

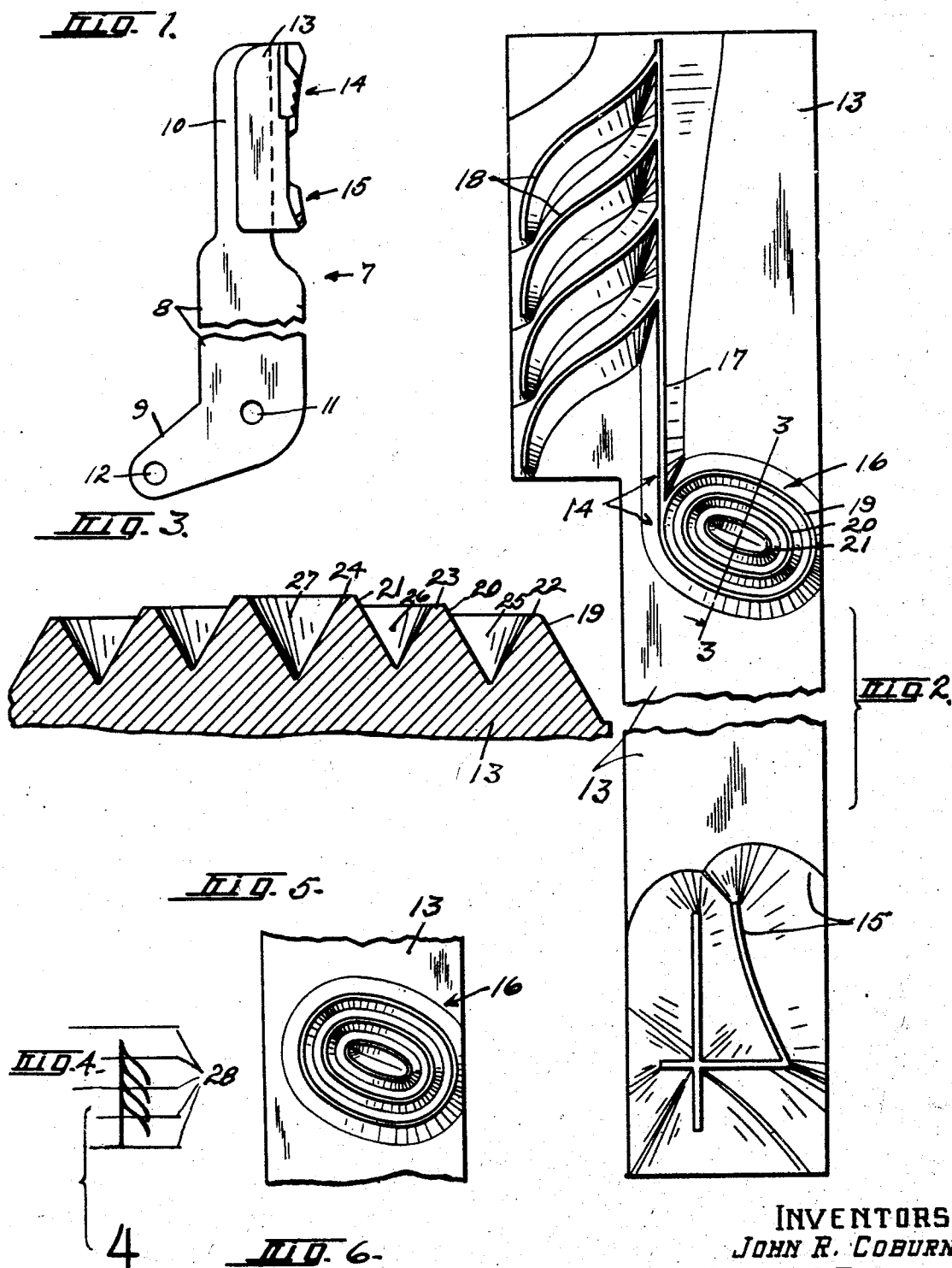
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TYPEWRITING MACHINE

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TYPEWRITING MACHINE

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Our invention relates to improvements in type-writing machines and more particularly to the construction of types adapted to be mounted on the type bars of such machines particularly for cutting stencils, although said types are also useful for making inked impressions through the usual inked ribbon of such machines.

There has been a long recognized need for a typewriter suitable for typing music scores. One of the difficulties of producing such a machine lies in providing a suitable type for printing characters representing notes on the scale.

The notes are represented in the staff notation by a character or sign to record the tone and represent it to the eye. A note consists of from one to three parts; namely, the head, the stem or tail, and one or more pennants, flags or hooks. The whole note, or semibreve, is indicated by an elliptical head unshaded. The minim, or half note, is represented by an unshaded head having a stem or tail attached thereto. The crotchet, or quarter note, is represented by a solidly colored elliptical head and a stem or tail attached to said head. The quaver, semiquaver, demisemiquaver, and hemidemisemiquaver notes likewise have a solidly colored head to which is attached a stem or tail with from one to four pennants or flags attached to the stem or tail according to the value of the respective notes.

Difficulty arises in getting a sharp impression of the quarter note, the quaver, etc., because of the large concentrated area of the solidly colored head to be impressed, the length of the stem or tail which extends over the staff a full octave, and additional flags or pennants where the latter are required. A type in order to form an impression of a quarter note, quaver, etc. must have a face capable of producing not only an impression over a larger area than the ordinary alphabet or numeral type, but also must be capable of producing in a large concentrated portion of said area corresponding to the note head an impression which will produce a solidly colored note head. In order to both reduce and equalize the amount of pressure necessary to obtain an overall distinct print of the character, we have developed a type peculiarly adaptable for obtaining a solid color impression over a large concentrated area such as is necessary in printing the heads of these musical notes while at the same time making a clear impression of the stem. It is, of course, understood that our type can be adapted for any character having a large area that must be impressed in solid color.

In cutting wax-covered paper stencils on the

typewriter for use in a duplicator to reproduce music scores in quantity, great difficulty has been encountered in obtaining a clear print through the stencil sheet if ordinary type is used in cutting the stencil. This difficulty has been partially overcome by decreasing the length of the stem or tail, but in true representation of a note the stem or tail should compass a full octave. The type of our invention is particularly well adapted for cutting stencils formed of wax coated tissue paper to provide a clear imprint of a note having a true length stem or tail. An ordinary music type consisting of, or having, a solid note head for use in printing quarter notes, quavers, and the like, is unsatisfactory for cutting such a wax stencil because it fails to remove the wax over the area of the head of the note and fails to spread the fibres of the tissue paper. If the ordinary type contacts the stencil with sufficient force to displace the wax, there is great likelihood that the stencil will be cut through in such manner as to punch out of it a portion corresponding at least to the entire area of the note head, which is highly undesirable.

A special object of our invention is to provide a type for a typewriting machine which is so constructed as to cut wax-covered tissue paper stencils of music or other characters having a large concentrated solidly colored area without impairing the usefulness of the stencil to reproduce such characters with sharp definition and full color.

Another of the objects of our invention is to provide a type for a typewriting machine which is adapted to print a solid color character having a large area.

Another object of our invention is to provide a type for a typewriting machine which is peculiarly adapted for writing musical notes which have a large solidly colored head and a stem or tail including one or more flags.

Other objects and advantages of our invention will appear from the following description in conjunction with the appended drawing in which:

Figure 1 is a side elevation of a type bar, parts being broken away, having a type block provided with character types and embodying the principles of our invention.

Figure 2 is an enlarged view of the type block showing the type faces thereon, part being broken away.

Figure 3 is a section taken on the line 3—3 of Figure 2, part being broken away.

Figure 4 is a representation of the characters printed by the type faces shown in Figure 2.

Figure 5 illustrates a type block carrying a type face for a note head for building up notes with solidly colored heads.

Figure 6 represents the impression made from the type illustrated in Figure 5.

Referring now to the drawing, 1 is a conventional type bar, having a shank 2, a heel 3 and a head 10. A fulcrum aperture 11 is provided for mounting the type bar 1, and an aperture 12 is formed in the heel 3 for attaching a link of the key mechanism (not shown). A type block or body 13 is affixed to the head 10 of the type bar 1 and carries the improved type 14 and a type 15. The faces of the types 14 and 15 are curved in profile, as usual, to approximate the curvature of the usual cylindrical platen of the conventional typewriter.

In Figure 2 is shown the type face of a typical type block for printing a hemidemisemiquaver note. The type block 13 of the type bar shown also carries the additional type 15 representing the numeral "4" which is conventional in design and with which we are not concerned in this application, said type bar being adapted for use in a two-case-printing typewriting machine such as is common in the art.

The note illustrated in Figure 2 includes the note head 16, the stem 17 and the flags 18. That portion of the type face defining the stem 17 and the flags 18 is made up of truncated rib portions in the conventional manner.

The note head 16 is elliptical and the portion of the type face for printing the note head comprises a series, here shown as three, of concentric ridges 19, 20, and 21 slightly truncated to provide the flattened crests 22, 23, and 24. The sides of each ridge slope very steeply to form the narrow and deep V-shaped valleys 25, 26, and 27. In the preferred form shown the valleys include an angle in the order of approximately 60 degrees. With this angularity the crests 22, 23, and 24 may be brought very closely adjacent each other, while at the same time a deep clearance is provided in the valleys in order that the type face may not clog rapidly from an accumulation of matter picked up from the usual inked ribbon of the typewriting machine in typing inked impressions, nor fill rapidly with wax when cutting a stencil. The ease of penetration of the ridges or ribs 19, 20, and 21 into the wax of a stencil is also increased. Each rib will readily penetrate and spread apart the wax of the coating, and the series of ribs will open up the coating and also the fibres of the tissue paper without compacting the wax coating or perforating the stencil.

The concentric crests 22, 23, and 24 are positioned in close proximity to each other so that each crest is capable of making its own elliptical impression, but is so closely spaced to the adjacent crests as to simulate a solid impression.

In order to obtain clear cutting of the wax and to spread the paper fibres to produce clear printing from the stencil, we have arranged the crests at different altitudes. The inner crest 24 is of a higher altitude from the face of the type block or body 13 than the next adjacent crest 23, which in turn is higher from the face of the type block than the outer crest 22. This arrangement of altitudes is particularly adapted for cutting wax-coated tissue paper stencils for use on a Mimeograph machine. Preferably the stepping down of the crests of the ribs or ridges is in steps of 0.001 of an inch.

The inner crest 24 makes the deepest impres-

sion in the wax of the stencil sheet and the tissue, while the crest 23 and the crest 22 each make lighter impressions. Thus, when the stencil is put in use on a Mimeograph machine, the impression from the outer crest 22 allows enough ink to flow through to define the contour of the note head, while the inner impressions 23 and 24 especially allow an excess of ink to pass through and color the note head solidly.

In Figure 4 the representation of the note character impressed by the type 14 is shown as it appears impressed with relation to the lines 28 of a staff.

In Figure 5 we have illustrated a note-head type which is similar in construction to the head of the hemidemisemiquaver illustrated in Figure 2. This character may be used in combination with stems, tails, and flags to build up a desired note and particularly chords.

Although we have shown and described the preferred embodiment of our invention, it is to be understood that changes may be made by those skilled in the art without departing from the spirit of our invention. We wish, therefore, to be limited only by the scope of the appended claims.

We claim:

1. A character type for a typewriting machine comprising a type face including a plurality of nested narrow endless raised portions spaced closely together and graduated in altitude in decreasing order from the innermost to the outermost one of said raised portions.

2. A character type for a typewriting machine comprising a type face having a plurality of concentric elliptical truncated ridges separated by V-shaped valleys wherein each ridge, beginning with the central ridge, is higher than its next succeeding ridge.

3. A character type for a typewriting machine adapted for printing a substantially large area at one impression, comprising a type body having a series of type-face-forming endless raised portions arranged one within the other with steep-walled V-shaped valleys separating said raised portions one from the other, said raised portions being graduated as to altitude in decreasing order from the innermost one to the outermost one thereof, and each raised portion being of constant altitude entirely therearound.

4. A character type for a typewriting machine adapted for writing music notes on a staff, said type having a type face including a note head impressing portion comprising a plurality of concentric elliptical truncated ridges and a plurality of V-shaped valleys separating said ridges, said ridges being arranged so that each ridge makes a separate and distinct impression while the summation of said impressions approximates a single solid impression.

5. A character type for a typewriting machine as described in claim 4, wherein the summits of said ridges are at different altitudes.

6. A character type for a typewriting machine adapted for writing music notes, said type having a face including a portion for impressing the head of a note, said portion comprising a plurality of truncated ridges arranged in concentric ellipses, the center one of said ridges being higher than the next surrounding ridge, and each succeeding ridge being lower than the preceding ridge.

7. A music note impressing type, for a typewriting machine having a cylindrical platen, comprising a type body or block having a type

face including a portion for printing the head of a music note and a portion for printing the attached stem of said note, said stem printing portion comprising a truncated ridge, curved in profile to approximate the curvature of said platen, said head printing portion comprising a series of three concentric elliptical truncated ridges, each of said ridges having sides sloping outwardly at an angle of approximately 60 degrees from its summit to form a V-shaped valley with the next adjacent ridge, and wherein the central ridge is higher than the next concentric ridge and the outer ridge is lower than said next concentric ridge.

8. A type bar for a typewriting machine carrying a type comprising a type body or block having a plurality of steep-sided, closely adjacent, nested ridges which progressively decrease in height from the innermost to the outermost one of said ridges and define a type face for use in reproducing a solidly colored and relatively large and concentrated area, the slope of the sides of each ridge being of the order of approximately 60 degrees, and the said reduction in ridge height from the innermost to the outermost ridge being approximately 0.001 inch from ridge to ridge.

9. A type especially for use on a type carrier in a typewriting machine to cut wax-coated paper stencils, comprising a type body having thereon in relief a character delineating type face

including a series of ridges graduated in altitude in decreasing order toward the character delineating margins of the type face.

10. A stencil cutting type for a typewriting machine characterized in that the face of said type comprises steep-sided ridges graduated with respect to each other downward as to altitude toward the character delineating margins of the type face, each ridge having a side slope of the order of 60 degrees, and the order of graduation of altitude being approximately 0.001 inch.

11. A type bar for a typewriting machine provided with a stencil cutting type having a body formed with a music note delineating face including a note stem delineating portion terminating a distance above the center of the note head equal to an octave on a staff, and a note head delineating portion comprising a series of concentric steep-sided ridges graduated in altitude from the face of the type body in descending order from ridge to ridge toward the margins of the note head delineating portion of the type face.

12. A character type comprising a type body having in relief a character delineating grooved face which is highest substantially medially of the character delineating margins of said face, the face grooves generally paralleling the said margins of the face.

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