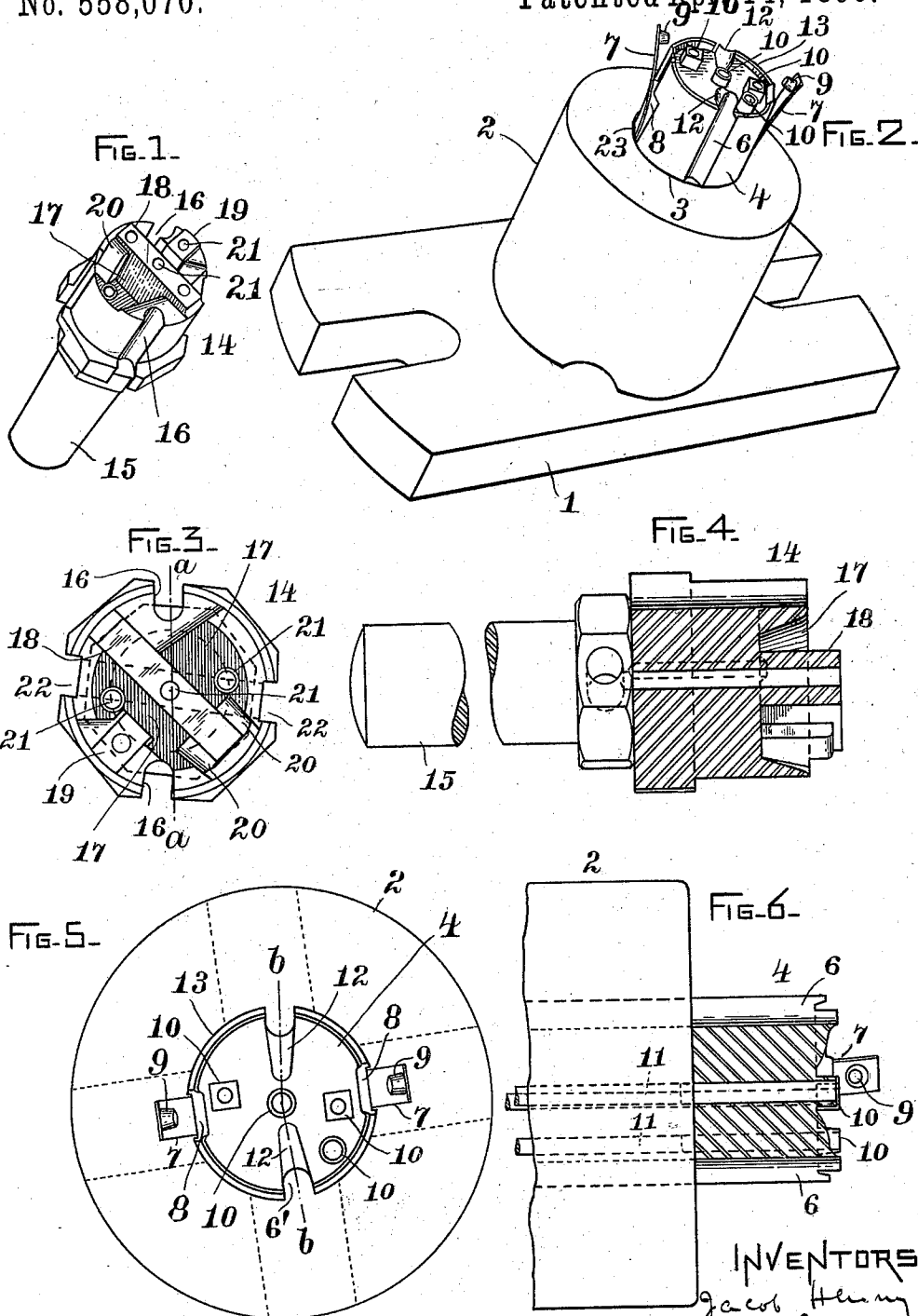


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COMPOUND MOLD FOR FORMING INCANDESCENT LAMP BASES.

No. 558,070.

Patented Apr 14, 1896.



WITNESSES.

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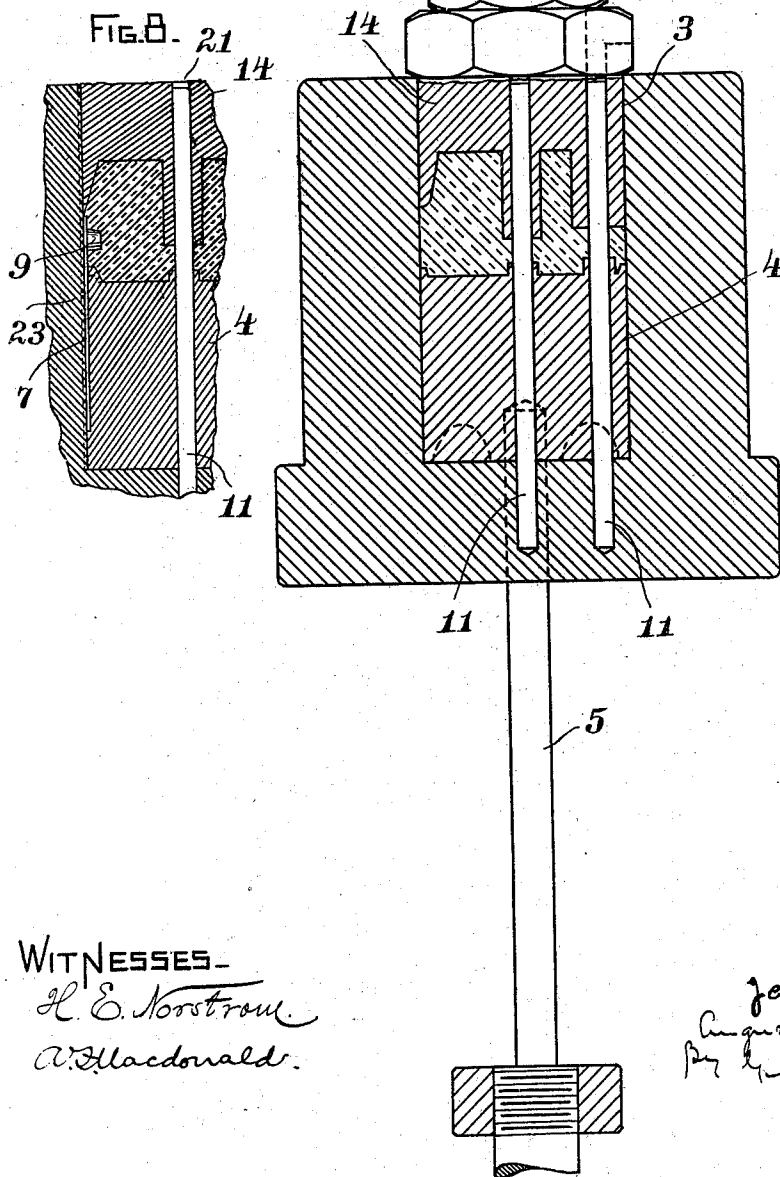
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FIG. 7.



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UNITED STATES PATENT OFFICE.

JACOB HENNY AND AUGUST PEDERQUIST, OF SCHENECTADY, NEW YORK,
ASSIGNORS TO THE GENERAL ELECTRIC COMPANY, OF NEW YORK.

COMPOUND MOLD FOR FORMING INCANDESCENT-LAMP BASES.

SPECIFICATION forming part of Letters Patent No. 558,070, dated April 14, 1896.

Application filed November 29, 1895. Serial No. 570,344. (No model.)

To all whom it may concern:

Be it known that we, JACOB HENNY and AUGUST PEDERQUIST, citizens of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented a Compound Mold for Forming Incandescent-Lamp Bases, of which the following is a specification.

This invention relates to compound molds for forming insulating-blocks for incandescent-lamp sockets.

Heretofore in making insulating-blocks for incandescent-lamp sockets it has been necessary to weigh the plastic porcelain or other insulating material of which the block is formed, and considerable care and skill had to be exercised not only in providing the exact amount of plastic insulating material, which is compressed to the required and proper size, but also in forming the grooves for the screws, by means of which the cap is secured to the block, which grooves were required to be made of proper and exact size in order to properly engage the cap with the block. The weighing of the plastic mass and the measurement of the grooves are obviated by simultaneously compressing the plastic mass and forming the grooves by means of a die constructed as hereinafter set forth and claimed.

Referring to the accompanying drawings, Figure 1 is a view in perspective of the upper die in an inverse position. Fig. 2 is a perspective view of the base, the casing and lower die projecting therefrom. Fig. 3 is an enlarged plan view of the bottom of the upper die. Fig. 4 is an enlarged side view of the upper die in longitudinal section on the line *a a* of Fig. 3. Fig. 5 is a plan view of the lower die and its casing. Fig. 6 is a side view of a portion of the casing and the lower die in longitudinal section on the line *bb* of Fig. 5. Fig. 7 is an enlarged view of the entire compound mold, showing the casing, lower die, and head of the upper die in vertical section. Fig. 8 is a detail view thereof in vertical section.

The compound mold is constructed as follows: 1 indicates a suitable base, upon which is mounted the casing 2, formed with a cen-

tral circular cavity 3, in which is located and adapted to reciprocate the lower die 4. The diameter of the cavity 3 and the lower die 4 will be of the size desired for the insulating-block. The height of the lower die 4 will be about half the depth of the cavity 3, as indicated in Fig. 7. The lower die 4 is mounted on the upper end of the rod 5, which passes up through an opening in the bottom of the casing 2 and reciprocates therein and is operated by a suitable mechanism. The lower die 4 is formed with the side grooves 6, extending from end to end thereof, which serve as guides and engage the projections 6' in the inner wall of the cavity 3. These projections 6' serve to form the vertical side grooves in the insulating-base in conjunction with the upper die, as will be hereinafter set forth. The lower die 4 is also provided with the elastic strips or spring-arms 7, fastened thereto at their lower ends and located in the lower ends of grooves 8 in the side of the lower die 4 and adapted to be pressed into the grooves 8, as shown more particularly in Fig. 8, and also provided with a tapering circular projection 9 at their outer ends, the latter extending somewhat above the top of the lower die.

Normally, as shown in Figs. 2 and 5, the elastic strips or spring-arms 7 extend upwardly at an angle to the lower die 4. These spring-arms 7 are important in that by means of them holes or recesses for pins or screws may automatically be formed in the side of the insulating-base at an accurate distance from the end of the base without measurement, thus affording a great saving in time, labor, and expense. The lower die 4 is also formed with projections 10, which are provided with circular holes or passage-ways extending from end to end of the lower compound mold. In the bottom of the cavity 3 of the casing 2 are mounted pins or rods 11 in alinement with the holes in projections 10 and of such a length that when the lower die 4 is at the bottom of cavity 3 the pins 11 will extend through the die 4 and extend up to the top of the cavity 3. By this means, when the plastic mass is compressed between the dies, the rods 11 extend through the plastic mass and form the desired holes.

It will be noticed that the upper ends of the side grooves 6 are formed with inwardly-tapering curved projections 12 to provide proper cavities for the insulating-block. The top of the lower die 4 is also provided with a slight flange 13, which forms a shoulder for one end of the insulating-block. In conjunction with the lower die 4 is employed an upper die 14, mounted on the end of a shaft 15, which is operated by suitable mechanism. The upper die 14 is provided with the side grooves 16, extending vertically from end to end thereof, the said grooves 16 being in alinement with the side grooves 6 in the lower die 4 and engaging projections 6' when the die is in operation, as will hereinafter be set forth. The upper die 14 is also formed with suitable deep cavities 17, the transverse projection 18 and projections 19 and 20 conforming to the desired projections, cavities, and shouldered portions contributing to make up the proper shape of the insulating-base. The upper die 14 is also formed with the perforations 21 in alinement with the perforations or apertures 10 in the lower die and with vertical slots or grooves 22 in alinement with guides 23 in the lower die 4, adapted to engage the guides 23 when the die 14 is lowered. These perforations 21 are employed in conjunction with the rods 11, mounted in the cavity 3 to form the necessary holes through the insulating-base, as hereinbefore mentioned.

The die is operated as follows: The lower die 4 is drawn down to the bottom of the cavity 3 to the position shown in Fig. 7. A suitable amount of plastic porcelain is then placed on top of the lower die 4 and the upper die 14 brought down against the top of the plastic mass in the cavity 3, causing the rods 11 to make holes through the plastic mass, the rods 11 becoming located in the holes 10 and 21. It will be noticed that when the lower die 4 is drawn down to the bottom of the cavity 3 the spring-arms 7, being drawn against the inner sides of the cavity 3, will be pressed forward into the grooves 8, so that the projections 9 will extend over the top of the lower die 4. As the upper die descends the grooves 22 engage guides 23 in the receptacle 3. When the plastic mass is pressed against the lower die 4, the projections 9 will be pushed into and embedded in the plastic mass. As the upper die is withdrawn and the lower die raised the arms 7 automatically spring outward and the projections 9 are released from the molded piece or insulating-block, leaving side cavities for the purpose of engaging by screws the shell with the base. As the upper die 14 is pressed down against the plastic mass the projections 6' in the sides of the cavity 3 will form the side grooves in the molded insulating-block, the plastic mass pushed up thereby being forced into the side grooves 16 of the upper die. The several desired projections and cavities will be formed in the upper and lower ends and sides of the insulating-block by the several cavities and projections

in the upper and lower dies being pressed into the plastic mass.

By means of this device an insulating-base for incandescent-lamp sockets may be compactly and quickly formed of the desired size and with cavities, holes, and projections of the proper dimensions, as referred to at the beginning of the description.

What we claim is—

1. In a compound mold for making insulating-bases for incandescent lamps, the combination with a lower die having pins, of an upper die formed with cavities and projections on one end and vertical side grooves to form projections and cavities of the insulating-base, and perforations in the said end of the die to receive pins projecting from the lower die.

2. In a compound mold for making insulating-bases for incandescent lamps, the combination with an upper die having perforations, of a lower die formed with projections, and a flanged edge to give the desired shape for the insulating-block, perforations extending vertically through the die for the passage of pins, vertical side grooves, and spring-arms fastened at their lower ends in said grooves, extending at an angle to the die above the latter, with inward projections adjacent to their outer ends and adapted to be moved into said grooves.

3. In a compound mold for making insulating-bases for incandescent lamps, an upper die having perforations in combination with a receptacle having vertical guides on its inner walls and pins projecting upward from its bottom to the top of the receptacle, and with a lower die vertically movable in said receptacle and formed with vertical side grooves engaging said guides, perforations through which said pins project, vertical grooves in the side of the die and spring-arms secured at their lower ends in said grooves and having an inward projection adjacent to their upper ends, the latter projecting above the die and the spring-arms located at an angle to the die and movable into said groove, and projections and a circular flange at one end of the die for giving the desired shape to the insulating-base.

4. In a compound mold for making insulating-bases for incandescent lamps, an upper die having perforations in combination with a receptacle containing vertical pins for forming holes in the insulating-base, and a lower die movable vertically in said receptacle on said pins and provided with vertical side grooves and spring-arms secured in and movable into said grooves, extending outwardly at an angle to said die and above the latter, and having inward projections adjacent to the top of said arms.

5. In a compound mold for making insulating-bases for incandescent lamps, an upper die with perforations in combination with a lower die provided with vertical side grooves and spring-arms secured at their lower ends in

said grooves, extending above the top of the die with an inward projection at their upper ends, said spring-arms normally projecting outward at an angle to the die and movable into said grooves, and automatically movable out of said grooves to normal position.

6. A compound mold for making insulating-bases for incandescent lamps, consisting of a receptacle provided with vertical pins projecting up from the bottom of the receptacle, a lower die movable vertically in said receptacle on said pins and having vertical side grooves and spring-arms projecting above the

top of the lower die with inward projections at their upper ends, said spring-arms being movable into and out of said grooves by the movement of the die, in combination with an upper die with perforations adapted to move down on the pins in the receptacle.

In witness whereof we have hereunto set our hands this 21st day of November, 1895.

JACOB HENNY.

AUGUST PEDERQUIST.

Witnesses:

B. B. HINE,

C. L. HAYNES.