No. 741,914. PATENTED OCT. 20, 1903.

J. KIRSCHBAUM.

EMBOSSING MACHINE.

APPLICATION FILED JULY 12, 1902.

NO MODEL.

Fig.4.

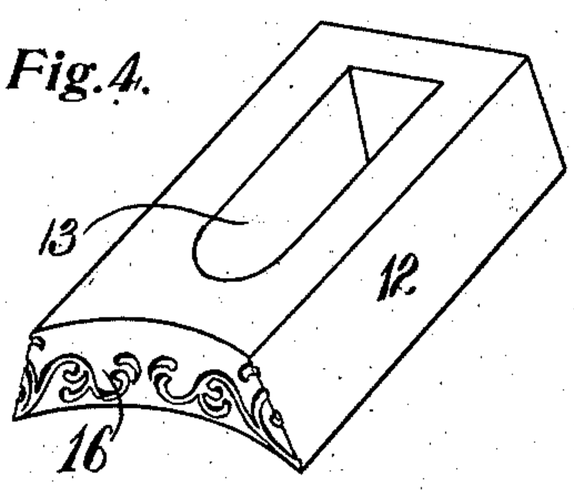

Fig.1.

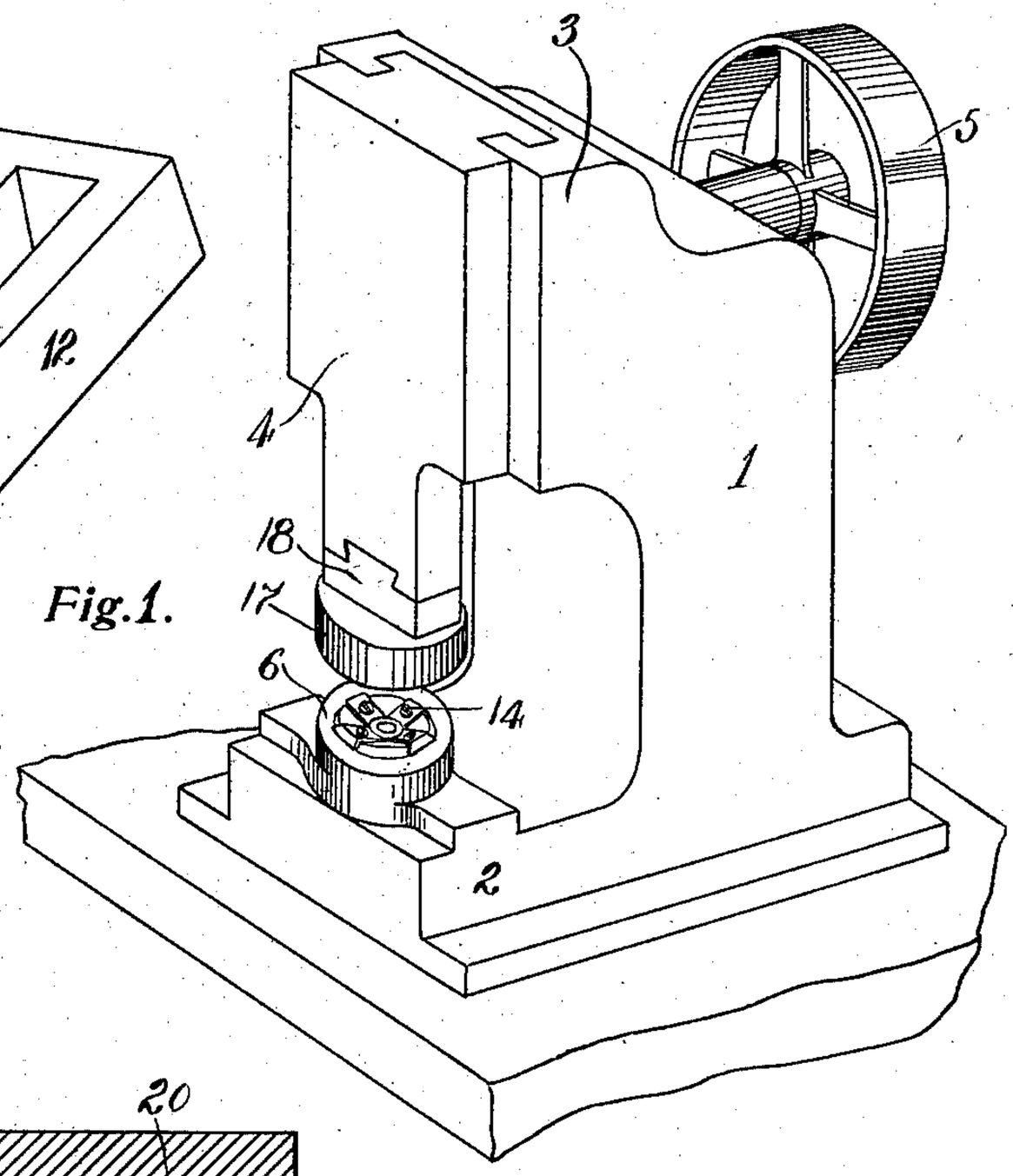

Fig.2.

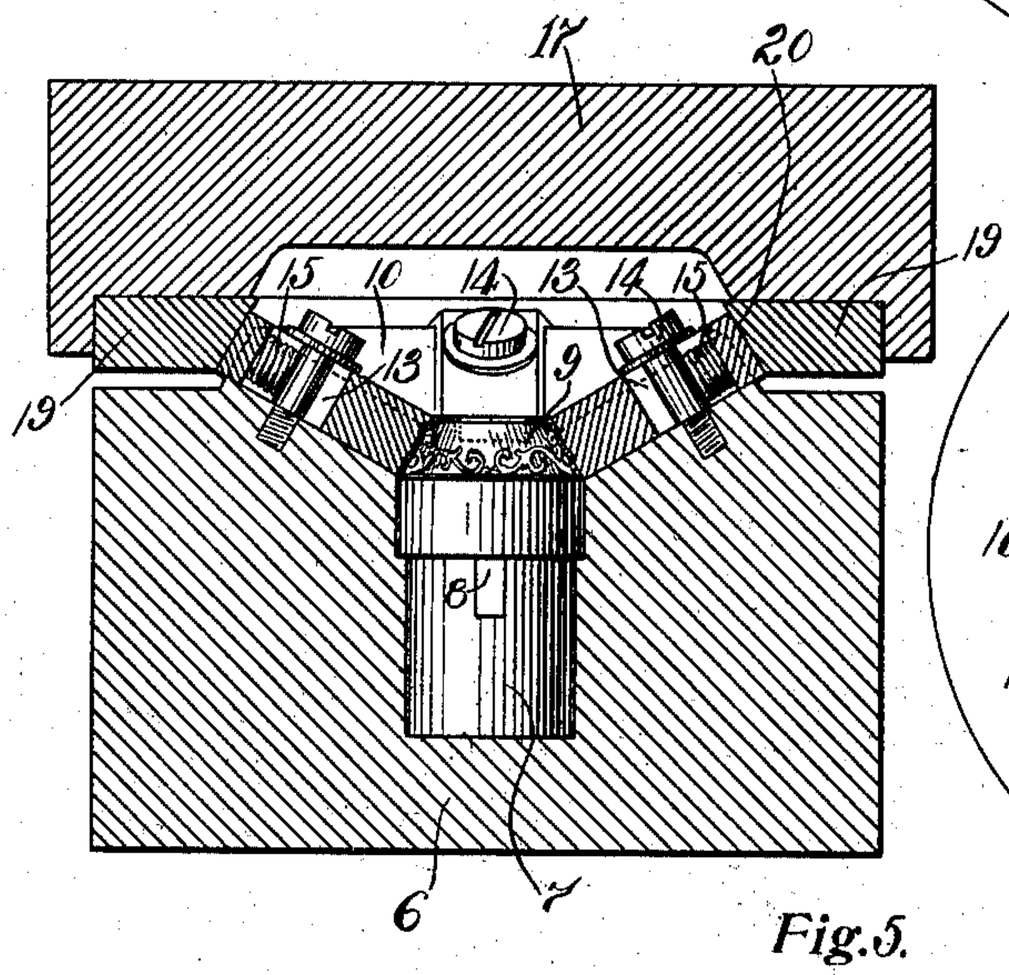

Fig.5.

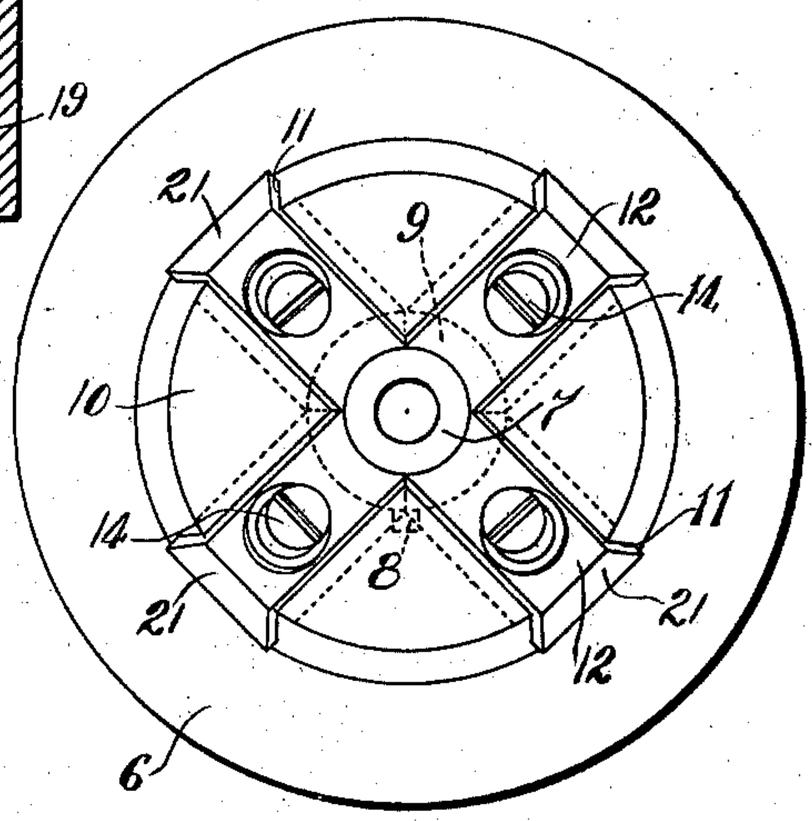

Fig.3.

Witnesses:

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No. 741,914. Patented October 20, 1903.

UNITED STATES PATENT OFFICE.

JOHN KIRSCHBAUM, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE NOVELTY MFG. CO., OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT.

EMBOSSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 741,914, dated October 20, 1903.

Application filed July 12, 1902. Serial No. 115,279. (No model.)

To all whom it may concern:

Be it known that I, JOHN KIRSCHBAUM, a citizen of the United States, residing in Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Embossing-Machines, of which the following is a specification.

This invention relates to embossing-machines for imposing raised ornamentation upon relatively thin compressible material in order to produce ornamented articles for use in different branches of manufacture.

The invention has for its object to provide a simple machine whose embossing or ornamenting parts are readily removable, so as to quickly interchange the same with others having different shape, size, or ornamentation, thereby obviating the necessity of employing different machines for differently shaped or sized stock.

Another object of the invention is to provide simple and effective means for imparting uniform pressure of great force upon the embossing parts, insuring thereby sharp-cut and well-defined ornamentation.

These objects and others which may hereinafter more fully appear are attained by arranging a series of embossing members radially around a counter-die and employing a pressure device common to all embossing members for simultaneously engaging the embossing members and forcing the same with great and uniform pressure against the material placed between them and the counter-die.

The drawings illustrating the present invention in one form of construction show, in Figure 1, a perspective view of the embossing-machine; in Fig. 2, a vertical cross-section of the embossing device, the counter-die being shown in full side view; in Fig. 3, a top view of the embossing-dies in the moment of completed compression; in Fig. 4, a perspective view of one of the embossing-dies, and in Fig. 5 a side view of a finished ornamented article made in the machine.

1 in Fig. 1 is the frame of the machine, having integral therewith the base or anvil portion 2 and the overhanging arm 3. The latter is provided with guideways for the glide-block 4 and for the bearings of a pulley 5. By means of this pulley and suitable intermediate devices (not shown in the drawings) reciprocating motion is imparted to the glide-block 4 for the purpose of bringing a pressure-plate in coöperative relation with the embossing-dies.

Base 2 carries a die-block 6, preferably of cylindrical form and having a central seat for the counter-die 7. This counter-die 7 is positioned in its seat by means of a wedge or key 8. Its upper end is preferably tapered, as at 9, and carries on the tapered face the cameo ornamentation necessary in coöperating with the intaglio ornamentation on the face of the embossing-dies to produce the ornamentation desired on the article.

The upper face 10 of the die-block 6 is inclined toward its axis, so as to form a receding seat for the embossing-dies 12. The angle of inclination of this face is preferably so that the coöperating face portions 9 of the counter-dies 7 and 16 of the embossing-die 12 are parallel and that the direction of the operating stroke of the embossing-dies is substantially at right angles to the face portions of the embossing-dies and counter-die.

The radially-arranged embossing-dies 12 are adapted to slide in dovetailed grooves 11 of the die-block 6 and are provided with oblong slots 13 for receiving securing-screws 14, passing through the slots 13 and screwed into the die-block 6, and return-springs 15, bearing against the screws 14 and the outer ends of the slots 13, whereby the embossing-dies 12 are forced back to their initial position after each stroke of the pressure device. The face portions 16 bear the intaglio ornamentation desired to be impressed upon the article.

The pressure device consists of a block 17, which is so dovetailed at 18 to the glide-block 4 as to permit of the adjustment and removal of said block 17 from said glide-block 4. An annular pressure-plate 19, preferably of hardened steel, is removably secured to the under surface of the block 17 and has a conical pressure-face 20, adapted to coöperate with the outer faces of the embossing-dies 12. The pressure-plate 19 is subjected to the wearing action of the die-faces, and therefore is re-

movable for substitution when worn without altering the position of the block 17.

In operating the embossing-machine a preformed article—such as a frustated cone of metal, cardboard, fiber, hard rubber, &c.—is placed on the counter-die 7, and by suitably operating the machine the pressure-plate 19, with its face 20, is forced against the outer side 21 of the embossing-dies 12, and the ornamented face 16 of the same is brought against the article and the article pressed between the embossing-dies 12 and the counter-die 7, and thereby ornamentation imparted to the same.

It is understood that deviations can be made from the preferred form of the invention herein shown and described, all of which are intended to be included within the scope of the present invention. The counter-die, for instance, may have any desired shape. It may be oval instead of circular in cross-section. It may be triangular or polygonal. Its ornamented face may be at any suitable angle to the axis of the counter-die. It may not be ornamented at all, and thereby simply serve as an anvil.

Having described my invention, I claim—

1. In an embossing-machine, the combination of a die-support, a plurality of radial undercut guideways on said support, a plurality of slotted dies mounted in said guideways, abutments removably secured to said die-support and projecting into the slots in said dies to limit their movement, and springs interposed between said abutments and the end wall of said slots to normally retract said dies.

2. In an embossing-machine, the combination of a die-support, a plurality of conically-disposed radial undercut guideways on said support, a plurality of slotted embossing-dies mounted in said guideways, abutments removably secured to said die-support and projecting into the slots in said dies, springs interposed between said abutments and the end walls of said slots in said dies to normally retract said dies, a presser member mounted in coöperative relation to said dies, a presser-head adjustably mounted upon and removably securable to said presser member, a conically-faced pressure-plate removably secured to said pressure-head and common to all of said dies, and driving mechanism designed to cause the coöperation of said pressure-plate and said dies.

JOHN KIRSCHBAUM.

Witnesses:

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