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IMPRESSION ROLLER
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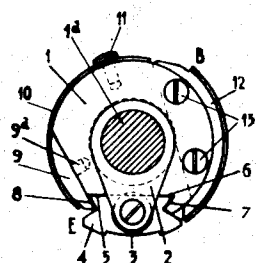


FIG. 1

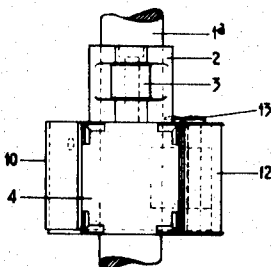


FIG. 2

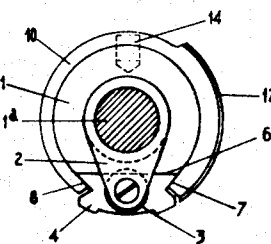


FIG. 3

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IMPRESSION ROLLER

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6 Claims. (Cl. 101—371)

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The invention relates to an impression roller for a stamp cancelling machine provided with a start-stop device, as is used for marking postal articles.

The start-stop device of such a machine serves to ensure that on every postal article the postmark is confined to the top right angle. To make sure, however, that the postage stamps are hit, the postmark should cover a surface, which is larger than the surface required for merely printing office name, date and hour. Therefore the postmark printed by such a start-stop machine consists of the office name part and the cancellation part. The impression members effecting these two impressions are releasable parts of the impression roller and are secured on the so-called die-hub.

With a view to a good legibility of office name and date it is desirable to print the office name part of the postmark to the left of the cancellation part of the postmark, which means, with the customary stamp cancelling machines that when the impression roller rolls across the postal article moving by, the obliterator plate is brought in touch with said postal article first. With a view to starting and stopping, the impression roller is provided with a cam and steel roller, which is unlocked by means of a feeler, which is actuated by the right edge of the postal article and which via a mechanism actuates a pawl which, when at normal, retains the locking roller. In the conventional stamp cancelling machines the angle between the front edge of the obliterator plate and the axle of the locking roller is about 140 degrees, in order to get, with about $\frac{1}{8}$ " margin, the front edge of the cancellation mark near the right edge of the postal article.

As the radius of the impression roller is $\frac{3}{4}$ ", a part of about

$$\frac{140}{180} \pi \times \frac{3}{4} = 1\frac{1}{8}"$$

is printed at the moment the roller has attained its minimum distance from the postal article.

With the conventional impression rollers for machines as described above, which place the post office die impression to the left of the cancellation mark, the post office die is kept remote from the area of the generatrix of the impression roller occupied by the locking roller, and as the thickness of the locking cam should also be taken into account, the total length of the impression will be $1\frac{1}{8}" + \frac{1}{8}"$ (post office die) + $\frac{1}{4}"$ (roller) = $3"$. With a $\frac{1}{8}"$ margin at the edge the postmark will occupy a stretch of $3\frac{1}{4}"$ of

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the upper edge of the postal article, which entails the disadvantage that the post office die impression falls entirely or partially in the surface of the postal article, which is reserved for the public.

It is the object of the present invention to overcome the disadvantages of the known impression rollers. With this object in view the present invention mainly consists in an impression roller comprising a rotatable supporting means having at least one flat outer supporting surface portion extending substantially parallel to the axis of rotation of the rotatable supporting member; a detachable impression member having a flat inner face abutting on the flat supporting surface portion of the rotatable supporting member, and an outer face carrying impression types, the impression member being provided in the outer surface thereof with two oppositely arranged notches formed by surface portions extending parallel to the axis of rotation, the notches being located adjacent to the flat inner face; an elongated spring means mounted on the outer surface of the rotatable supporting means longitudinally projecting with one end portion thereof into one of the notches; and a projecting member on one of said means projecting into the other of the notches to hold, together with one end portion of the spring means, the impression member seated on the flat supporting surface portion of the supporting means.

This arrangement offers at the same time the following three advantages:

1. The impression member can easily be removed or replaced by pushing aside the resilient spring means;

2. Any play between the supporting means and the impression means is eliminated, so that the occurrence of wear as a result of working shocks is considerably reduced;

3. When set in or taken out, the impression member is kept within the height of the rolling part of the impression roller, so that the locking roll does not hamper a free choice of the place of the die.

The invention will be explained in connection with the drawing.

Fig. 1 shows a top plan view of an embodiment of an impression roller according to the invention;

Fig. 2 is a front elevation view of the impression roller of Fig. 1;

Fig. 3 shows a top plan view of another embodiment.

Referring now to the embodiment shown in Figs. 1 and 2, the supporting means 1 is provided

with a cam 3 and a revolving steel roller. The rolling part of the supporting means 1 carries the post office impression member 4 which has a dovetail portion 5 formed with two angular notches. The flat face of the dovetail portion abuts on the flat surface portion 6 of the supporting means 1. An angular projection 7 of the supporting means 1 fits into one of the notches, while the angular end portion 8 of the spring means 9, 10 projects into the other notch whereby the impression member 4 is resiliently pressed against the flat surface portion 6 of the supporting means. The spring means include the leaf spring 10, which is secured by the screw 11 to the supporting means 1, and a holding member 9 which abuts against a second flat surface portion of the supporting means. Consequently the flat bottom face of the dovetail 5 of the impression member 4 is firmly pressed by the holding member 9 of the spring means against the supporting means so that play or rattling are impossible. A locking pin 9a which is secured to the holding member 9 keeps the end portion of the spring means 9, 10 in place, while permitting insertion and detaching of the impression member.

The obliterator plate 12 is secured in this embodiment by means of screws 13, but it is clear that this stamp too may be fixed by an attachment according to the invention. In the case of the obliterator plate, however, there is less need for it than with the post office die, which must be taken out every hour for changing the date and/or hour types (not shown in the figure).

B and E represent the beginning and the end of the printing part of the impression roller.

Fig. 3 shows a modified embodiment of the present invention. The supporting means 1 is a cylinder having a flat surface portion 6. The impression member 4 has again a dovetail portion having two angular notches. The spring means 10 has angular end portions which constitute projecting holding members 7 and 8, which project into the notches of the dovetail and correspond to the end portion 8 of the spring means 9, 10, and to the projecting member 7 in the embodiment of Fig. 1. In this case both projecting end portions are resilient and movable and are formed by the ends of a horseshoe spring means 10, which surrounds the cylindrical surface of the impression roller completely and with which the obliterator plate 12 forms a whole. In the absence of the impression member the spring means 10 presses against the whole round outline of the supporting means 1, but after the post office impression member has been inserted one or both ends of the spring are pushed away from the supporting means, because the dovetail of the impression member has the required width for pushing these ends away. Consequently the two end portions of the spring means 10 exercise pressure on the notch surfaces of the dovetail, thus causing pressure to be exercised on the flat surface 6 too. The pressure causes spring and impression member to move along with the impression roller rotation, but it is preferred to introduce another means, such as a stud 14 for locking spring means 10.

While I have illustrated and described what I regard to be the preferred embodiment of my invention, nevertheless it will be understood that such is merely exemplary and that numerous modifications and rearrangements may be made therein without departing from the essence of the invention,

I claim:

1. An impression roller comprising, in combination, a rotatable supporting means having at least one flat outer supporting surface portion extending substantially parallel to the axis of rotation of said rotatable supporting means; a detachable impression member including a dove-tail portion having a flat face abutting against said flat surface portion of said supporting means, and an outer face carrying impression types, said dove-tail portion being formed with two oppositely arranged angular notches formed by surface portions extending parallel to said axis of rotation, said notches being located adjacent to said flat face; an elongated spring means mounted on and extending circumferentially of the outer surface of said rotatable supporting means with one end portion thereof projecting longitudinally into one of said notches; and a projecting member on one of said means projecting into the other of said notches to hold, together with said one end portion of said spring means, said flat face of said impression member seated on said flat surface portion of said supporting means.

2. An impression roller comprising, in combination, a rotatable supporting means having at least one flat outer supporting surface portion extending substantially parallel to the axis of rotation of said rotatable supporting means; a detachable impression member including a dove-tail portion having a flat face abutting against said flat surface portion of said supporting means, and an outer face carrying impression types, said dove-tail portion being formed with two oppositely arranged angular notches formed by surface portions extending parallel to said axis of rotation, said notches being located adjacent to said flat face; an elongated spring means mounted on and extending circumferentially of the outer surface of said rotatable supporting means, the end portions of said spring means projecting longitudinally for a short distance beyond said flat supporting surface portion of said supporting means and into said notches of said dove-tail portion of said impression member so as to resiliently hold said flat face of said impression member on said flat surface portion of said supporting means.

3. An impression roller comprising, in combination, a rotatable supporting means having at least one flat outer supporting surface portion extending substantially parallel to the axis of rotation of said rotatable supporting means, and an angular projection adjacent to said flat surface portion; a detachable impression member including a dove-tail portion having a flat face abutting against said flat surface portion of said supporting means, and an outer face carrying impression types, said dove-tail portion being formed with two oppositely arranged angular notches formed by surface portions extending parallel to said axis of rotation, said notches being located adjacent to said flat face, one of said notches being engaged by said projection on said rotatable supporting means; and an elongated spring means mounted on the outer surface of said rotatable supporting means and extending circumferentially around a portion of its perimeter, one end portion of said spring means projecting longitudinally beyond said flat supporting surface portion and opposite to said projection on said supporting means and into the other of said two notches in said dove-tail portion of said impression member so as to resil-

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lently hold said flat inner face of said impression member seated on said flat surface portion of said supporting means.

4. An impression roller comprising, in combination, a rotatable supporting means having a first flat outer supporting surface portion extending substantially parallel to the axis of rotation of said rotatable supporting means, and an angular projection adjacent to one side of said first flat surface portion, said supporting means further having a second flat surface portion located adjacent to the other side of said first flat surface portion; a detachable impression member including a dove-tail portion having a flat inner face abutting against said first flat surface portion of said supporting means, and an outer arcuate face carrying impression types, said dove-tail portion being formed with two oppositely arranged angular notches formed by surface portions extending parallel to said axis of rotation, said notches being located on both sides of said flat inner face, one of said notches being engaged by said projection on said supporting means; an elongated curved leaf spring mounted on the outer surface of said supporting means and extending circumferentially around a portion of its perimeter, one end portion of said leaf spring projecting longitudinally over said second flat surface portion; a holding member secured to the inside of said end portion of said leaf spring, and having a flat

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face engaging said second flat surface portion of said rotatable supporting means and an angular end portion projecting into the other of said two notches in said dove-tail portion of said impression member so as to hold the same seated on said first flat surface portion of said supporting means; and an obliterator plate secured to said supporting means.

5. An impression roller as claimed in claim 2 and including a pin secured to the inside of said spring means and projecting into a recess formed in the perimeter of said supporting means.

6. An impression roller as claimed in claim 4 and including a pin secured to said holding member and projecting from said flat face thereof into a recess formed in said second flat surface portion of said supporting means.

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