

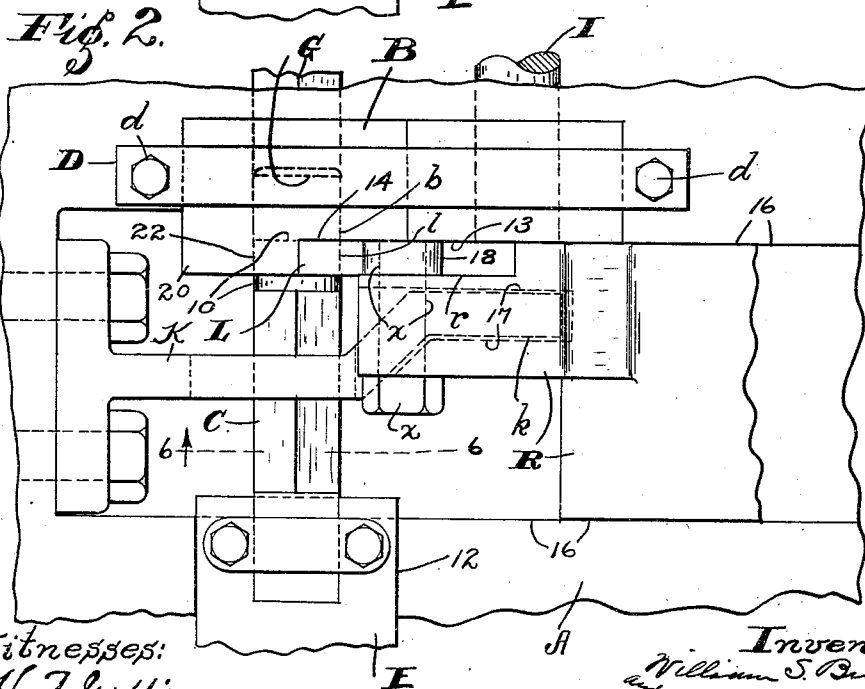
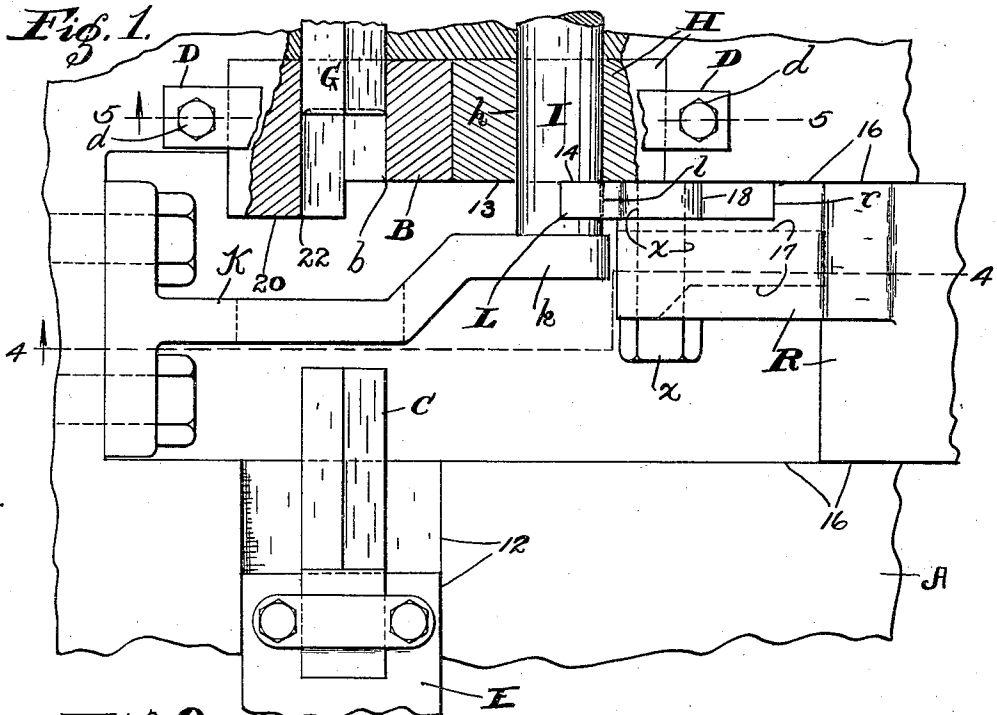
W. S. BIDLE & J. A. COSTELLO.
MACHINE FOR MAKING HOT PRESSED NUTS.

APPLICATION FILED MAY 6, 1911.

1,050,096.

Patented Jan. 14, 1913.

3 SHEETS—SHEET 1.



Witnesses:

H. J. Gettins.

B. C. Brown.

Inventors.

William S. Bidle
and Joseph A. Castello

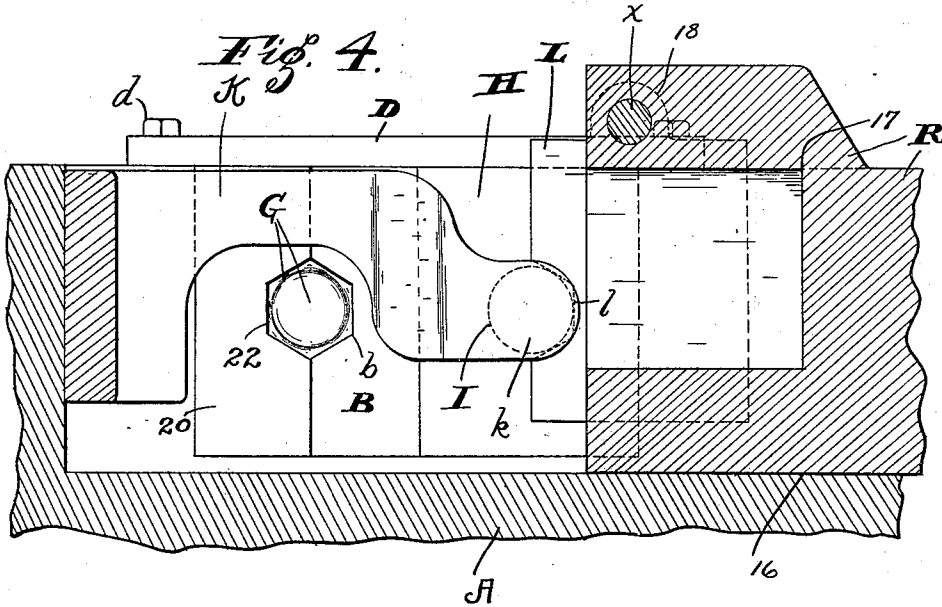
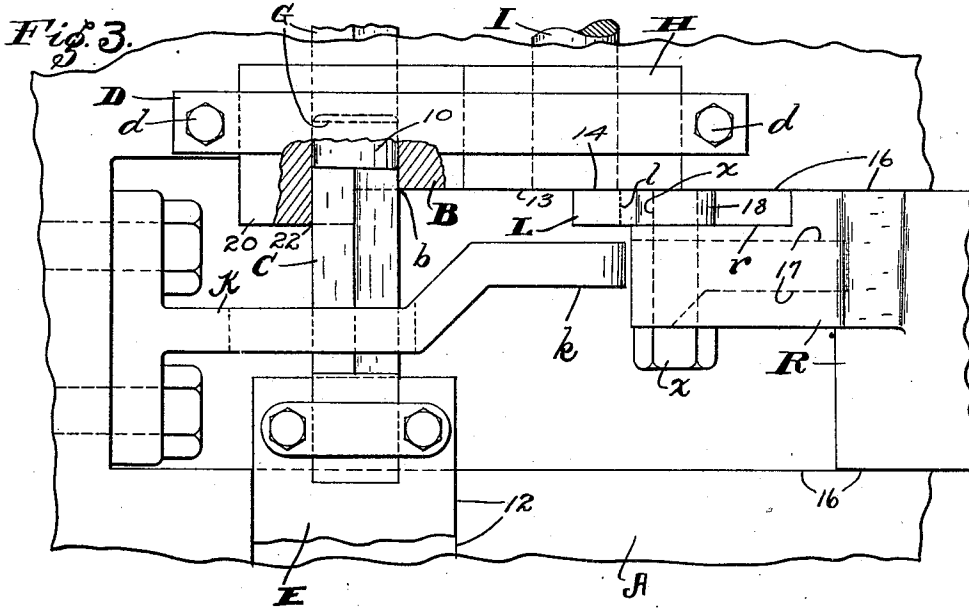
By Spencer
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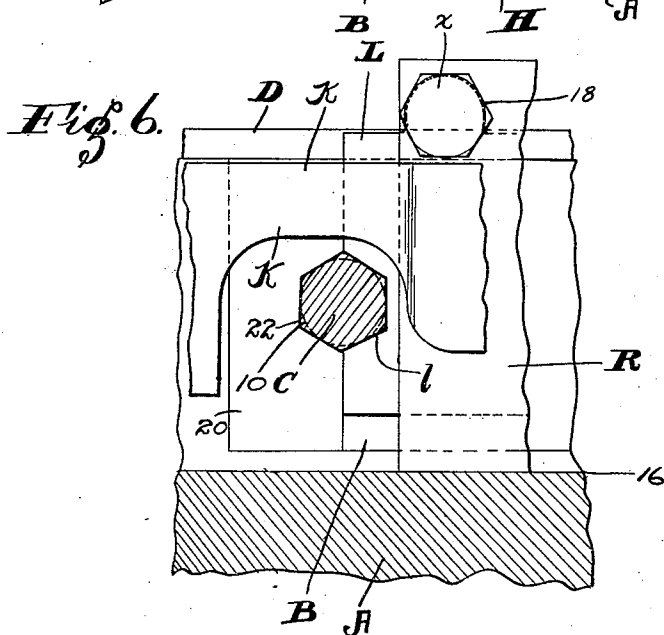
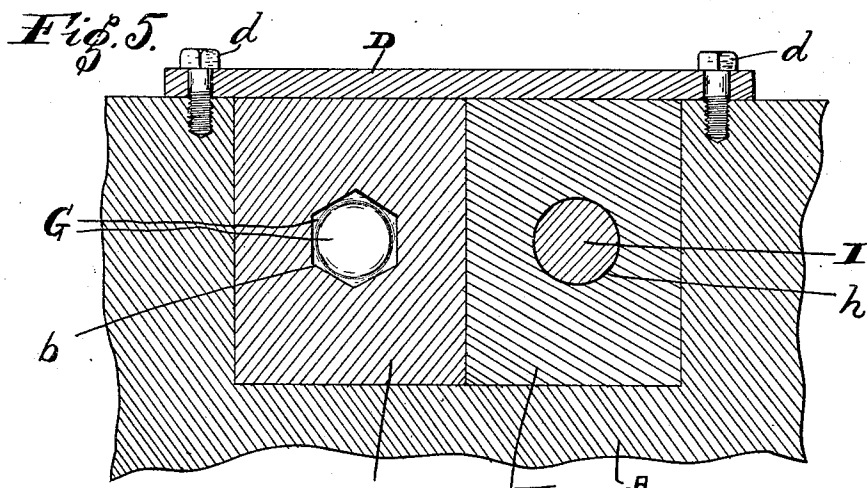
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

WILLIAM S. BIDLE AND JOSEPH A. COSTELLO, OF CLEVELAND, OHIO.

MACHINE FOR MAKING HOT-PRESSED NUTS.

1,050,096.

Specification of Letters Patent.

Patented Jan. 14, 1913.

Application filed May 6, 1911. Serial No. 625,559.

To all whom it may concern:

Be it known that we, WILLIAM S. BIDLE and JOSEPH A. COSTELLO, citizens of the United States of America, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Machines for Making Hot-Pressed Nuts; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in machines employed in making hot-pressed nuts, and pertains more especially to a machine in which a hot blank which is to be pressed into an externally hexagonal shape is carried to and in front of a plunger which is correspondingly hexagonal in cross-section and arranged to insert the said blank into a correspondingly hexagonal bore formed in a die arranged to receive the blank which, upon being inserted into the said bore, is pressed by the plunger against the inner end wall of the bore and pressed to conform to the hexagonal contour of the said bore.

The primary object of this invention is to provide a machine of the character indicated which may be operated with great facility without wasting material.

Another object is to provide a machine of the character indicated which is exceedingly simple and durable in construction, reliable in its operation, and not liable to get out of order.

With these objects in view, and to the end of attaining any other advantage herein-after appearing, this invention consists in certain features of construction, and combinations and arrangement of parts, herein-after described, pointed out in the claims, and illustrated in the accompanying drawings.

In the said drawings, Figures 1, 2 and 3 are top plans of a portion of our improved machine. Portions are broken away and in section in these figures to reduce their size and to more clearly show the construction. Fig. 4 is a vertical section on line 4—4, Fig. 1, looking in the direction indicated by the arrow. Fig. 5 is a vertical section on line 5—5, Fig. 1, looking in the direction indicated by the arrow. Fig. 6 is a vertical section on line 6—6, Fig. 2, looking in the direction indicated by the arrow.

Referring to the drawings, A indicates the bed of our improved machine, and B represents a stationary die which faces an endwise movable plunger C and has a substantially horizontally arranged bore which is hexagonal in cross-section and adapted (see Figs. 2 and 3) to receive a blank which is shown cylindrical in cross-section and adapted to be inserted by the plunger into the said bore and therein pressed by the plunger into a hexagonal shape to conform to the hexagonal contour of the bore. The bore *b* therefore extends into the die B substantially horizontally from the face of the die. The die B is set into the bed A and rendered stationary in any approved manner, being shown clamped downwardly against the bed by a clamping bar D which extends across the top of the die and is secured at its ends by suitably applied screws *d* to the bed. The plunger C is just enough smaller transversely than the bore *b* to render it capable of moving into and endwise of the bore. The plunger is therefore arranged in line endwise with the bore *b* and projects into or is spaced the maximum distance from the blank-receiving end of the bore according as the plunger is in the one or the other of its extreme positions. The plunger is of course hexagonal in cross-section to conform to the hexagonal contour of the bore *b*. The plunger extends into and is suitably secured to a correspondingly arranged slide E which is movable toward and from the die B and engages a correspondingly arranged slideway 12 which is formed in the bed A. The slide E is actuated in any approved manner, but means for operating the said slide in a machine of the character indicated are too well known in the art to require description and illustration in this specification.

The inner end wall of the bore *b* in the die B is formed by a crowning die G which is hexagonal in end view and engages and is shiftable endwise of the said bore. The die G in its normal position is arranged within the rear end of the die B and spaced far enough from the blank-receiving end of the bore *b* to permit the blank which is to be operated upon within the last-mentioned die to be inserted into the said bore by the plunger and to permit the plunger to enter the bore during the introduction of the blank into the bore. The crowning die G has its face contoured in the usual manner

to form the crown on the adjacent end of the blank to be operated upon within the die B.

The application and operation of a crowning die in a nut-making machine of the character indicated are too well understood to require illustration and description in this specification. Suffice it to state that the crowning die G, which forms the inner end wall of the bore *b* as hereinbefore indicated, is held stationary in any approved manner during the operation upon the blank within the die B, and that, after pressing the said blank by the plunger into an externally hexagonal shape within the said die, the crowning die G is actuated forwardly to eject the crowned and hot-pressed blank from the die B at the blank-receiving end of the bore *b*.

A stock-guiding block or member H is arranged at one side of the die B and is set into the bed A. The stock-guiding member H is clamped downwardly against the said bed by the clamping bar D which extends across the top of the said stock-guiding member. The stock-guiding member H is flush at its inner end with the face of the die B and provided (see Figs. 1 and 5) with a hole *h* for receiving the rod or stock I, which hole extends through the said stock-guiding member and is substantially parallel with the bore *b* in the die B and consequently with the path of the plunger C. The hole *h* and the engaging stock I are shown cylindrical in cross-section and the said hole is just enough larger transversely than the said stock to permit the stock to move endwise of the hole.

A stationary abutment *k*, which is disposed opposite and spaced from the discharging end of the hole *h*, extends toward the path of the plunger C, which abutment is arranged to be engaged by the blank-forming end of the stock I fed through the said hole. The abutment *k* is formed by the free end of an arm K which is rigid with the bed A and projects or extends from the bed, at the left-hand side of the plunger, to and over and transversely of the path of the plunger and to and in front of the hole *h*. The abutment *k* therefore forms a stop for the stock I and serves as a gage for the length of the blank to be cut from the stock.

The inner end face or abutment-facing surface of the stock-guiding member has the portion 13 thereof, which is arranged at the inner side of the hole *h*, forming a cutting edge and constituting the stationary member of shears employed in cutting the blank from the stock I fed to and against the abutment *k*, and a member L, which is instrumental, as will hereinafter appear, in centering the blank cut from the stock I relative to the bore *b* in the die B, is arranged to move substantially horizontally from in front of the stock-guiding member

at the opposite or outer side of the aforesaid hole to and in front of the die B, or vice versa, and employed in carrying the blank from the stock to and in front of the said bore in the said die.

The blank-carrying member L is provided with a cutting edge 14 instrumental in co-operating with the cutting edge 13 of the stock-guiding member in cutting the blank from the stock. The blank-carrying member L therefore forms the movable member of the aforesaid shears. The blank-carrying member L projects in the direction of the path of the plunger C and is provided in its forward end with a recess *l* which extends from side to side of the said member L and is arranged horizontally and parallel with the path of the plunger. The recess *l* is in the outer position of the blank-carrying member L arranged to be engaged by the stock I fed to and against the abutment *k* and has the dimensions required to render the said member L capable of embracing the adjacent or outer side of the blank-forming portion of the stock I.

The blank-carrying member L is borne by a slide R which is arranged substantially at a right angle to the path of the plunger C and movable in a substantially horizontal plane toward and from the said path. The slide R engages a correspondingly arranged slideway 16 formed in the bed A. The slide R is actuated in any approved manner, but means for operating the slide R are too well known in the art to require illustration and description in this specification. It will be observed therefore that the blank-carrying member L is moved inwardly toward the path of the plunger C, or outwardly from the said path, according as the slide R is actuated in the one or the other direction. The slide R is recessed, as at 17, to accommodate the location of the abutment *k* during the actuation of the said slide. The blank-carrying member L is suitably secured to the slide R. As shown, the said member L engages a recess *r* formed in the slide R and rests on the bottom of the said recess and abuts against the inner end wall of the said recess. The said member L is secured at the top thereof to the slide R by a screw *x* which extends transversely of and through said slide at a point above the recess 17 and is screwed into a lug 18 formed on the member L. The screw *x* obviously prevents displacement of the member L forwardly,—that is, in the direction of the path of the plunger C.

It will be observed that during the actuation of the slide R from its outer position shown in Figs. 1 and 4 into its inner position shown in Figs. 2 and 6 the member L not only has its cutting edge 14 coöperating with the cutting edge 13 of the stock-guiding member H in cutting the blank-

forming portion of the stock from the stock but carries the blank to and in front of the bore *b* in the die B and in its inner position coöperates with a stationary member 20 in centering the blank relative to the said bore.

By the construction illustrated it will be observed that the movable blank-centering member L is arranged to move substantially horizontally at one side of and substantially at a right angle to the path of the plunger C, and that the stationary blank-centering member 20 is arranged at the opposite side of the said path and disposed to form a stop arranged to limit the inward movement of the movable blank-centering member L.

The stationary blank-centering member 20 is provided with a recess 22 arranged opposite the recess *l* in the movable blank-centering member L. The stationary blank-centering member is preferably formed on and integral with the die B and projects forwardly from the said die. It will be observed that the recess 22 in the stationary blank-centering member 20 and the recess *l* in the movable blank-centering member L are contoured to form a hexagonal opening when the movable blank-centering member is in its inner position, as shown in Fig. 6, which opening substantially corresponds in dimensions and registers with and forms a forward extension of the bore *b* in the die B and is large enough to receive the plunger.

In Figs. 2 and 6 a blank 10 is shown centered relative to the bore *b* in the die B preparatory to the insertion of the said blank by the plunger into the said bore, and the plunger is shown moved into engagement with the adjacent end of the blank whereupon the plunger is moved forwardly into its extreme forward position to press the blank into an externally hexagonal shape within the die B. In Fig. 3 a blank 10 is shown introduced into the bore *b* of the die B by the plunger preparatory to pressing the blank by the plunger into the shape required to fill the said bore between the face of the plunger and the crowning die or inner end wall of the said bore, and it will be observed that the plunger somewhat enters the said bore before pressing the blank.

The blank-centering member 20, being stationary, is provided much more inexpensively than a movable blank-centering member and can not become displaced or get out of order, and a stationary blank-centering member, which is rigid with or formed on the die, as hereinbefore described, is always accurately positioned relative to the bore *b* in the die and forms a reliable stop for limiting the inward movement of the movable blank-centering member.

What we claim is:—

1. In a machine for making hot-pressed nuts, a stationary die having a bore for receiving a blank, which bore is polygonal in cross-section; a plunger which is arranged in line endwise with and movable into and from said bore and contoured in cross-section to conform to the polygonal contour of said bore; a movable blank-centering member arranged to move substantially at a right angle to the path of the plunger, and a stationary blank-centering member, the blank-centering members being relatively arranged and contoured to form, when the movable blank-centering member is in its inner position, an opening which registers with the aforesaid bore and is large enough to receive the plunger.

2. In a machine for making hot-pressed nuts, a die having a bore for receiving a blank, which bore is polygonal in cross-section; a plunger which is arranged in line endwise with and movable into and from the said bore and contoured in cross-section to conform to the polygonal contour of said bore; a movable blank-centering member arranged substantially at a right angle to the path of the plunger, and a stationary blank-centering member which forms a stop arranged to limit the inward movement of the movable blank-centering member, the blank-centering members being relatively arranged and contoured to form, when the movable blank-centering member is in its inner position, an opening which registers with the aforesaid bore and is large enough to receive the plunger.

3. In a machine for making hot-pressed nuts, a stationary die having a bore for receiving a blank, which bore is polygonal in cross-section; a plunger which is arranged in line endwise with and movable into and from said bore and contoured in cross-section to conform to the polygonal contour of said bore; a movable blank-centering member arranged substantially at a right angle to the path of the plunger, and a blank-centering member rigid with and projecting forwardly from the die, the blank-centering members being relatively arranged and contoured to form, when the movable blank-centering member is in its inner position, an opening which registers with the aforesaid bore and is large enough to receive the plunger.

4. In a machine for making hot-pressed nuts, a bed; a stationary die having a bore for receiving a blank, which bore is polygonal in cross-section; a plunger which is arranged in line endwise with and movable into and from said bore, which plunger is contoured in cross-section to conform to the polygonal contour of said bore; a stock-guiding member arranged at one side of the die and having a stock-receiving hole

which extends therethrough and is substantially parallel with the path of the plunger; a stationary abutment disposed opposite and spaced from the discharging end of the
5 said hole and arranged to be engaged by the blank-forming end of the stock fed through the hole in the stock-guiding member; means for cutting a blank from the stock, and means for centering the blank relative
10 to the bore in the die, the aforesaid abut-

ment being formed by an arm which is rigid with the bed and extends over and transversely of the path of the plunger.

Signed by us at Cleveland, Ohio, this second day of May, 1911.

WILLIAM S. BIDLE.

JOSEPH A. COSTELLO.

Witnesses:

B. C. BROWN,

N. L. McDONNELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
