E. MOSS.

POSTAL FRANKING MACHINE.

APPLICATION FILED MAY 13, 1912.

1,129,111. Patented Feb. 23, 1915.

Fig. 1

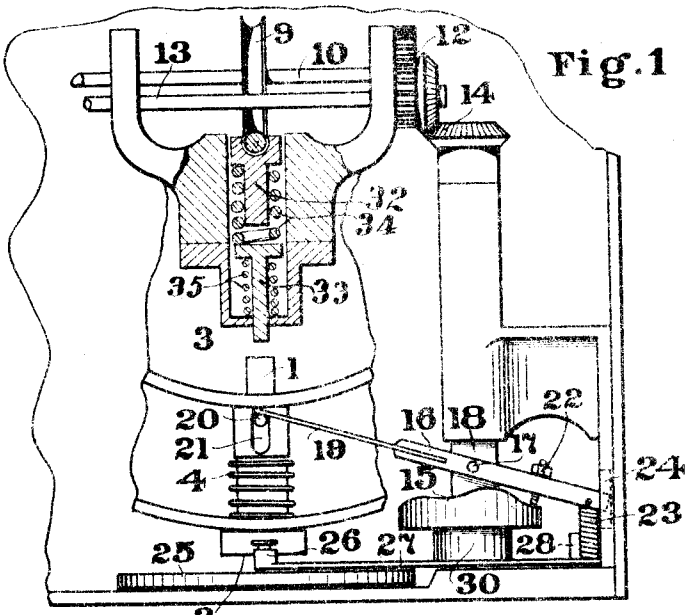


Fig. 2

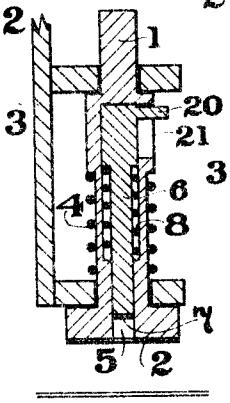


Fig. 3

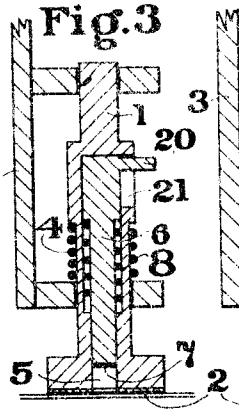


Fig. 4

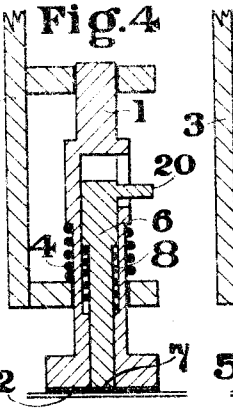


Fig. 5

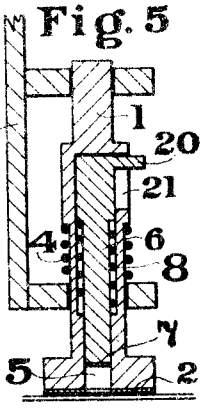


Fig. 6

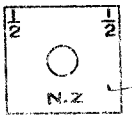
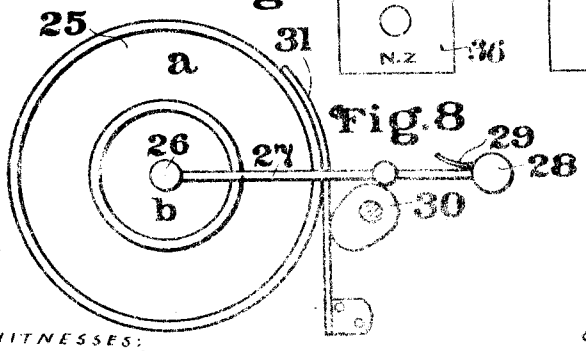


Fig. 7

Fig. 8



WITNESSES:

John C. Sanders

Albert F. Heuman

INVENTOR:

Ernest Moss

BY Wm. Ballard White

ATT'Y.

UNITED STATES PATENT OFFICE.

ERNEST MOSS, OF CHRISTCHURCH, NEW ZEALAND.

POSTAL FRANKING-MACHINE.

1,129,111. Specification of Letters Patent. Patented Feb. 23, 1915.

Application filed May 18, 1912. Serial No. 698,333.

To all whom it may concern:

Be it known that I, ERNEST MOSS, a subject of the King of Great Britain, residing at 134 Hereford street, Christchurch, New Zealand, have invented new and useful Improvements in and Relating to Postal Franking-Machines, of which the following is a specification.

This invention relates to postal franking and similar machines and to that type in which a letter or other matter is impressed or stamped with the prepaid or otherwise amount by means of a die operated by mechanical means. In devices of this nature as hitherto constructed, it has been found possible by inserting a knife or other instrument, to press the matter against the surface of the die and so to fraudulently obtain an impression without operating the machine.

The object of the present invention is therefore the provision of means which will render such fraudulent use impossible while by the employment of two dissimilar inks and inks of dissimilar colors, the reproduction of the impression by a lithographic or similar process will be precluded.

With this object in view the construction comprises a supplementary die slidably mounted within a hollow core formed through the main die and its shank, a suitable spring being provided to normally maintain such supplementary die upward with its surface within the core. The depression of the auxiliary die is effected by means of a small plunger adapted to slide within the said core in the main plunger. The main die and its plunger are also controlled by suitable springs which tend to normally hold them upward.

The inking of the dies is effected by means of an ink pad consisting of two portions; one containing ink for the main and another containing ink for the auxiliary die. The two inks are preferably of a dissimilar nature in order to prevent the impression from being reproduced by any one process. For example one may be an aniline and the other a fatty ink. The pad is so placed when inking the dies that each receives the particular ink intended for it.

The pad may be arranged to remain normally beneath the dies in the inking position or it may normally assume some other position, from which it is automatically moved by the machine when required. In either case such pad will be carried clear of the dies before the matter can be impressed.

Instead of one pad containing two dissimilar inks as above described, the same purpose can be effected by the employment of two pads adapted to operate in the above manner.

In order that the nature of the invention may be fully understood, reference will now be made to the accompanying drawing in which:—

Figure 1.— is an elevation illustrating one method of operating the dies and pad, part being shown in section for the sake of clearness. Figs. 2 to 5 :— are sectional elevations of the dies and their plungers illustrating the successive movements necessary for stamping the matter. Fig. 6.— shows by way of example an impression upon the matter as produced by the depression of the main die as in Fig. 3. Fig. 7.— shows the same mark completed by the depression of the auxiliary die as in Fig. 4, and Fig. 8.— is a plan view of the inking pad, and means of operating same.

1 is the main plunger upon the lower extremity of which is carried the main die 2. The plunger 1 is adapted to slide in guides formed in the framework 3 so as to permit of its being depressed for the purpose of impressing the die 2 upon the matter in the required manner, while to maintain such plunger and its die normally in an upward position, a suitable spring 4 is employed. The said plunger 1 and die 2 are formed with a hollow core 5 within which is adapted to slide a supplementary plunger 6 carrying a die 7 which when depressed upon the matter completes the mark (as shown in Fig. 7). The plunger 6 is maintained normally upward with its die 7 inaccessible within the core 5 as shown in Figs. 2, 3, and 5 by means of a spring 8.

To effect the stamping, the matter is placed beneath the dies, the latter being in their normal position as shown in Fig. 2, and having been previously inked in the manner hereinafter described. The main die 2 is then depressed, as in Fig. 3, in order to give the first impression 36 as illustrated in Fig. 6. The supplementary die 7 is then depressed, as in Fig. 4 so as to make its impression 37 thus complete the impression as shown in Fig. 7. The die 7 is then withdrawn to its original upward position with-

in the core 5, as in Fig. 5, and finally the main die 2 is raised again to the position shown in Fig. 2, thus allowing the impressed matter to be withdrawn.

To enable the dies to be automatically operated by the machine, the means illustrated in Fig. 1 may be employed. The said means comprises an eccentric or cam 9 mounted upon the main shaft 10 and adapted to depress the plunger 32 which in turn will depress the plunger 33, which on being depressed will engage and depress the main plunger 1 so that as the shaft 10 is rotated the main plunger 1 will be depressed and allowed to rise again under action of the spring 4 as the varying radii of the cam 9 are brought to bear upon it. To reduce friction an anti-friction ball 11 to take the thrust from the cam 9 may be provided and the periphery of the cam suitably grooved as shown. The springs 34 and 35 allow for various thicknesses of envelops when stamping by acting as a cushion and also tend to hold the plungers 32 and 33 in their raised position at the same time keeping the ball 11 in close contact with the cam 9.

Connected with the main shaft 10 by means of suitable gearing 12, is a supplementary shaft 13 with which again is connected by bevel gearing 14, a vertical shaft provided with a cam 15 which controls the movements of the supplementary die 7. To enable the cam 15 to operate the die 7 a lever 16 is fulcrumed as at 17 upon a sleeve or collar 18 loosely mounted upon the vertical shaft carrying the cam 15, such collar being prevented from moving upward or downward upon the said shaft by reason of its ends abutting the lower end of the shaft-bearing and the upper face of the boss of the cam 15.

Projecting from one end of the lever 16 is a spring finger 19 adapted to bear upon a pin 20 projecting from the side of the plunger 6 and extending through a suitable slot 21 formed through the side of the plunger 1, while the portion of the said lever 16 upon the opposite side of the fulcrum 17, is provided with a set-pin 22 adapted to ride upon the surface of the cam 15. To assist in keeping the set-pin 22 in engagement with the cam 15, a suitable spring 23 is connected to the portion of the lever extending beyond such set-pin, while to provide a guide for the lever and prevent it from becoming displaced, its extremity is arranged to slide within a slot 24 formed in the framework of the machine.

By this arrangement, upon rotating the main shaft 10 the main die 2 will first be caused to descend by reason of the pressure of the cam 9 upon the plunger 1. The timing is so arranged that after the main die has been depressed, the higher portion of the cam 15 is brought to bear upon the set-pin 22 which action causes the lever 16 to rock upon its fulcrum and so by causing the spring finger 19 to bear down the pin 20, serves to depress the supplementary die. The object of employing the spring-finger 19 is to provide sufficient resilience in depressing the die 7 to allow of matter of various thicknesses being stamped. As the cam 15 continues to turn it presents a lower portion of its surface to the set-pin 22 and consequently the lever is allowed to return, thus permitting the die 7 to be withdrawn into the core 5 by means of its spring 8, after which the cam 9 allows the main plunger 1 to rise again under action of the spring 4. The cams 9 and 15 are so formed that they will serve also to depress their respective dies upon the inking pad (or pads) at the required moment. The construction of operating means as above described is however intended by way of example only and as numerous other ways of effecting these movements may be devised, this feature of the invention is not to be confined to such but to the employment of two dies adapted to coöperate to produce a complete impression, actuated by any suitable means.

The inking pad 25, which is circular in form comprises two portions; an outer portion *a* containing ink for the main die, and an inner portion *b*, concentric therewith containing ink for the supplementary die and, as previously explained these two inks may be dissimilar in color and composition. The said pad 25 is concentrically pivoted as at 26 upon the extremity of an arm 27 which is itself pivoted at its other extremity upon the framework as at 28 so as to permit of its swinging in a horizontal plane. To maintain the pad normally clear of the dies, a suitable spring 29 may be arranged to bear against the side of the arm 27, while to bring such pad into the operative position when required for inking the dies a suitably shaped cam 30 carried upon the vertical shaft of the cam 15, is adapted to engage against the opposite side of the arm 27.

Instead of maintaining the pad 25 normally clear of the dies it may if desired be arranged to lie normally beneath the dies and temporarily removed by means of the cam 30 while the stamping is taking place. In either case the spring 29 may be dispensed with and the cam arranged so as to act positively in both directions.

In order to effect the turning of the pad so as to bring the contact of the dies into a different place each time a spring finger 31 is provided, such spring finger being secured at one extremity upon the framework while its remaining portion is normally disposed tangentially with and a slight distance away from the periphery of the pad 25. The arrangement is such however that the cam 30 upon turning so as to carry the pad into the

inking position also presses the spring finger 31 against the periphery of the pad thus as the turning of the arm proceeds the pad will be caused to turn upon its pivot 26 in the required manner.

Obviously in place of one combined pad for the two dies, two separate pads each controlled in the manner described may be employed.

I claim—

1. In a machine of the class described, in combination, a frame, a plunger carrying a die slidably mounted therein, said plunger being recessed, and a second plunger carrying a die slidably positioned within the recess of said first plunger, and means for normally holding each plunger in its raised position, the length of said second plunger being less than the length of the recess in said first plunger, whereby said second plunger is held within said recess.

2. In a machine of the class described, in combination, a frame, a plunger carrying a die slidably mounted therein, said plunger being recessed, a second plunger carrying a die slidably positioned within the recess of said first plunger, means normally holding each plunger in its raised position, means for depressing said first plunger to cause the die carried thereby to make an impression, and means for subsequently depressing said second plunger to cause the die carried thereby to make an impression.

3. In a machine of the class described, in combination, a frame, a plunger carrying a die slidably mounted therein, said plunger being recessed, a second plunger carrying a die slidably positioned within the recess of said first plunger, means normally holding each plunger in its raised position, means for depressing said first plunger to cause the die carried thereby to make an impression, and means subsequently depressing said second plunger to cause the die carried thereby to make an impression, said second mentioned means releasing the plunger associated therewith before said first mentioned means releases the plunger associated therewith.

4. In a machine of the class described, in combination, main and supplemental dies, an ink pad provided with two portions adapted to carry inks of different character, means for moving said pad into and out of operative relation to said dies, and means for moving one only of said dies into operative relation with one of said portions and the other only of said dies into operative relation with the other of said portions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERNEST MOSS.

Witnesses:
PERCY RICHMOND CLIMIE,
CYRIL CARLYM COATES.