Feb. 26, 1952 J. F. MURPHY 2,587,368

TYPE ASSEMBLY DEVICE

Filed June 15, 1948 2 SHEETS—SHEET 1

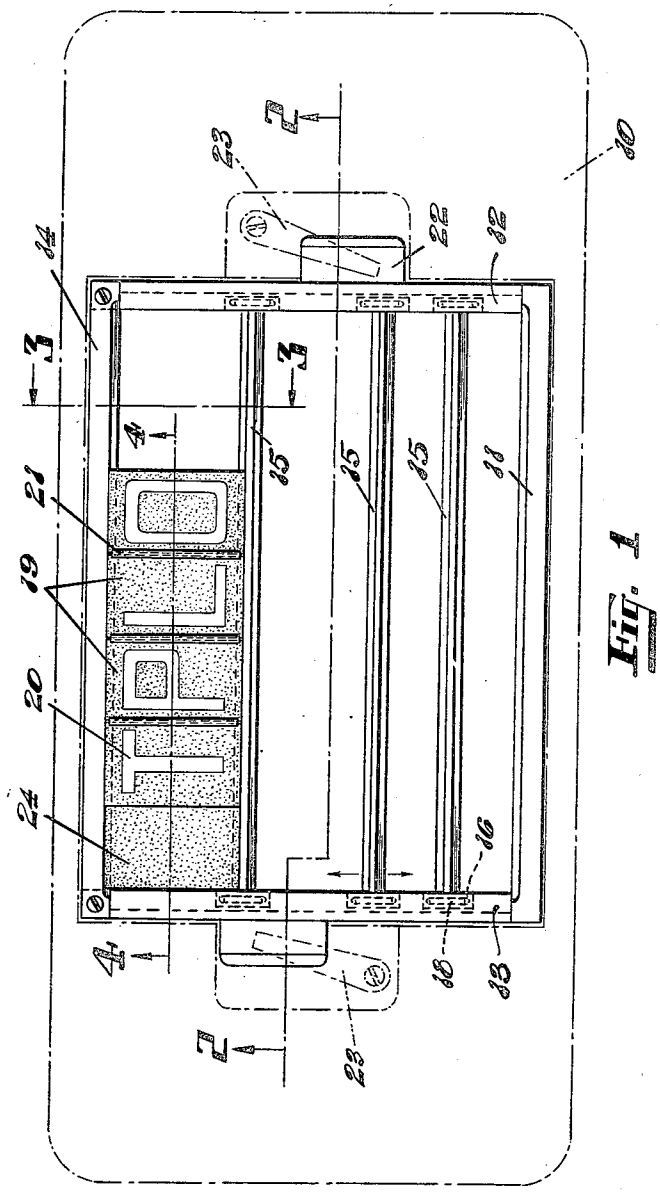


Fig. 1

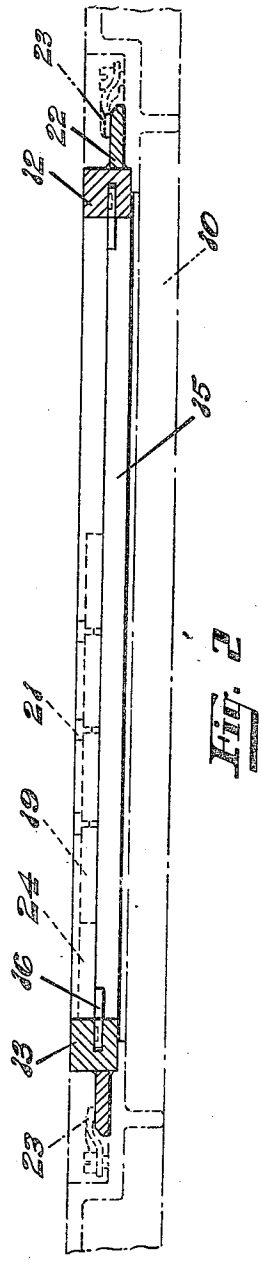


Fig. 2

Inventor
Joseph F. Murphy
by Kenway, Jenney, Witter & Hildreth.
Attorneys

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TYPE ASSEMBLY DEVICE

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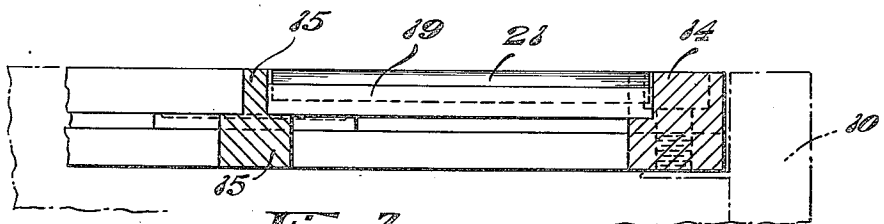


Fig. 3

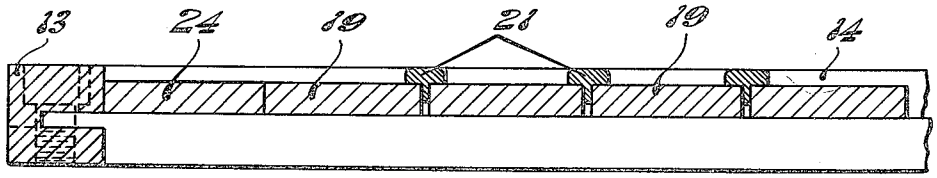


Fig. 4

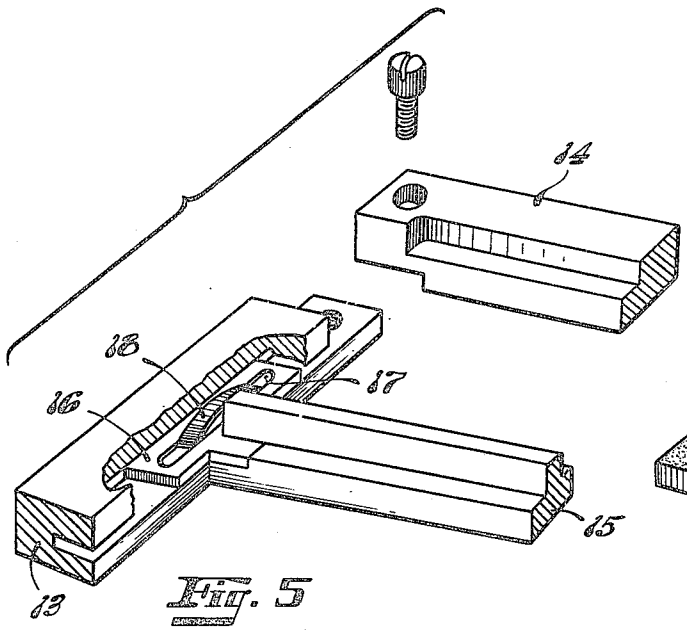


Fig. 5

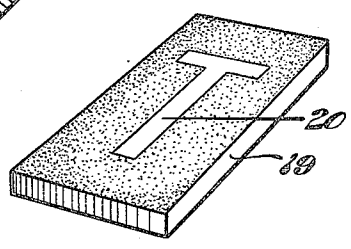


Fig. 6

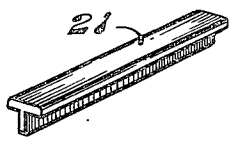


Fig. 7

Inventor
Joseph F. Murphy
By Hanway, Janney, Witte & Childress.
Attorneys

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UNITED STATES PATENT OFFICE

2,587,368

TYPE ASSEMBLY DEVICE

Joseph F. Murphy, West Roxbury, Mass., assignor to Lumitype Corporation, Roxbury, Mass., a corporation of Massachusetts

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1 Claim. (Cl. 40—140)

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This invention relates to printing and comprises a new and improved outfit or system for assembling body type in high-grade proofs for display headings, layouts, offset printing, zincs, and the like.

Heretofore such proofs have been usually produced from type that must be set by hand at considerable expense and with a very limited range of style available. This is because fonts of large sized type are costly and the printer's equipment does not include many varieties thereof. Moreover, body type is expensive because the proof usually requires retouching to eliminate pin holes or other blemishes where the ink has failed to produce a solid black impression. The work, moreover, requires the services of experienced type setters since such body type appears in the reverse of its impression.

The outfit of the present invention overcomes these disadvantages, increases the printer's resources, reduces the cost of body type work, and produces a superior proof by a photographic process. Going more into detail, my novel outfit includes a frame having end members with grooved walls and shouldered side members in combination with several guide sections adjustably mounted with their opposite ends in the grooved end members and thus adapted to receive and hold a series of type blocks such as those disclosed in my prior application Ser. No. 21,072, filed April 14, 1948, now Patent No. 2,489,458, dated November 29, 1949. These blocks are transparent and carry an opaque negative in which a transparent letter is outlined. The blocks may be readily and accurately placed in exactly their proper relation and, as assembled, they are viewed directly as their impression is to be seen and not in reverse as is the case with ordinary type. The individual blocks are so located in the frame that the negatives therein and the frame form a light-tight mat about the transparent outline of the letters. Having once assembled the individual blocks, the frame and letters may be placed in a photographic enlarger and the line of type photographed directly onto sensitized paper. In this manner a proof may be formed with the letters enlarged or reduced to any desired size.

A feature of the present invention consists in a series of shouldered guide sections having transverse heads fitting the grooves of the end members of the frame and provided with spring receiving recesses together with a bowed spring disposed in each recess and serving to hold its section frictionally in adjusted position in the frame.

Another feature of the invention consists in opaque separators substantially T-shaped in cross

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section and adapted to be inserted between adjacent type blocks. These separators are therefore useful in spacing the type blocks and in providing a light-tight screen between adjacent blocks.

These and other features of the invention will be best understood and appreciated from the following description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawings, in which:

Fig. 1 is a plan view of the outfit in partially assembled condition,

Fig. 2 is a sectional view on the line 2—2 of Fig. 1,

Fig. 3 is a fragmentary sectional view on the line 3—3 of Fig. 1,

Fig. 4 is a fragmentary sectional view on the line 4—4 of Fig. 1,

Fig. 5 is a fragmentary view in perspective showing parts of the frame in exploded relation,

Fig. 6 is a view in perspective of one of the type blocks, and

Fig. 7 is a view in perspective of one of the separators.

In Figs. 1 and 3 is outlined in dot and dash lines the slide or frame 10 of a commercial enlarging camera. The assembly device of my invention may be used in association with this, or it may be made to fit into any photographic contact printer. The advantage of using it in an enlarger is that the size of the type letters may be conveniently enlarged or reduced if desired.

The frame 10 is provided with a recess of proper size and shape to receive and enclose an inner frame comprising side members 11 and 14 and slotted end members 12 and 13. Mounted between the end members 12 and 13 are a series of guide members 15, T-shaped in cross section as best shown in Fig. 5, and provided at each end with a T-shaped plate 16 slidably received in the groove of the end member. The head 16 is provided with a slot containing a bowed spring 18. It will thus be seen that the guide members 15 are frictionally retained in position in the frame but may be adjusted with any desired spacing and will be held by action of the springs 18 in such adjusted position and at all times prevented from being accidentally displaced. The side member 14 is detachably secured to the frame by screws and may be removed to permit the insertion of the sliding heads 16 in the grooves of the end members 12 and 13 when the frame is originally put together, or for the addition of other guide sections.

The type blocks or letter blocks 19 are rectangular in shape and transparent in the letter or character they depict. Each block contains

or has applied to it an opaque screen or negative in which is formed the transparent outline of a type letter **20**. The type blocks are designed to fit between and rest upon the shoulders of adjacent guide sections **15** or upon the shoulder of a guide section and corresponding shoulders provided in the side members **11** and **14** of the frame. The type blocks may be conveniently assembled, moved into contact and held in place by pressing them together and pressing the guide sections toward each other or toward the side members of the frame where they will be frictionally held as already explained.

It is important that the type blocks be assembled to form a complete opaque screen through which light may pass only in the transparent outline of the type letters. Accordingly, the opaque screen or negative is co-extensive in area with the type blocks. However, to provide for spacing in case that should be desired, separators **21** of T-shaped cross section are provided and these may be inserted between adjacent type blocks with their flanges overlapping the edge of adjacent blocks and their webs interposed between the blocks. These separators are also opaque in character and thus the blocks and the separators form a continuous opaque screen except for the transparent letters outlined therein.

The frame with its assembled letters may be removably secured in the outer frame of the photographic enlarger, and to this end the inner frame is provided with ears **22** shaped to be received in recesses formed in opposite sides of the enlarger frame. The outer frame, in turn, is provided with pivotally mounted dogs **23** which make locking engagement with the ears **22**.

If desired, blank type blocks **24** may be provided and these are useful in spacing or locating the type as set up. It will be understood, of course, that the type blocks may be of any convenient size, for example 8x10 pica, 10x10 pica, or larger.

Among other advantages of my assembly device and type blocks is that a great amount of space is saved over the old procedure of storing foundry type. Its use also eliminates inking, furniture, and other type setting paraphernalia. The outfit takes up so little space that it makes

it possible for the small printer to compete with large commercial units, and the services of skilled type setters are not required. Moreover, the outfit has a wide range of use in that it is possible to set up a complete advertisement employing several different type sizes at a single operation, and easy to adjust or modify the design after study of a photographic proof. Opaque separators **21** of T-shaped cross section may be inserted between adjacent type blocks to adjust their relative spacing.

Having thus disclosed my invention and described in detail an illustrative embodiment thereof, I claim as new and desire to secure by Letters Patent:

A body type assembly device comprising a rectangular frame having end members with grooved walls, a series of shouldered guide sections having transverse heads extending on both sides, fitting the grooves of the end members and being provided with spring-receiving recesses, engaging the walls of the groove in an end member, a bowed spring disposed in each recess and serving to hold its section frictionally at all times against displacement and in adjusted positions in the frame, and blocks having transparent type outlined therein and being held at opposite ends between a pair of guide sections.

JOSEPH F. MURPHY.

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