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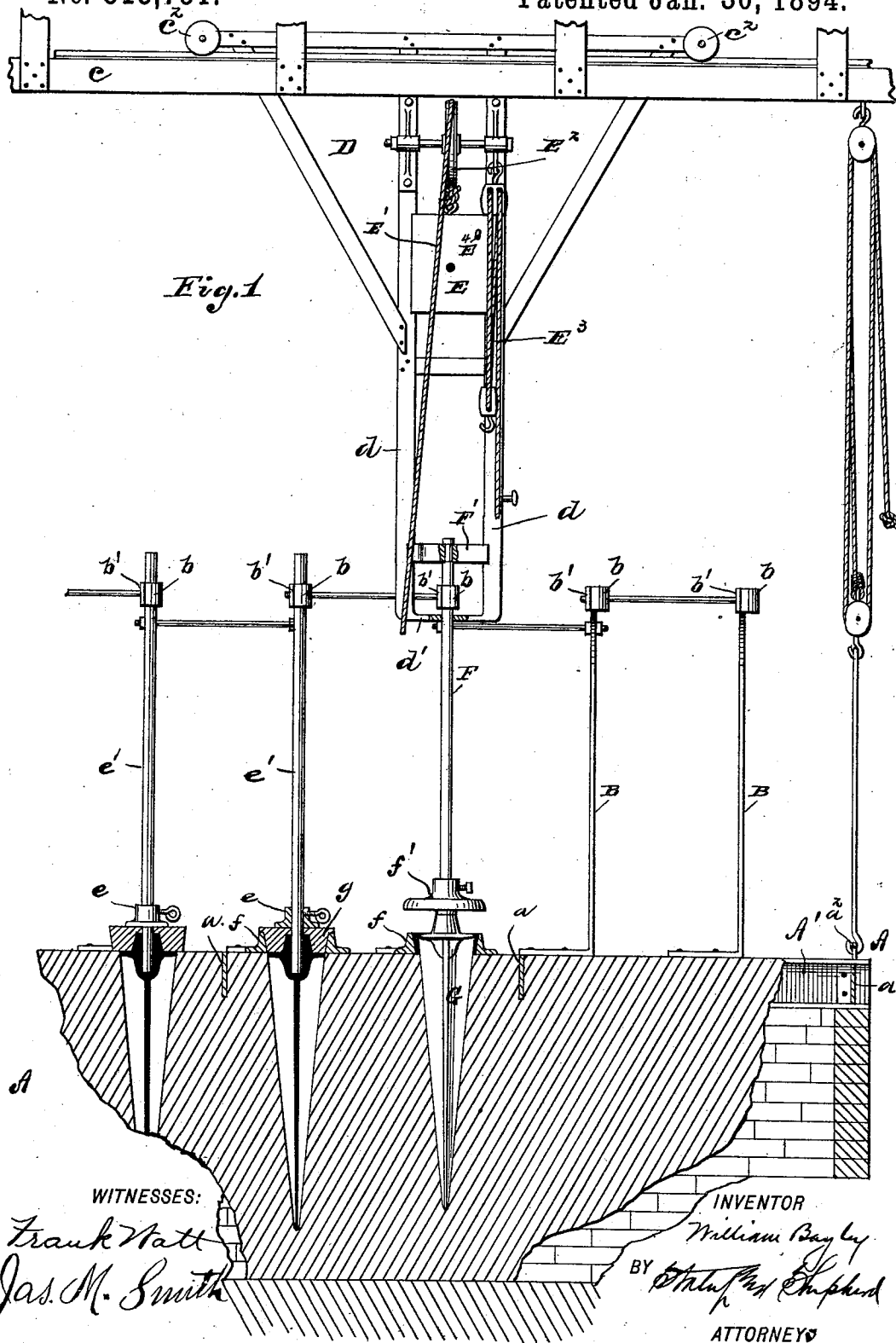
3 Sheets—Sheet 1.

W. BAYLEY.

MACHINE FOR MOLDING FENCE POSTS.

No. 513,751.

Patented Jan. 30, 1894.



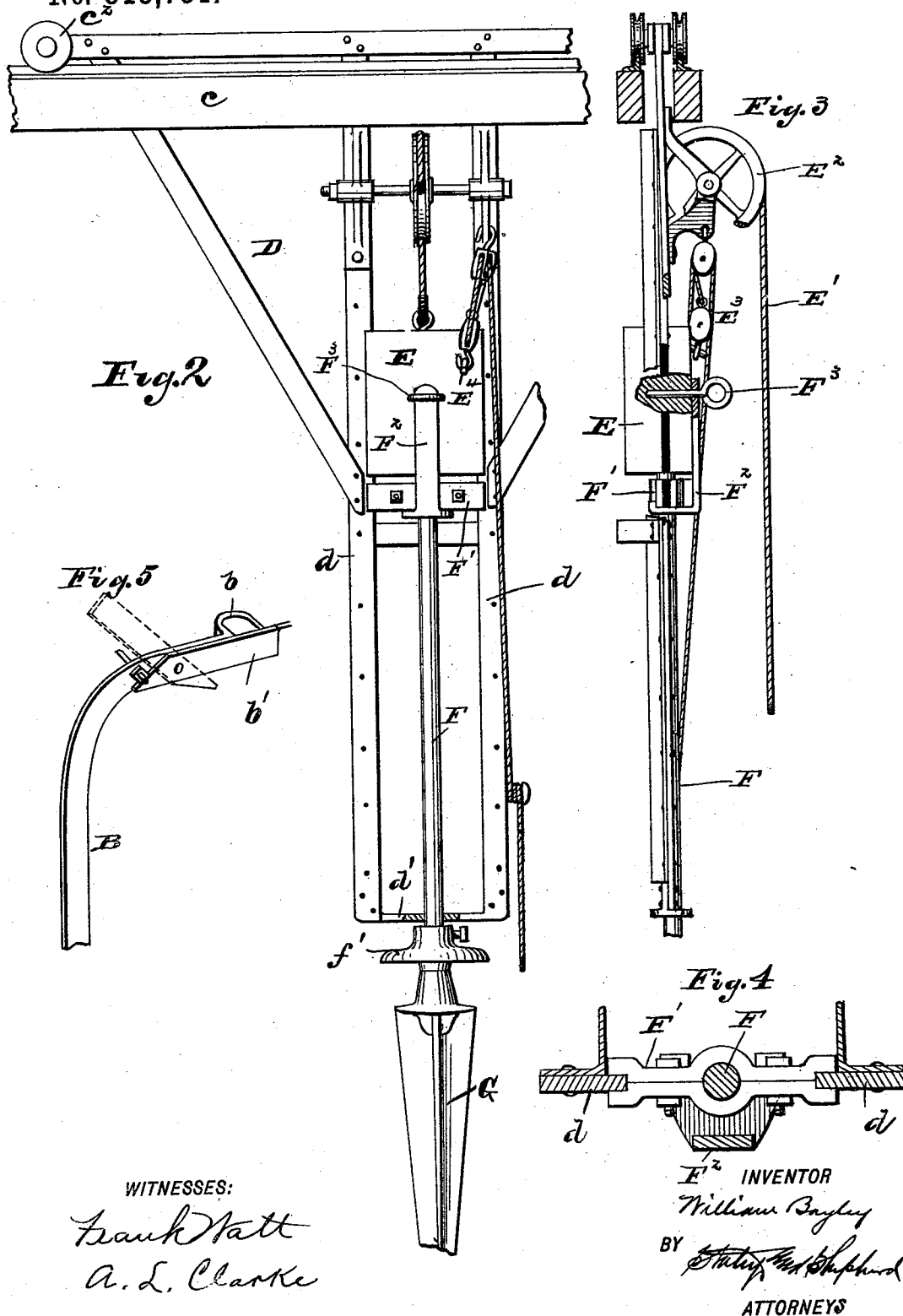
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WITNESSES:

Frank Matt
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INVENTOR
William Bayley
BY *Stutney and Shepherd*
ATTORNEYS

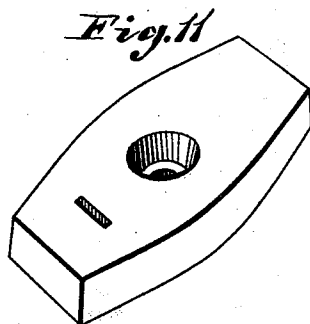
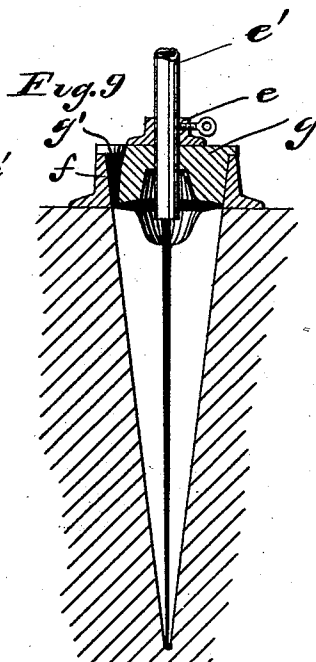
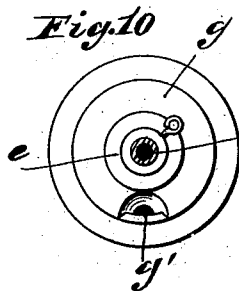
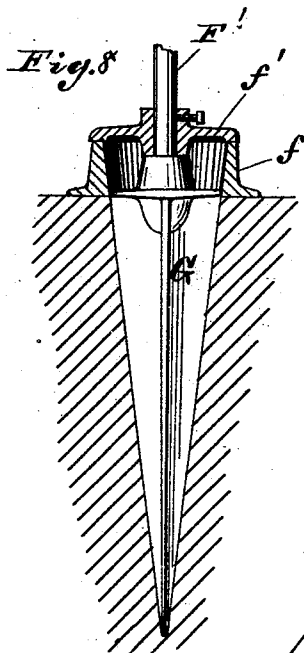
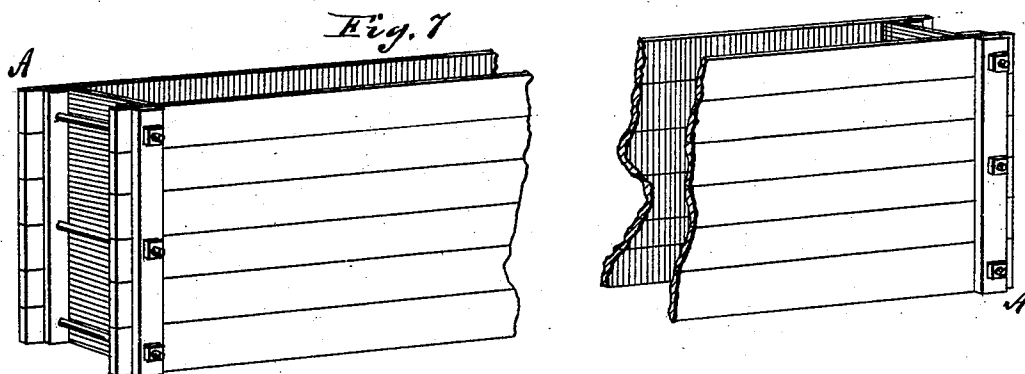
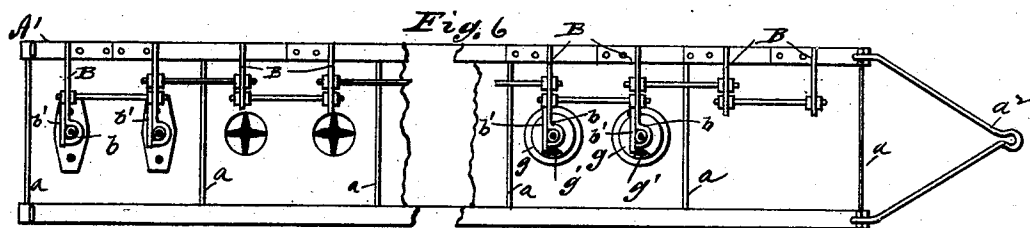
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Patented Jan. 30, 1894.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM BAYLEY, OF SPRINGFIELD, OHIO.

MACHINE FOR MOLDING FENCE-POSTS.

SPECIFICATION forming part of Letters Patent No. 513,751, dated January 30, 1894.

Application filed February 11, 1893. Serial No. 461,934. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BAYLEY, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Fence-Post-Molding Machines, of which the following is a specification.

My invention relates to a device for molding fence posts, and it especially relates to that class of fence posts which have a cast iron base with a wrought iron or steel top, the base being so constructed as to be driven into the ground.

My invention consists in the various constructions and combinations of parts hereinafter described and pointed out in the claims.

In the accompanying drawings Figure 1 is a side elevation view of a machine embodying my invention. Fig. 2 is a similar view on an enlarged scale of a portion of the same. Fig. 3 is a sectional elevation of Fig. 2. Fig. 4 is a transverse elevation of the same. Fig. 5 is a detail referred to hereinafter. Fig. 6 is a plan view, showing different stages of the operation of molding and some modifications. Fig. 7 is a perspective view of a box or flask, which may be employed if desired in connection with the other mechanism. Fig. 8 is a sectional view of the mold and pattern therein. Fig. 9 is a similar view showing the pattern withdrawn and the mold ready for casting. Fig. 10 is a plan view of the cope adapted to form the top of the mold. Fig. 11 is a perspective view in detail of a modification of the same.

Like parts are represented by similar letters of reference in the several views.

In the said drawings A A, represent a flask or pit in which the molds are to be formed. It is preferably arranged in the nature of a pit arranged along the side or other convenient place of the foundry and is provided at the top with a metallic frame A', having suitable cross bars *a*, at convenient points in the length thereof, the frame being provided with suitable engaging hooks or bails *a*², by means of which, and the aid of blocks and tackle or other suitable hoisting device, the frame may be raised from the top of the pit and the sand, from which the molds are to be formed, removed and replaced as desired. The frame A', carries, in addition to the cross bars *a*, a

series of vertical standards B, (see Fig. 5 for detail) which extend upwardly from one side of said frame and are curved outwardly and provided at their upper extremities with an open recessed bearing *b*, adapted to be closed by a hinged latch *b*¹, pivoted at *b*², so as to be turned back, as indicated in dotted lines in Fig. 5.

Arranged above the frame A', and parallel thereto, are suitable supporting ways *c c*¹, which extend the full length of the flask or frame and vertically above the same. Located on said ways *c c*¹, and supported thereon by means of supporting wheels *c*², having grooved peripheries to engage said ways is a traveling frame D. This traveling frame is provided with vertical guides or ways *d*; between which is located a reciprocating head or hammer E, the upper end of which is connected to a rope E', which passes over a suitable supporting sheave E², at or near the top of the frame D, and thence downwardly in convenient reach of the operator. The lower ends of the ways *d*, are connected by a cross bar *d*¹, formed with a central opening or bearing adapted to receive a rod or shaft F, which projects upwardly through said opening and is connected at the top to a cross bar or head F', preferably formed in two parts and adapted to engage and be guided by the ways *d*. This rod or shaft F, carries at the bottom and below the cross bar *d*¹, the pattern G, which corresponds in shape and size to the base of the completed fence post. Means are provided by which the head F', and the hammer E, may be connected together or detached from each other, and an auxiliary hoisting device E³, is preferably provided at one side of the frame *d*, and adapted to engage with a hook-shaped projection E⁴, on the hammer E, to raise the same when drawing the pattern in the manner hereinafter more fully specified. This connection preferably consists in a bifurcated L-shaped connecting bar F², adapted to embrace the rod F, and engage below the head F', and be connected to the hammer E, by a removable pin F³.

In operation the traveling frame D, together with the pattern G and its supporting rod F, normally connected with the hammer E, is moved along the ways until it is brought opposite one of the standards B. The latch *b*¹,

is raised and the supporting rod F, of the pattern is placed within the recessed bearing b, of said standard, after which the latch b' is closed, thus retaining and guiding the rod F, in the proper position over the flask or pit containing the sand in which the mold is to be formed. The hammer and the pattern are now detached by withdrawing the pin F³, and removing the connection F². The pattern is allowed to descend and enters into the sand in the flask or pit which has been previously prepared. The hammer is raised in the guides or ways by means of the elevating rope E', and is permitted to descend by gravity, striking the top of the rod F, and driving the pattern into the sand to the proper distance, after which the hammer E, and pattern G, are connected together, as before described, the auxiliary hoisting device E³, connected to said hammer and the parts elevated to their normal position, thus withdrawing the pattern from the sand and leaving the imprint of the said pattern therein.

The top of the mold is closed and the upper part thereof formed by a cope. This cope may be either formed by a chill, or may be made of dry sand, formed and baked in a core box after the nature of a core, in the usual manner. When the dry sand cope is employed, an auxiliary frame or pattern is placed at the top of the main pattern prior to withdrawing the same and a print formed to receive the cope, which is placed at the top of the mold so as to form the upper part of the same after the pattern is withdrawn. This cope is preferably provided with an opening through which the molten metal is poured in casting; it is also provided with a central opening adapted to receive the post proper, which is to be made of other metal and cast into the base. This is preferably formed of tubular metal, common wrought iron pipe being preferably used. After the pattern is withdrawn and removed from the supporting standard B, the post proper being first provided with a detachable collar e arranged at a suitable distance from the bottom thereof, is inserted through the top of the cope so as to project into the mold to the proper distance and the upper end thereof supported in the bearing in the standard B, as shown at the left of Fig. 1 when the mold is ready to receive the metal in casting.

When the chill is employed an auxiliary frame f, is preferably provided at the top of the flask or pit resting on the sand immediately upon the pattern, this frame being adapted to permit the passage of the pattern through the same. A projecting collar f', is secured to the rod F, of the pattern and contacts with the frame f, when the pattern has reached the limit of its downward movement, so that the pattern and frame f, shall always occupy the same relative positions when the pattern has been driven to its limit into the sand. The pattern is raised as before and the chill, in-

serted within the frame f, said chill being formed to fit snugly within said frame and provided with a suitable inlet opening g', for the metal, the detachable collar e, being provided for the inserted post e', as before described.

By the constructions above described it will be seen that the operation of forming a mold for a fence post is reduced to the simplest possible character. Any suitable number of molds may be formed, the supporting ways and the pit or flask being extended as desired, and by the arrangement of driving and removing the pattern, together with the supporting ways and standards, the work is reduced to a simple mechanical operation, requiring an ordinary mechanic and dispensing with a skilled laborer usually employed in molding and casting articles of this character.

As before stated I preferably form the molds in the pit in the floor of the foundry, with the movable frame A', adapted to form the top thereof. It is obvious, however, that a flask, such as shown in Fig. 7 may be employed if desired and elevated above the floor, the construction being in no wise changed in this case.

Having thus described my invention, I claim—

1. In a molding machine, a removable frame having a series of supporting standards with open bearings therein, a traveling frame arranged on ways being parallel to said frame, a reciprocating hammer in said traveling frame, a pattern also arranged in said traveling frame, and means for connecting and detaching said pattern from said hammer, substantially as specified.

2. In a molding machine, a flask or pit having at the top thereof a movable frame provided with upwardly and forwardly projecting supporting standards having open bearings, a traveling frame arranged above said main frame provided with vertical guiding ways, a reciprocating hammer in said ways, a pattern also supported in said ways below said reciprocating hammer, means for connecting said hammer to said pattern, and an auxiliary hoisting device adapted to be connected to said hammer, substantially as specified.

3. The combination with a pit or flask and the traveling frame carrying the reciprocating pattern therein, of the supporting standards having the forwardly projecting upper ends with an open recessed bearing and a pivoted latch, substantially as and for the purpose specified.

4. The combination with the pit or flask, of the traveling frame having the vertical guides or ways and the reciprocating hammer therein, a pattern having a stem projecting through a bearing in the lower end of said traveling frame, and a head journaled between said guides or ways and a hoisting device for said hammer, and means, substantially as de-

scribed, for connecting and disconnecting said hammer and pattern, substantially as specified.

5. In a molding machine, a flask or pit having at the top a removable frame having supporting standards, a pattern having a stem adapted to be supported by said standards, an auxiliary frame or print about said pattern, a cope adapted to fit said frame or print, and means, substantially as described, for supporting a rod or post in said cope and standard when the pattern is removed, substantially as specified.

6. The combination with a flask or pit and a frame arranged at the top thereof having supporting standards with lateral ends with open bearings, a pivoted latch for said bearings, a reciprocating pattern having a stem adapted to fit in said open bearings, means, substantially as described, for driving and removing said pattern, an auxiliary frame arranged about said pattern, a projection above said pattern to engage said frame, and a cope adapted to fit in said frame and complete said mold, substantially as specified.

7. The combination with a flask or pit, of a frame having supporting L-shaped standards with open bearings arranged vertically above said flask or pit, a pattern having a projecting stem adapted to engage in said bearings, a traveling frame having guides or ways for said pattern, means for driving said pattern into the sand in said flask and withdrawing the same, an auxiliary frame arranged about said pattern, a stop on said pattern stem adapted to engage said auxiliary frame to limit the movement of said pattern into the

sand, and a cope adapted to fit into said auxiliary frame and complete the mold when the pattern is withdrawn, substantially as specified.

8. A flask or pit having an upper removable frame with projecting supporting standards, said standards being provided with open bearings vertically above said pit or flask, a movable pattern having a vertical stem supported in suitable vertical ways and adapted to be engaged by said bearing supports, means for driving and withdrawing said pattern, a cope adapted to rest above and complete said mold when the pattern is withdrawn, a rod or post adapted to project through said cope and be supported in said supporting bearings, and means for limiting the movement of said rod or post through said cope, substantially as specified.

9. The combination with the traveling frame and its supporting ways, of a flask or pit and the upper removable frame having supporting standards, the reciprocating pattern supported in vertical guides or ways on said traveling frame, reciprocating hammer for driving said pattern, means for connecting said hammer and pattern, and a hoisting device on said supporting guides or ways and connected to said removable frame, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 4th day of February, A. D. 1893.

WILLIAM BAYLEY.

Witnesses:

OLIVER H. MILLER,
FRANK WATT.