No. 693,435. Patented Feb. 18, 1902.

E. R. PASTRE.

TYPE WRITER.

(Application filed Mar. 5, 1901.)

(No Model.)

Fig. 3

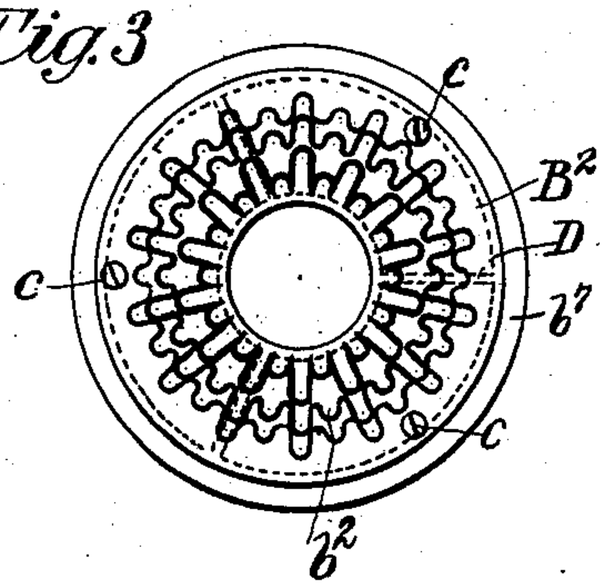


Fig. 5

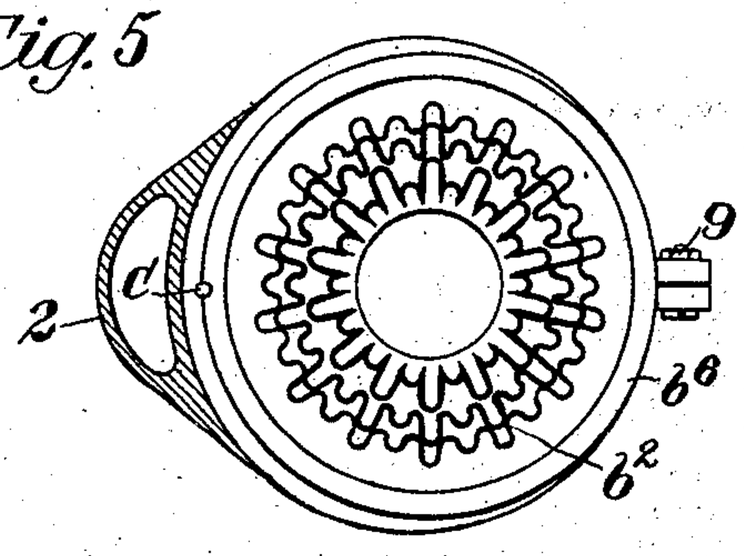


Fig. 2

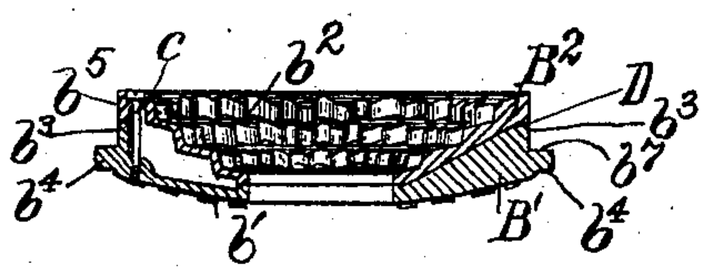


Fig. 4

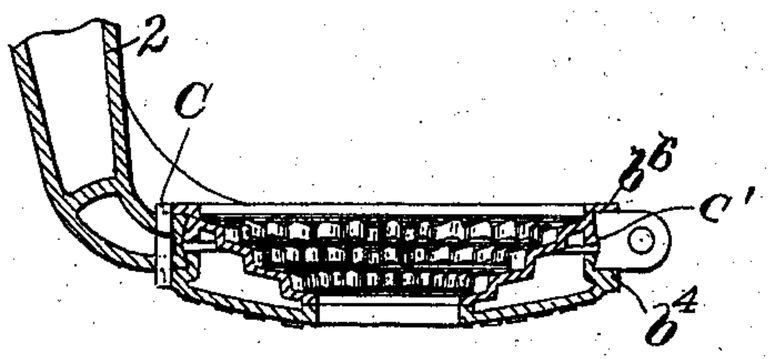


Fig. 1

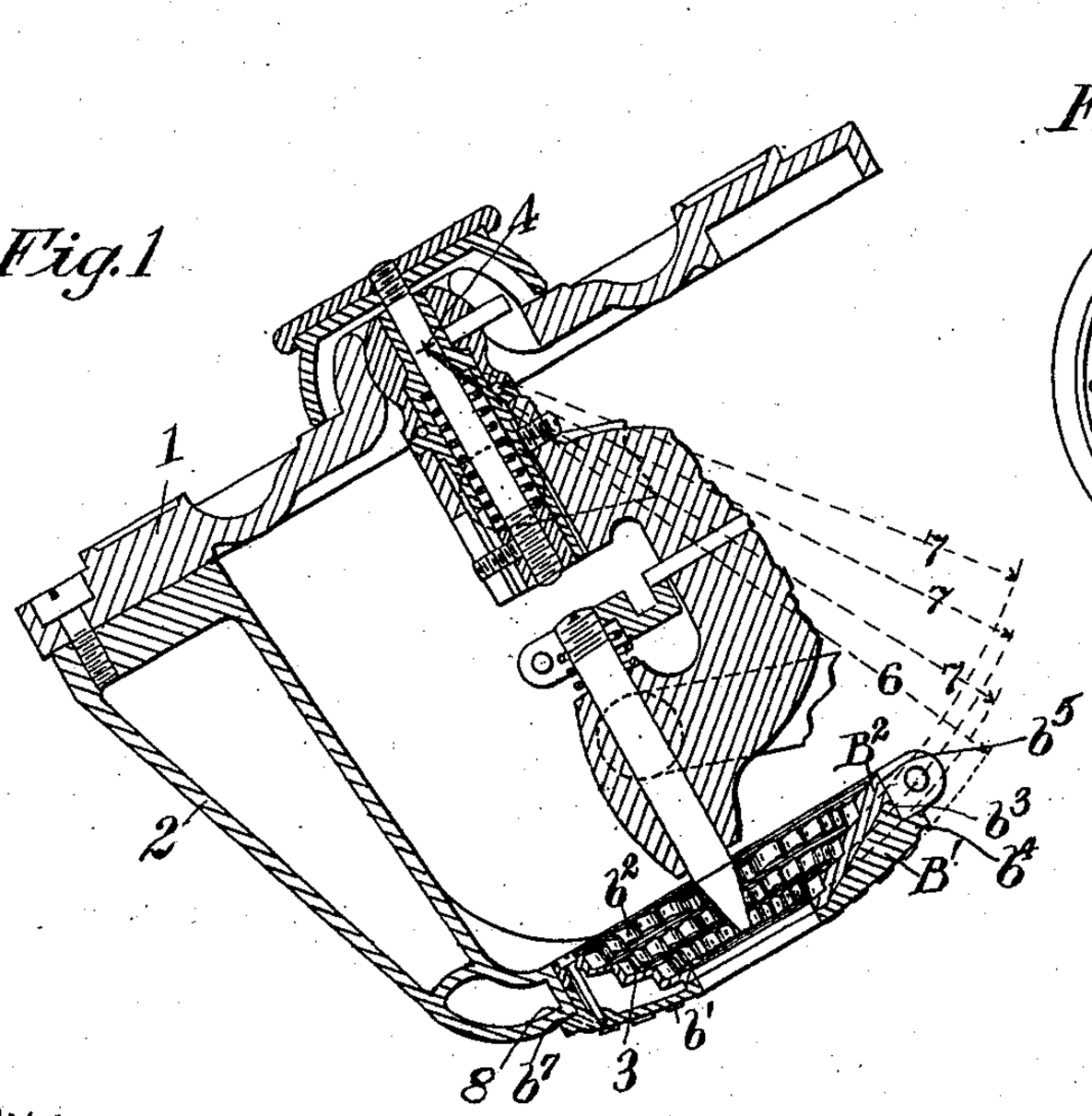
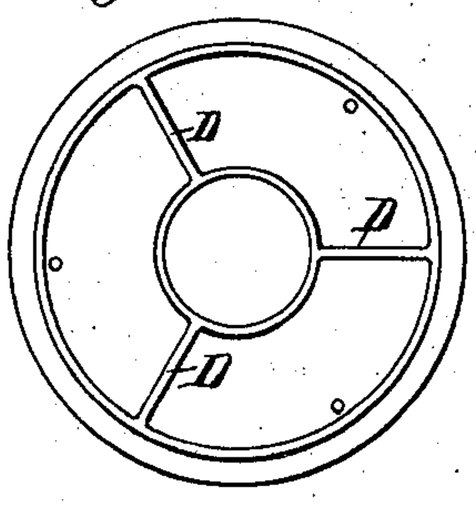


Fig. 6



Witnesses
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EUGENE R. PASTRE, OF BROOKLYN, NEW YORK.

TYPE-WRITER.

SPECIFICATION forming part of Letters Patent No. 693,435, dated February 18, 1902.

Application filed March 5, 1901. Serial No. 49,690. (No model.)

To all whom it may concern:

Be it known that I, EUGENE R. PASTRE, a citizen of the United States, residing in the borough of Brooklyn, in the city and State of New York, have invented certain new and useful Improvements in Type-Writers, of which the following is a specification.

This invention relates to that class of type-writers in which a type-block is employed, the type-block being similar to that shown and described in United States Letters Patent No. 640,208, granted the 2d of January, 1900, to Frank Lambert, and United States Letters Patent No. 607,270, granted the 12th of July, 1898, to Pastre and Lambert.

The object of my invention is to obtain an even alinement on the paper for all of the printing characters of the type-block and to have all the type-blocks uniform in order that they may be interchangeable in type-writers. I have found that when the type-block is cast in one piece, while each face of the block is accurately cast, the relative distance between each printing character and its actuating notch or step varies, owing to shrinkage, &c., in the molding of the type-block. This even alinement and the uniformity of the blocks, I have found, can be obtained by casting or molding the type-block in two separate pieces and afterward machining or otherwise treating the two pieces until the requisite distance between each type-face and its actuating step or notch is obtained.

I will describe several forms of a type-block, each embodying my invention, and then point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a detail vertical sectional view of a type-writing machine similar to that shown in the patents above mentioned and having a type-block embodying my invention. Fig. 2 is a detail sectional view of a type-block embodying my invention. Fig. 3 is a top view of Fig. 2. Fig. 4 is a detail sectional view of a modified form of type-block embodying my invention. Fig. 5 is a top view of Fig. 4, partly in section. Fig. 6 is a top view of one of the two sections of the type-block.

Similar characters of reference designate corresponding parts in all of the figures.

Referring now to Fig. 1, 1 represents a key-disk, 2 an arm depending from the key and having a socket in the form of a split ring, and 3 a type-block carried by the socket. 4 represents the center of nutation of the key-disk 1. I have omitted a description of the remaining parts of the type-writer shown in this figure, as they are the same as that shown in United States Patent No. 640,208, above referred to. In order that uniformity may be had in the type-blocks as well as insuring an even alinement on the paper of the printing characters, the distance 6 between the center of nutation and the face of a printing character must be the same in all type-blocks. The same is true of the distance 7 between the center of nutation 4 and the bottom of a step or notch. As hereinbefore stated, it is impossible to treat a single-piece type-block to correct inequalities or defects due to shrinkage, &c., in molding; but it is possible when the type-block is in a plurality of pieces. The type-block 3 in the present instance is shown as being in two pieces B' B^2. The printing-face b' of the type-block is comprised in the piece B', and the step-face b^2 is comprised in the piece B^2. The piece B' is also provided with a collar b^3 and a flange b^4, and the piece B^2 is provided with a collar b^5 and in some instances with a flange b^6, which when the pieces B' B^2 are assembled are in substantially parallel planes. Each of the pieces B' B^2 is also provided with radial wings or ribs D, which are for strengthening the pieces. (See Fig. 6.)

Referring now to Figs. 2 and 3, the two pieces B' and B^2 are secured together by means of screws *c*, the collars b^3 and b^5 abutting. The requisite distance between the center of nutation 4 and each step or printing-face and the requisite distance between the bottom of the step and the printing-face of each printing character are obtained by machining or dressing the abutting faces of either or both of the collars b^3 b^5 or the face b^7 of the flange b^4 abutting against the adjacent face of the socket 8. The two pieces B' B^2 are held in the socket 8, the ends of the ring-sections being brought together or separated by a screw 9. Any desired means may be employed for preventing relative rotary movement between the type-block and socket 8.

Referring now to Figs. 4 and 5, in the assembling of the pieces B' and B^2 the cylin-

drical portions b^3 b^5 need not abut. The requisite distance between the two pieces may be obtained through the flanges b^4 and b^6. In this arrangement the faces of the socket 8, against which the faces of the flanges b^4 b^6 abut, are machined or dressed and are always a uniform distance from the center of nutation 4 and the abutting faces of the flanges b^4 b^6 made parallel therewith. In this form the inner surface c' of the ring portion is of a greater diameter at the center of its depth, and the collars b^3 b^5 of the two pieces are formed to correspond to the inner surface c'. The purpose of this is to hold the two pieces B′ B^2 firmly in position and prevent vertical movement in the socket.

C, Figs. 4 and 5, represents a pin which passes through openings formed in the flanges b^4 b^6 and the socket 8. This pin is intended to prevent relative rotary movement of the two pieces B′ B^2 and also any relative rotary movement between the pieces B′ B^2 and the socket 8.

Another advantage in forming the type-block in two pieces is that different materials may be used for the two pieces—as, for example, the stepped section can be made of hard rubber and the spherical portion carrying the printing characters can be made of thin steel or other metal.

What I claim as my invention is—

1. A type-block for type-writers formed in two pieces or sections, one of which has a stepped face and the other a spherical face with type thereon.

2. In a type-writer, the combination of a type-block formed in two sections, each of which has a lateral flange, and a supporting-ring for said type-block with which the flanges of the said parts rest.

3. In a type-writer, the combination of a type-block, formed in sections, a supporting-ring therefor and a pin passing through said block and ring for preventing relative rotary movement between the type-block sections and supporting-ring.

4. A type-block for type-writers formed in two pieces or sections, one of which has a stepped face and the other a spherical face with type thereon, and means for joining together the two pieces or sections.

5. A type-block for type-writers having a stepped face and a face having printing characters comprising a plurality of pieces suitably joined together to form the type-block.

6. A type-block for type-writers formed in two pieces, a ring-shaped support for said type-block, the inner surface of which is of a varying width, and a collar portion provided for each piece which corresponds with a portion of the varying inner surface of said support.

7. A type-block for type-writers formed in two pieces or sections, one of which has a step-face and the other a spherical face with type thereon, and means to register one of the said pieces in proper relation with the other.

8. A type-block for type-writers formed in two pieces or sections, one of which has a stepped face and the other a spherical face with type thereon, means to register one of the said pieces in proper relation with the other, and strengthening-ribs provided for one or both of said pieces or sections.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EUGENE R. PASTRE.

Witnesses:
FRANK LAMBERT,
CHARLES BASSLER.