No. 618,276. Patented Jan. 24, 1899.

C. KETTRON & F. V. MAXWELL.

APPARATUS FOR MAKING MOLDS FOR STONEWARE OR EARTHENWARE JARS.

(Application filed Apr. 26, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

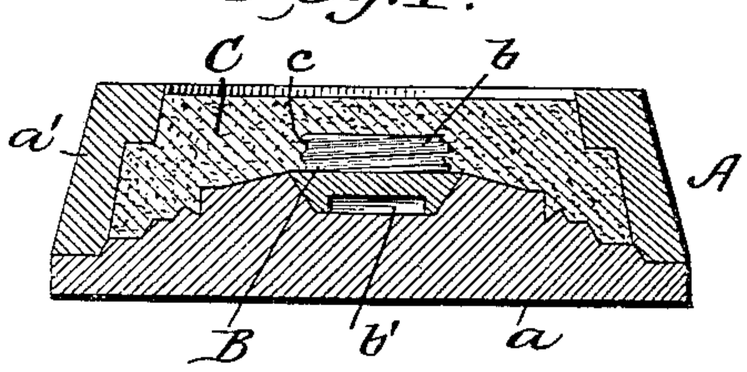

Fig. 2.

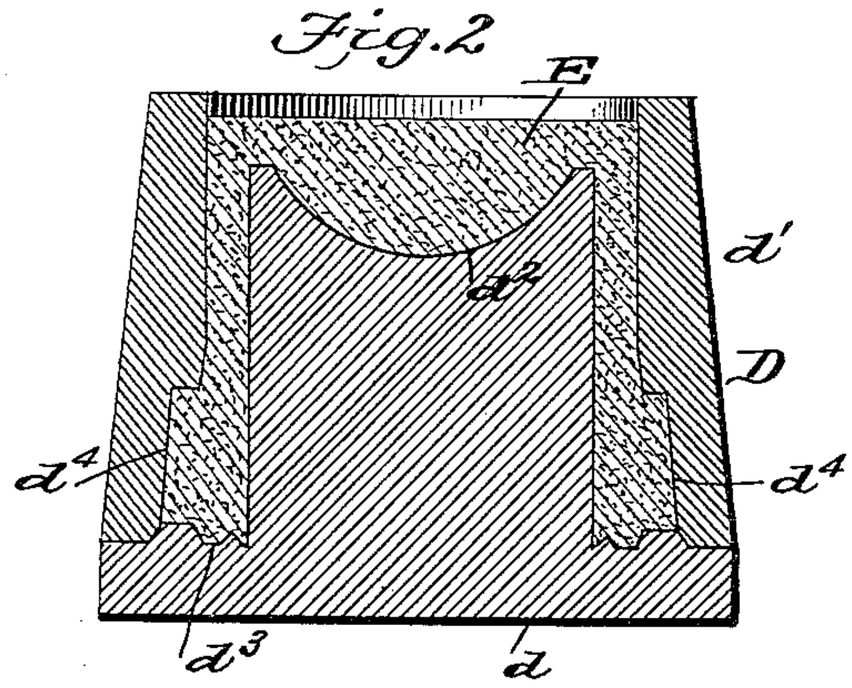

Fig. 3.

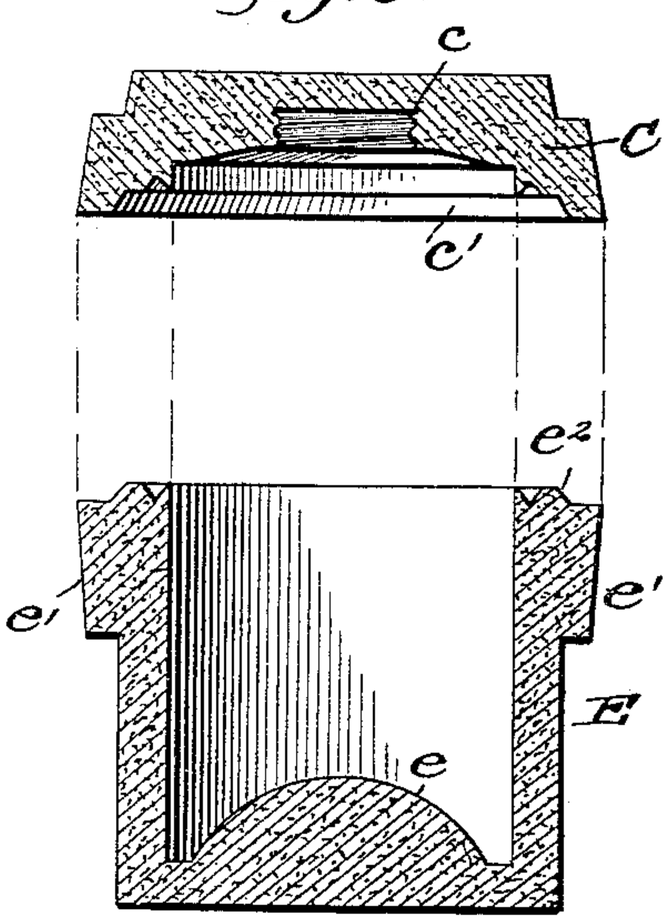

Fig. 4.

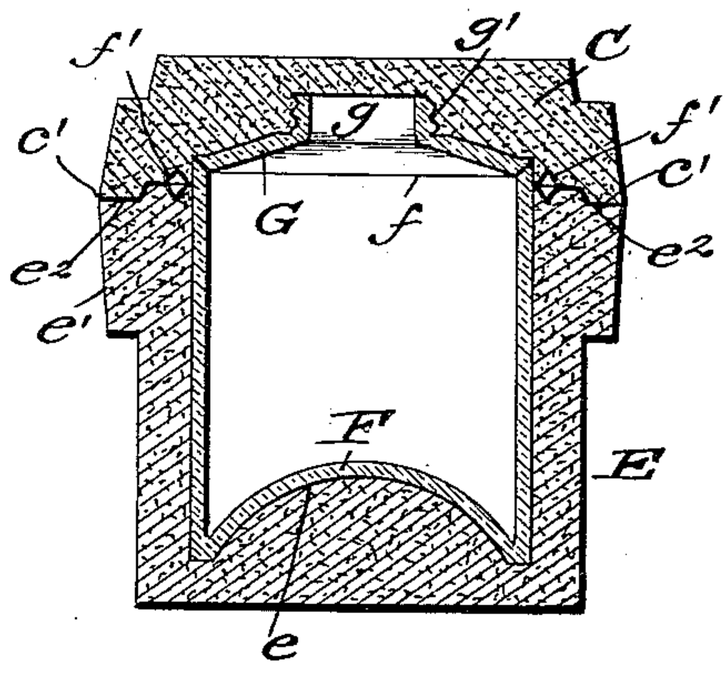

Fig. 5.

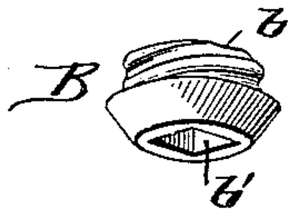

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Fig. 6.

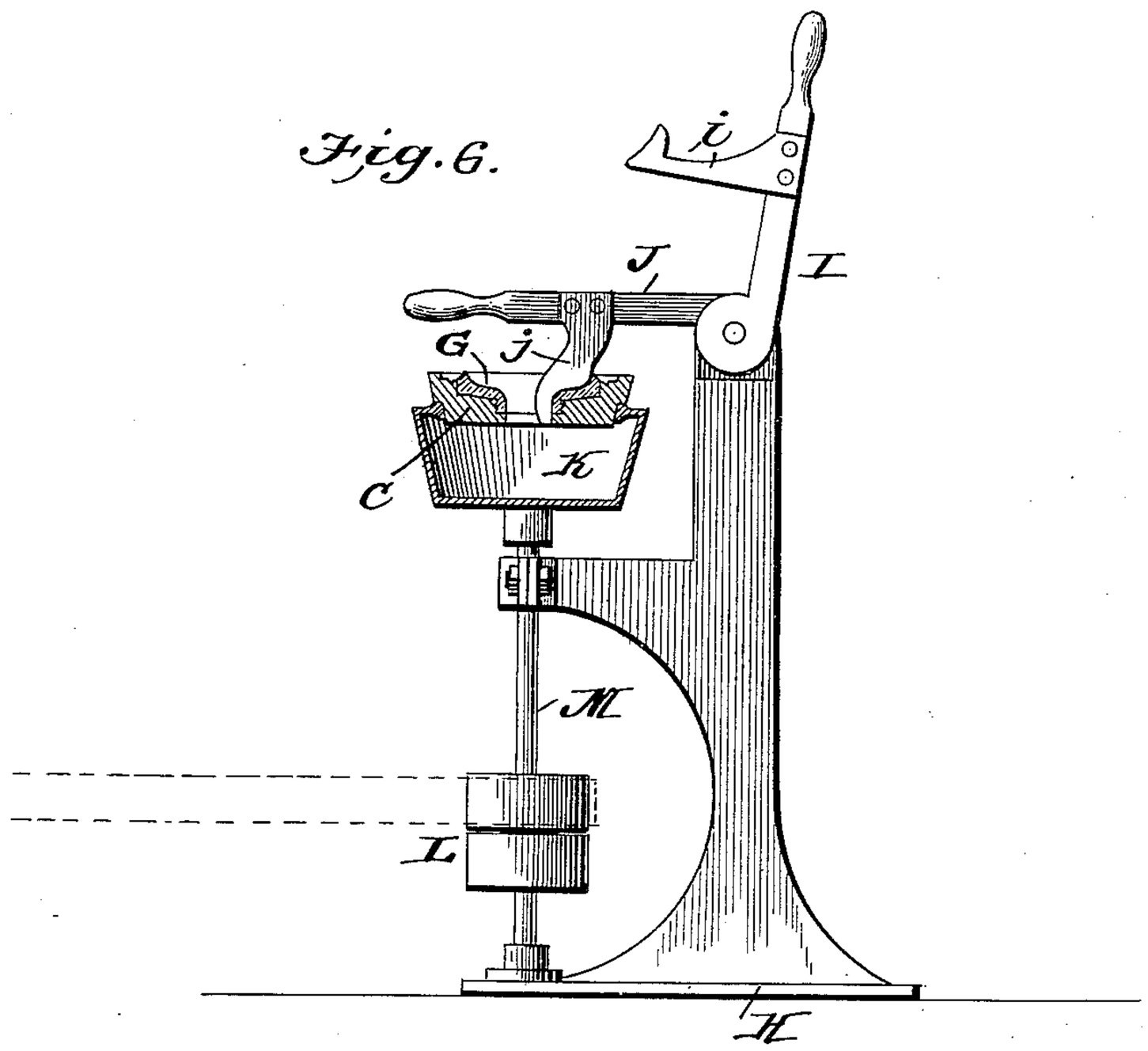
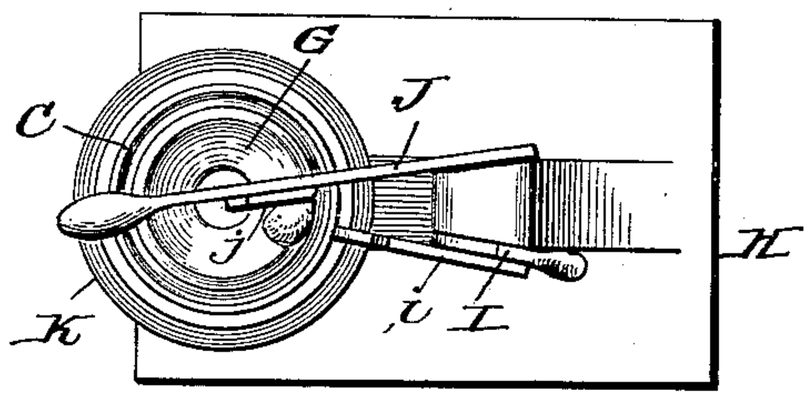


Fig. 7.



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CHARLES KETTRON AND FRED V. MAXWELL, OF MACOMB, ILLINOIS.

APPARATUS FOR MAKING MOLDS FOR STONEWARE OR EARTHENWARE JARS.

SPECIFICATION forming part of Letters Patent No. 618,276, dated January 24, 1899.

Application filed April 26, 1898. Serial No. 678,866. (No model.)

To all whom it may concern:

Be it known that we, CHARLES KETTRON and FRED V. MAXWELL, of Macomb, in the county of McDonough and State of Illinois, have invented a new and useful Improvement in Apparatus for Making Stoneware or Earthenware Jars, of which the following is a specification.

Our invention relates to the manufacture of jars formed of clay or the like and afterward burned or baked until they become hard or vitrified, the jars having nozzles or necks formed with screw-threads, on which are adapted to be screwed suitable caps with corresponding threads, the cap when screwed tight coming in contact with a rubber band, thus sealing the jar and preserving its contents.

Heretofore it has been deemed impracticable to form a jar of clay or the like substance with a thread on its neck, the main difficulty being to form a suitable mold; and it is the object of our invention to overcome this difficulty.

With this end in view our invention consists in the hereinafter-described method of forming a mold of plaster-of-paris or other suitable substance to shape the top and neck of a jar, that portion of the mold adapted to shape the neck being provided with internal screw-threads.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical section of a form or block on which is cast the mold for forming the top and neck of the jar. Fig. 2 is a similar view of the form or block for casting the mold for the body of the jar. Fig. 3 is a section view illustrating the manner in which the two molds are to be placed together after the clay has been shaped in them. Fig. 4 is a similar view with the molds together and the jar within the same, illustrating the manner of connecting the top to the body portion. Fig. 5 is an inverted perspective detail view of the metallic core for the top mold. Fig. 6 is a sectional elevation of the usual lathe or jollie-wheel used to shape the clay in the molds, and Fig. 7 is a plan view of the same.

Referring to the drawings, A, Fig. 1, represents the form for casting the top and neck mold. This form is composed of a block a, of suitably hard material, and preferably formed on its upper face with a series of annular grooves of irregular depth and a central hole or recess, and a circular case a', formed of similar material. Now to form the top mold for the jar the base-block a has its upper surface lacquered, a metallic core B, with threaded portion b, is placed in its central hole or recess, with its thread extending above the face of the block, the case a' is then placed on the base-block, after having been lacquered, and plaster-of-paris is then poured in till it is quite or nearly flush with the upper edge of the case a', as shown in Fig. 1. After the plaster is sufficiently "set" the base-block a and case a' are taken apart, the core B is carefully screwed out of the plaster-of-paris by being turned by means of a suitable tool placed in the non-circular recess b' in the bottom of the core, and the plaster-of-paris is slipped down out of the case a' and forms a completed mold C, with an internal screw-thread c and irregular grooves c'. By this simple method a perfect plaster mold with an interior screw-thread is formed.

The next step in the method is the forming of the mold for the body portion of the jar, as shown in Fig. 2. The base-block d and circular case d' of this form D are as to their composition similar to the corresponding parts of the form A, and the base-block d has irregular grooves d^3, corresponding to the grooves in the base-block a. The base-block d is also formed with a solid central portion extending a considerable distance above the grooved portion and formed with a concavity d^2. The base-block d and case d' are lacquered. The case is set on the base-block and the plaster-of-paris poured in and allowed to set, forming the mold E for the body portion of the jar. It will be understood that the parts of the forms in both the steps described above are lacquered to prevent the plaster from adhering to the forms.

The finished shape of both the top and body molds may be best seen in Fig. 3. An examination of such figure will disclose that the inner surface of the bottom of the body-mold E is convexed, as at e, caused by the concavity d^2 of the base-block d, and that the upper edge of said body-mold is thickened,

as at e', formed by the reduced thickness at d^4 of the case d'. The molds are now ready to receive the clay. To shape the clay in the molds, we employ a jollie-wheel or lathe, to which we make no claim in this application, but merely describe and show in order to make our method clear. This lathe, generally speaking, is composed of a standard H, supporting a revolving head K, mounted on a shaft M and deriving motion from the pulley and belt L.

At the upper end of the standard H two levers I and J, with arms i and j, are pivoted, the arm j being used to shape the top and neck of the jar and the arm i being used for the body of the jar. Now, as shown in Figs. 6 and 7, the top mold C is placed in the head of the lathe and the soft clay G is shaped therein by the arm j, the head K running at the rate of three to four hundred revolutions per minute. The bottom mold has the soft clay F shaped therein in the same manner. The clay is left projecting slightly above the molds.

The next step is illustrated in Fig. 4. After the soft clay has been shaped to the molds, as described above, the latter are pressed together with their grooves interlocking, which causes the clay that has been left to project above the molds to weld together and form the complete jar, some of the surplus clay being formed into the annular chamber f', formed by opposite grooves. The molds, with the jar in them, are then placed in a drier, where in from ten to fifteen hours the clay will become hard and shrink away from the molds, so that the jar can be removed. To do this, the top mold, with the jar in it, is rotated by some suitable mechanism and the jar slowly unscrewed from the mold. The jar is then ready for glazing and burning.

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

1. An apparatus for making a mold for forming the neck of an earthenware jar or the like with a spiral thread, consisting of a base-block a provided with a recess, a case a', and a metallic core B loosely resting in said recess and provided with an exterior thread, as and for the purpose set forth.

2. An apparatus for making a mold for forming the neck of an earthenware jar or the like with a spiral thread, consisting of a base-block formed on its upper face with a recess, a case adapted to fit on said base-block, and a metallic core adapted to sit in said recess and having a portion rising above the face of the base-block and formed with an exterior thread, the said core being also provided with a recess in its lower face, as and for the purpose set forth.

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FRED V. MAXWELL.

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WM. G. GESLER.