

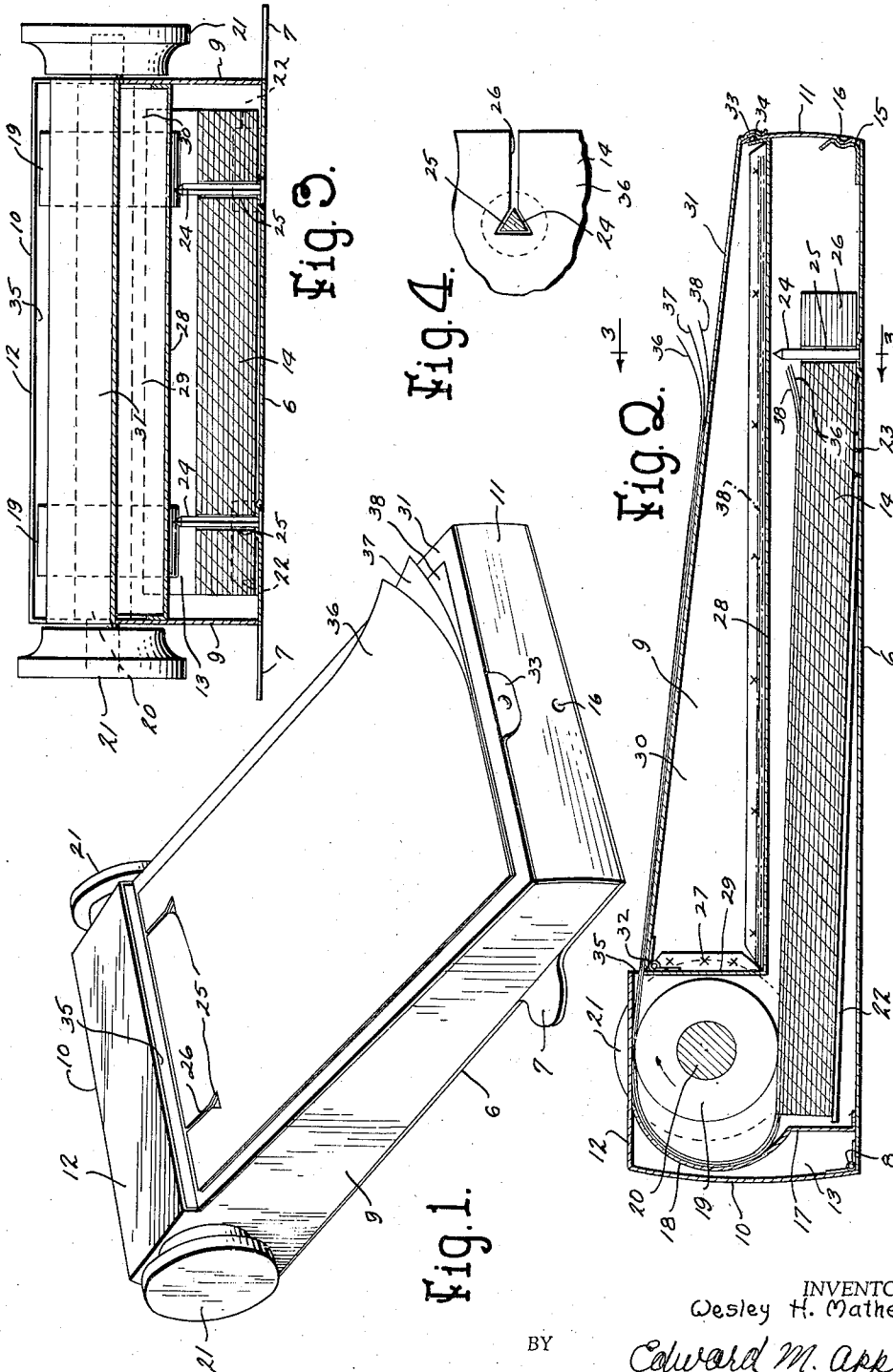
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AUTOGRAPHIC MACHINE

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## AUTOGRAPHIC MACHINE

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8 Claims. (Cl. 282-29)

This invention relates to autographic or manifold machines, or registers for use in stores, offices, shops and the like.

An object of the invention is to provide a device which will dispense simultaneously from a storage compartment to a writing table or platen one or a plurality of sheets of paper or the like for manifolding or record purposes.

Another object of the invention is the provision of a device of the character referred to which is particularly adapted to handle manifold forms such as are manufactured and sold under the trade name "Carboff." Such forms provide multiple copies automatically without the necessity of interposing carbon sheets or so called carbon paper, as the surfaces of the forms are treated with wax or similar material, which is compressed throughout the area where pressure is applied during the writing or imprinting operations, whereby the wax becomes transparent throughout that area permitting the color of the basic paper stock to show through to effect legible copies. Forms employing transfer material on the under faces of the sheets may also be dispensed with this device. All of such forms may be obtained in continuous strips, packets or in separate sheets, and although the device herein disclosed may be employed with either, I prefer to show it as used with packets, in which the individual sheets are temporarily secured to one another in a series of sets by the frictional contact or adherence of the coating applied to the sheets. This enables the sheets comprising each set, including an original, to be dispensed from the machine at each operation.

Manifolding machines heretofore used dispensed the sheets in continuous form, relying upon the continuity of the sheets and the filing holes to assist in the feeding operation, whereas this device will automatically dispense pre-cut sheets in sets of predetermined multiples up to as many as ten copies. This obviates the necessity of tedious loading operations, and the operations of inserting a sheet of carbon paper for each copy desired, the constant checking of the legibility of the copies and the changing of the position of the carbon, and the operation of tearing the sheets to obtain the copies.

A further object of the invention is the provision of a device of the character described which is adapted to store the forms in closely adhering sets and feed the sets to the writing table or platen in such manner that the adherence is modified so that the individual copies are easily separated.

The foregoing objects of the invention and other advantages will become more apparent as the description proceeds, reference being made from time to time to the accompanying drawing forming part of this disclosure, in which drawing:

Fig. 1 is a perspective view of a device embodying my invention.

Fig. 2 is a longitudinal section taken through the device illustrated in Fig. 1.

Fig. 3 is a transverse section taken substantially on the line 3-3.

Fig. 4 is an enlarged fragmentary detail taken substantially on the line 4-4 of Fig. 2.

Referring now more particularly to the drawing, it will be understood that in the embodiment herein disclosed, my improved device consists of a flat base member 6 which is provided with finger grips 7, so that the base may be held on a counter or the like, while the device is being opened as hereinafter described.

Hinged to the base, as at 8, are the side walls 9 and end walls 10 and 11, and the top member 12, which define a primary storage space 13 for the initial storage of the sheets of paper or manifold forms 14. The base 6 is provided with a locking detent 15 which is adapted to engage a boss 16 formed on the member 11 of the device. Adjacent the end 10 and inside of the storage space 13, I provide a wall 17 which has a vertical lower portion and a curved upper portion 18. The curved portion 18 of the wall 17 is intended to change the direction of travel of the sheets of paper or sets of manifold forms 14 which are to be dispensed from the device, as hereinafter explained. Mounted within the enlarged end of the storage space 13 (Fig. 2) is a roller 19 which is preferably made of rubber or other resilient material. The roller 19 is mounted on a shaft 20 which is suitably journaled in the side wall of the device. The roller 19 is manually rotatable by means of the knobs 21.

The sheets of paper or manifold forms 14 are preferably positioned in the storage compartment 13 so that they will rest in a substantially horizontal plane, except for the upward pressure exerted on them by the long flat spring 22 which is secured at one end to the base 6, as at 23, by welding or other suitable means. The spring 22 is intended to exert a gentle pressure on the underside of the sheets or forms 14 so that there is substantial frictional contact between the upper surface of the top sheet and the periphery of the roller 19. The base 6 of

the device is provided with pins 24 which are adapted to engage the filing holes 25 formed near the ends of the sheets of paper or manifold-forming forms 14. The pins 24 may have any shape of cross-section, but I prefer to form them with a triangular cross-section such as shown in Fig. 4, so that the apex of the angle serves as a means to facilitate the removal of the sheets or forms from the pins. It will be noted that the sheets or forms 14 are slotted, as at 26, from the filing holes 25 to the ends so that they may be readily removed from the pins 24.

Secured to the inside of the side members 9, by means of welding or other suitable means, as at 27, is a false bottom 28 and an end member 29, which form a secondary storage compartment 30 for the preservation of copies made on the machine, as hereinafter described. The secondary compartment 30 is covered by means of a writing table or platen 31 which is hinged to the end member 29, as at 32, and is secured to the end member 11 by means of the lip 33 which engages a boss 34 formed on the end member 11. The side walls 9 and the top member 12 are provided with a slot 35 through which the sheets 14 are dispensed to the writing table or platen 31. The roller 19 is positioned so that the upper part of its periphery is sufficiently close to the surface of the top member 12, so that the sheets or sets are outwardly impelled by the roller after they have followed the direction indicated by the arrow over the curved surface 18.

The operation of the device is as follows. The lower compartment 13 of the device is made accessible by upwardly swinging the body portion of the device away from the base 6 by means of the hinge 8. A sufficient quantity of sheets of paper or sets of manifold-forming forms are then positioned on the base so that the filing holes 25 engage the pins 24. In this position the forms 14 will lie in a horizontal plane except where the ends are upwardly displaced by means of the flat spring 22. The body of the device is then lowered on to the base so that the roller 19 is in resilient contact with the upper sheet of the supply of forms in the storage space 13. The roller 19 is then rotated in the direction indicated by the arrow (Fig. 2) causing the set in contact with the roller to be moved away from the pins 24 and on to the curved surface 18 where the set is given an outward movement. The set is again picked up by the top of the roller 19 and dispensed through the slot 35 on to the writing table 31.

In the embodiment disclosed, I have illustrated manifold-forming forms 14 which are prepared in sets of three, one sheet being intended for the original and two sheets being intended for copies. In the embodiment illustrated, the sheet constituting the original, which is designated 36, will be on the bottom of the set of three when the sheets are in position in the storage space 13, and will be superimposed upon the copies 37 and 38, when the sheets are in position for writing thereon on the table 31, as illustrated in Fig. 1. The sheets 37 and 38 of each set, which are the copy sheets, are wax-coated as previously indicated. The original sheet 36 is not wax-coated, but may be any form of conventional paper or other material suitable for writing or printing thereon. As previously indicated, there is close adhesion between the sheets comprising the sets of forms because of the wax coating referred to. Although I have shown the sets in Figs. 1 and

2 as consisting of three sheets each, it will be understood that one sheet or as many as ten sheets may be employed in a set. The functioning is exactly the same with equal facility.

As long as the sheets comprising the sets are disposed in a horizontal plane with their surfaces undisturbed, there is a substantial adhesion between the sheets of the sets throughout their entire areas. Any distortion from the horizontal planes has a tendency to reduce the adherence between the sheets so that they can be more easily removed from one another. It is therefore, one of the features of this invention is to provide a device which causes sufficient distortion of the surface planes to assist in the separation of the copies from the original. As the sets are disposed in the storage compartment 13, it is very difficult to separate the original from the copy sheets because of the adhesion hereinabove referred to. However, after the sets have been caused to travel around the curved member 18, the plane surfaces have been sufficiently distorted to enable the copies to be readily removed from one another and the original, while at the same time the adherence has not been entirely eliminated, but sufficient adherence is maintained after the sheets are disposed on the writing table 31 so that the edges of the sheets comprising the set will not be displaced during the writing or printing operation.

With this device it is possible to make as many copies as is desired without the necessity of inserting carbon paper between the sheets, and this device permits the use of already cut forms so that the individual sets may be used without the necessity of separating one set from another by tearing or the like.

After the writing or printing operation has been performed on one or more of the copies, they may be placed in the secondary storage compartment 30 by lifting the writing table or platen 31 on its hinges 32.

Having described my invention, what I claim and desire to secure by Letters Patent is:

1. In an autographic machine adapted to dispense simultaneously a plurality of wax-coated manifold-forming forms, the combination of a flat storage compartment, locating pins in said storage compartment adapted to engage apertures formed in the manifold-forming forms, a cover member adapted to serve as a writing table and means to move the forms in sets from the storage compartment to the writing table.

2. In an autographic machine, the combination of a compartment in which paper may be stored horizontally, a curved member comprising one end of said compartment, a roller journaled in the side walls of said compartment, and a spring arranged to firmly hold the paper in said compartment against said roller, whereby the rotation of the roller in one direction causes the paper in contact therewith, to move toward said curved member, the said compartment being provided with a flat base, the said base being provided with locating pins, the latter being adapted to engage apertures formed in the paper carried in said compartment.

3. The combination defined in claim 1, in which the said compartment is provided with an intermediate member, which is positioned between the base of the compartment and the said cover member, the said intermediate member being adapted to define an auxiliary storage space.

4. In an autographic machine, the combination

of a compartment in which paper may be stored horizontally, a curved member comprising one end of said compartment, a roller journaled in the side walls of said compartment, and a spring arranged to firmly hold the paper in said compartment against said roller, whereby the rotation of the roller in one direction causes the paper in contact therewith, to move toward said curved member, there being locating pins positioned in said compartment.

5. A device such as defined in claim 1, in which the wax coated manifolding forms are stored in sets in the storage compartment, the said sets being in disconnected condition, but the sheets comprising the respective sets being lightly secured to one another by the adherence of their coatings, whereby the movement of the top sheet from the storage compartment causes a corresponding movement of all of the sheets comprising that respective set.

6. A device as defined in claim 1, in which the forms are stored in sets, the sets being stored flat with the coated surfaces of the sheets in close

adherence, there being means adapted to distort the planes of the coated surfaces, whereby the adherence is slightly disturbed during the dispensing operation.

7. The combination defined in claim 1, in which the locating pins are triangular in cross-section, whereby the said pins offer a slight frictional resistance to the removal of said forms from the storage compartment.

8. An autographic machine adapted to automatically dispense in sets and in predetermined relation, a plurality of sheets of coated material such as paper, said machine comprising a storage compartment in which the sets are stored in disconnected condition, a writing table and means to propel to the table the outside sheet of each set, whereby the other sheets of the set are correspondingly propelled by reason of the adherence of their coating, the said storage compartment being provided with pins adapted to engage slotted apertures in the sets, and the said sets being supported on a resilient base.

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