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Improved Candle Molds.

The object of the invention here illustrated is to obtain a candle molding apparatus by means of which the candles may be withdrawn from the molds with great facility, and without disfiguring their tips. It is especially designed for paraffine or any similar friable substance. It consists essentially of a movable trough to be pressed down upon the tops of the molds, closing water-tight around their upper ends, so that by raising the trough the candles are withdrawn from the molds attached to the solid mass of material in the trough; and of movable india rubber cushions for closing the tips at the lower ends of the molds.

The candle molds are arranged in two parallel rows, represented in Figs. 1 and 2 of the engravings. Upon a suitable frame, A A, is placed a metallic plate, C, perforated with holes leading into the candle molds, E E E E E. Upon the plate, C, is placed a sheet of india rubber, F, also pierced with holes corresponding to those in the plate. The movable trough, H, has short tubes, *e e*, leading from its bottom to the holes in the india rubber sheet, the tubes being a trifle larger than the holes in the sheet. These tubes are pressed forcibly down upon the sheet, F, by means of keys, *f f*, at the ends of the trough, so that none of the material may leak through upon the upper surface of the sheet. The sheet of india rubber is covered by a metallic plate, G, perforated by holes corresponding to those in the sheet, but sufficiently large to admit the tubes, *e*.

The tips at the lower ends of the molds are closed by india rubber cushions, *j j*, resting upon metallic springs, J J. These springs are attached to the frame by means of pivots, *i i*, one pivot securing two springs as clearly shown in Fig. 3. By this arrangement the orifices in the tips can be opened and closed by simply swinging the springs latterly upon the pivots.

To cast the candles, the trough, H, is secured in place and pressed firmly down upon the india rubber sheet, by driving the keys, *f f*; the wicks, K, are adjusted; the orifices in the tips are closed by turning the india rubber cushions, *j j*, under them; and the molten material is poured in. As soon as the material has cooled the cushions are removed from the tips, and the trough is raised by a lever or other suitable means, drawing the candles from the molds in one mass with the material in the trough, H. The candles are then severed from the mass, the latter is removed from the trough, and the operation is repeated.

By this apparatus the candles are cast with great facility and in great perfection; the disfiguring of the tips which so frequently occurs when the orifices are stopped with wooden plugs being completely avoided.

Patents for this invention have been procured in this country and England through the Scientific American Patent Agency, the American patent bearing date, Dec. 13, 1859. Further information in relation to it may be obtained by addressing either of the inventors, Henry Ryder and Horatio Leonard, at New Bedford, Mass.

Fig. 1

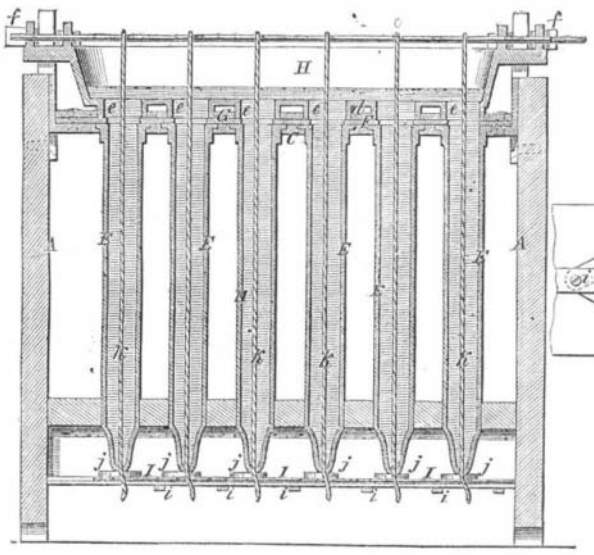


Fig. 2

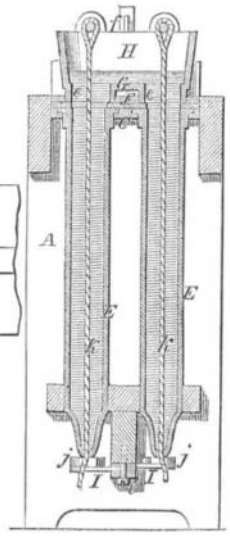
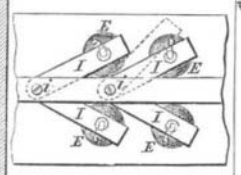


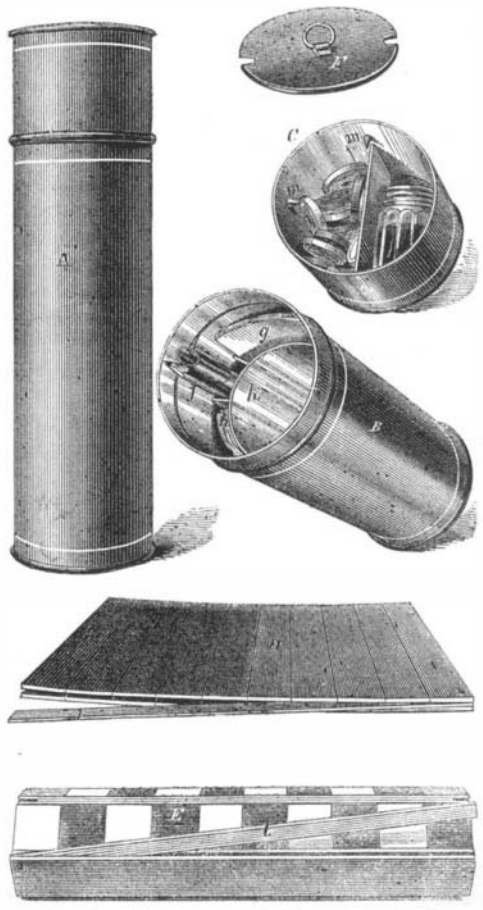
Fig. 3



RYDER AND LEONARD'S CANDLE MOLDS.

COMBINED WRITING CASE AND CHECKER BO RD.

The accompanying engravings illustrate a portable writing apparatus designed for the use of our soldiers —an apparatus combining amusement and utility that would hardly be thought of for the private soldiers of any other army in the the world. Within a light tin cylinder, nine inches in length and less than three in diameter, is contained a writing table, paper, ink, pen, pencil, postage stamps and envelopes, besides a checker or chess board and set of men.



A represents the cylinder closed; B, the cylinder open; C, the cover; D, the writing table spread; E, the table rolled up ready to be placed in the cylinder, and F, a tin disk for holding the inkstand and checkermen in the cover.

Looking into the open end of the cylinder, B, are seen the paper, *g*, the envelopes, *h*, the penholder, *i*, and the pencil, *j*. The axis of the cylinder, B, is occupied by a smaller cylinder, *k*, for receiving the writing table when the table is rolled up in the form represented at E. As the paper and envelopes occupy the annular space between the two cylinders, they are preserved from being wrinkled, and are kept in a smooth condition.

The table, D, is formed of thin slats of wood with a piece of cloth pasted upon one side to hold them together; the cloth forming hinges between the slats so that the table may be rolled into the form represented at E. To hold the table in flat form when it is unrolled, two strips of brass, *l l*, are pivoted at its corners in such manner that they may be pressed into the grooves in the ends of the slats as shown.

One side of the table is painted for a checkerboard, and the men are placed in the cover, C, which also contains the inkstand and postage stamps. These articles are retained in the cover by the disk, F, which catches under the projecting pins, *m m*; notches being cut in the edges of the disk to admit its entrance below the pins, when a slight turn causes it to be caught and held by the pins.

This compact and convenient apparatus is as well adapted to the use of travelers as of soldiers.

The patent for this invention was granted, through the Scientific American Patent Agency, January, 14, 1862, and further information in relation to it may be obtained by addressing the inventor, H. C. Small, at East Lemington, Maine.

NEW STEAM SHIPS.—The *China*, a splendid new iron screw steamer, built for the Cunard Company, was to leave Liverpool for New York on the 15th ult. This is the first screw steamer used as a regular passenger vessel by the Cunard line. The *Scotia*, the new iron paddle steamer for the same company, and the largest merchant steamer afloat, is said to be finished at Glasgow, and will soon make her first trip across the Atlantic.

THE London *Engineer* says that the Bessemer process has been successfully applied to the production of armor plates, for which the metal can be made of any required toughness. The present price of rolled iron armour slabs is £35 per tun. Bessemer plates ought not to cost half this.