No. 625,070. Patented May 16, 1899.

A. TRAVAGLINI.

DIE FOR MAKING MOSAICS.

(Application filed Nov. 29, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 3.

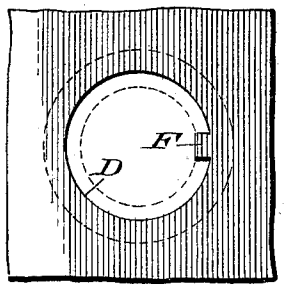


Fig. 1.

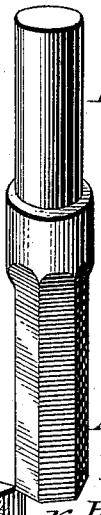


Fig. 7.

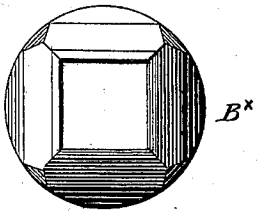


Fig. 4.

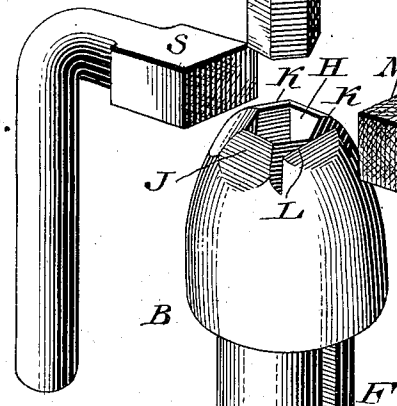


Fig. 5.

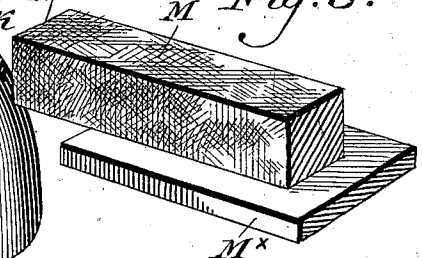


Fig. 8.

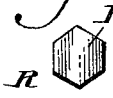
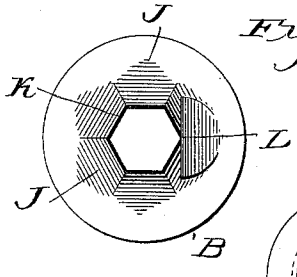


Fig. 2.

Fig. 6.^x



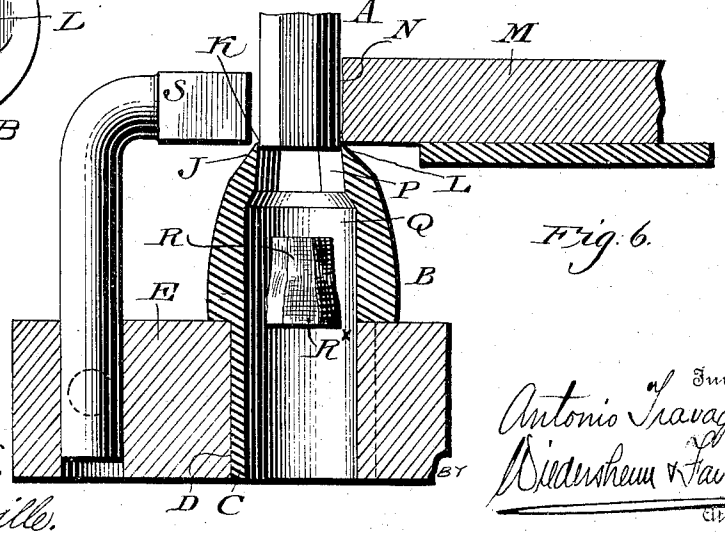


Fig. 6.

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No. 625,070. Patented May 16, 1899.

A. TRAVAGLINI.

DIE FOR MAKING MOSAICS.

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(No Model.) 2 Sheets—Sheet 2.

Fig. 9

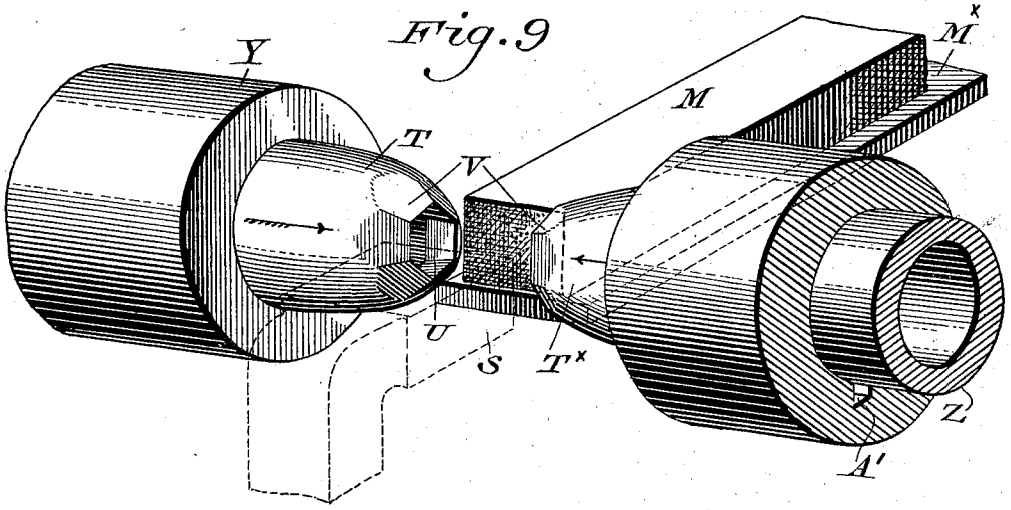


Fig. 10.

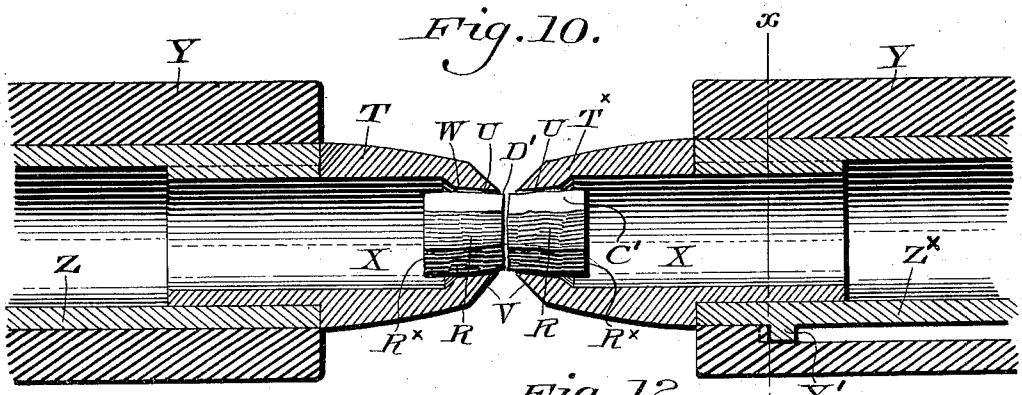


Fig. 12.

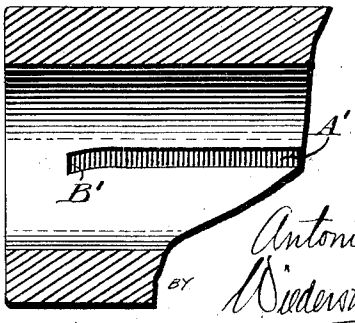
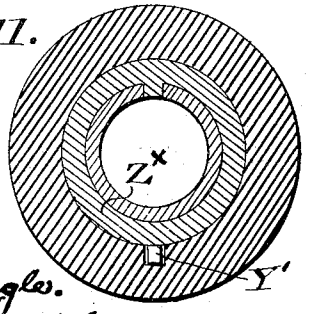


Fig. 11.



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UNITED STATES PATENT OFFICE.

ANTONIO TRAVAGLINI, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO JOHN BISHOP HALL, OF SAME PLACE.

DIE FOR MAKING MOSAICS.

SPECIFICATION forming part of Letters Patent No. 625,070, dated May 16, 1899.

Application filed November 29, 1898. Serial No. 697,734. (No model.)

To all whom it may concern:

Be it known that I, ANTONIO TRAVAGLINI, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Dies for Making Mosaics, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to dies for making mosaics; and it consists of an improved construction thereof whereby I am enabled to make the cut at the face of the mosaic sharp and well defined and in addition to fracture the blank from which the mosaics are cut on substantially a right line or transversely, so that it is unnecessary to finish or true the mosaics after cutting.

It further consists of novel details of construction, all as will be hereinafter fully set forth, and particularly pointed out in the claims.

Figures 1 and 2 represent perspective views of male and female dies embodying my invention, the same being shown in detached position. Fig. 3 represents a plan view of a support for the female die. Fig. 4 represents a perspective view of a stop employed, the same being shown in detached position. Fig. 5 represents a perspective view of the blank from which the mosaics are cut and the support therefor. Fig. 6 represents a vertical sectional view of the dies and their adjuncts, showing the parts in assembled operative position. Fig. $6^{\times}$ represents a plan view of the female die shown in Figs. 2 and 6. Fig. 7 represents a plan view of a four-sided female die. Fig. 8 represents a plan view of a finished mosaic. Fig. 9 represents a perspective view of another embodiment of the principle of my invention. Fig. 10 represents a longitudinal sectional view of Fig. 9, showing the parts in assembled position. Fig. 11 represents a transverse section on line $x\,x$, Fig. 10. Fig. 12 represents a plan view of a portion of the interior of the outer socket seen in Fig. 11.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a male die, the same being of polygonal shape in cross-section and being reciprocated in any suitable manner, and as the actuating device forms no part *per se* of the present invention a detailed description thereof is deemed to be unnecessary.

B designates the female die, the same having the neck C projecting therefrom and being adapted to rest in the seat D of the bed or support E, the latter having the tongue F, which is adapted to enter the recess G of said neck, whereby the female die is held in fixed position, although it will be apparent that other devices may be employed for holding said female die in fixed position relative to its support without departing from the spirit of my invention.

The female die B has a polygonal opening H therein, the number of the sides of which correspond with the number of sides of the male die A, the upper portion of said female die being provided with the beveled or chamfered faces J, whereby the cutting edges K are produced. Adjacent and exterior to the cutting edge K is located the auxiliary or shear knife L, which latter has an important function, to which especial attention is called, since it serves to fracture or sever the blank M, so as to make a clean transverse cut N, as will be apparent from Fig. 6, said shear-knife in the embodiment shown being located adjacent the junction of a pair of cutting edges. As best shown in Figs. 2 and $6^{\times}$, this auxiliary or shear knife L consists of a knife or cutting edge situated exterior to and independent of the cutting edge of the die. It is also situated on the feed side of the die and at a right angle to the line of feed, so as to engage and sever the blank transversely just outside of the part thereof that is formed into the mosaic. The polygonal internal walls P of the female die diverge, as indicated in Fig. 6, until they meet the passage Q, whereby sufficient clearance is provided for the block or mosaic R, a side elevation of which is seen in Fig. 8, special attention being called to the fact that the under face $R^{\times}$ of said mosaic is provided with sharp and clear-cut edges, which are attained by reason of the employment of the shear-knife L when used in connection with the

male and female die, as explained, it being seen that by reason of the location of said shear-knife the block from which the mosaic is formed is instantly fractured or severed from the body of the blank on a right line substantially simultaneously with the impact of the male die therewith, so that a minimum amount of material has to be removed from the mosaic to form the outer contour thereof prior to its passage through the female die, as indicated in Fig. 6.

S designates a suitable stop which is held in position in the bed E by any suitable means.

Turning now to Figs. 8 to 10, inclusive, I employ two hollow dies T and T′, each of which is provided with a polygonal opening U, the cutting edges of which are formed by beveling or chamfering the outer portion of the dies, as indicated at V.

M designates the blank of marble or other material, as before, which is sustained upon the support $M^{\times}$ and is adapted to be moved against the stop or abutment S, (seen in dotted lines,) which, it will be understood, is of substantially the same construction as seen in Figs. 4 and 6.

The inner walls of the openings U diverge, as indicated at W, until they meet the passage X in each die. The left-hand die T is seated in the sleeve Z, and said die and sleeve have only a reciprocating motion in their head Y, while the other die $T^{\times}$ has in addition to its reciprocating motion a slight rotary movement near the end of its stroke, which is caused by the tongue Y′ of the sleeve $Z^{\times}$ engaging the walls of the groove A′, said die $T^{\times}$ and sleeve $Z^{\times}$ being secured to each other in any suitable manner, so that they move in unison, and said groove near its terminal B′ being slightly curved, so that simultaneously with the advance of the die $T^{\times}$ a slight movement is imparted thereto near the end of its stroke when the said die is in substantially the position seen in Fig. 10, whereby a slight turn is also given to the mosaic C′ and the same is fractured at the point D′, it being seen that two mosaics are thus formed by a single operation, each having a clear-cut and well-defined face $R^{\times}$.

It will of course be understood that I have omitted the mechanism for moving the dies T and $T^{\times}$ toward and away from each other, since the same form *per se* no part of the present invention, and any detailed explanation thereof is believed to be unnecessary.

It will of course be understood that squares may be produced by employing the die $B^{\times}$ (seen in Fig. 7) and that other shapes or contours of mosaics can be produced without departing from the spirit of my invention.

In the construction seen in Fig. 7, in which a square opening is shown in the female die, the employment of a shear-knife corresponding with the knife L is unnecessary; but for cutting circular or other polygonal mosaics I find the best results are attained by using the shear-knife L adjacent the cutting edges of the die, as seen in Fig. 2.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A die consisting of a body portion provided with a cutting edge and with an auxiliary cutting edge or shear-knife exterior thereto.

2. A female die consisting of a body portion provided with a cutting edge and with an auxiliary cutting edge or shear-knife exterior thereto.

3. The combination of a pair of dies, one of said dies consisting of a body portion provided with a cutting edge and with an auxiliary cutting edge or shear-knife situated exterior thereto, and on the feed side of said die and adjacent to the main cutting edge thereof, whereby the blank from which the mosaics are cut will be severed or fractured on substantially a transverse line.

4. The combination of opposing coacting longitudinally-movable dies having polygonal openings provided with cutting edges, one of said dies being capable of rotary movement at or near the end of its stroke, and means for imparting rotary movement thereto.

5. The combination of a plurality of longitudinally-movable dies having polygonal openings provided with cutting edges, one of said dies being mounted in a longitudinal guide, a longitudinal groove in one of said parts having a deflected end portion, and a tongue on the other of said parts, situated within said groove.

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