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1,543,527

R. J. SMOTHERS

PHOTOTYPOGRAPHIC CHARACTER SLUG

Filed June 4, 1924

Fig. 1.

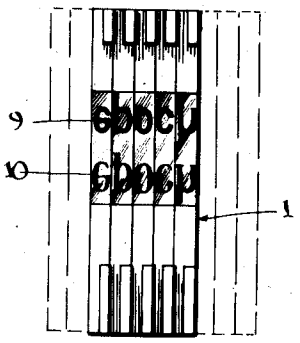


Fig. 2.

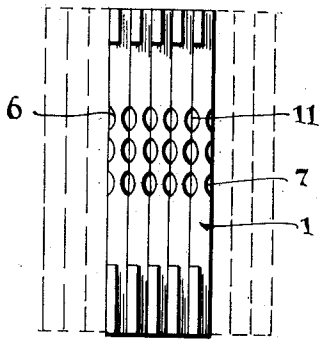


Fig. 3.

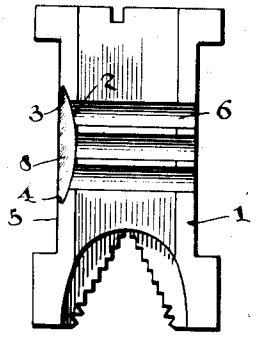


Fig. 4.

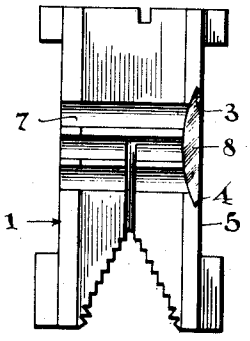


Fig. 5.

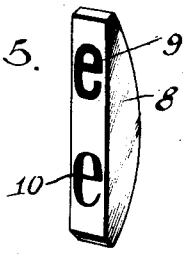
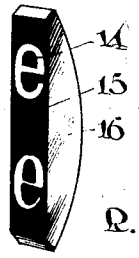


Fig. 6.



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UNITED STATES PATENT OFFICE.

ROBERT JARVIS SMOTHERS, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JAMES T. ROBINSON, OF HOLYOKE, MASSACHUSETTS.

PHOTOTYPOGRAPHIC CHARACTER SLUG.

Application filed June 4, 1924. Serial No. 717,830.

To all whom it may concern:

Be it known that I, ROBERT JARVIS SMOTHERS, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Phototypographic Character Slugs, of which the following is a specification.

This invention relates to a phototypographic character slug for use in connection with typographic machines of that type for producing a photographic print of a line or successively positioned lines of letters, digits, words, designs, figures, etc., on a sensitized surface, and has for its object to provide, in a manner as hereinafter set forth a slug, not only provided with the object to be photographed, such as a letter, digit, design, figure, etc., but further having means for the passage of light rays therethrough, in a manner with respect to the object carried thereby to provide for the photographing of such object on a sensitized surface opposing the slug.

The body portion of a slug, in accordance with this invention, other than the providing of the object thereon to be photographed, and the means for the passage of the light rays, preferably is identical in construction with the body portion of matrices employed in the well-known linotype machines, and by such arrangement it provides for slugs in accordance with this invention, to be aligned and disassembled in the same manner as is now carried out with respect to the matrices employed in the machines aforesaid.

Further objects of the invention are to provide, in a manner as hereinafter set forth a phototypographic character slug for the purpose referred to, which is simple in its construction and arrangement, strong, durable, compact, thoroughly efficient in its use, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a front elevation of a series of aligned slugs, in accordance with this invention.

Figure 2 is a rear elevation of Figure 1.

Figures 3 and 4 are side elevations of a slug in accordance with this invention, Figure 3 looking towards one side and Figure 4 towards the other side of the slug.

Figure 5 is an enlarged perspective view of a carrier provided with a pair of objects.

Figure 6 is a view similar to Figure 5 of a modified form of carrier.

Referring to the drawings in detail, 1 denotes the body portion of the slug, which is constructed of metallic material, and other than as hereinafter stated, is constructed in the same manner as the matrices employed in the well-known forms of linotype machines. As is well-known, a matrix of the type employed in linotype machines has its front edge provided with a pair of notches, suitably spaced from each other and with the base of each notch countersunk to form the outline of a letter, but one of the letters is of a different style or type with respect to the other. To provide for the utilization of this well-known type of matrix in a typographic machine, the front edge of the body portion of the slug, which is notched, is cut out intermediate its ends to extend slightly beyond each of such notches and to a substantial depth, or in other words, the body portion 1 in lieu of having its front edge formed with the said notches, is cut away to provide a transversely extending groove having a segment-shaped bottom 2 and a pair of oppositely inclined side walls 3, 4, which extend towards each other, or in other words, the side walls 3, 4, are undercut in a manner so that the ends of the bottom 2 will extend beyond the outer ends of the side walls 3, 4. The bottom 2 is of materially greater length than the length of the side walls and the groove formed in the front edge of the body portion 1 is disposed centrally with respect to said edge. That edge of the body portion 1, which is grooved, is indicated at 5.

Each side face of the body portion 1 is formed with a series of semi-oval shaped spaced grooves, preferably three in number,

and the grooves on one side face are indicated at 6, and the grooves on the other side face are indicated at 7. The grooves 6 and 7 extend from the rear edge 6 of the body portion 1 and terminate in the groove formed in the front edge 5 of the body portion 1.

Snugly fitting the walls of the groove, in the front edge 5, is a carrier 8, provided with a pair of spaced objects, 9, 10, of different design. The carrier 8 has a flat outer edge, a pair of flat sides, a segment-shaped inner edge and a pair of bevelled end edges. The under-cut side walls 3, 4, of the groove in the end edge 5 overlap the end edges of the carrier 8 and maintain the latter in position in the body portion 1. The carrier 8 is flush with the sides of the body portion 1, as well as the front edge 5 thereof. The curved edge of the carrier 8 extends across the ends of the grooves 6 and 7, which open into the groove formed in the end edge 5 of the body portion 1. The grooves 6 and 7 provide means for directing the light rays to the carrier 8.

When the slugs are set up in abutting relation in a manner as shown in Figure 2, the grooves 7 of the one slug register with the grooves 6 of an adjacent slug, thereby providing oval-shaped passages 11, which conduct the light rays to the carrier 8.

Although the carrier 8 is shown as provided with a pair of objects 9, 10, suitably spaced from each other, yet it is obvious that the carrier 8 can be provided with but a single object. The object on the carrier may be opaque or transparent. In Figure 5, the carrier, which is transparent, is indicated at 8, and the object at 9 and 10.

In Figure 6, the object which is indicated at 14, is transparent and the outer end edge 15 of the carrier 16 is opaque. That part of the carrier 16 other than the outer edge 15 is transparent.

The curved inner edge of the carrier provides for the diffusion of the light rays when leaving the grooves 6 and 7, or passages 11.

When the slugs are employed for photographically printing on a sensitized surface, the light rays are projected through the grooves 6 and 7 or passages 11, from the rear end thereof. The sensitized surface opposes the front of the slugs. When the slugs are set up in grouped or aligned arrangement, as shown in Figures 1 and 2, but one series of aligned objects is photographed, or in other words, the upper or the lower series of aligned objects is photographed depending on what style of letter, digit, character or figure is desired. Although the drawings show the objects in the form of letters, yet it is to be understood that the objects can be a digit, word, design or figure or other character.

The slugs are aligned in the same manner as matrices in linotype machines, and the body portion of the slugs is set up to provide for the shifting of the same to and from operative position and such position being when the slug is arranged whereby the object carried thereby can be photographically printed upon a sensitized surface, therefore, the body of each of the slugs has means to enable the body portion to be moved to and from operative position.

It is thought that the many advantages of a slug is accordance with this invention, for use in connection with a phototypographic machine can be readily understood, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which will fall within the scope of the invention as claimed.

What I claim is:

1. A phototypographic character slug comprising a body portion having a front edge, a carrier seated in said front edge and having its outer edge provided with an object to be photographed, and said body portion provided with means for directing light rays to said carrier to provide for the printing of the object on a sensitized surface opposing the object.

2. A phototypographic character slug comprising a body portion having a front edge, a carrier seated in said front edge and having its outer edge provided with an object to be photographed, and said body portion provided with means for directing light rays to said carrier to provide for the printing of the object on a sensitized surface opposing the object, said carrier having its inner edge curved to diffuse the light rays directed thereto.

3. A phototypographic character slug comprising a body portion having a front edge, a carrier seated in said front edge and having its outer edge provided with an object to be photographed, and said body portion provided with means for directing light rays to said carrier to provide for the printing of the object on a sensitized surface opposing the object, the said means arranged on each side of said body portion and extending from the rear edge thereof.

4. A phototypographic character slug comprising a body portion provided with means to permit of the shifting of it to and from operative position, a carrier mounted in the front of said body portion and provided on its outer edge with an object, said object and carrier constructed to provide for the action of light rays to photographically print the object upon a sensitized surface opposing the front of said body portion, and said body portion provided with means for directing light rays to said carrier.

5. A phototypographic character slug

comprising a body portion provided with means to permit of the shifting of it to and from operative position, a carrier mounted in the front of said body portion and provided on its outer edge with an object, said object and carrier constructed to provide for the action of light rays to photographically print the object upon a sensitized surface opposing the front of said body portion, and said body portion provided with means for directing light rays to said carrier, said means for directing light rays to the carrier arranged on each side of the body portion.

6. A phototypographic character slug comprising a body portion provided with means to permit of shifting it to and from operative position, a transparent carrier mounted in the front of said body portion and provided with an opaque object, and said carrier provided with means for directing light rays to said carrier to provide for the photographic printing of the object on a sensitized surface opposing said body portion.

7. A phototypographic character slug comprising a body portion provided with means to permit of shifting it to and from operative position, a transparent carrier mounted in the front of said body portion and provided with an opaque object, and said carrier provided with means for directing light rays to said carrier to provide for the photographic printing of the object on a sensitized surface opposing said body portion, said carrier having a curved inner edge to provide for the diffusion of light rays directed thereto by said means.

8. A phototypographic character slug comprising a body portion having its front edge formed with a transverse groove, the bottom of said groove being segment-shaped in contour and the side walls under-cut, a carrier conforming in contour to the shape of said groove, seated therein and having its outer edge flush with the front edge of said body portion, said carrier further provided on its outer edge with an object, said object and carrier constructed to provide for the action of light rays to photographically print said object upon a sensitized surface opposing the front of said body portion, and said body portion having its sides provided with means extending from the rear edge thereof to said transverse groove for directing light rays to said carrier.

9. A phototypographic character slug comprising a body portion provided with means to permit of the shifting thereof to and from operative position, a transparent segment-shaped carrier mounted in the front of said body portion and having its outer edge flush with the front edge of the body portion, said carrier provided with an opaque object, and said body portion having each of its side faces grooved, the grooves in said side faces extending from the rear edge of the body portion and terminating at the inner edge of said carrier and providing means for directing light rays thereto to photographically print said object on a sensitized surface opposing the front edge of said body portion.

10. A phototypographic character slug comprising a body portion corresponding in contour to the contour of the body of a linotype machine matrix and further having its side faces provided with transversely extending grooves and its front with a transversely extending groove into which open the grooves on the side faces of said body, a carrier secured within the groove at the front of said body and extending across the inner ends of the grooves on the side faces of the body, said carrier having its outer edge provided with an object forming means, and said carrier and object forming means constructed to provide for the action of light rays thereon conducted through the grooved side faces of said body to provide for the photographing of said object forming means on a sensitized surface.

11. A phototypographic character slug comprising a body portion, a carrier mounted in the front thereof and provided with an object to be photographed, said carrier and said object constructed to provide for the action of light rays on the object to photograph the same on a sensitized surface opposing the front of said body portion, and said body portion provided with means for directing light rays towards the carrier for photographing said object.

12. A phototypographic character slug comprising a body portion in the form of a linotype machine matrix, a carrier seated in the front of said body and provided with an object forming means to be photographed upon a sensitized surface, and said body portion provided with means for directing light rays to said carrier for the action of light rays to photograph the object upon a sensitized surface opposing the front of said body portion.

In testimony whereof, I affix my signature hereto.

ROBERT JARVIS SMOTHERS.