April 12, 1927. 1,624,552

G. KIRKEGAARD

APPARATUS FOR MAKING INDELIBLE IMPRINTS ON SHEET MATERIAL

Filed Dec. 10. 1924 2 Sheets-Sheet 1

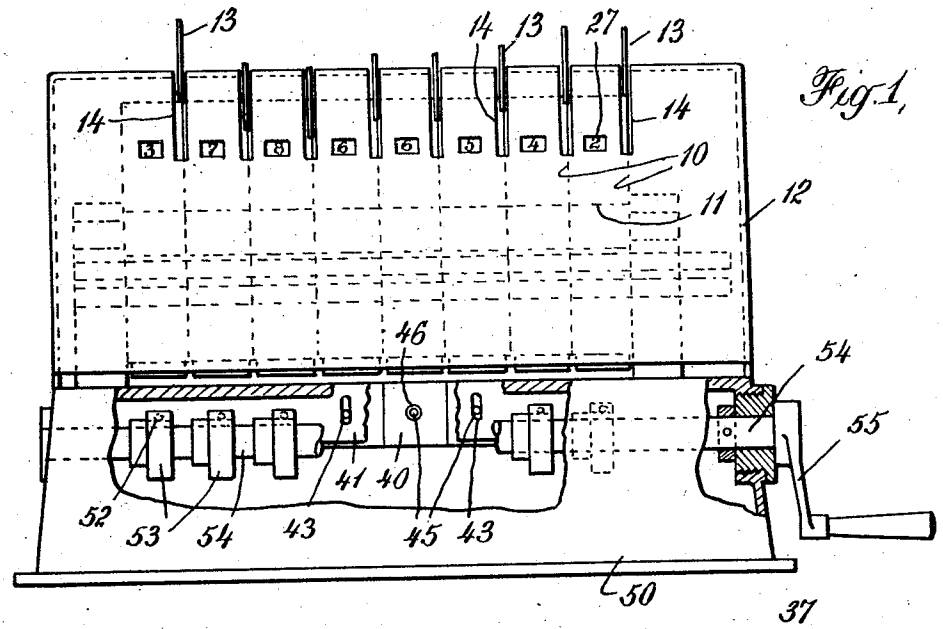

Fig. 1.

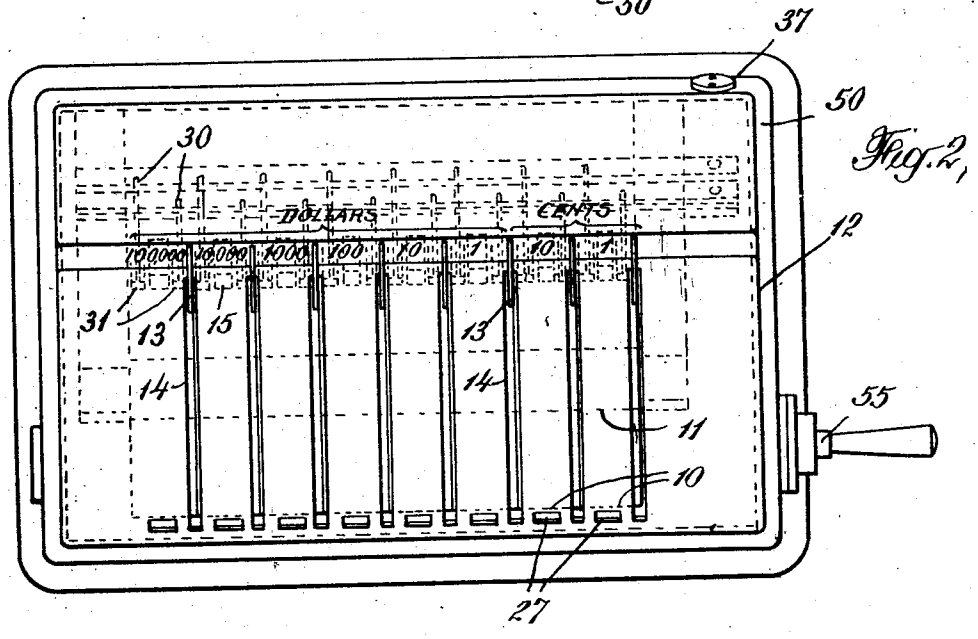

Fig. 2.

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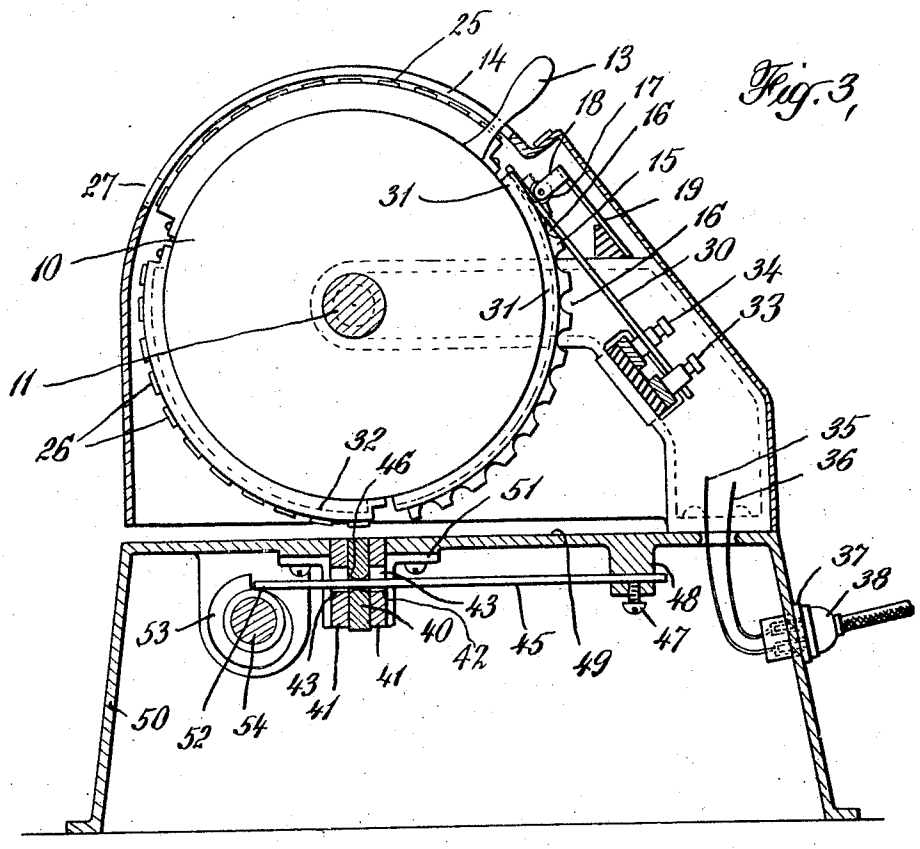

Fig. 3,

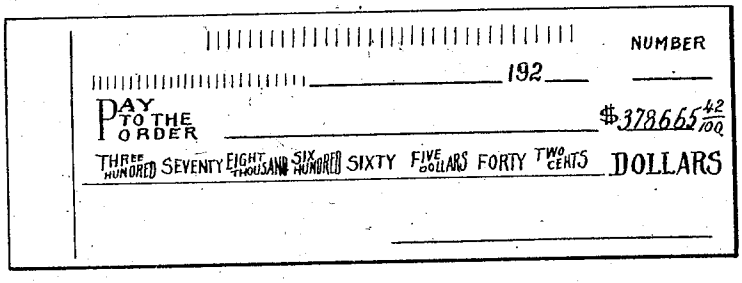

Fig. 4,

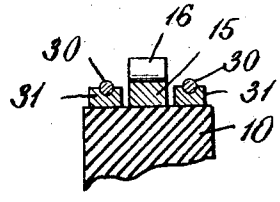

Fig. 5,

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR MAKING INDELIBLE IMPRINTS ON SHEET MATERIAL.

Application filed December 10, 1924. Serial No. 754,885.

This invention relates to safety check writing devices for printing or marking designs or marks on sheet material, such as checks.

There are many forms of check writers now in use by means of which the amount of money for which a check is drawn is impressed in or printed on the body of the check in some suitable manner as by numbers, words, or both. Such devices, although affording some degree of protection, do not absolutely insure against the check being raised or altered since the impression made thereon can by a skillful manipulation be voided or removed by chemicals, by pressure, or in some other manner.

This invention has for its salient object to so impress or print marks on a check that the marks cannot be voided, erased or eliminated.

Another object of the invention is to provide a check writer so constructed as to coact with a chemically prepared check to print or impress thereon marks that cannot be voided, erased or otherwise eliminated from the check.

Another object of the invention is to provide a check writer having heated dies or type adapted to coact with a check chemically prepared in such a manner that the heated dies will indelibly print on the check the desired marks or indicia.

Further objects of the invention will appear from the following specification taken in connection with the drawings, which form a part of this application, and in which—

Fig. 1 is an elevational view partly broken away and partly in section of a machine constructed in accordance with the invention.

Fig. 2 is a top plan view of the construction shown in Fig. 1.

Fig. 3 is a transverse sectional elevation of the machine shown in Fig. 1.

Fig. 4 is a top plan view of a check having marks thereon printed by the machine illustrated in Figs. 1, 2 and 3.

Fig. 5 is a detail section showing the means for conducting the electric current to the carriers of the type or dies.

The invention briefly described consists of a check writer comprising a plurality of carriers or disks rotatably mounted and each having thereon a plurality of words or numbers. The disks are rotatable to bring any of the indicia thereon into operative position. The machine also has a plurality of platens, each platen being adapted to coact with the type or dies on one of the carriers and means is provided for elevating the platens to raise the check into position to be marked or printed by the dies.

The dies or type are electrically heated and the check is chemically treated in such a manner that the contact of the hot die with the check will cause the type to print on the check the desired indicia or marks. It has been found that a check prepared by impregnating or soaking the paper or the portion thereof to be marked or printed in a solution of sugar and weak sulphuric acid will give the desired result, but it will be understood that other chemicals may be used to obtain the same objects.

Further details of the invention will appear from the following description.

The machine particularly illustrated in the drawings comprises a plurality of type carriers 10 rotatably mounted on a shaft 11 which in turn is carried by a casing 12.

The carriers are independently rotatable and each carrier has secured thereto a handle 13 which extends through a slot 14 in the casing 12.

Each carrier has secured thereto a rack 15 having a plurality of notches or grooved depressions 16 therein adapted to coact with a roller 17 mounted in lugs 18 carried by a resilient supporting member 19.

Each carrier also has mounted thereon a plurality of die plates 25 and a plurality of dies or type 26, the marks on the plates 25 corresponding to the marks on the type or dies 26.

These marks are so relatively arranged that when one of the marks 25 appears in an opening 27 in the casing 12, the corresponding type or die will be disposed in operative position above the platen.

It is proposed in this machine to heat the dies and in the particular embodiment of the invention illustrated the current for heating the dies is led to the carriers by means of resilient brushes 30, two brushes being provided for each carrier. The brushes at their inner ends engage metallic strips 31, insulated from each other, and

have a wiping action on these strips as the carrier is rotated, thereby maintaining the electric circuit. The strips 31 are connected to high resistance or heating wires 32 disposed beneath the dies or type 26.

The brushes 30 are mounted in binding posts 33 and 34 which are insulated from the casing and are connected to lead wires 35 and 36 which in turn lead to a socket 37. A plug 38 connects the socket to an outside source current.

In the present embodiment of the invention, a separate platen is provided for each carrier. Each platen comprises a vertically reciprocable bar 40 slidably mounted between guides 41 and provided with an opening 42 therein. Slots 43 are formed in the guides 41 and each platen bar is mounted on and has extending therethrough a metallic resilient strip 45. The bar 40 is preferably rounded as shown at 46 at the edges of the opening 42.

The strips 45 are secured in any suitable manner as by screws 47 to lugs 48 which extend downwardly from a check supporting surface 49 formed on the base 50 of the machine. The guides 41 are also secured as shown at 51 to the under surface of the support 49.

In order to raise and lower the strips 45 and with them the platen bars 40, the free ends 52 of the strips are disposed in engagement with cams 53, one cam being provided for each strip.

The cams 53 are mounted on a cam shaft 54, which is journaled in the base 50 of the machine and a crank 55 is secured to one end of the cam shaft.

As the cam shaft is rotated, the resilient strips 45 will be raised and with them the platen bars 40, thereby raising the paper into engagement with the type or dies above the platens.

The type or dies on the carriers may be arranged in any desired manner and in the embodiment of the invention shown, the dies on the left hand carrier in Fig. 1 are numbered from one to nine inclusive and each of the dies in addition to the number has thereon the word "Hundred". In Fig. 4, the letters of the number are tapered in one direction and the letters of the word "Hundred" are tapered in the opposite direction, this being the convenient and practical form of type. The impression on the check shown in Fig. 4 of the left hand carrier die reads "Three hundred".

The other carriers and in fact the left hand carrier may bear thereon any desired indicia and the check illustrated in Fig. 4 is drawn for "Three hundred seventy eight thousand six hundred sixty-five dollars forty two cents" ($378,665.42). It will be understood that any desired check up to the amount of $999,999.99 can be drawn on a machine constructed as illustrated in the drawings and, of course, carriers and type may be so arranged as to draw a check for any amount without in any way changing the invention.

The check paper to be used in the machine above described is specially prepared by impregnating the paper with a suitable chemical solution. One solution that has been found satisfactory includes sugar in solution plus weak sulphuric acid.

When a check so prepared is placed in the machine and the dies are heated in the manner above described, the operator will rotate the crank 55 thereby causing the platens to raise the check into coactive relation with the heated dies. The action of the heated die on the check will cause to be indelibly printed on the check the amount for which the dies have been set.

The dies are raised to a moderate temperature and not a high temperature so that the check is not burned by the action of the heated dies thereon, but is permanently discolored. The chemically prepared check obviates the necessity of heating the dies to a high temperature to burn the check, but impression made by the dies is clear, distinct and indelible, and cannot be voided, erased or otherwise eliminated without destroying the body of the check.

Although one specific embodiment of the invention has been particularly shown and described, it will be understood that the invention is capable of modification and that changes in the construction and in the arrangement of the various cooperating parts may be made without departing from the spirit or scope of the invention, as expressed in the following claims.

What I claim is:

1. A check writer adapted to coact with a chemically treated check so as to produce indelible impressions thereon, comprising a pair of selective type carriers, means for heating the type on the carrier and means for moving the check into contact with the heated type.

2. A check writer adapted to coact with a chemically treated check so as to produce indelible impressions thereon, comprising a plurality of selective dies, means for heating the dies and means for moving the check into contact with the heated dies.

3. A check writer adapted to coact with a check which has been treated with a heat responsive chemical so as to form permanently discolored impressions thereon, comprising a plurality of oscillatable selective type carriers, means for heating the type on said carriers and means for moving the check into contact with said heated type.

4. A machine adapted to coact with sheet material treated with a heat responsive chemical so as to permit permanent dis-

coloration of portions thereof, comprising a plurality of dies, means for heating said dies and means for moving said sheet material into engagement with one of said dies.

5. In combination, a machine having a plurality of rotatable selective carriers, each carrier having a plurality of dies on its periphery, means for heating the dies of each carrier, a movable platen adapted to coact with the selected die of each carrier, and means for simultaneously elevating said platens.

6. In combination, a machine having a plurality of rotatable selective carriers, each carrier having a plurality of dies on its periphery, electrical means including members having a wiping contact with conductors on each carrier for heating the dies of each carrier, a movable platen adapted to coact with the selected die of each carrier, and means for simultaneously elevating said platens.

7. In a machine of the character described, a plurality of selective dies, a platen adapted to coact with a selected die, and means including a resilient strip engaging the platen and a cam engaging said strip for elevating the platen.

8. A check writer for use with a chemically treated check comprising a plurality of selective type carriers, means for heating the type, means for supporting said check, a movable platen for each carrier and means for raising each platen to cause the check to coact with the heated type, whereby the type will mark the check.

9. In a check writer, a carrier having a plurality of sets of type thereon, each set of type comprising two words superimposed one on the other, the letters of one word gradually decreasing in height from one end of the word to the other and the letters of the other word gradually increasing in height from one end of the word to the other, whereby the small letters of one of the words will be disposed beneath the large letters of the other word so that adjacent words will overlap.

In witness whereof, I have hereunto set my hand this 5th day of December, 1924.

GEORG KIRKEGAARD.