

Description

A method and a unit for producing stamps applied to cigarette packets

Technical Field

The present invention relates to a method of producing stamps for cigarette packets, and to a relative unit.

In describing the present invention, reference is made to revenue stamps for cigarette packets of the soft type, albeit implying no limitation in general scope.

Background Art

Conventionally, soft cigarette packets appear substantially parallelepiped in shape and comprise a first inner wrapper typically of metal foil paper, fully enveloping a group of cigarettes likewise substantially parallelepiped in shape, and a second outer wrapper or label wrap.

The second wrapper is fashioned from a leaf of wrapping material, generally paper, presenting two longitudinal edges and enveloping the inner wrapper all but for a top end face; thus, the label wrap presents a front face, a rear face and two flank faces.

The second wrapper is also folded over the bottom end of the first wrapper to establish the bottom end face of the packet.

Once the operation of folding the second wrapper around the first wrapper has been completed, the label presents one free longitudinal edge extending transversely around a predetermined peripheral portion of the packet, adjacent to the top end face of the metal foil inner wrapper.

It is also customary for packets of this type to bear a revenue stamp, or seal, straddling the top end face and affixed by its two ends at points coinciding with the free top edge of the label wrap.

These stamps are often prepared, in familiar manner, using dedicated units by which a continuous strip of paper material is drawn from a roll through the action of suitable decoiling means, and thereafter divided into a succession of discrete leaves, each constituting a single stamp.

An adhesive is then applied to one surface of each stamp by a gumming device, in such a way as to coat two bands at either end, adjoining a central band of the selfsame surface that remains devoid of adhesive.

Accordingly, each stamp presents a central non-adhesive portion offered to the exposed top end face of the inner wrapper, and two adhesive end portions connectable to the top edge of the label.

The need for a gumming device in units designed to prepare revenue stamps by the method described above represents a drawback, given that such devices are almost always somewhat complex and costly.

Disclosure of the Invention

The object of the present invention is to provide a method and a unit for producing stamps applicable to cigarette packets, such as will be unaffected by the drawback mentioned above, and carried efficiently and easily into effect.

Brief Description of the Drawings

The invention will now be described in detail, by way of example, with the aid of the accompanying drawings, in which:

- figure 1 shows a unit for producing stamps according to the present invention, viewed schematically and in perspective;
- figure 1a shows a stamp produced by the unit of figure 1, enlarged and viewed from beneath;
- figure 2 shows a second possible embodiment of a unit for producing stamps, viewed schematically and in perspective;
- figure 2a shows a stamp produced by the unit of figure 2, enlarged and viewed from beneath;

- figure 3 shows a third possible embodiment of a unit for producing stamps, viewed schematically and in perspective;
- figure 3a shows a stamp produced by the unit of figure 3, enlarged and viewed from beneath;
- figure 4 shows a cigarette packet of the soft type, viewed schematically and in perspective.

Detailed Description of the Preferred Embodiments of the Invention

With reference to figure 1, numeral 1 denotes a unit, in its entirety, for the preparation of stamps 2 applicable to cigarette packets 3. The unit 1 extends along a predetermined feed path denoted P.

Throughout the present specification, in particular, reference will be made to revenue stamps for soft packets, of which an example is illustrated in figure 4.

The unit 1 comprises a first roll 4 of adhesive strip material 5 rotatable about a horizontal axis A and a second roll 6 of non-adhesive paper strip material 7, located beneath the first roll 4, rotatable about an axis B parallel to the axis A first mentioned.

The adhesive strip 5 is aligned on a longitudinal axis of symmetry denoted X, whilst the non-adhesive strip 7 is aligned on a longitudinal axis of symmetry denoted Y, and presents a width dimension less than that of the adhesive strip 5.

Interposed between the first roll 4 and the second roll 6 are a first decoil roller 8 and a second decoil roller 9, rotatable about respective axes A' and B' parallel to the horizontal axis A aforementioned, and coupled to drive means of conventional embodiment (not illustrated).

The first roller 8 rotates beneath and tangentially to the first roll 4, separated by a distance substantially equal to the thickness of the adhesive strip 5.

The second roller 9 rotates above and tangentially to the second roll 6, separated by a distance substantially equal to the thickness of the non-adhesive strip 7.

Similarly, the first roller 8 is positioned above the second roller 9 at a distance equivalent to the combined thickness of the adhesive strip 5 and the non-adhesive strip 7, thereby creating a gap 10 through which the two strips 5 and 7 can be directed.

The two decoil rollers 8 and 9 function as decoiling and joining means 11 by which the adhesive strip 5 and the non-adhesive strip 7 are drawn from the rolls and united one with another.

Downstream of the decoil rollers 8 and 9, the unit 1 comprises a pair of feed rollers 12.

The unit 1 further comprises a cutter device 13 positioned downstream of the feed rollers 12.

In operation, the first roll 4 of adhesive strip material 5 rotates clockwise, as viewed in figure 1, whilst the relative decoil roller 8 rotates in the opposite direction, thereby causing the adhesive strip 5 to unwind progressively from the selfsame first roll 4 and wrap partially around the roller 8, following a path denoted P1 in figure 1.

The roll 4 of adhesive strip material 5 is coiled in such a manner that the adhesive surface of the strip 5 faces outwards; accordingly, when the strip 5 wraps partially around the first decoil roller 8, the surface of the strip 5 in contact with the roller will be the non-adhesive surface.

At the same time, the second roll 6 of non-adhesive strip material 7 rotates anticlockwise, as viewed in figure 1, whilst the relative decoil roller 9 rotates in the opposite direction, thereby causing the non-adhesive strip 7 to unwind progressively from the selfsame second roll 6 and wrap partially around the roller 9, following a path denoted P2 in figure 1.

The adhesive strip 5 is paired face-to-face with the non-adhesive strip 7 as the two enter the aforementioned gap 10 between the two rollers 8 and 9, with the result that the non-adhesive strip 7 is brought into contact with the adhesive surface of the first strip 5 and the two strips bond together.

This bonding action is favoured as a result of pinch pressure exerted by the

two rollers 8 and 9 on the strips 5 and 7 passing between them, and occurs progressively as the material is drawn from the two rolls 4 and 6.

Thus, a single composite strip of material 14 emerges on the outfeed side of the two rollers 8 and 9, of which one surface is adhesive in part.

In particular, the bonded strip 14 presents a non-adhesive median band 15, corresponding to the width of the non-adhesive strip 7, and two lateral bands 16 flanking the median band on either side, each one of width equivalent to half the difference between the width of the adhesive strip 5 and the width of the non-adhesive strip 7, as discernible in figures 1 and 1a.

More exactly, the non-adhesive strip 7 is united with the adhesive strip 5 in such a way that the aforementioned axes of symmetry X and Y coincide.

The single composite strip 14 formed in this way is caused to advance along the feed path P by the feed rollers 12.

Thereafter, the strip 14 is divided up by the action of the cutter device 13 into a continuous succession 17 of individual leaves, each constituting a respective stamp 2.

The resulting single stamp 2, illustrated in figure 1a, is affixed ultimately to a packet 3 of the type shown in figure 4, assembled in a suitable cigarette packer by conventional methods (not illustrated).

In accordance with an alternative embodiment of the invention illustrated in figure 2, the unit 1 might utilize two rolls 18 and 19 of a non-adhesive strip material 100 and 101, in which case the two strips 100 and 101 would be united with the adhesive strip 5 in the same way as described previously.

In this instance, the partially adhesive surface of the strip 14 created by securing the two non-adhesive strips 100 and 101 to the adhesive strip 5, as illustrated in figures 2 and 2a, presents a central adhesive band 20 flanked on either side by two non-adhesive bands 21, each equal in width to the width of the non-adhesive strips 100 and 101, and two further adhesive bands 22 outermost.

In accordance with a third embodiment of the invention shown in figure 3,

the non-adhesive strip 7 can be prepared with a succession of longitudinally equispaced median holes 23, in such a way that when this same strip 7 is bonded to the adhesive strip 5, the resulting composite strip 14 will present a string of adhesive circular areas 24 along the non-adhesive median band 15, each equal in diameter to the diameter of the holes 23 presented by the non-adhesive strip 7.

In this way, as illustrated in figure 3a, each stamp 2 presents an adhesive circular 24 portion lying within the non-adhesive band 15, and two adhesive lateral bands 16, in such a way that when the stamp 2 is applied to the packet 3 it will also stick partially to the top end face of the inner wrapper.

The unit could operate, in all of the embodiments described above, utilizing a printed adhesive strip bearing the logo of the cigarette manufacturer by which the stamps 2 are used, in conjunction with a transparent non-adhesive strip.

Alternatively, the logo of the cigarette manufacturer using the stamps 2 might be printed on the non-adhesive strip, in which case a neutral adhesive strip would be utilized.

The method and the unit disclosed offer important advantages.

In effect, the aforementioned rolls of strip material can be handled at high speed and with notable precision in a unit of extremely simple design, without any need to make use of a complex and costly gumming device.

Claims

1) A method of producing stamps for cigarette packets, characterized in that it includes the steps of:

- decoiling at least one first strip of adhesive material (5) from a first roll (4) and at least one second strip of non-adhesive material (7) from a second roll (6), through the agency of decoiling means (11);
- bonding the adhesive first strip (5) to the non-adhesive second strip (7) by pairing two corresponding surfaces face-to-face, in such a way as to create a selectively adhesive single composite strip (14);
- dividing the selectively adhesive strip (14) into a succession (17) of single leaves, each constituting a respective stamp (2); and,
- applying one stamp (2) to each of the cigarette packets .

2) A method as in claim 1, wherein the step of bonding the adhesive first strip (5) and the non-adhesive second strip (7) one to another occurs progressively as the two strips (5, 7) are decoiled from the two respective rolls (4, 6).

3) A method as in claim 1 or 2, utilizing a non-adhesive second strip (7) presenting a longitudinal axis of symmetry (Y), of width less than the width of an adhesive first strip (5) likewise presenting a longitudinal axis of symmetry (X), wherein the step of bonding the first strip (5) and the second strip (7) by pairing one with the other includes a step of offering the second strip (7) to the first strip (5) in such a way that the axis of symmetry (Y) of the second strip (7) and the axis of symmetry (X) of the first strip (5) coincide.

4) A method as in claims 1 to 3, including the further step of preparing a succession of equispaced median holes (23) ordered along the longitudinal dimension of the non-adhesive second strip (7).

5) A method as in claim 1, including the step of bonding a non-adhesive second strip (100) and a non-adhesive third strip (101) to the adhesive first strip (5), wherein the width of the first strip (5) is greater than the combined width of the second strip (100) and the third strip (101).

6) A unit for producing stamps applicable to cigarette packets, characterized in that it comprises at least one first roll (4) of an adhesive strip (5), and at least one second roll (6) of a non-adhesive strip (7), also decoiling and joining means (11) operating on the first and second strips (4, 6), by which the adhesive first strip (5) is drawn from the first roll (4), the non-adhesive second strip (7) is drawn from the second roll (6), and the first strip (5) and the second strip (7) are united by being paired face-to-face.

7) A unit as in claim 6, wherein decoiling and joining means (11) comprise a first decoil roller (8) and a second decoil roller (9), rotatable about respective axes (A', B').

8) A unit as in claim 7, wherein the first roller (8) and the second roller (9) are interposed between the first roll (4) and the second roll (6).

9) A unit as in claim 8, wherein the first roller (8) is positioned tangentially to and beneath the first roll (4), separated by a distance substantially equal to the thickness of the adhesive strip (5), the second roller (9) is positioned tangentially to and above the second roll (6), separated by a distance substantially equal to the thickness of the non-adhesive strip (7), and the first roller (8) is positioned above the second roller (9), separated by a distance equal to the combined thickness of the adhesive strip (5) and the non-adhesive strip (7).