

May 26, 1942.

A. W. JORDAN
IMPRESSION MEMBER
Filed March 21, 1940

2,284,095

Fig. 1.

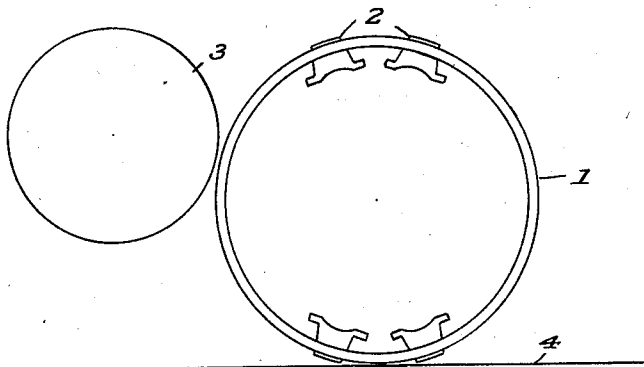


Fig. 7.

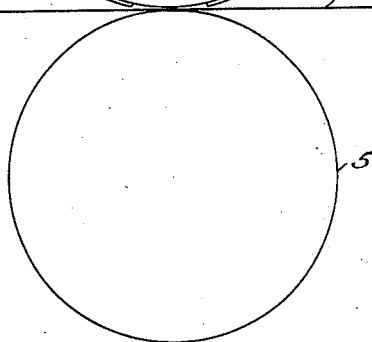
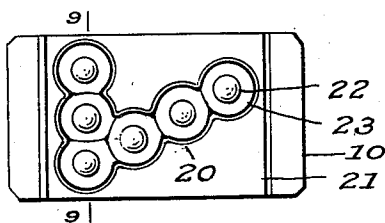


Fig. 8.

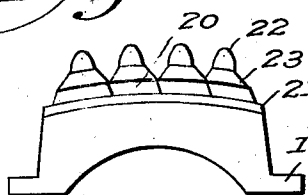


Fig. 2.

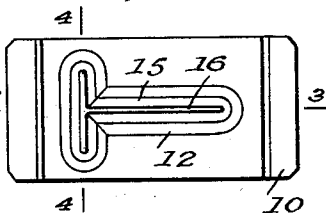


Fig. 3.

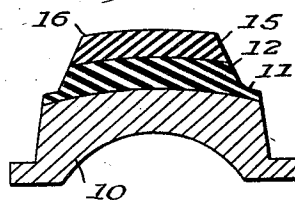


Fig. 9.

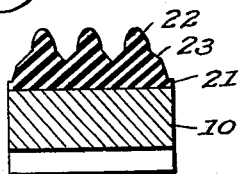


Fig. 5.

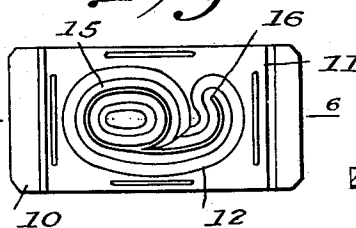


Fig. 6.

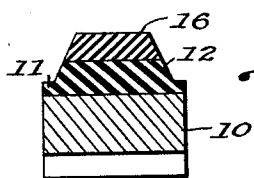


Fig. 4.

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2,284,095

IMPRESSION MEMBER

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Application March 21, 1940, Serial No. 325,253

4 Claims. (Cl. 101—379)

This application is a continuation in part of my copending applications, Serial Number 254,709, filed February 4, 1939, entitled "Method of identification" and Serial Number 288,233, filed August 3, 1939, entitled "Machine for recording data on wall paper."

The present invention pertains specifically to resilient impression members, particularly for the imprinting of identifying data on wall paper, wherein inks or colors are impressed without appreciable penetration of the fibers of the paper and with instantaneous drying, as described and claimed in my copending application, Serial Number 254,709, filed February 4, 1939, entitled "Method of identification."

Fundamentally, this specific invention pertains to the preparation and formation of resilient printing members or type for carrying out the aforesaid method of identification and for use with the machine before referred to. However, the impression members hereinafter described and claimed possess broad application in the printing arts.

Primarily, this invention is concerned with the production of impression characters which take up a minute quantity of ink or coloring material and impress the surface to be printed in such a manner that the characters are flowed or spread thereon without appreciable absorption of the coloring material by the surface and in which the printed characters have considerably greater area than the initially inked surface.

The present invention possesses particular value in impressing identifying data on the back of decorative paper, such as wall paper, although it may be used to great advantage on other surfaces where this style of characters are desired.

As illustrative of the principles involved and manner of carrying out the invention, reference may be had to the following drawing wherein:

Fig. 1 is a diagrammatic layout of an impression roller, in which the invention is incorporated, showing the manner of inking the impression members and applying them to a surface;

Fig. 2 is a top plan view of an impression member composed of straight lines, such as are present in the letter "T";

Fig. 3 is a cross-section taken on line 3—3 of Fig. 2;

Fig. 4 is a transverse section taken on line 4—4 of Fig. 2;

Fig. 5 is a top plan view of a character having curved lines, such as the number "6";

Fig. 6 is a cross-section taken on line 6—6 of Fig. 5;

Fig. 7 is a top plan view of a modified form of impression member;

Fig. 8 is a side elevation looking in the direction of the arrows of line 8—8 of Fig. 7; and

Fig. 9 is a vertical section taken on line 9—9 of Fig. 7.

Referring to the diagrammatic layout shown in Fig. 1, numeral 1 denotes a hollow impression roller carrying a plurality of impression members 2 passing through the outer periphery of the impression roller in a manner fully described and claimed in my copending application, Serial Number 288,233. A spaced color or inking roller 3 is so positioned that upon rotation of the impression roller 1 and inking roller 3, the latter roller will lightly contact and apply a hairline of color to the outer surface of the impression members. After inking, the roller 1 is rotated to apply the impression to a web 4 of the fibrous material, such as wall paper, the impression being made against the bottom roller 5 in such a manner that the impression members are progressively flexed or flowed thereagainst as will be hereinafter described in detail.

The construction of the impression members per se is of greatest importance to insure that the comparatively minute quantity of color or ink picked up on the extreme outer surfaces of the impression characters is subsequently contacted and spread or flowed on the web or surface 4. Where an apparatus, as described and claimed in my prior application and diagrammatically illustrated in Fig. 1 is used, arcuate impression holder or bases 10 prepared of wood, metal or plastic carry the resilient impression members per se.

The manner of preparing the impression members is by forming or molding a base sheet 11 of natural or artificial rubber, which is adhesively affixed or stapled to the arcuate base 1. The base portion 11 and lower section 12 of the impression members are preferably composed of a rather firm dense rubber composition with the upper sections 15 thereof of a softer more resilient rubber compound. This construction of the impression members is shown in detail in Figs. 2 to 6, inclusive, and whether the impression members are made up to print straight lines, such as the "T" in Figs. 2 and 3, or the curved lines shown in the numeral in Figs. 5 and 6, the cross-section of any portion of the impression member through sections 12 and 15 is uniformly triangular or pyramidal.

This formation is clearly shown in Fig. 6, where the harder rubber base 11 and lower part of the impression members 12 are made with an upper softer portion 15 integrally molded or separately formed and cemented thereto. The characteristic triangular or pyramid construction extends through the curved or straight sections of both the letters and numerals.

In operation the inking or color roller 3 applies a thin line of color to the apices 16 of the impression characters in such a manner that no color is applied to the oblique sides or base portions of the characters. As the impression members are applied to the surface 4, while supported on roller 5, the upper softer portion 15 is uniformly distorted in the direction of rotation and consequently a clearcut character is impressed on the surface. The hairline of color on the extreme outer surface 16 spreads out in a minutely thin film on the surface without substantial penetration of the coloring matter into the web and with almost instantaneous drying. This flowing or distortion of the resilient type is the same throughout the length of the character and consequently the contact of the letters is uniform and the impression is consequently clearcut and unblurred.

Figs. 7 to 9, inclusive, illustrate another form of impression member which embodies the same principles. Here a plurality of conical units 20 having an integral base 21 are molded with reduced upper portions 22 and larger diameter sub-base portions 23. It will be obvious that when an impression member formed of a plurality of the conical units is used, the color roller will only wipe and deposit ink on the apices 22 of

the cones and the impression will be spread over a large surface on the web as the cones are compressed towards their bases. In this form of character the impression is made up of a plurality of individual points or spots of ink as distinguished from the continuous lines transferred by the first described impression member.

What I claim is:

1. A compressible printing member comprising a continuous base section having a plurality of raised tapered resilient portions thereon defining the general contour of the character of the printing member, and continuous apical outer ends formed on said raised tapered portions, the outer points of said ends being the printing surface.

2. A printing member comprising a series of upstanding resilient and compressible cones joined at their bases in the general outline of the desired character.

3. A printing member having a continuous upwardly tapered character design formed of resilient and compressible material formed therein, the tapered sides of the said design meeting in a line and constituting the printing surface of the member.

4. A printing member comprising a resilient base having an upwardly tapered character outline formed thereon and a superimposed continuous upwardly tapered character design formed of resilient compressible material attached to said character outline, the continuous tapered sides of the said outline and said design meeting in a line and constituting the printing surface of the member.

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