No. 709,541. Patented Sept. 23, 1902.

R. B. HASKINS.

APPARATUS FOR THE MANUFACTURE OF MOLDERS' CHAPLETS.

(Application filed May 7, 1902.)

(No Model.)

Fig. 1

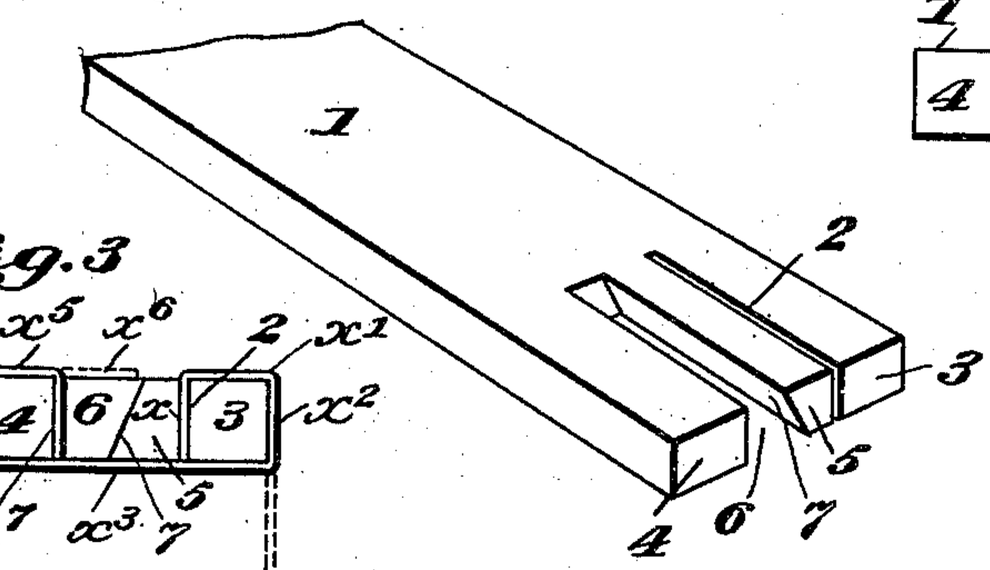


Fig. 2

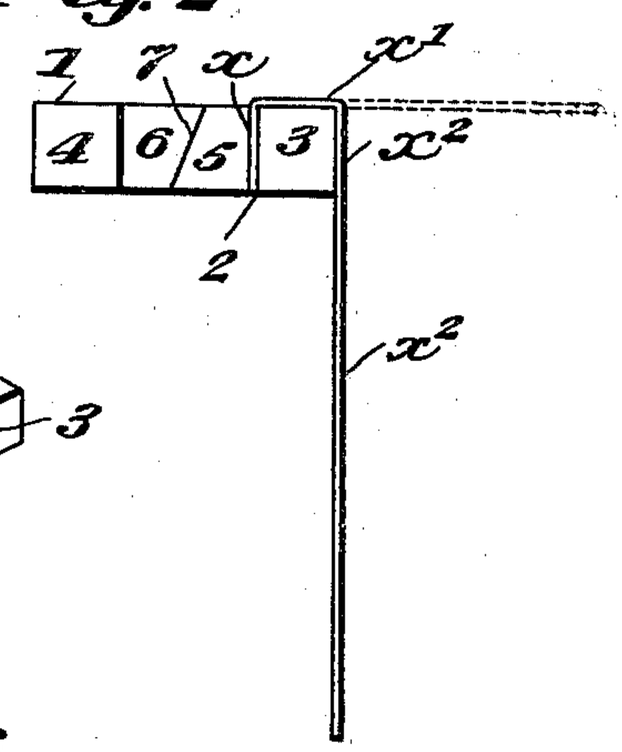


Fig. 3

Fig. 4

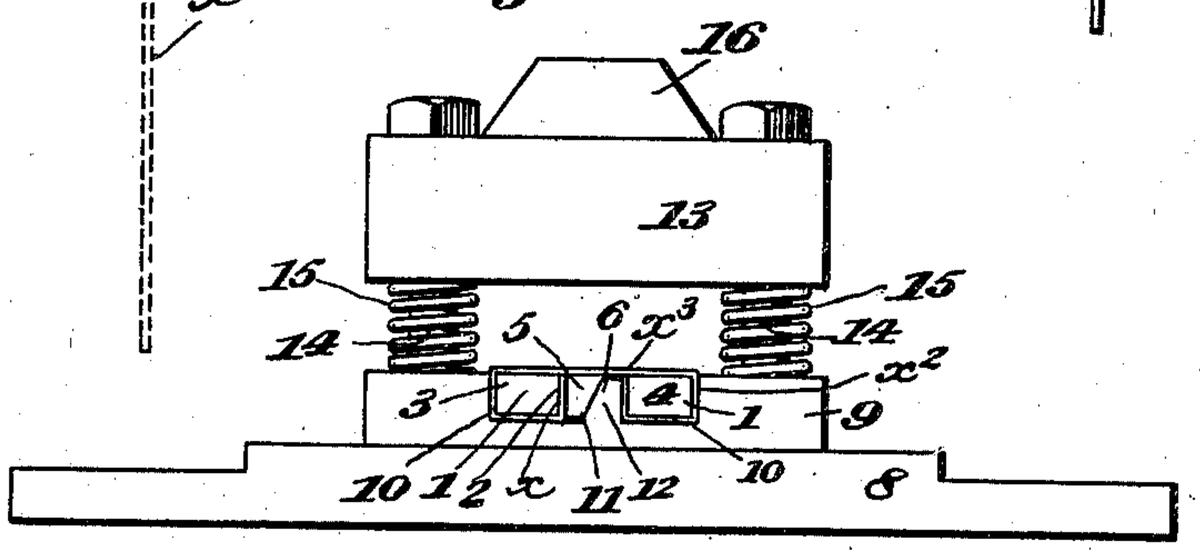


Fig. 5

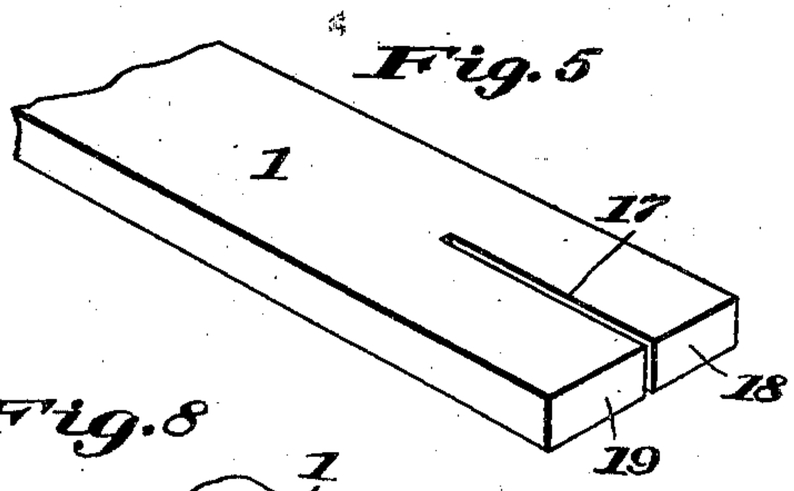


Fig. 6

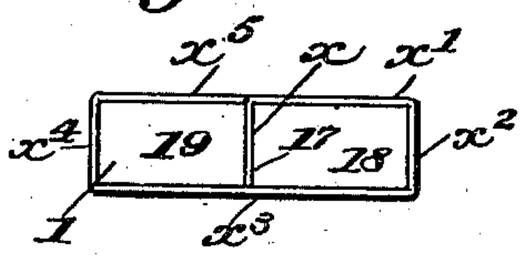


Fig. 8

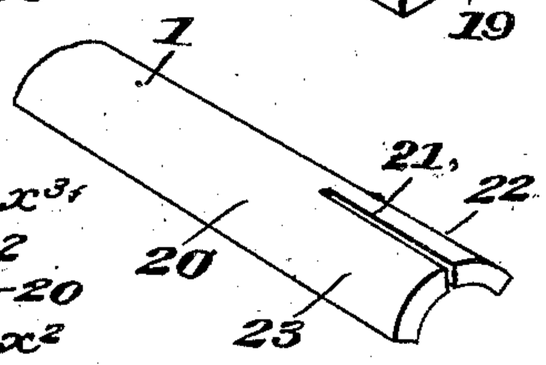


Fig. 7

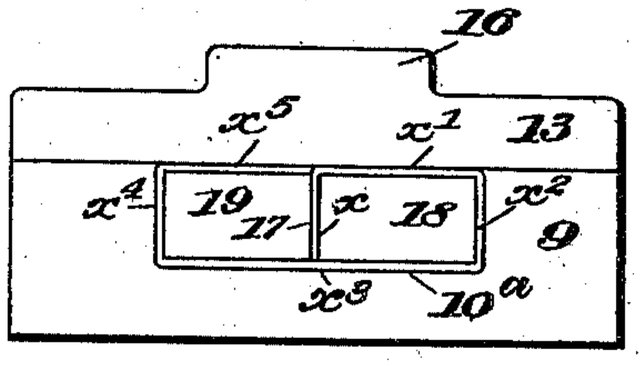


Fig. 9

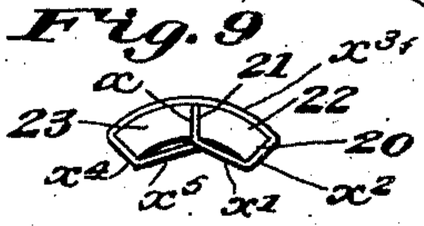
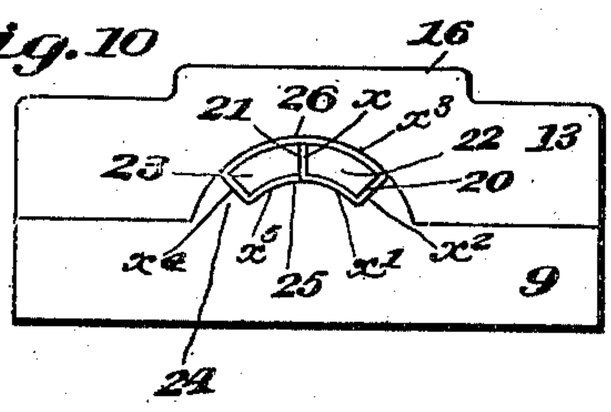


Fig. 10



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UNITED STATES PATENT OFFICE.

ROBERT B. HASKINS, OF CINCINNATI, OHIO.

APPARATUS FOR THE MANUFACTURE OF MOLDERS' CHAPLETS.

SPECIFICATION forming part of Letters Patent No. 709,541, dated September 23, 1902.

Application filed May 7, 1902. Serial No. 106,306. (No model)

To all whom it may concern:

Be it known that I, ROBERT B. HASKINS, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Apparatus for the Manufacture of Molders' Chaplets, of which the following is a specification.

This invention relates to certain improvements in apparatus for the manufacture of molders' chaplets or anchors such as are described and claimed in the Letters Patent No. 659,444, granted to R. B. Haskins and G. Fisher October 9, 1900; and the object of the invention is to provide an apparatus of a simple and inexpensive nature by means of which the chaplets or anchors of the kind set forth in said Letters Patent may be conveniently and cheaply manufactured.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved apparatus whereby certain important advantages are attained and the apparatus is made simpler and cheaper and is otherwise better adapted and made more convenient for use than various other devices heretofore employed in the construction of such chaplets, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a perspective view showing a die such as is employed for constructing one form of chaplet; and Fig. 2 is an end view of said die, showing the manner of applying the chaplet or anchor blank thereto for forming the said chaplet or anchor. Fig. 3 is a view similar to Fig. 2, but showing the blank bent upon the die. Fig. 4 is an elevation of a pressing or setting device such as is employed for pressing the chaplets upon the die to set them to an exact form and size. Fig. 5 is a perspective view similar to Fig. 1, but showing a modified form of die, such as is especially designed for use in the manufacture of another form of chaplet or anchor. Fig. 6 is an end view of the die shown in Fig. 5, the chaplet or anchor blank being shown bent around the die in position to be pressed or set. Fig. 7 is a view showing the die in place between the plates or parts employed for pressing or setting the chaplet or anchor to the die. Fig. 8 is a perspective view similar to Figs. 1 and 5, but showing another form of die especially designed for use in the manufacture of a third form of chaplet or anchor. Fig. 9 is an end view of the die shown in Fig. 8, the chaplet or anchor blank being shown bent upon the die in position to be pressed or set thereto. Fig. 10 is a view similar to Fig. 7, but showing the form of die illustrated in Figs. 8 and 9 applied between the plates or parts, by means of which the chaplet or anchor is pressed or set to the die.

Referring first to Figs. 1 to 4, 1 indicates the body of the die, which will be preferably constructed in the form of an elongated and flattened metal bar or rod, one end of which is adapted to serve as a handle, being grasped by the hand of the operator in bending the chaplet or anchor blanks upon the die. The other end of said elongated metal bar or rod 1 is provided at a point between its center and one of its lateral edges with a longitudinal slot or kerf 2, extended through it from one flattened side to the other and at right angles to said flattened sides, and by means of said slot or kerf 2 one of the side portions of the die is partially separated from the remainder of said die, as indicated at 3, the said partially-separated portion being made rectangular in cross-section. The other side of the die is also provided with a partially-separated portion 4 of rectangular cross-section and of dimensions substantially similar to the portion 3, said portion 4 being separated from the remaining portion of the die by means of an elongated opening 6, extended longitudinally in the central portion 5 of the die. The central portion 5 of the die forms one wall of the slot or kerf 2, by means of which the side portion 5 is separated from the remaining portion of the die, and the opening 6 is formed with a beveled wall 7 upon the opposite side of said central portion, so that upon one of the flattened faces of the die the said opening 6 is of greater width than upon the other flattened surface of the die. The wider portion of the opening 6 is preferably of a width not less than the thickness of the metal bar or rod of which the die is formed. In forming the chaplets or

anchors by means of this die the perforated sheet metal from which the chaplets or anchors are to be made is first cut or broken into strips of suitable dimensions for use in producing the chaplets or anchors, and the strips or blanks thus formed are applied upon and bent about the die, after which the die carrying the bent blank is pressed to compress and set the chaplet to the exact size and form required for use. In applying a blank to the die one end portion of the blank is engaged in the slot or kerf 2 of the die, as indicated at x, after which the said blank is bent at a right angle to cause it to extend along one of the flattened sides of the die and across the side portion 3 of the die, as shown at x'. At the edge of the die the blank is then given another sharp bend to cause the blank to extend along one lateral edge of the die at the side portion 3 thereof, as shown at x^2 on the drawings, after which the blank is again bent to cause it to extend continuously across the other flattened face of the die, as shown at x^3. At the opposite lateral edge of the die the blank is again bent at a right angle to cause it to extend along the other side edge of the die, as indicated at x^4, and at the opposite flattened face of the die another angular bend is given the blank to cause it to extend along the corresponding flattened face of the die, as indicated at x^5, the extreme edge of the blank extending then, as shown in dotted lines in Fig. 3, substantially across the wider portion of the opening 6, beyond the side portion 4 of the die.

It is essential that the chaplets or anchors should be given an exact size, so that they may be fitted for accurate work, and in order to impart to the chaplets or anchors when thus bent upon the die the exact form and size required for use and to prevent or remove any irregularities of outline in the chaplets or anchors I provide means for pressing or setting the bent blanks upon the die, which means comprises, as shown in Fig. 4, a lower plate or base 8, adapted to be rested or secured to a bench or other support. On the base 8 is a matrix 9, having openings 10, adapted to receive the side portions 3 and 4 of the die, together with the blanks bent upon the said side portions, and also provided, as shown at 11, with an extension or continuation of one of said openings 10 for the reception of the solid central portion 5 of the die. Between the extension 11 and the other opening 10 is provided on the matrix a raised stud or projection 12, adapted to fit within the opening 6 between the central portion 5 and the side portion 4 of the die. Above the matrix 8 is a press-plate 13, held for vertical movement toward the matrix upon guide-rods 14 14 at opposite sides, springs 15 15 being coiled on the guide-rods between the press-plate and matrix to hold the former normally uplifted off of the matrix to permit ready introduction and removal of the die with the chaplet or anchor upon it. At its upper part the press-plate is provided with a central raised striking-face 16, adapted to be struck with a hammer or mallet to press the plate 13 forcibly down upon the matrix against the tension of the springs 15, and when the die is in position over the cut-away portion of the matrix the press-plate 13 is so struck and is thereby caused to forcibly descend and to press the die firmly into the cut-away portion of the matrix, whereby the bent blank is caused to conform snugly to the sides of the die and is thereby given the exact form and size of the die. When the press-plate descends and forces the die into the cut-out portions of the matrix, it is evident that the projection 12 upon the matrix will enter the opening 6 of the die and will act to bend the extreme end portion of the blank from the position shown in dotted lines at x^6 in Fig. 3 to the position shown in said figure in full lines at x^7, so that said extreme end portion is caused to conform to that side of the portion 4 of the die which forms the wall of the opening 6. When the chaplet or anchor has been pressed or set as above described, the die carrying it is removed from the pressing means and the finished chaplet or anchor is removed from the die by drawing it off over the end of the elongated metal bar or rod on which the die is formed.

The chaplet formed by the die above described is provided with two rectangular side portions united and connected together by the portion x^3 upon one face of the chaplet, said portion x^3 being extended across the space between said side portions; but it is evident that the improved apparatus is capable of some variation to adapt it for producing the various other forms of chaplet or anchor illustrated in the Letters Patent above referred to. For example, in Figs. 5, 6, and 7 I have shown a modified form wherein the die is provided with a centrally-arranged longitudinal slit or kerf 17, dividing the die into two similar and equal side portions 18 and 19. In forming the chaplets or anchors with this die the end of the blank is first inserted in the kerf or slot 17 in the same way as it was before inserted in the kerf 2 and is then bent around the four sides of the die, as shown in Fig. 6, after which the die, with the bent blank upon it, is applied to the cut-out part 10^a of a matrix 9 and is pressed by a plate 13, as above described, to cause the sides of the chaplet or anchor to conform closely to the surfaces of the die. In the form of chaplet or anchor produced by the use of this die there are also two connected side portions; but these side portions fit closely against each other and are not separated by a space, as in the first form above described.

In Figs. 8, 9, and 10 I have also shown another modified construction of the apparatus for producing a third form of chaplet or anchor shown in said above-named Letters Patent. The bar or rod 1, on which this die is formed, is not flattened, but is made curved

in cross-section, as shown at 20, and has a central longitudinal slot or kerf 21 in its end portion whereby the side portions 22 and 23 of the die are partially separated. The blank is applied to the kerf or slot 21 and is bent on this die in substantially the said way as above described, after which the die, with the bent blank upon it, is applied to a cut-out part 25 in an upward central projection 24 on the matrix 9 and is pressed by means of a press-plate 13, cut out on its under side to conform to the curved upper face of the die and projection 24, as indicated at 26 in Fig. 10.

From the above description it will be seen that the improved apparatus constructed according to my invention is of an extremely simple and inexpensive nature and is especially well adapted for use in forming or producing the chaplets or anchors such as are shown and described in said Letters Patent. By the use of the improved apparatus the chaplets or anchors may be made in a very rapid and convenient manner, so that a very important economy is attained in the manufacture, and the chaplets or anchors are also given exact sizes and forms, so that they are capable of being used for accurate work. It will also be obvious from the above description of my invention that the improved apparatus is capable of considerable modification without material departure from the principles and spirit of the invention in order to adapt the apparatus for use in the manufacture of chaplets or anchors of different sizes and shapes, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts herein set forth.

Having thus described my invention, I claim—

1. In an apparatus for the manufacture of molders' chaplets or anchors, a die formed of a metal bar or rod of flattened form in cross-section, the end of which is provided with an open-ended slot or kerf extended through it from one flattened side to the other to receive the end of a blank and has on opposite sides of said slot or kerf, side portions about which the blank is adapted to be bent, substantially as set forth.

2. In an apparatus of the character described, the combination of a die having a slot or kerf to receive an end of a blank and provided at the sides of said slot or kerf with side portions about which said blank is adapted to be bent, a matrix having an opening adapted to receive the die and blank carried thereon and a press-plate above the matrix for forcing the die and blank into the opening of the matrix, substantially as set forth.

3. In an apparatus of the character described, the combination of a die having a slot or kerf to receive an end of a blank and provided with side portions at the sides of said slot or kerf and about which the blank is adapted to be bent, a matrix having an opening to receive the die and blank carried thereon and a spring-supported press-plate above the matrix for forcing the die and blank into the opening of the matrix, substantially as set forth.

4. In an apparatus for the manufacture of molders' chaplets or anchors, a die having an opening extended through it to receive each end of a blank, and devices between which said die is adapted to be pressed, one of said devices having means for forcing one end of the blank through its opening, substantially as set forth.

5. In an apparatus for the manufacture of molders' chaplets or anchors, a die having an end portion formed with flattened sides and having two openings extended through it from one flattened side to the other, each of said openings being adapted to receive an end of a blank and said end portion of the die having at opposite sides of said openings side portions about which such blank is adapted to be bent, substantially as set forth.

Signed at Cincinnati, Ohio, this 5th day of May, 1902.

ROBERT B. HASKINS,

Witnesses:
W. S. TODD,
JOHN ELIAS JONES.