

J.R. Davis,

Molding Apparatus.

No 37,857.

Patented Mar. 10, 1863.

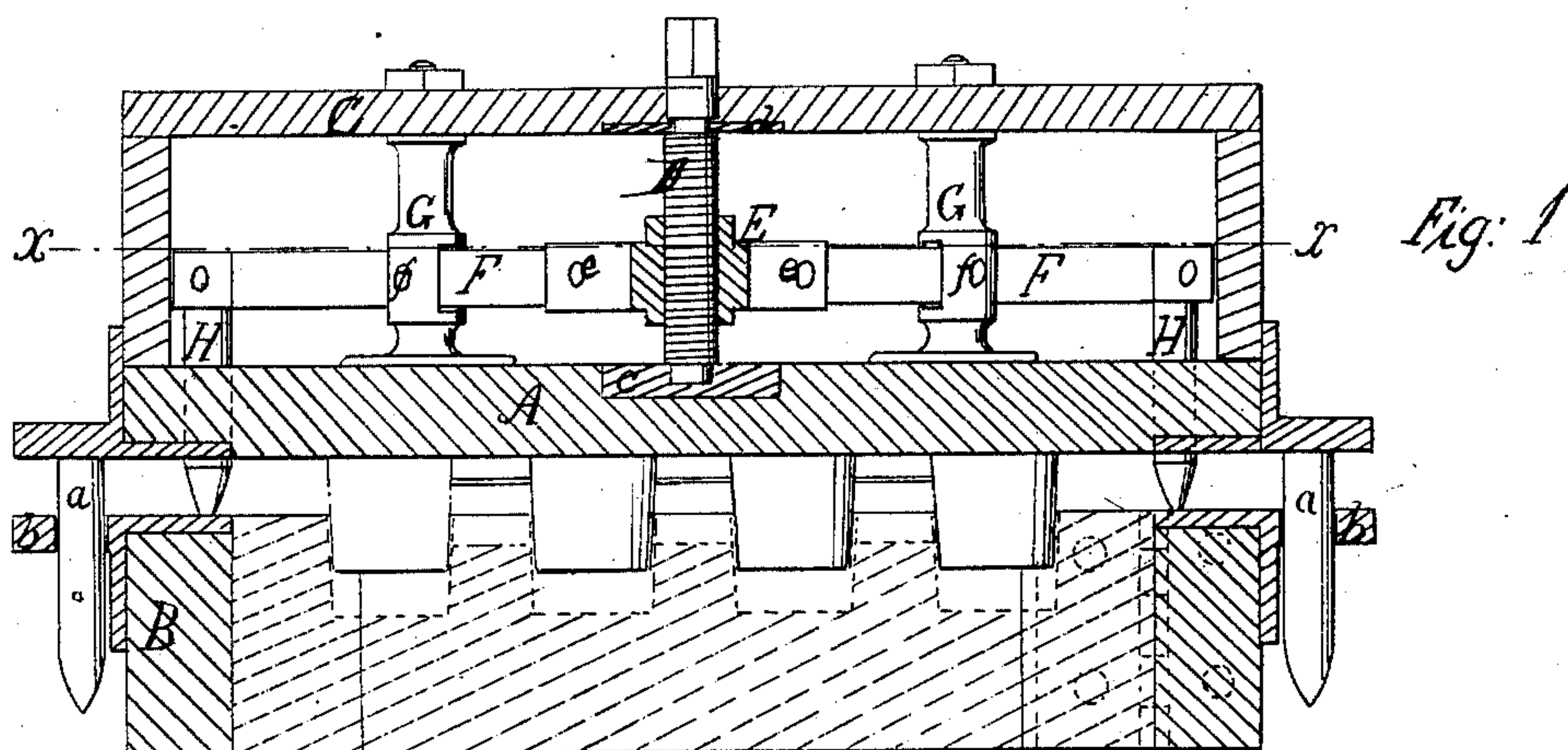
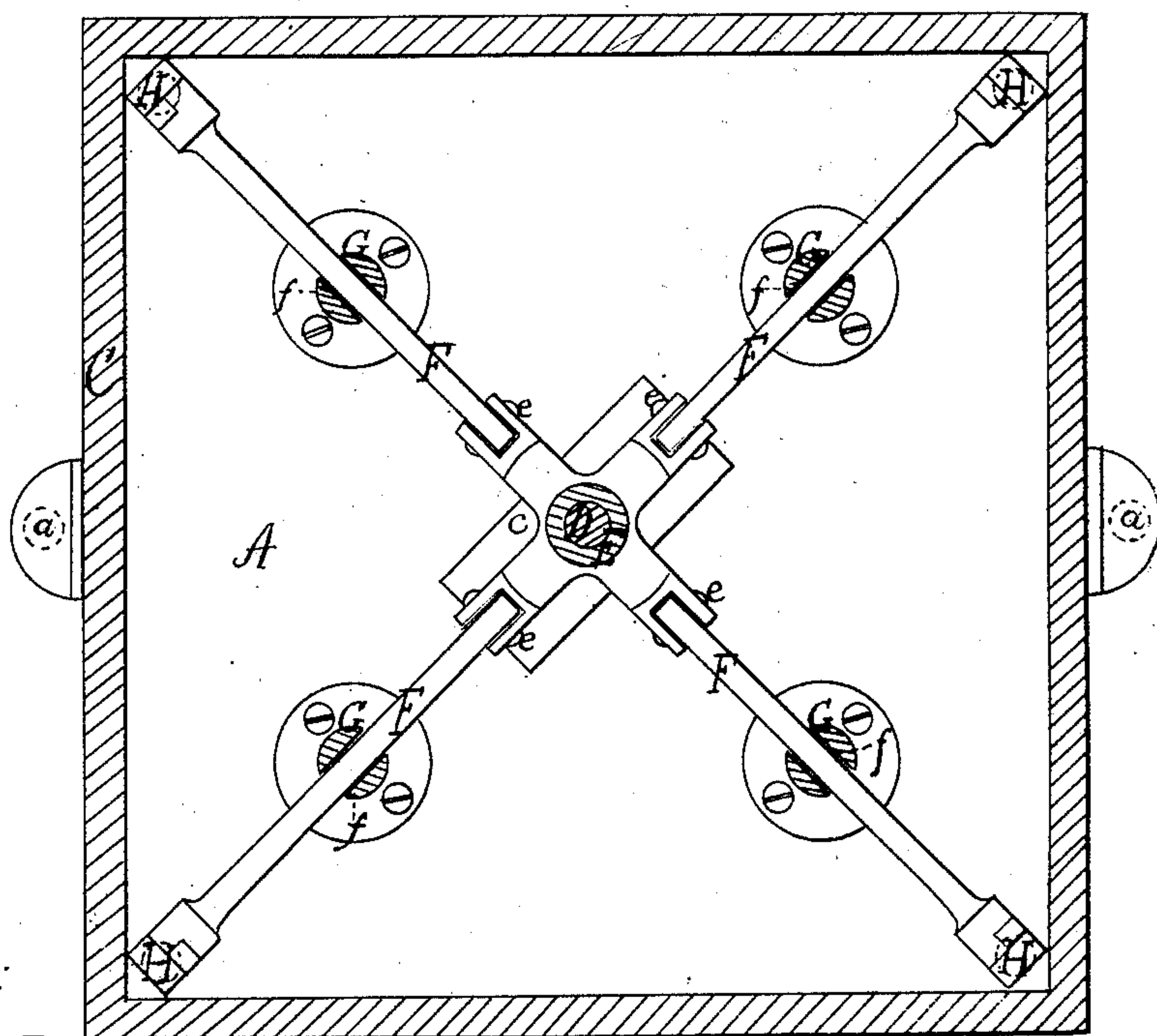


Fig. 2.



Witnesses;

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UNITED STATES PATENT OFFICE.

JOHN R. DAVIS, OF RACINE, WISCONSIN.

IMPROVEMENT IN MOLDS FOR CASTINGS.

Specification forming part of Letters Patent No. 37,857, dated March 10, 1863.

To all whom it may concern:

Be it known that I, JOHN R. DAVIS, of Racine, in the county of Racine and State of Wisconsin, have invented a new and useful Improvement in Molds for Castings; and I do hereby declare that the following is a full, clear, and, exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a vertical central section of my invention. Fig. 2 is a horizontal section of the same, the line *x x*, Fig. 1, indicating the plane of section.

Similar letters of reference in both views indicate corresponding parts.

The success of castings depends greatly on the skill of the molder, and in molding the operation of "drawing" the pattern or lifting it out of the sand constitutes one of the most important and difficult operations. The sand must be wetted in order to give it the required compactness, and even then, if the operation of drawing the pattern is not performed by a skillful and steady hand, the edges of the cavities produced in the sand by the patterns are liable to break off, and a poor casting is the result.

The object of this invention is to facilitate the operation of drawing the pattern or patterns.

The invention consists in the arrangement of movable legs or pins operated by means of a screw and hinged levers, or by other suitable means, in combination with the match-board and flask, in such a manner that by the action of said legs or pins on the flask the pattern or patterns secured to the match-board are raised up perfectly steady and drawn from the sand with the greatest ease and facility.

To enable those skilled in the art to make and use my invention, I will proceed to describe it with reference to the drawings.

A represents the match-board, which forms the bottom of the flask B until the latter is rammed full of sand. This match-board is provided with guide-pins *a*, which fit into holes made in lugs *b*, that are secured to the sides of the flask, so that when the two are placed together their relative position toward each other cannot be disturbed.

C is a box made of wood or other suitable

material, and attached to the match-board, either rigidly or so that it can be easily removed. This box is made of the same size as the match-board, and it contains a screw, D, which is screwed into a metal plate, *c*, let into the inner surface of the match-board, and which has its bearing in a plate, *d*, that is secured to the inner surface of the top of the box C, and which catches into a circular neck turned into said screw close under its head. Said screw screws into an armed hub, E, the arms of which extend in diagonal directions, and connect, by means of pivots *e*, with levers F, which are fulcrumed on pivots *f* in slotted standards G. These standards are secured by means of screws, or in any other suitable manner, to the inner surface of the match-board, and they are fastened to the top of the box C by screws and nuts or any other desirable means. The levers F extend into the corners of the box C, and their outer ends are pivoted to pins or legs H, which pass freely through holes in the match-board. By the action of the screw D and levers F the legs H are simultaneously drawn in or pushed out, and if the match-board rests on the flask and the screw is turned so as to raise the hub E the points of the legs are caused to bear on the edges of the flask and to raise up the match-board, as clearly shown in Fig. 1 of the drawings.

It is obvious that the movable legs H, instead of being round pins, might be made of eccentric disks, or constructed in any other desirable manner, and instead of the screw and levers cog-wheels or any other suitable device might be employed to operate said legs.

The pattern or patterns to be cast are fastened to the match-board, which is then placed under the flask, and the latter is rammed full of sand.

The whole device, flask and all, is then turned upside down, and by turning the screw D the match-board, with all the patterns attached to it, is raised up perfectly even and steady, and the patterns are drawn perfectly safe and without the least injury to the edges of the cavities left by the patterns in the sand.

This improvement is of particular advantage in casting small articles, and in this case a number of patterns are secured to the match-board, and by the action of the mov-

able legs on the match-board and flask the several patterns are simultaneously drawn out of the sand. The movable legs and levers may, however, be also used with advantage for the purpose of drawing large patterns by securing the legs to the pattern and arranging them in such a manner that by their action the pattern is raised up steadily and perfectly even.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The application of movable legs H, operated by means of a screw, D, and hinged levers F, or their equivalents, in combination with the match-board or pattern A and flask B, substantially as and for the purpose herein shown and described.

JOHN R. DAVIS.

Witnesses:

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DANIEL ROBERTSON.