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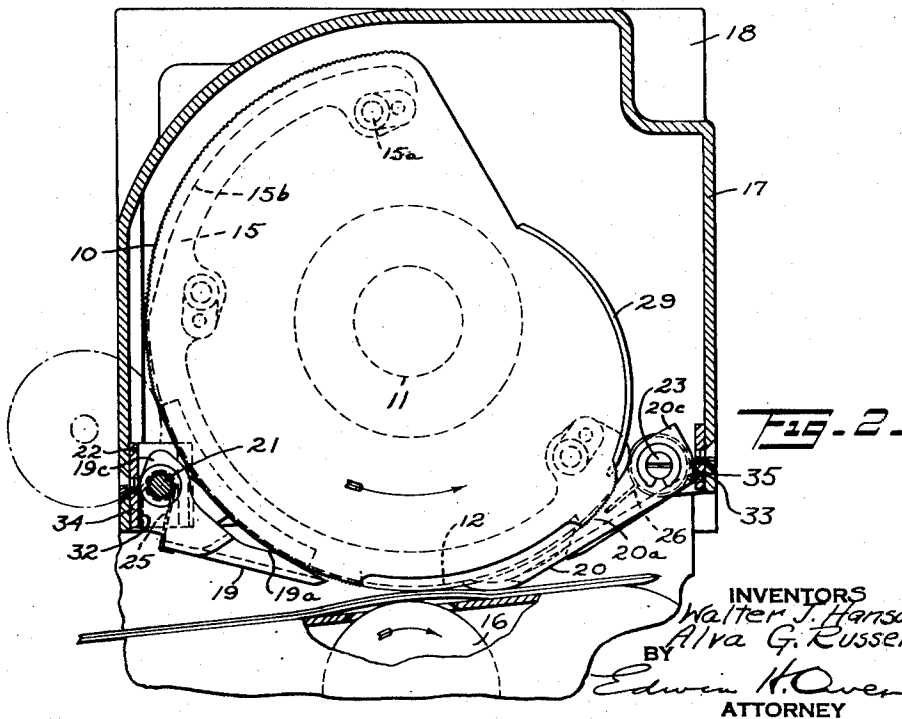
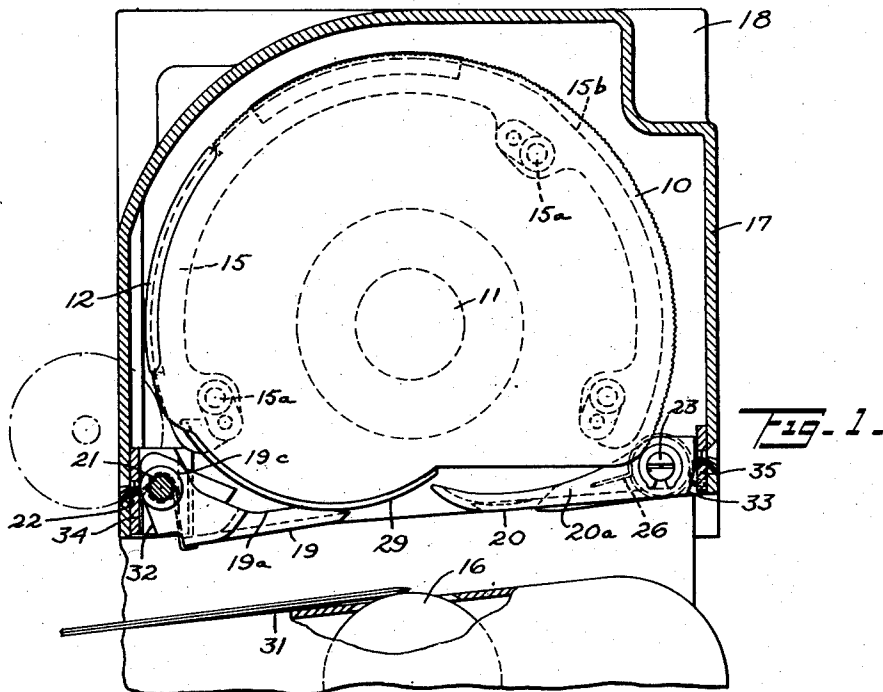
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POSTAGE PRINTING DIE PROTECTION MEANS

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2 Sheets-Sheet 1



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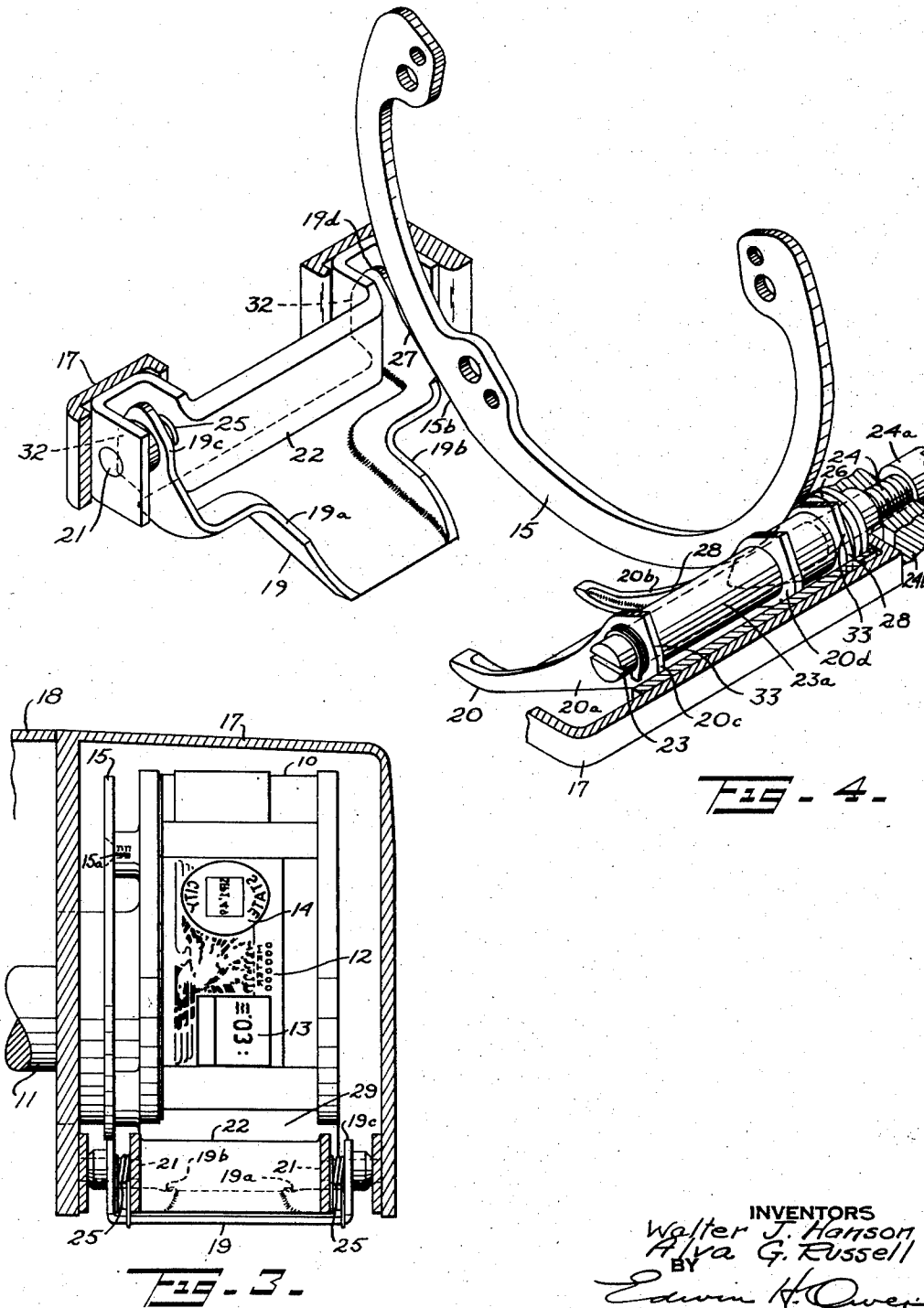
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POSTAGE PRINTING DIE PROTECTION
MEANS

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This invention relates to printing die protection means, and is associated with a rotary postage printing device, to prevent the taking of more than one legitimate postage impression at the printing position.

In a rotary postage printing device, postage impressions are adapted to be printed on letters passed between a printing element and a platen roller, and inasmuch as each impression is of predetermined value, the said value is registered within suitable registering mechanism. It is important therefore, to prevent taking more than the one legitimate impression from the printing die surface at the printing position during a printing cycle of operation.

Various means of protection have heretofore been provided but have generally been complicated and expensive to produce. In the device of the present invention, two guard members are provided, to partially obstruct an opening at the printing position of a cover which normally conceals the printing device. One guard is positioned at the printing die approaching end of the opening, and the other guard is positioned at the opposite end of the opening, and are arranged so that only a portion of the entire postage indicia and value printing die will be exposed in the printing position at any one time. Further, said guard members are normally retained in a retracted position, and are adapted to be moved outwardly during a printing cycle of operation to clear the printing die, after the leading end of the letter has moved to a printing position. Said latter feature is a contributing factor of the invention in that it permits the inner ends of the guards to be normally positioned inside of the path of the printing die which allows heavier pieces of mail to reach a printing position without obstruction.

It is the principal object of the invention therefore, to combine postage printing die guard means with a cover for said printing die, which will permit the free entry of letters to the printing position, and which will obstruct the printing die at the printing position in such manner as to allow only one legitimate impression to be made during a printing cycle of operation.

It is another object of the invention to provide means to effect the rocking of the printing die protecting guard members during a printing cycle of operation, and to normally maintain the inner free ends thereof retracted when the printing die is in a home position.

In the drawings, a preferred form of the invention is shown wherein:

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Fig. 1 is a front elevational view of the printing cylinder, showing the printing die protection guards in their home position, and further showing the casing covering the printing cylinder in section;

Fig. 2 is a view similar to Fig. 1, with the printing die portion of the printing cylinder engaging the advancing letter, and with both die guards rocked outwardly.

Fig. 3 is a view showing the printing cylinder in side elevation, and includes one of the die guards, and casing, the latter being in section; and

Fig. 4 is a detailed perspective view showing the die guards, and an operating cam therefor.

Referring to the drawings in detail, a printing cylinder 10 is mounted on a shaft 11, which shaft may be cyclically driven in any suitable manner. Associated with said printing cylinder is a postage indicia printing die 12, which die has value printing means 13, and town and date printing means 14 combined therewith. A cam element 15 is also secured to the printing cylinder, as indicated at 15a.

Beneath the printing cylinder 10 is a platen roller 16 which cooperates with the printing die 12 in printing a postage impression upon letters passed therebetween.

A casing or cover 17 envelopes two sides, front, back, and the top of the printing cylinder, thus leaving the lower portion open, to permit the printing die 12 to pass therethrough when effecting printing. Said casing extends rearwardly, as 18, to form a covering for the entire postage meter, including accumulator and actuator mechanism. The entire printing and metering unit is detachable from drive elements associated with a machine base, all of which features are commonly known in postage printing and metering machines.

Cooperating with the printing cylinder are two die guard elements 19 and 20. The guard 19 is preferably of U-shaped cross section and has side walls 19a-19b and sidewardly deflected portions terminating in ears 19c-19d. Said ears 19c-19d are pivotally mounted on studs 21-21, which studs are supported in a bracket 22, fixed to the inside wall of the casing. The guard 20 also has side walls 20a-20b terminating in ears 20c-20d. Said ears 20c and 20d, and another ear-like element 28 are joined by a sleeve 23a, which sleeve is pivotally mounted on a stud 23. The stud 23 has one screw threaded end 24 secured within a portion of the supporting base structure 24b of the

postage printing device, and is locked therein by a lock nut 24a.

Each of the guards 19 and 20 normally have their free ends urged toward the peripheral surface of the printing cylinder 10 by means of springs 25—25 and 26 respectively.

The cam 15 is arranged so that the cam edge 15b thereof will engage the upper edge of a wall 27, forming a continuation of the ear 19d and associated with the guard 19. Another portion of the cam edge 15 will engage the upper edge of a wall continuing from the ear-like element 28 associated with the guard 20. A further cam is carried by the printing cylinder, as indicated at 29, Figs. 1 and 2, which cam is adapted to extend across the upper edges of the walls 19a—19b and 20a—20b and will effect the initial rocking movement of the guards 19 and 20 when the printing cylinder is rotated. Cam 15, which also rotates with the printing cylinder, will continue the outward rocking movement of the guards.

In operation, a letter will be advanced along a letter feed plate 31 to the position indicated in Fig. 1, whereupon the printing cylinder 10 will be rotated. With the die guards in the home position, as indicated in Fig. 1, there is ample space for a letter of considerable thickness to pass through to a printing position without obstruction objection.

When the printing cycle commences, the cam 29 will rock both die guards 19 and 20 outward, and when said cam 29 passes beyond the guard 19, the cam 15 will control the position of said guard 19, as in Fig. 2. At this point, the printing die 12 will have about completed the printing of the postage indicia.

It will be noted, when referring to the latter position, that the space between the inner ends of the guards 19—20 is about two-thirds the length of the printing die. Therefore, only two-thirds of the printing die is accessible at any one time. It will also be noted that both guards 19—20 will have been rocked to substantially their limit at the printing position, inasmuch as the back edges 32—32 of the guard 19 and 33—33 of the guard 20 will have engaged fixed walls 34 and 35 respectively.

It would therefore be impossible to place an envelope or even a piece of paper in any position relative to the postage printing die 12, in an attempt to cover the entire die surface at the position of printing, so as to fraudulently receive an impression.

Having described the invention, what is claimed is:

1. The combination with a rotary postage printing cylinder having a postage printing die thereon and including a cover having an opening at the printing position but otherwise arranged to conceal the printing die when not in a printing position; of means to prevent the taking of more than one legitimate impression at the printing position during each rotation of the printing cylinder and comprising a guard having one portion thereof extending beyond one end of the opening in said cover at the printing position and in the path of the printing die, a second guard having one portion thereof extending beyond the opposite end of the opening in said cover and in the path of the printing die, each of said guards having their extended portions normally urged toward the peripheral surface of the printing cylinder, and means engaging said guard and movable with the printing cylinder to effect withdrawal of the extended portions of the guards

from the path of the printing die as the printing die approaches the printing position.

2. The combination with a rotary postage printing cylinder having a postage printing die thereon and including a cover having an opening at the printing position but otherwise arranged to conceal the printing die when not in a printing position; of means to prevent the taking of more than one legitimate impression at the printing position during each rotation of the printing cylinder and comprising a guard having one portion thereof extending beyond one end of the opening in said cover at the printing position and in the path of the printing die, a second guard having one portion thereof extending beyond the opposite end of the opening in said cover and in the path of the printing die, each of said guards having their extended portions normally urged toward the peripheral surface of the printing cylinder, and cam elements engageable with portions of said guards and movable with the printing cylinder to effect withdrawal of the extended portions of the guards from the path of the printing die as the printing die approaches the printing position.

3. The combination with a rotary postage printing cylinder having a postage printing die thereon and including a cover having an opening at the printing position but otherwise arranged to conceal the printing die when not in a printing position; of means to prevent the taking of more than one legitimate impression at the printing position during each rotation of the printing cylinder and comprising a guard having one end pivotally supported by the cover and having the free end thereof extended beyond one end of the opening in said cover at the printing position and urged toward the peripheral surface of the printing cylinder, a second guard having one end pivotally supported by the cover and having the free end thereof extending beyond the opposite end of the opening in said cover and urged toward the peripheral surface of the printing cylinder, and cam elements engageable with said guards and movable with the cylinder to effect withdrawal of the extended portions of the guards from the path of the printing die as the printing die approaches the printing position during a printing cycle of operation.

4. The combination with a rotary postage printing cylinder having a postage printing die thereon and including a cover having an opening at the printing position but otherwise arranged to conceal the printing die when not in a printing position; of means to prevent the taking of more than one legitimate impression at the printing position during each rotation of the printing cylinder and comprising a guard having one end pivotally supported by the cover and having the free end thereof spring urged toward the peripheral surface of the printing cylinder and extending beyond one end of the opening in said cover at the printing position and in the path of the printing die, a second guard having one end pivotally supported by the cover and having the free end thereof spring urged toward the peripheral surface of the printing cylinder and extending beyond the opposite end of the opening in said cover and in the path of the printing die, a cam engaging the free ends of said guards and movable with the cylinder to effect initial withdrawal of the extended portions of the guards, and a second cam engageable with the guards to effect further withdrawal of the extended ends thereof from the path of the print-

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ing die as the printing die approaches the printing position.

5. The combination with a rotary postage printing cylinder having a postage printing die thereon and including a cover having an opening at the printing position but otherwise arranged to conceal the printing die when not in a printing position; of means to prevent the taking of more than one legitimate impression at the printing position during each rotation of the printing cylinder and comprising a guard having one end pivotally supported by the cover and having the free end thereof extending beyond one end of the opening in said cover at the printing position and in the path of the printing die, a second guard having one end pivotally supported by the cover and having the free end thereof extending beyond the opposite end of the opening in said cover and in the path of the printing die, each of said guards having their extended portions normally urged toward the peripheral surface of the printing cylinder, a cam engaging the free ends of said guards and movable with the cylinder to effect initial withdrawal of the ex-

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tended portions of the guards from the path of the printing die as the printing die approaches the printing position during a printing cycle of operation, each of said guards including cam engaging edge portions, and a second cam movable with the printing cylinder and engageable with said latter edge portions to effect control of the position of each guard after the first named cam moves beyond a contact relation with the free ends of the guards.

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