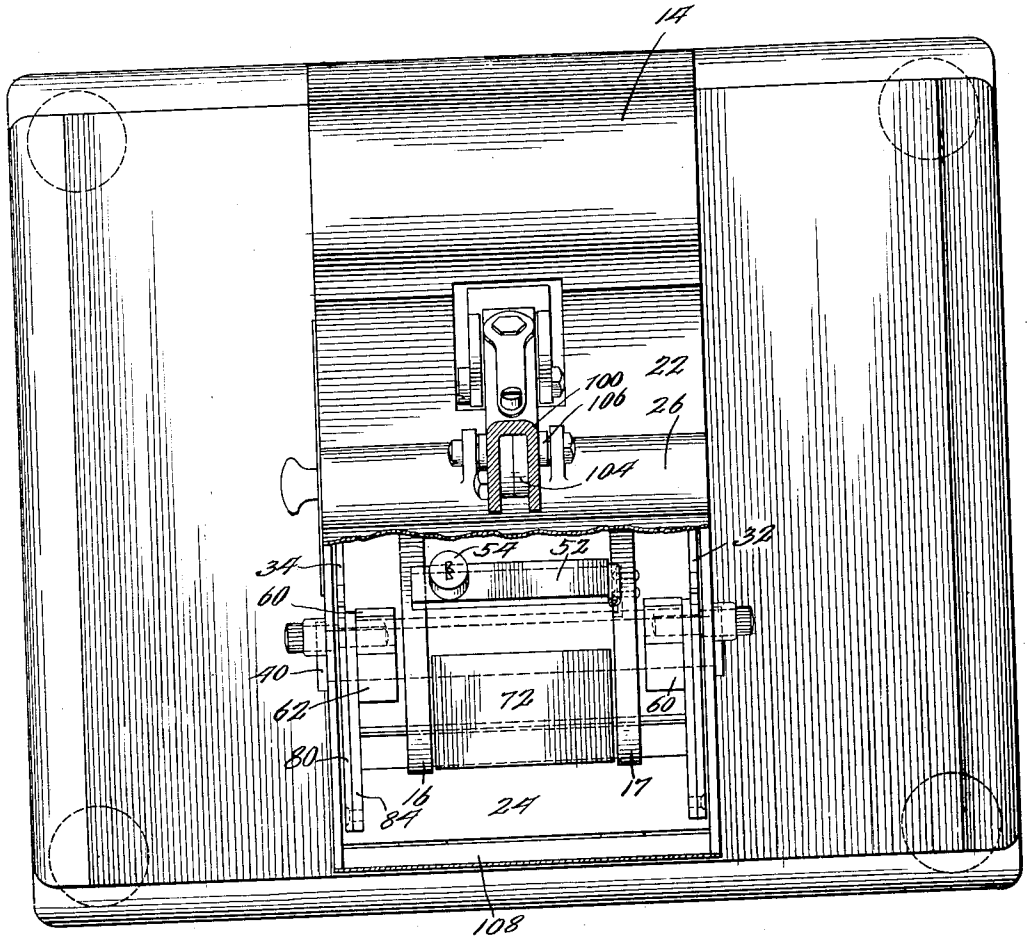
Jan. 16, 1934. H. R. HEDMAN 1,943,607

SIGNATURE WRITING MACHINE

Filed Sept. 23, 1927 3 Sheets-Sheet 1

Fig. 1.



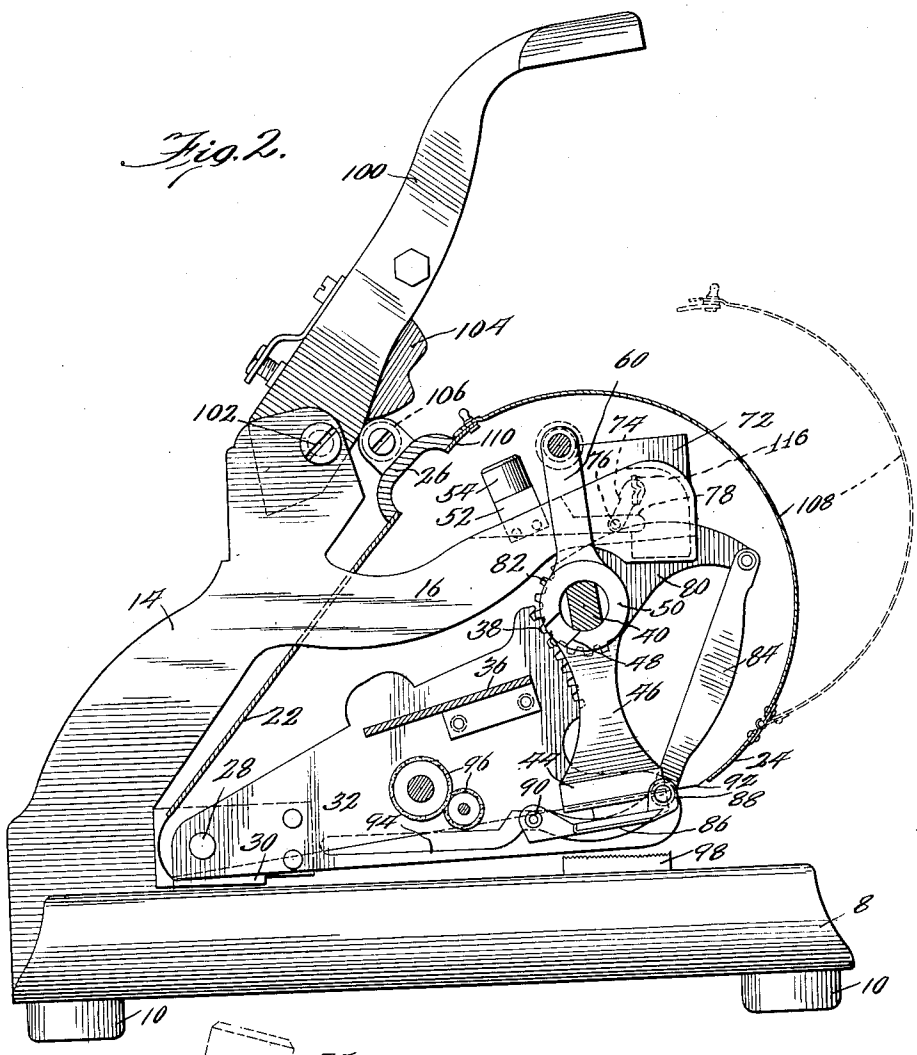
Inventor:
H. R. Hedman
By Williams, Bradbury, McCaleb & Hinkle.
Attys.

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SIGNATURE WRITING MACHINE

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Fig. 2.



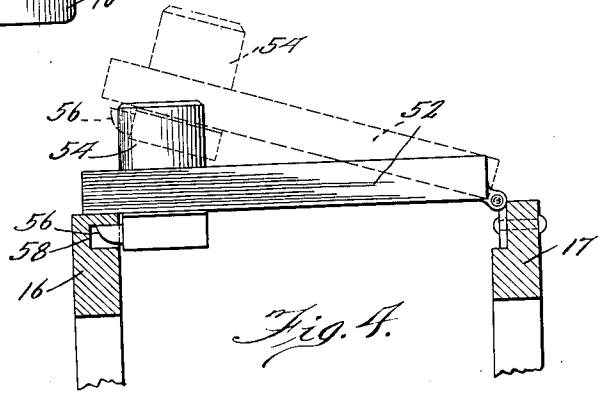


Fig. 4.

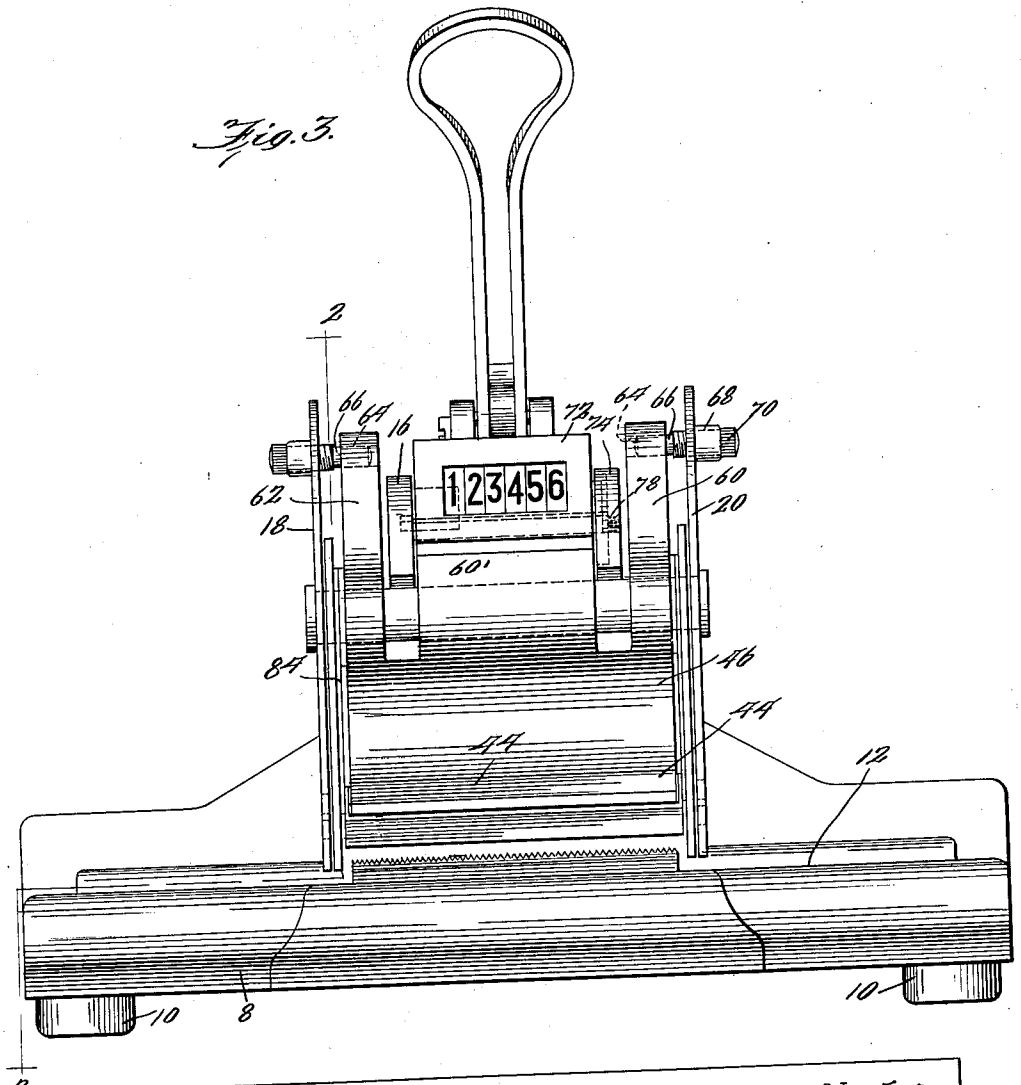
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SIGNATURE WRITING MACHINE

Filed Sept. 23, 1927 3 Sheets-Sheet 3

Fig. 3.



Chicago Illinois April 25 1927 No. 503

114

BANK OF CHICAGO

pay to order of John B. Jones $529 30/100

THE SUM OF $529 AND 30 CTS

H R Hedman

Fig. 5.

Inventor:
H. R. Hedman

By Williamson, Bradbury, McCabe & Hirtle
Attys.

Patented Jan. 16, 1934 1,943,607

UNITED STATES PATENT OFFICE

1,943,607

SIGNATURE WRITING MACHINE

Herbert R. Hedman, Chicago, Ill., assignor to Hedman Manufacturing Company, Chicago, Ill., a corporation of Illinois

Application September 23, 1927
Serial No. 221,458

10 Claims. (Cl. 101—20)

My invention relates to check writing devices, and more particularly to a method and a machine by means of which negotiable instruments may be mechanically signed.

It is an object of my invention to provide improved means whereby checks may be quickly, accurately and conveniently signed.

A further object of my invention is to provide a novel method of affixing signatures in which the danger of forgery is greatly reduced.

A further object is to provide a signature writing machine for negotiable instruments, etc., in which the die used to print and scarify the signature may be removed from the machine.

A further object is to provide an improved signature affixing machine in which the signature die may be locked in the machine.

A further object is to provide means on the machine to indicate the number of times it has been operated and to provide operating mechanism for said indicating means which is inaccessible for unauthorized manipulation.

A further object is to provide a counter to register the number of operations of the machine which has a key controlled resetting means, which is inaccessible when the counter is locked in the machine.

Other objects will appear from the following description, reference being had to the accompanying drawings, in which

Fig. 1 is a plan view with a portion of the casing and operating handle broken away more clearly to show the interior construction of the machine;

Fig. 2 is a vertical sectional view taken on the plane of the line 2—2 of Fig. 3;

Fig. 3 is a front elevation of said machine with the casing removed;

Fig. 4 is a detailed view of the locking mechanism for holding the die in position; and

Fig. 5 is a facsimile of a check signed by said machine.

In offices and institutions where it is frequently or periodically necessary to issue a great number of checks, bonds or similar negotiable instruments, it is highly desirable to have a machine to sign such instruments. In the past several methods have been employed, such as using machines whereby the signature is written upon a number of checks when the writer signs his name to one of the number. Other methods include a lithographic process whereby the signature is imprinted upon the check. The former method has a disadvantage in that it merely reduces the amount of labor connected with writing signatures, but does not eliminate the necessity of the signer doing the work personally. The latter method has the disadvantage that it requires elaborate machinery for carrying out the processes and that the method cannot be used by the signer himself, but must be delegated to trusted employes or agents.

The machine of my invention overcomes these disadvantages in that it may be readily used to sign either one or any number of checks, drafts, etc., and may be used either by the signer or by some clerk in his employ. The machine is relatively simple in construction and operation, so that relatively unskilled clerks may use it, but contains several locking mechanism and safety features so that the machine cannot be used without the consent of the person whose signature is to be affixed to the negotiable instrument.

My invention contemplates more than the provision of the machine, for it includes also the method or system of applying signatures to checks, as will hereinafter appear. When the word "check" is used herein, it shall be construed to include all other types of negotiable instruments, documents or papers to which it may be desired to affix an authorized signature.

The machine of my invention comprises a base 8 supported upon suitable rubber feet 10 and having a bed surface 12 upon which the check is adapted to be positioned when the signature is applied. Suitable adjustable guides, such as are common in the art, may be used to aid in properly positioning the check in the machine. The base 8 has an upwardly extending frame member 14 which may be cast integrally therewith or rigidly secured thereto. This casting has a pair of forwardly extending arms 16, 17 formed integrally therewith. A casing including side plates 18 and 20, rear plate 22, and front plate 24, is reinforced by a heavy cross bar 26 and is pivotally mounted upon the base 8 by means of a shaft 28 extending transversely through the machine, the shaft being supported in a pair of angle clips 30 which are secured to the base 8. A pair of sector plates 32 and 34 are fixed to said angles 30 and are held in properly spaced relation by a plate 36 which is riveted to said sector plates. A shaft 40 is rigidly secured in the casing side plates 18 and 20 and has portions thereof cut away as indicated in section in Fig. 2.

A signature printing die 44 is rigidly secured to a support 46 which is mounted on the shaft 40. The support 46, together with the die 44, may be removed bodily from the machine. To this end a radial slot 48 is cut through hub portion 50 of

the member 46 so that, by rotating the member 46 about 45 degrees counter-clockwise from the position shown in Fig. 2, it may be removed by raising it vertically.

Such removal is normally prevented by a bar 52 which is hinged to the arm 17 and has a suitable tumbler 54 secured thereto, although any other type of lock may be substituted therefor.

This tumbler barrel is adapted to withdraw a latch bolt 56 from within a suitable recess 58 formed in the arm 16. It will be apparent that with the bar 52 locked in position, as shown in Figs. 1 and 2, it will be impossible to rotate the support 46 counter-clockwise, due to the abutment of the upper portion 60 of the support 46 with the bar 52.

The support 46 comprises two upright extensions 60 and 62 which have holes 64 drilled at their upper ends and are adapted to receive aligning pins 66 which are threaded in suitable bosses 68 welded to the side casing plates 18 and 20 and have knurled heads 70 whereby they may be readily manipulated.

An odometer or counter 72 is rigidly secured to the portion 60' of the support 46 and is thus removable therewith from the machine. The counter may be of any well-known type provided with an actuating arm 74 having a pin 76 secured at the end thereof. The pin 76 is adapted to slide within a groove 78 formed in the arm 17 and to be actuated upon each operation of the machine as will hereinafter be described.

A pair of arms 80 having segments 82 formed integrally therewith are mounted for free rotation upon the shaft 40 and have the teeth of their gear portions in mesh with the segmental gears 38 formed on the sector plates 32. Each of the arms 80 has its front end pivotally connected to a link 84, the other end of which is, in turn, pivotally connected to an inking pad carrier 86. The latter has a pad 88 fixed therein and has two pairs of guide pins 90 and 92 which fit into irregularly shaped slots 94 formed in the sector plates 32. Upon downward movement of the shaft 44, the arm 80 will be rotated clockwise and through the link 84, slide the inking pad rearwardly into contact with the ink supply rolls 96. The inking mechanism does not form any part of my present invention and is more fully disclosed in the patent to Carl M. Hedman, No. 1,703,106, issued February 26, 1929.

A platen 98 is secured in the base plate 8 in any suitable manner and has suitable projections on its upper surface which are adapted to scarify the paper of the check around the lines of the signature. This platen and the die 44 may be of any well-known construction, but are preferably of the type shown in the patent to Douglas F. Fesler, et al, No. 1,338,645, issued April 27, 1920.

The machine is operated by means of a handle 100 pivoted at 102 to the frame member 14. The handle 100 carries a cam 104 engaging a roller 106 which is rotatably mounted upon the cross bar 26. The front portion 108 of the casing is hinged to the portion 24 and has a manipulative locking member 110 at its top edge to hold it closed. This portion 24 may be swung outwardly as illustrated in dotted lines in Fig. 2 to permit insertion or removal of the die 44 and its associated parts.

Using the machine above described, the person having charge of the machine, usually the person whose signature is formed in the die, will retain the signature die and its support in his personal safe or vault and preferably lock the machine to prevent insertion of the die and die support by latching the locking bar 52 in the position shown in full lines in Fig. 4. In this way any person obtaining possession of the die would be unable to insert it in the machine.

When it is desired to sign some checks the signature die and its support are inserted in operative position in the machine by unlocking the bar 52 and swinging it vertically out of the way and then lowering the support 46 over the shaft 40, the flattened portion of said shaft passing through radial slot 48 in the hub portion 50 of the support 46. The die support is then aligned in position by screwing the aligning pins 66 into the holes 64 formed in the upwardly extending arms 62. Thereafter the die is locked against removal from the machine by swinging the locking bar 52 into the horizontal locking position as shown in Fig. 4.

When inserting the die support in the machine, the pin 76 on the counter-actuating arm 74 is slid into the groove 78 of the arm 74; thus the actuating mechanism for the counter or register 72 is entirely concealed, making it impossible to actuate the counter without actuating the machine.

With the machine thus rendered operative by properly inserting the die and die support, it may be given to an assistant or clerk to print the signatures upon the desired checks or may be used by the person whose signature is being affixed. In the former instance, the owner of the machine will preferably make a note of the indication of the register 72 so that upon the return of the machine to him by the assistant or clerk, he may readily ascertain the number of checks which have been signed by the machine and by comparison of the indication of the register with the number of signed checks returned to him by the clerk can ascertain that no additional checks have had his signature affixed by means of the machine.

In Fig. 5 a sample check is shown as having been signed by the machine. The protection afforded the user of the machine against forgery is really greater than that afforded to persons signing their checks by hand, since by the use of the machine the signatures on all checks will be absolutely identical in outline, color of ink and other identifying characteristics. It is a well-known fact that a skilful forger may easily reproduce the signature of any person with such exactness that under ordinary circumstances it cannot be distinguished from the genuine signature. This is due in part to the fact that a person is incapable of writing his signature twice in the same identical manner so that the slight differences between the forged signature and the genuine may be considered by the person making the comparison as the variations in the genuine signature. However, with the machine method of signing checks, even the slightest discrepancy between the authorized signature and a signature upon an instrument presented for payment will instantly apprise the person to whom the instrument is presented that a forgery has been made. In addition to the actual outline of the signature, the characteristics of the scarifications upon the check may also be used as a means for comparison with the authorized signature.

Inasmuch as it requires the services of at least three different men, each highly skilled in his particular trade, to produce a signature die, it would be necessary to have at least three men conspire in producing a forged signature die, and

even then the possibilities of producing a die which is identical with the authorized die are very remote, since there are always the slightest imperfections in every die by which its reproductions may be distinguished. The probabilities of having three persons co-operate to produce a second signature die which is so similar to the original authorized signature die as to be incapable of detection is so remote that it need scarcely be considered as a possibility. In any event, the possibility is very much less than that of having a forger successfully reproduce a manually written signature. If desired, a distinct color of ink may be used in the machine, thus affording an additional factor aiding the prevention of forgery.

In the operation of the machine, the check is placed with the signature portion above the platen 98 (suitable guides being provided to aid in quickly positioning the check) and the machine operated by the depression of the handle 100. Through the cam 104, roller 106 and crosspiece 26 the casing is depressed to bring the signature die 44 against the top surface of the check and scarify the check. Through co-operation of the indentations on the die with the projections on the platen as the casing is moved downwardly, the arms 80 are rotated clockwise through the engagement of its sector teeth 82 with the segmental racks 38. As the arms 80 are rotated clockwise the ink pad carrier 86 is moved rearwardly (to the left Fig. 2) carrying the ink pad 88 backwardly in rolling contact with the ink rolls 96. After the impression is made the ink pad is drawn forwardly by the links 84 and positioned against the signature die 44 as shown in Fig. 2, thus inking it for the next impression.

After the desired checks have been signed by the machine, the person in charge of the machine, after checking the number of checks signed with the registration of the counter 72, removes the signature die and its support from the machine by withdrawing the aligning pins 66, unlocking the bar 52 by insertion of the requisite key in the barrel lock 54, swinging the bar 52 to vertical position, rotating the support 46 counter-clockwise (Fig. 2) until the slots 48 are in registry with the flattened portions of the shaft 40, and raising the support and die to remove them from the machine. If it is desired to reset the counter, a specially formed key may be inserted in the key slot 116 formed in the left hand (Fig. 3) side of the counter, and the counter reset to zero by rotating the key. A convenient system for utilizing the counter to keep track of the number of checks issued is to set the counter to the same number as the number of the next check to be signed, thus the number indicated by the register will always correspond to the number appearing upon the check, and if there is a discrepancy between these numbers the owner may instantly investigate, and if he finds indications of dishonesty may stop payment upon the checks numbered within the range of numbers at which the discrepancy occurred.

While I have shown but a single embodiment of the machine of my invention, it will be apparent to those skilled in the art that modifications thereof may be made without departing from the principles of my invention. I, therefore, desire the scope of my invention to be limited only by the claims which follow.

I claim:

1. In a machine of the class described, the combination of a platen having an irregular surface, a die having a surface complemental to the surface of said platen and adapted to co-operate therewith to make an impression upon a piece of paper positioned therebetween, means for aligning said die with said platen, and key controlled locking means to prevent removal of said die from the machine.

2. In a machine of the class described, the combination of a platen having an irregular surface, a die having a surface complemental to the surface of said platen and adapted to co-operate therewith to make an impression upon and scarify a piece of paper positioned therebetween, means for aligning said die with said platen, and locking means to prevent insertion of said die in the machine.

3. In a machine for printing and scarifying signatures upon negotiable instruments, the combination of a platen, a signature printing die co-operable therewith and removable from the machine, and key controlled locking means adapted selectively to prevent insertion of said die in said machine or removal of said die therefrom.

4. In a machine of the class described, the combination of a platen having an irregular surface, a die having a surface complemental to the surface of said platen and adapted to co-operate therewith to make an impression upon a piece of paper positioned therebetween, means for aligning said die with said platen, and locking means to prevent removal of said die from the machine, and to prevent reinsertion of said die in said machine after the die has been removed therefrom.

5. In a machine of the class described, the combination of a platen, a removable printing die adapted to co-operate with said platen to print upon a sheet held between the platen and die, means in said machine for supporting said die in a predetermined position with respect to said platen, key releasable locking means for preventing removal of said die, a register adapted to be removed with said die, operating means for said register, and means effective when said die is positioned in the machine to prevent actuation of said operating means independently of a printing operation of the machine.

6. In a machine of the class described, the combination of a base, a scarifying platen mounted thereon, a casing pivotally mounted upon said base, a shaft extending transversely through said casing and having flattened portions, a signature printing and scarifying die having a slotted hub portion adapted to fit over the flattened portions of said shaft, means for holding said die in said casing in co-operating registry with said platen, and means for preventing removal of said die from said casing comprising a locking bar extending transversely of the machine and adapted to prevent rotation of said die about said shaft and thereby prevent removal of said die from said casing.

7. In a machine of the class described, the combination of a base, a platen mounted thereon, a casing pivotally mounted upon said base, a shaft extending transversely through said casing and having flattened portions, a signature printing die having a slotted hub portion adapted to fit over the flattened portions of said shaft, means for holding said die in said casing in co-operating registry with said platen, and means for preventing removal of said die from said casing comprising a locking bar extending trans-

versely of the machine and adapted to prevent rotation of said die about said shaft and thereby prevent removal of said die from said casing.

8. In a machine of the class described, the combination of a platen, a removable die adapted to co-operate therewith, a register carried by said die and removable therewith, actuating means for said register rendered operative upon the insertion of said die in said machine and upon operation of the machine and means to prevent unauthorized removal of said die from said machine, and to prevent reinsertion of said die in said machine after it has been removed.

9. In a machine of the class described, the combination of a platen, a removable die adapted to co-operate therewith, a register carried by said die and removable therewith, actuating means for said register rendered operative upon the insertion of said die in said machine and upon operation of the machine and means to prevent unauthorized insertion of said die in said machine.

10. In a machine of the class described, the combination of a platen, a signature printing die adapted to be removed from the machine, said die co-operating with said platen to print a signature on paper held between said platen and said die, means in the machine for supporting and actuating said die, a register secured to said die and removable simultaneously therewith from the machine, actuating means for said register, and means effective when said die is positioned in the machine to prevent actuation of said operating means independently of a printing operation of the machine.

HERBERT R. HEDMAN.