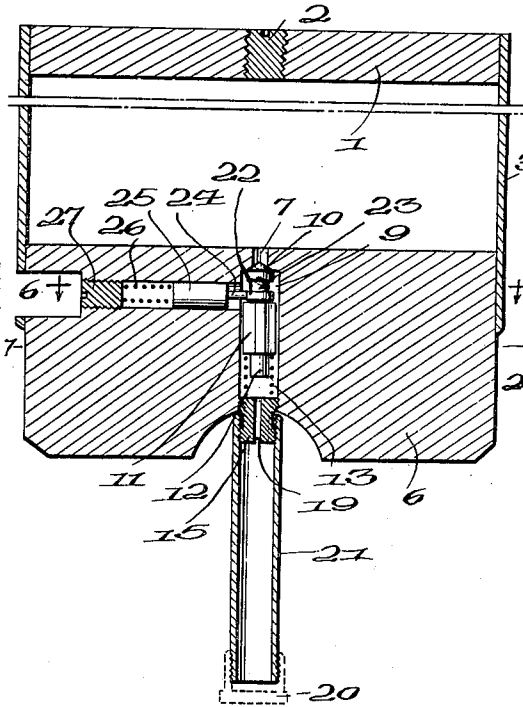


Fig. 5.

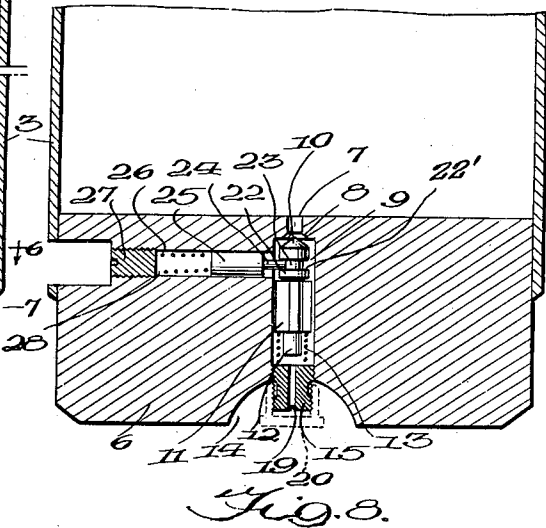


Fig. 8.

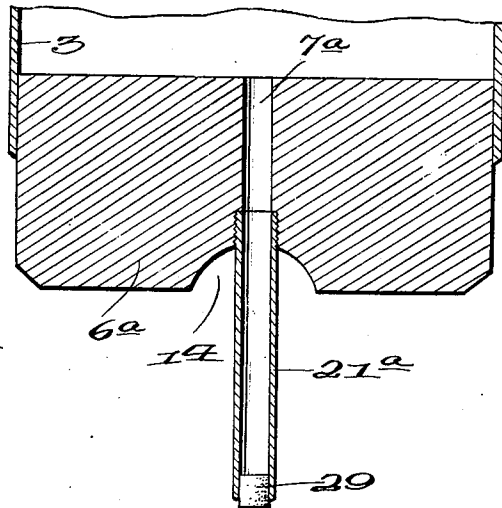


Fig. 6.

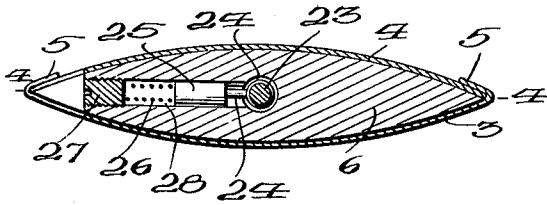
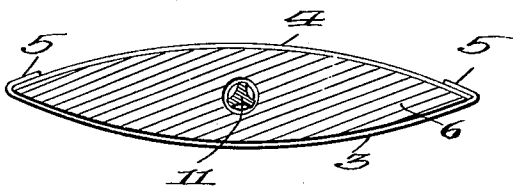


Fig. 7.



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UNITED STATES PATENT OFFICE

1,923,979

LIQUID PROJECTING DEVICE

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Application February 6, 1932. Serial No. 591,441

4 Claims. (Cl. 299—90)

This invention relates to a liquid projecting or discharging device for purposes of personal defense and offence and is capable of use in many fields, although primarily intended for use by bank tellers, small stores and other places where there is occasion to handle substantial amounts of paper currency and where consequently there is a substantial risk of being robbed or held up.

Very broadly considered my invention has for its primary object to provide a liquid projecting device of such construction that it may be concealed in the ordinary bundle or package of paper currency bills in their usual flat condition without increasing the total thickness of the bundle to such extent as to attract attention, and which may be operated by the pressure of the teller's hand to project a stream of tear gas generating or other gas generating or evolving liquid directly into the bandit's face when handing out the money in accordance with the usual command and while making only such movements as are normal and usual under the circumstances and necessary to the handing out of the money as commanded. Other objects are to provide in such a device a construction whereby pressure at any point on the body of the device and to the degree for which the device is set will result in projecting the liquid; to provide relatively stiff resilient walls whereby the pressure will be exerted over a wide area of the interior faces of the walls; to provide a special elliptical form in cross section whereby the greater proportion of the contents of the container is forcefully projected when the container is squeezed by the teller in gripping the package or bundle of bills; to provide some suitable closure means for the receptacle adapted to yield or open to permit the projection of liquid only when the liquid within the container has been compressed to exert a predetermined pressure on such closure means; and to provide a closure means of such construction that once it is unseated it will remain unseated.

In this application I show and describe only the present preferred embodiment of my invention simply by way of illustration of the practice thereof, as by law required. However, I am well aware that my invention is capable of other and different embodiments and that the several details thereof may be modified in a number of different ways, all without departing from my said invention. Therefore, the drawings and description herein are to be con-

sidered as merely illustrative and not as exclusive.

In the accompanying drawings:

Figure 1 represents a perspective view of a conventional packet or bundle of paper currency as gripped by the hand of the teller as usual in handing it through the teller's window, a device embodying my invention being concealed in said packet of bills as indicated in dotted lines.

Figure 2, a perspective view of the device of my invention shown partially inserted between two currency bills having their marginal portions pasted together in accordance with the preferred manner of concealment of the device;

Figure 3, a perspective exploded view of the front or "business" end portion of the body of the device with the valve and related parts and discharge guard 21 and cap separated therefrom;

Figure 4, a sectional view, broken away, on the line 4—4 of Fig. 6, the valve and related parts being in normal or closed condition;

Figure 5, a view corresponding to Fig. 4 through the front end portion of the device, the valve being open and held open by the catch and the discharge guard 21 being removed;

Figure 6, a sectional view on the line 6—6 of Fig. 4, looking in the direction of the arrows;

Figure 7, a sectional view on the line 7—7 of Fig. 4; and

Figure 8, a view similar to Fig. 5 of a modified form.

Referring now in detail to the drawings, A designates the usual or conventional bundle or packet of one-hundred currency bills held together by the usual paper gummed label or band B, and C an envelope or camouflaged casing preferably comprised of two bills of currency and having their marginal end portions pasted together at all points except immediately in front of the end of the discharge guard 21 so as to conceal the device and to properly position it in the package, and to this end the marginal end faces will be pasted together close up to the sides and ends of the device so as to prevent possible twisting or displacement of the latter.

The device itself comprises a rear end plate or block 1, side members 3 and 4, a front end block or plate 6, and closure means associated with the latter.

The rear end plate or block 1 is of relatively thick rigid construction, elliptical in shape transversely of the device as a whole, and is provided

with an internally screw-threaded bore normally receiving a plug 2 which may be removed for purposes of filling or charging the device.

The front end block 6 will preferably correspond in shape and size to the rear end block or plate 1 and said blocks 1 and 6 are respectively received between the respective opposed faces of the respective end portions of the sides 3 and 4 and are secured therein by soldering, welding, or other means or methods suitable to insure a liquid-tight and gas-tight joint at all points, and the side edge portions 5 of the side 3 are lapped over and soldered or welded against the opposed faces of the marginal side portions of the side 4.

The block 6 is formed with a centrally disposed longitudinally extending valve chamber or barrel 9 extending from the arcuate notch 14 nearly through the block, a short discharge passage or port 7 of smaller diameter than, and concentric with, the barrel 9 serving to establish communication between the interior of the device as above constructed and said barrel 9.

A valve for normally closing off such communication is mounted for longitudinal movement in said barrel and urged toward the port 7 by a helical spring 13 interposed between the front face of the body 11 of the valve and the rear face of the centrally bored discharging or projecting nipple 15 which is externally screw-threaded, as at 17, and engages with corresponding internal screw threads 16 in the outer portion of the barrel 9, the outer end of this nipple 9 being slotted whereby it may receive a screw driver to be turned to adjust the spring 13 to any desired degree of compression. Said valve comprises a conical valve head 10, being the rearmost portion of the valve and extending forwardly to a cylindrical portion, an annular collar 22 formed with an abrupt rearwardly presented shoulder 22' of greater diameter than the next adjacent rear portion, a cylindrical portion 23 of reduced diameter extending between the valve head 10 and said shoulder 22', the body portion 11 which is preferably approximately triangular in shape and of such cross sectional size as to make a freely sliding fit in the barrel 9 and of such length as to properly guide and center the valve as a whole so as to properly present the conical face of the head 10 to its conical seat 8 formed in the inner face of the barrel 9 concentric with said barrel and with said port 7. Preferably, said valve is also formed with a forwardly presented short centering stem 12 for the helical spring 13.

In the embodiment illustrated, a valve latch or locking stud 24 is carried by a cylindrical block 25 slidably disposed in a transverse bore 28 and pressed inward toward the valve substantially at right angles to the axis of the bore 9 by means of a helical spring 26 disposed in said bore 28 and held under compression therein by means of a screw plug 27 turned into the internally screw-threaded outer end portion of said bore 28.

In the normal relationship of the parts, that is when the conical face of the valve head 10 is seated against the valve seat 8 so as to effectually close the port 7, the inner end of the latch or locking stud or pin 24 rests against the collar 22 and so is held in inoperative position, as illustrated in Fig. 4.

However, as soon as pressure is exerted on the contents of the device sufficient to overcome the opposition of the spring 13, the valve is

moved forwardly and in such movement carries the collar 22 forward leaving the pin 24 unobstructed, so that it is promptly shoved in to engage against the reduced cylindrical portion 23 and the rearwardly presented abrupt shoulder 22' of the collar or flange 22, so effectually locking the valve in open position. In the embodiment illustrated, once the pin 24 is engaged behind the shoulder 22' of the collar 22, the only way it can be disengaged is by removing the plug 27 and allowing the block 25 to drop out of position under gravity when released of the spring pressure, although obviously if desired means may be provided, as by a stud extending from the block 25 through a cooperating lateral slot through one side of the block 6, for retracting the block 25 and its locking pin 6 as by a bolt action if desired.

The outer or forward end portion of the nipple 15 is externally screw-threaded as at 18 to receive either a safety sealing cap 20 or a small tube 21. The cap 20 is of course internally screw-threaded and is to be applied during shipment or storage or at any time during handling or carrying when accidental discharge of the device is to be guarded against with no thought of being ready for the contingency of need to be used as a defensive weapon.

The tube 21 will have its rear portion internally screw-threaded to screw on the screw thread 18 and may be used if desired to extend forward to the marginal end portions of the currency bills or substantially so, so as to guard the stream of liquid projected through the nipple 15 against interference and obstruction by the overlapping end portions of the bills. Its use is largely a matter of preference and question of arrangement of location of the device lengthwise of the bills.

Preferably the forward end portion of the block 6 will be centrally notched out as at 14 to accommodate the cap 20 as applied to the nipple 15 between the inner face of said notch 14 and the forward face of the block 6 for economy of space in shipping and also to prevent catching in the pocket or catching against obstructions when the device is used with only a few bills by way of concealment and when the tube 21 is not employed.

In the modification illustrated in Fig. 8, the construction and operation are the same as in the preferred form except that the port 7 and chamber or barrel 9 are substituted by a straight bore or discharge port 7^a, the tube 21^a being screwed into the block 6^a concentric with the bore 7^a and having its end closed by a stopper 29 forced into the same and held therein by its grip against the inner wall thereof so as to require the liquid to be compressed to dislodge it, said stopper 29 being substituted for the valve mechanism and related parts of the preferred form.

In both forms, the body of the device is to be made of less width than the width of the ordinary paper currency bill and of less length than the length of such a bill and, where the tube 21 or 21^a is to be employed, the length of the device as a whole from the tip of said tube to the rear face of the plate or block 1 will be of less length than the length of a paper currency bill and preferably the device will not exceed at any point a thickness in excess of one-fourth to five-sixteenths of an inch.

Of course, the device may be charged with liquids having different chemicals and different

characteristics, but in all such cases all parts of the device subjected to the action of the contained liquid will be of any such suitable materials as will meet the mechanical requirements and as will not be corroded by the constituents of the liquid charge.

The liquid charge will preferably be of such a nature that it will not inflict permanent injury and that it will practically instantaneously render the person at whom it is discharged temporarily blind and helpless, even though the liquid stream should miss the face of the operator say by as much as two feet. A liquid charge of a mixture of ammonia and mustard such as calculated to quickly evolve an ammonia mustard gas would be suitable to this purpose as would many other ammonia, mustard, or chlorine tear gases, although of course the device is not limited to use with this charge and might contain a liquid calculated to injure or to leave a mark for purposes of identification as well as to render helpless.

Of course the general type of valve of the preferred form is not essential, any valve suitable to the purpose, or in fact any means for closing the receptacle until subjected to pressure, such as a plain stopper as illustrated in the modified form, would suffice for the broad general operation of the device. Preferably, however, some valve construction which may have its operative pressure set or adjusted to varying degrees of pressure to suit individual preferences or special conditions will be provided, but the specific details of such valve construction are of no great importance. While claim is made hereinafter to a combination including latch or locking means for holding the valve open or other means or closure for maintaining the outlet open, and while this is decidedly desirable, it is not essential to my invention considered in its broader aspects.

In use the device constructed and charged with a liquid as illustrated and described for instance in both of the embodiments set forth herein, is preferably to be concealed in a packet of bills as illustrated in Fig. 1 or between several bills and to be laid on top of the bills in a compartment of the cashier's money drawer, with the liquid projecting nipple 15 presented away from the teller, that is toward the usual counter or teller's window, so that as the bills or packet of bills in which the device is concealed are picked up and thrust through the window the discharge or projecting nipple 15 will be presented directly toward the bandit facing the teller from the outside of the teller's window. Under these conditions the teller in picking up the currency concealing the device will inevitably exert a gripping or squeezing pressure on the bundle of bills in his hand and normally this pressure so exerted is about five pounds, and the spring 13 would be set under a pressure to yield when the valve was submitted to the resulting pressure exerted upon it by the retained liquid when the sides of the device were submitted to a five pound squeeze or grip. Thus, as the bills concealing the device were handed to the bandit the valve 10 would be pressed back and the liquid would be projected normally directly into the bandit's face, but in case the teller should be nervous or frightened and so move his arm or hand out of its normal path of movement under such circumstances, still the stream of liquid would of necessity be projected closely adjacent to the

bandit's face, which would be all that would be necessary. This would be accomplished without any warning movement or telltale click or other noise and there would be absolutely nothing to warn the bandit of his risk, it would just happen before he knew anything about it.

In a case of store keepers and others handling currency, it would suffice simply to conceal the device between some currency bills and to keep it handy on top of the currency in one of the compartments of the till of the usual cash drawer or cash register and the circumstances surrounding its use would be substantially identical as above described with relation to banks.

Also, it is capable of use in other situations, as by police and others authorized to carry concealed weapons and where it is desired to render a criminal or mob leader helpless without inflicting permanent bodily injury.

Preferably, the device will be constructed and the valve or other controlling means will be so proportioned and related to the size of the device, the discharge port 7, and projecting nipple 15 or tube 21^a that when the predetermined degree of pressure is exerted upon the exterior of the sides 3 and 4 the closure controlling means will be displaced or moved to open position and the liquid will be discharged through the nipple 15 or the tube 21^a under such pressure as to be thrown in approximately a straight or horizontal line for a distance of approximately fourteen to sixteen feet from the front of the nipple 15 or nozzle 21^a so as to be truly efficient for its intended purpose should the bandit, criminal or mob leader stand, or be, at a distance of a few feet from the operator of the device.

The construction of both of the embodiments illustrated is such that when the valve, stopper or other closure means is once opened, it will remain open and while this is not essential to my invention considered in its broader aspects, it is decidedly preferred. With this construction, if the bank teller or store keeper gets stampeded or loses his nerve and avoids exerting a pressure on the sides of the device, the bandit in taking the money into his hand will be apt to himself squeeze on the bundle and so discharge the liquid closely about his person, or if he does not do this, then he will be apt to stuff the money into his pocket with one hand while holding a pistol in the other and in stuffing the money in his pocket will be almost certain to press against the sides of the device and unseat the valve, and once unseated the valve or closure will remain displaced and the liquid will escape and quickly evolve a gas immediately about the person of the bandit which will quickly render him helpless.

Having thus described my invention, what I claim is:

1. A liquid projecting device adapted to be concealed between several superposed currency bills, said device comprising a long wide thin hollow body of approximately relatively flat elliptical shape in cross section, said body being formed with a discharge passage and being adapted to contain a charge, in combination with a valve normally closing said passage, a spring acting to force said valve toward closed position, said valve being adapted to be displaced by the thrust under pressure of said charge, and the sides of said body being deformable to exert a pressure on said charge when

squeezed, and automatic means for holding said valve in open position once it has been opened.

2. A liquid projecting device adapted to be interposed between several of a plurality of currency bills to, together with said currency bills with which it is used, constitute a camouflaged defensive weapon in simulation of the usual "unloaded" bundle of currency, said device comprising a long wide thin body the front wall of said body being formed with a discharge passage and said body being adapted to contain a charge, in combination with means normally preventing the projection of the charge from said body through said passage, said means being adapted to be displaced by the exertion of pressure at any point on the sides of the body between the ends thereof, said device being of such length and width as to extend nearly from side to side and from end to end of the currency bills with which it is to be used and yet being of slightly less length and width than said currency bills, whereby in use the device in its associated relation with said bills will be concealed at all points by said currency bills and whereby pressure exerted at practically any point between the sides and ends of the said bills will be exerted through said bills against the sides of said body.

3. A liquid projecting device adapted to be interposed between several of a plurality of currency bills to, together with said currency bills with which it is used, constitute a camouflaged defensive weapon in simulation of the usual "unloaded" bundle of currency, said device comprising a long wide thin body the front wall of said body being formed with a discharge passage and said body being adapted to contain a charge, in combination with a valve normally closing said passage, said valve being adapted to be displaced by the thrust under pressure of said charge, and the sides of said body being deformable to exert a pressure on said charge when squeezed, said device being of such length and width as to extend nearly from side to side and from end to end of the currency bills with which it is to be used and yet being of slightly less length and width than said currency bills,

whereby in use the device in its associated relation with said bills will be concealed at all points by said currency bills and whereby pressure exerted at practically any point between the sides and ends of the said bills will be exerted through said bills against the sides of said body, unseating said valve and projecting liquid through said discharge passage, and the device as a whole being of such shape that as inserted in a bundle of currency it will not cause any noticeable lumps or hollows and the adjacent bills on opposite sides of the device will lie parallel to and in engagement with the respective sides of the device and their extreme side portions extending beyond the side edges of the device will converge with one another to conceal the device in said bundle of currency.

4. A defensive weapon comprising a liquid projecting device in combination with a plurality of superposed sheets of paper which may simulate evidences of value and between which sheets said device is to be interposed, said device comprising a long wide thin body, the front wall of said body being formed with a discharge passage and said body being adapted to contain a charge of liquid, means normally preventing the projection of the charge from said body through said passage, said means being adapted to be displaced by the thrust of said charge under a predetermined pressure, and the sides of said body being deformable to exert a pressure on said charge when squeezed, said device being of such length and width as to extend nearly from side to side and from end to end of the said sheets of paper with which it is to be used, and yet being of slightly less length and width than said sheets of paper, whereby in use the device in its associated relation with said sheets of paper will be concealed at all points by said sheets and whereby pressure exerted at practically any point between the sides and ends of said sheets of paper will be exerted through said sheets against the sides of said body and through said body against the contained charge.

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CERTIFICATE OF CORRECTION.

Patent No. 1,923,979.

August 22, 1933.

CHARLES E. HOWETT.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 4, line 11, claim 2, for "certain" read "contain"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 26th day of September, A. D. 1933.

F. M. Hopkins

Acting Commissioner of Patents.

(Seal)