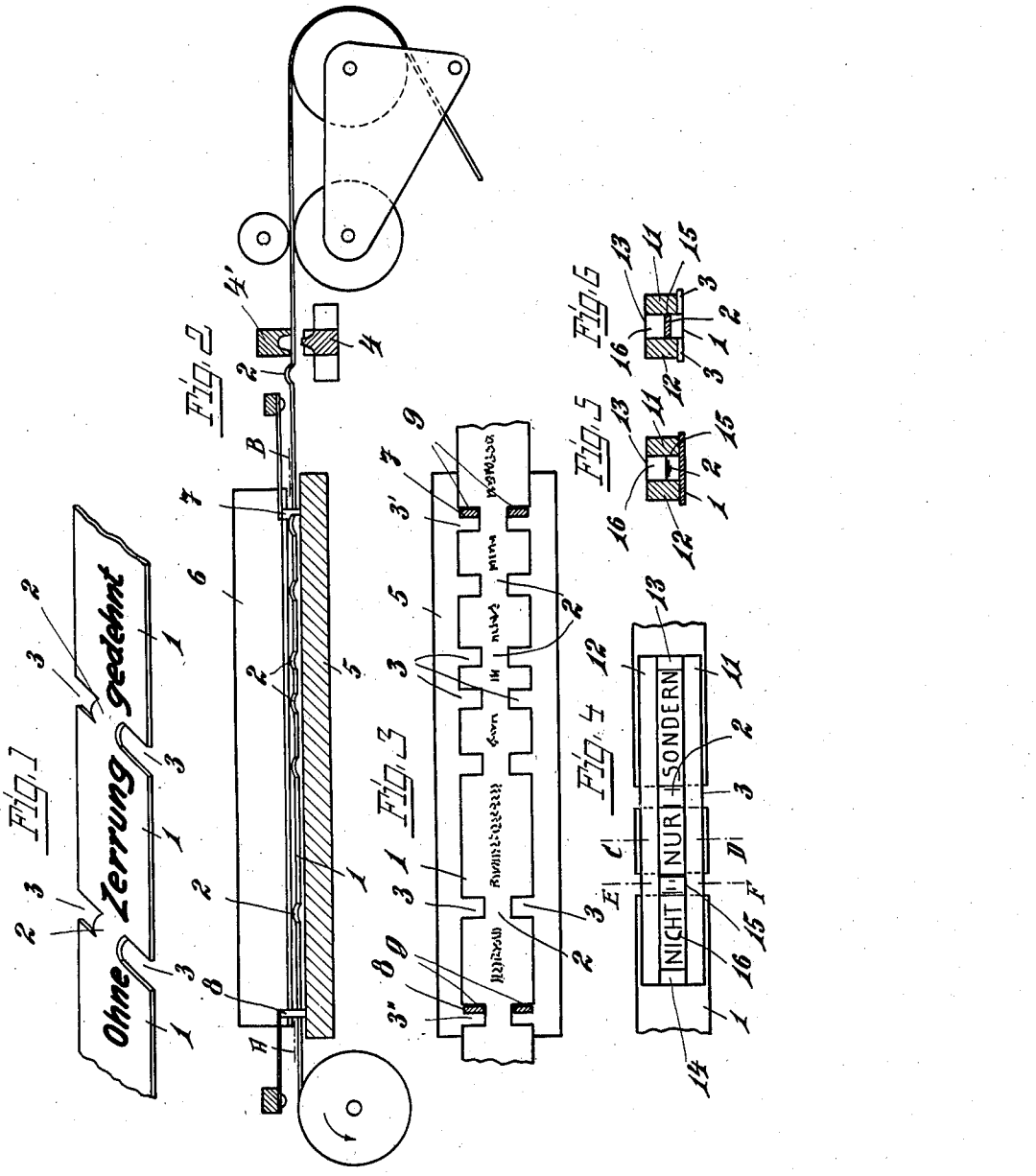
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MATRIX BAND

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BY
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MATRIX BAND

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3 Claims. (Cl. 101—401.6)

My invention relates to a type band or strip, and the method of producing the same, for use in preparing type-like inscriptions.

It is old in the art to produce a type-like inscription by printing or otherwise impressing characters on an extensible support, such as a band or strip, and then making matrices by casting on to such strip. This procedure, which has many advantages over other known justifying methods, has the disadvantage that, when the strip is subjected to considerable stretching which occurs when substantial justification is needed, distortion of the matter on the strip may occur so that the character of the inscription is changed insofar as the type of letters or other matter thereon is concerned.

The object of my invention is to eliminate this disadvantage and I accomplish this object by using a support, such as a strip or band, which is not in itself extensible or subject to stretching, and in which the stretchability is brought about by providing in the intervals between words or other complete characters, a bent or folded portion. The arrangement is preferably such that between adjacent words or complete characters the band or strip is cut out to form bridges or connecting parts which are of a length at least equal to the height of the inscription or letters on the band and these bridges or connecting portions are capable of being folded. In this manner I provide the possibility of producing complete line of type or equivalent thereof, and this I effect by placing the stretched band between mould flanges in such manner that the flanges or walls of the mould extending parallel to the sides of the strip closely engage such sides whereupon the completed mould is cast by means of wax or lead which when it sets or hardens provides the line of type to be printed.

An apparatus by means of which the invention may be practiced is illustrated in the accompanying drawing, in which

Figure 1 is a substantially perspective view of a strip having certain words impressed thereon;

Figure 2 is a part elevational and part sectional view of a fragment of the mechanism which is used for providing bridge pieces between the words or complete characters and for subsequently stretching or extending the band to print line length;

Figure 3 is a longitudinal sectional view partly in elevation on the line A—B of Figure 2;

Figure 4 is a plan view of the strip and the mould prior to the production of the line cast;

Figure 5 is a section on the line C—D of Figure 4; and

Figure 6 is a section on the line E—F of Figure 4.

In Figure 1 of the drawing the principle of the invention is illustrated; the strip or support is a paper or pasteboard strip or band 1 in which the words or other characters may be impressed. Between each two adjacent words the strip is partially cut out at 3 to form the bridge pieces or connecting members 2 of reduced width as compared with the width of the strip 1. These bridge pieces 2 are bent or curved out of the plane of the band 1 so that the band 1 which is itself non-elastic can be stretched, the intervals between the words increasing in size, but all distortion of the printed matter on the band being avoided.

Figures 2 and 3 illustrate the manner in which the band of Figure 1 is produced. The formation of the cut-out parts 3 and the bridge pieces 2 may be effected by suitably actuated die members 4 and 4', 4 being the male member with the cutting portion $4x$ to produce the cut-out parts 3 in the band 1 and the crown portion $4y$ to press up the bridge member 2, while 4' is the female member of the die containing the die cavity $4z$. The band 1 travels in the direction of the arrow between the die members, the latter being automatically actuated to perform their function between each two words on the band 1.

As the band 1 travels in the direction of the arrow it passes over a support or platform 5 with which co-operates a movable frame 6. The frame 6 carries pins or thumb members 7 and 8 spaced apart a distance equal to the normal length of a type line and the function of these pins 7—8 is to hold the band and to stretch it to the requisite length.

The procedure is such that when the edge 9 of the cutout part 3', representing one end of the line, approaches the pin 7, the frame 6 is moved downwardly on to the platform 5 and on to the travelling band 1, so that immediately thereafter the pin 7 snaps into the orifices 3' and by engagement with the edge 9 hold the end of the line fast.

That portion of the band 1 still remaining on the platform 5 is moved in the arrow direction, and is stretched by opening out the bridge members 2, until the pin 8 enters the cut-out portion 3'' and by engagement with the forward wall of the orifice 3'' completely stops the travel of the band. The distance between the pins 7 and 8 representing exactly the length of a line

of type, it will be obvious that the length of the band between the pins 7 and 8 is precisely that of a type line.

In order to produce a printing line, the portion of the band between the pins 7 and 8 into which the inscriptions have been impressed, is suitably placed in a mould consisting of the members 11, 12, 13 and 14. The mould members 11 and 12 which extend parallel to the axis of the band are pressed tightly against the lateral edges 15 of the bridge members 2. Thereafter molten wax or lead is poured on to the mould consisting of the mould members 11, 12, 13 and 14 and the band 1, so as to form the cast 16 and after the wax or lead has suitably hardened the band and the mould members are removed and the hardened wax or lead mass provides a standard length positive printing line.

I claim:

1. The herein described method of forming and justifying printing matrix bands, which comprises forming spaced groups of impressions on a band of inelastic non-rigid material, providing incisions therein marking the beginning and end of a line, respectively, bending the portions of the band between spaced groups of impressions outwardly beyond the normal plane of the band to bring the parts of the band carrying the impressions more closely towards one another, thereafter causing the band to travel, engaging the band at an incision marking a line end, while the remaining part of the band continues to travel, whereby said bent parts of the band are more or less flattened and said groups of impressions are spaced apart, and engaging the moving band at an incision marking the other line end, when the band has attained the length of a line of type.

2. A method of the character described, which consists in the steps of imprinting upon a band, marginally notching said band and thereby forming bridge members between spaced groups of impressions, bending said bridge members and moving said spaced groups of impressions towards one another, spacing said groups of impressions apart to justify the band, and thereafter placing the extended band in a mold and pressing the bottoms of the side walls thereof tightly against the surface of the band and the sides of the said walls against the edges of the said bridge members.

3. The herein described method of forming and justifying printing matrix bands, which comprises forming spaced groups of impressions upon a band of inelastic non-rigid material, bending the material of the band between said groups outwardly beyond the normal plane of the band to bring the parts of the band carrying said groups into closer proximity to one another, more or less flattening the bent-out portions of the band to space said groups apart and thus justify said band, placing said band in a mold and tightly retaining the band in said mold.

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