No. 837,243.

PATENTED NOV. 27, 1906.

L. N. McCARTER.

BLOCK OR TILE PRESS.

APPLICATION FILED SEPT. 22, 1904.

4 SHEETS—SHEET 1.

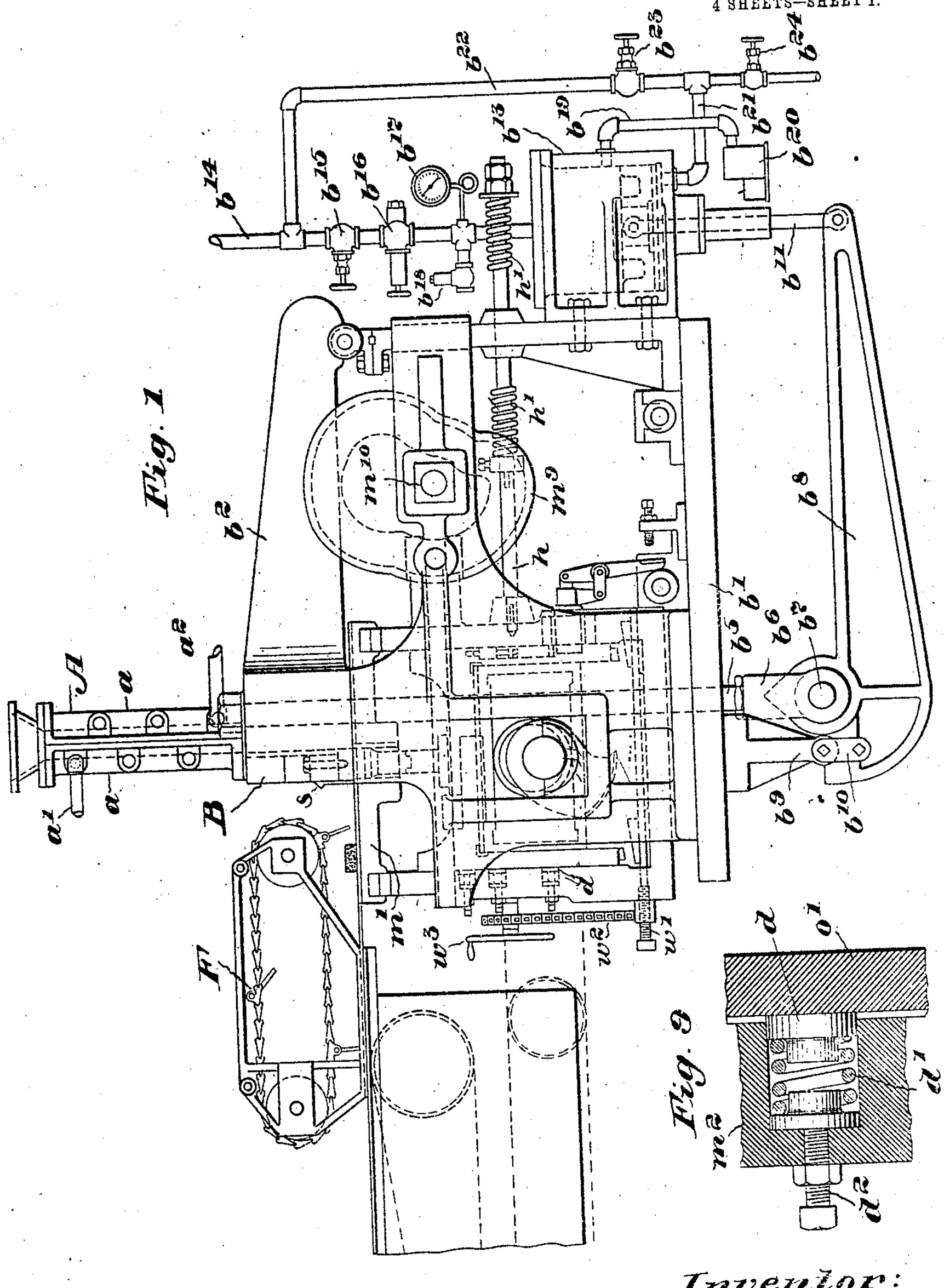

Fig. 1

Fig. 9

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Horace A. Crossman.
Everett L. Emmy.

Inventor:
Louis N. McCarter
by Emmy, Booth & Powell
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4 SHEETS—SHEET 2.

Fig. 2

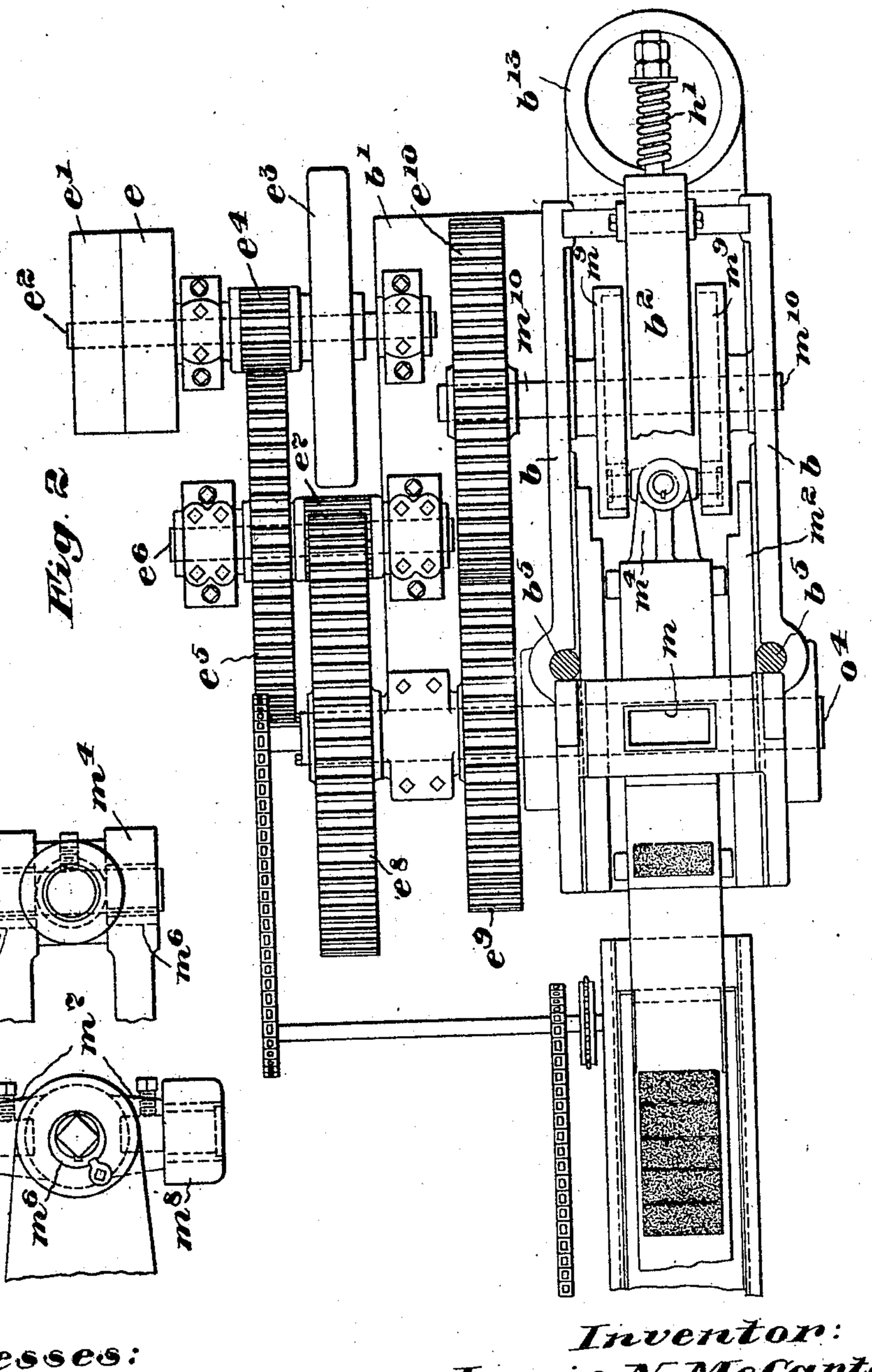

Fig. 2

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4 SHEETS—SHEET 3.

Fig. 3

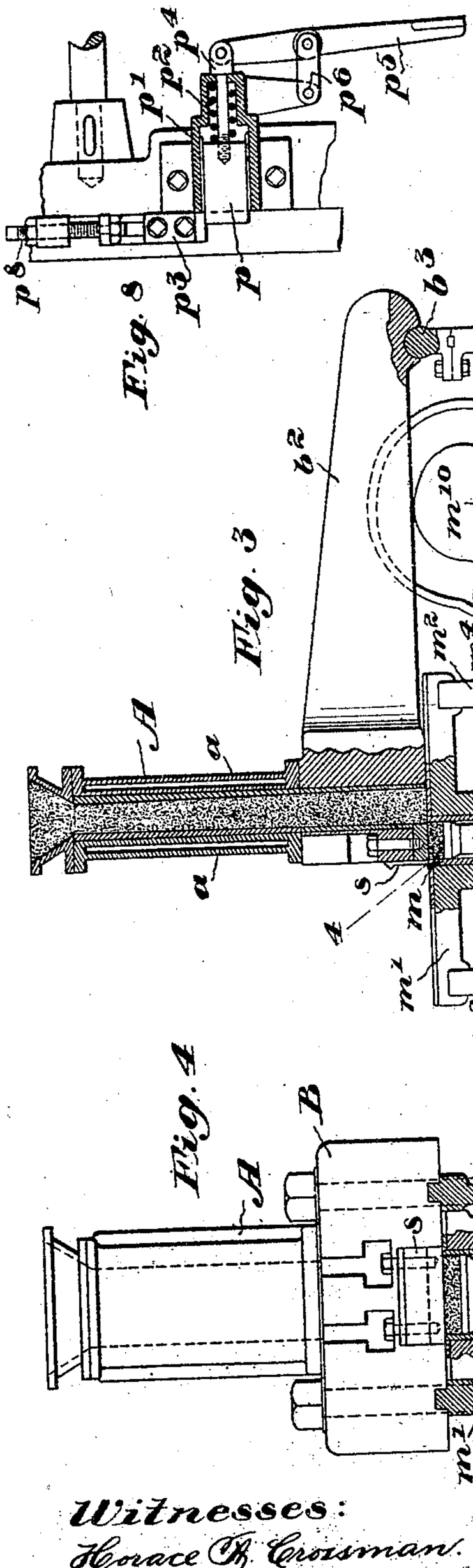
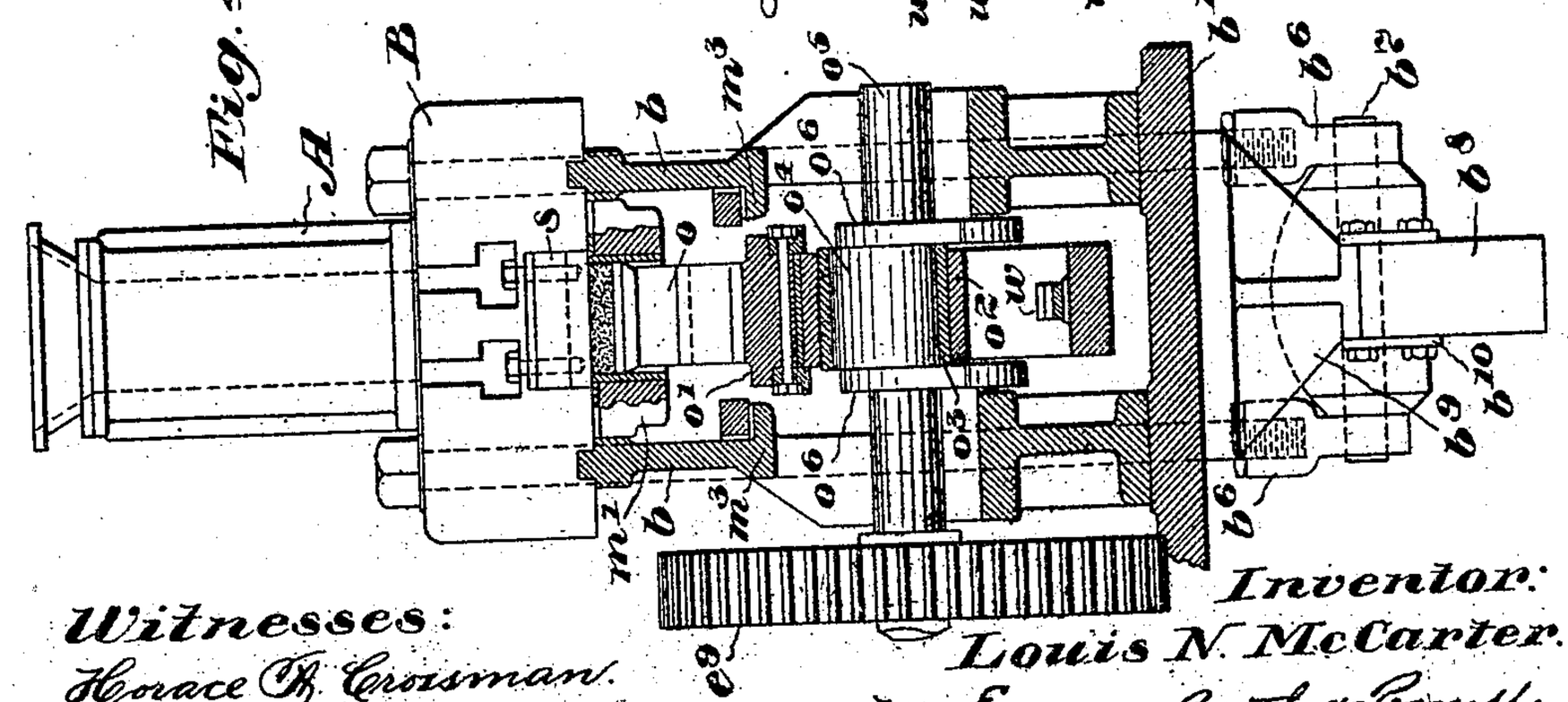


Fig. 4



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No. 837,243. PATENTED NOV. 27, 1906.

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4 SHEETS—SHEET 4.

Fig. 5

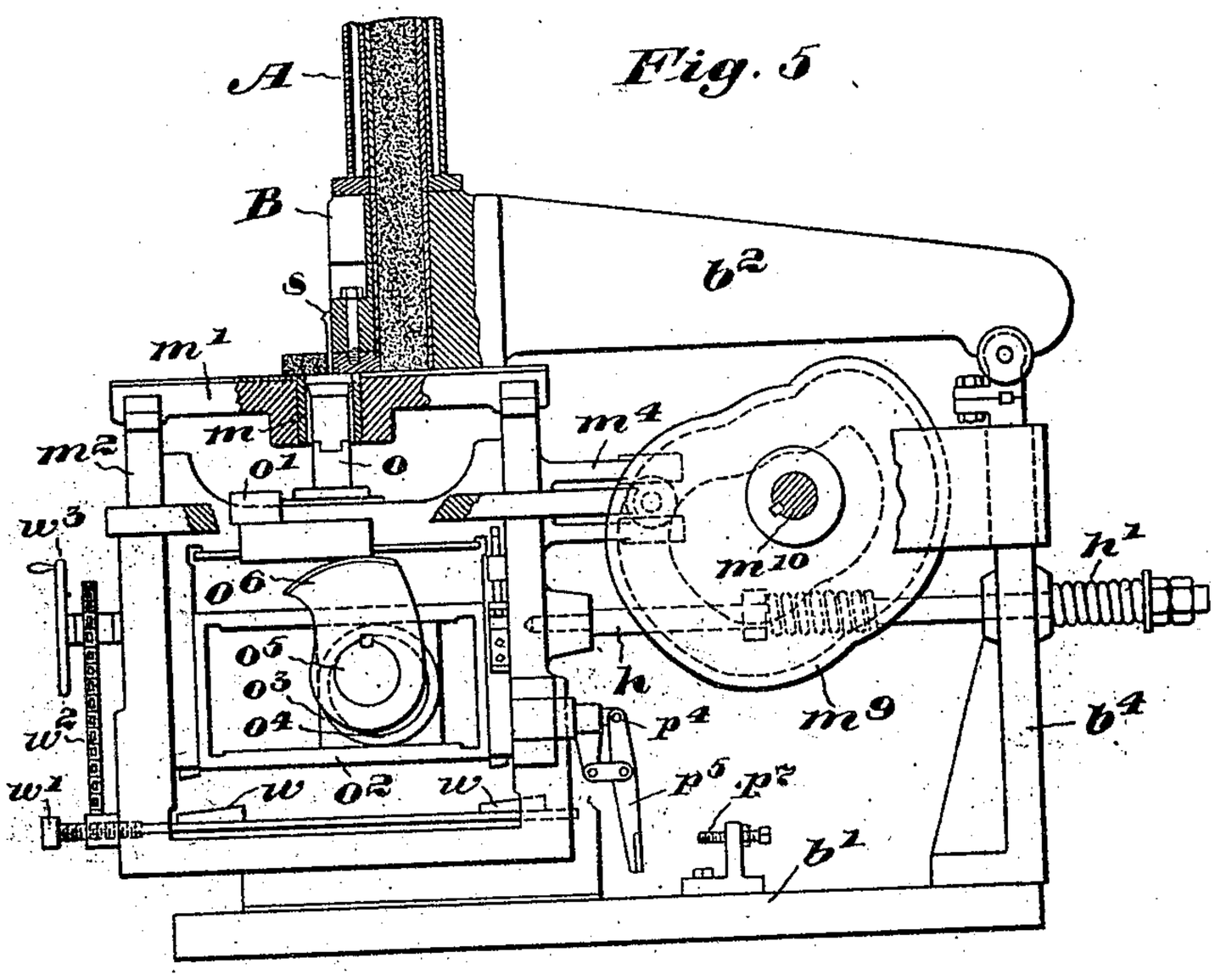
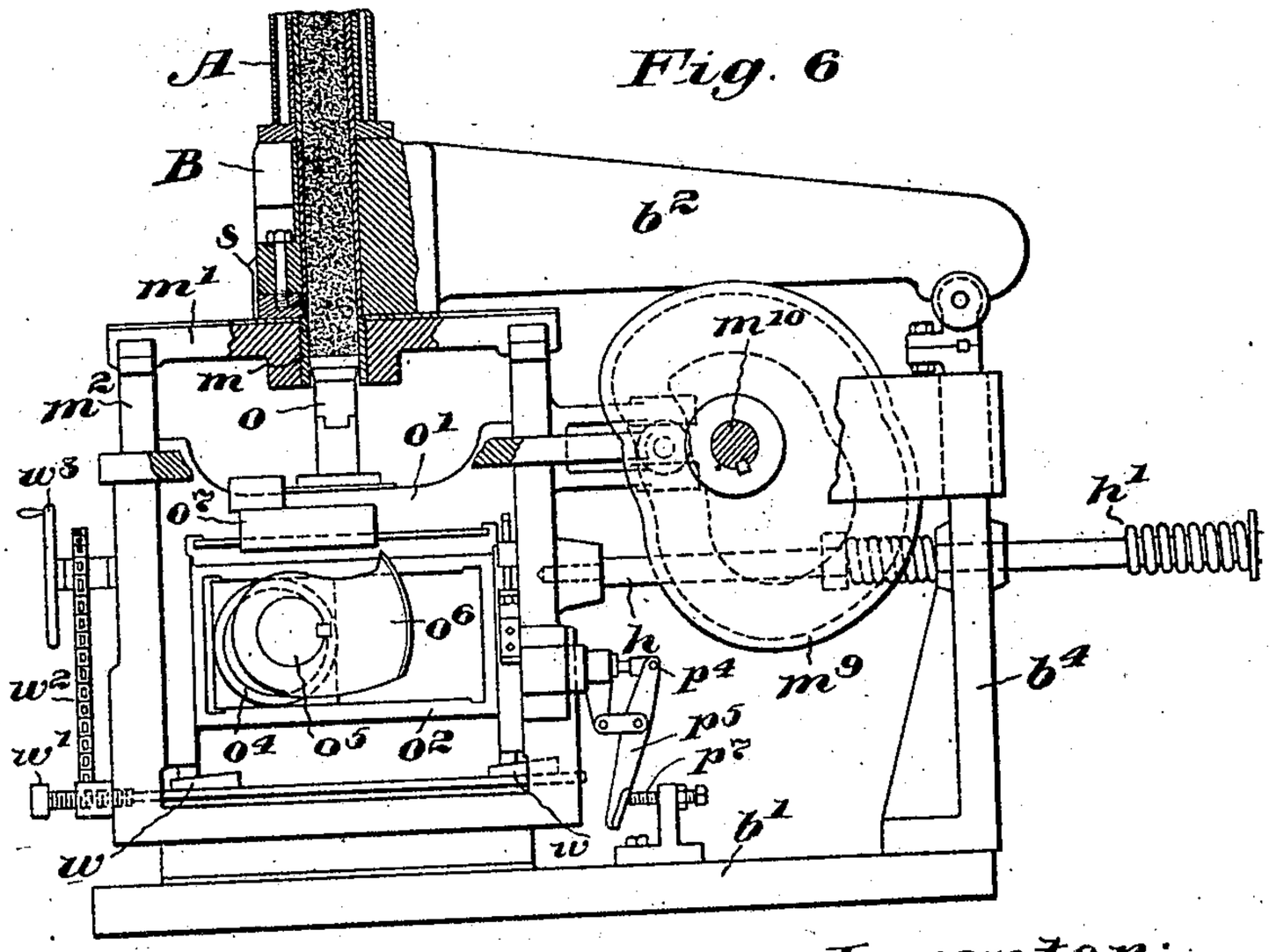


Fig. 6



Witnesses:
Horace A. Crossman
Everett S. Emmy

Inventor:
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UNITED STATES PATENT OFFICE.

LOUIS N. McCARTER, OF NORRISTOWN BOROUGH, PENNSYLVANIA, ASSIGNOR TO THE INTERNATIONAL PAVEMENT COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

BLOCK OR TILE PRESS.

No. 837,243. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed September 22, 1904. Serial No. 225,424.

To all whom it may concern:

Be it known that I, LOUIS N. MCCARTER, a citizen of the United States, residing in the borough of Norristown, county of Montgomery, and State of Pennsylvania, have invented an Improvement in Block or Tile Presses, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

The object of this invention is to provide an improved machine or press for compressing asphaltic or other blocks or tiles for paving and other purposes.

The various features of the invention will be more clearly understood from a description of the best embodiment of that invention now known to me and illustrated in the accompanying drawings.

Referring to said drawings, Figure 1 is a side elevation of the press referred to. Fig. 2 is a plan view thereof with the compression-head and feeding-neck removed; Fig. 3, a vertical longitudinal section of Fig. 1; Fig. 4, a vertical cross-section on the irregular dotted line 4 4, Fig. 3; Figs. 5 and 6, detail views illustrating the positions of parts at different stages of the operation of compressing a block; Fig. 7, details showing the cam-rollers for shifting the mold-block; Fig. 8, a detail illustrating the auxiliary means for supporting the mold-block following the action of the lifting-cams thereon, and Fig. 9 a detail showing one of the friction devices employed and to be described.

The press shown in the accompanying drawings and selected for illustration of my invention is adapted for compressing what are commonly known as "asphalt paving-blocks," the composition of which comprises crushed and partly-pulverized stone, fines, and a cementitious asphaltic binder.

In the particular press illustrated the asphaltic or block composition is conducted from the mixing or preparing apparatus to the press through a suitable steam-heated neck A to keep the composition at a proper consistency during its passage to the compressing-mold. This steam-heated neck is shown as composed of opposed castings *a a*, flanged and secured one to the other in suitable manner and each separately cored or chambered to form one or more steam-chambers into which steam is admitted through one or more inlets a' and exhausted through one or more outlets a^2. The interior passage for the materials within this neck is made tapering from top to bottom or from the inlet to the outlet ends thereof to enable the material to gravitate freely therethrough. The nature of any composition containing asphaltic or equivalent cement is such that it will easily clog and pack unless some provision is made to clear it while in transit. This chambered neck rests upon and is secured to the compression-head B, which extends transversely of the machine (see Fig. 4) and rests at its ends upon the side frames *b b*, which in turn are bolted upon the bed-plate b', Figs. 1 and 4.

The compression-head B (see Figs. 1 and 3) has extended from one —herein its right— side a fulcrum-arm b^2, notched at its outer end to rest upon the fulcrum-support b^3, carried by a standard b^4, erected upon the bed-plate b'. This compression-head B is held down in normal position upon the supporting side frames *b*, described by two long bolts b^5, (see Figs. 1 and 2,) which depend through the bed-plate b' and are fitted at their lower ends with eyes b^6, which engage the end *s* of a wrist-pin b^7, carried at the free end of a long lever b^8. The short end of this lever adjacent the wrist-pin b^7 is notched for a bearing upon the fulcrum-support b^9, (see Figs. 1, 3, and 4,) to which it is tied for purposes of safety by the links b^{10}, Fig. 1. These links also tie the bolts to its fulcrum to enable the lever to be moved in an opposite direction to lift the bolts, thereby to permit the compression-head to be lifted when necessary for adjustment or otherwise. To furnish a yielding support for this lever and the compression-head and also a means for moving the lever to move the bolts to free the head, as described, the long end of the lever is suspended from the piston-rod b^{11} of a piston b^{12} in the vertically-arranged cylinder b^{13}, herein shown as attached to the fulcrum-standard b^4, Figs. 1 and 3. Steam or other suitable fluid under pressure is admitted to the cylinder b^{13} above the piston therein, I having herein shown the inlet-pipe at b^{14} fitted with a suitable controlling-valve b^{15} and a reducing-valve b^{16}, said pipe being also provided with a pressure-gage b^{17}. If desired, said

pipe may also be provided with a relief or safety valve b^{18} for the purposes of safety. The condensation is taken care of by an outlet b^{19}, Fig. 1, leading from the side of the cylinder above the piston in the lowest position of the latter and communicating with a suitable trap device b^{20}.

From the bottom of the cylinder and at all times below the piston therein leads an exhaust-pipe b^{21}, Fig. 1, which communicates with a branch b^{22} from the supply-pipe b^{14}. Valves, however, are provided at b^{23} b^{24}, respectively above and below the junction of the pipe b^{21} with the branch b^{22}, whereby with the valve b^{23} closed and the valve b^{24} open there is provided a constant outlet or drip for and at the bottom of said cylinder, and whereby also with the valve b^{24} closed and the valve b^{23} open live fluid under pressure may be admitted to the cylinder below the piston therein to lift the same positively and the bolts b^5, as hereinbefore described. The purpose of this fluid-pressure support of the compression-head, as will more fully hereinafter appear, is to permit of certain relief under conditions which might otherwise cause damage to the press.

The compression head is provided with a feeding-passage below and registering with the steam-heated neck A and communicating at the proper time with the mold m, Fig. 3, in the mold-block m', carried by the horizontal carriage m^2, mounted to slide fore and aft in the frame upon the inturned flange-guides m^3, Fig. 4, upon the side frames b. At its rear end at the right, Figs. 1 and 3, this carriage m^2 is provided with two rearwardly-extended arms m^4, arranged one flatwise above the other and holding between and at their outer ends the vertical pin m^5 (shown best in Fig. 7) and keyed within the eccentric bushings m^6, which have their bearings in the said arms m^4. The end of this pin m^5 is squared or otherwise adapted to be rotated, thereby to rotate the said eccentric bushings and change the axial distance of the pin m^5 from the feeding-neck in the compression-head for purposes of adjustment. Upon this pin m^5 and between said arms m^4 is mounted a yoke m^7, carrying at its ends the cam-rollers m^8, which travel, respectively, in properly-shaped paths in the cams m^9. (See Figs. 2 and 3.) These cams are fast upon a shaft m^{10}, journaled in suitable bearings in the side frames b, rotation of said cams causing longitudinal or fore-and-aft travel of the mold-carriage. The bottom of the mold is constituted by a vertically-movable plunger o. With the carriage in its rearmost position (see Fig. 6) and with the plunger o in its lowermost position the block composition may be fed by gravity or otherwise downward through the heated neck and compression-head into and to fill the mold. Rotation of the cams m^9 then moves the carriage forward or to the left into the position shown in Fig. 3, cutting off the supply of block composition and placing the mold directly beneath the portion of the compression-block that lies at the left of the feeding-neck. The plunger o is then lifted to compress the composition in the mold, as shown in Fig. 3, against said compression-head, after which the plunger drops slightly to relieve the block when said carriage is further moved to the left into a position to clear the compressed block of the compression-head, after which said plunger is again further lifted to expel the compressed block from and through the top of the said mold. With the plunger still elevated the carriage is then returned to its original position, leaving the compressed block supported upon the top face of the mold-block, but in front of the compression-head, as shown in Fig. 5. Upon the next succeeding forward movement—to the left in the drawings—the compressed block upon the top of said mold-block will be carried far enough to the left to be engaged by suitable feeding-out mechanism, (typified at F, Fig. 1,) which removes the block from the press and places it preferably upon a suitable conveyer, which conveys it away through a body of water or other cooling medium to set it to a condition for use.

Referring now to Fig. 3, the plunger o is supported upon a cross-head o', mounted to move vertically in the carriage m^2, said cross-head resting upon a rectangular box-casing o^2, which has a long horizontal bearing slot or way which receives the box o^3 of the eccentric o^4, fast upon the main shaft o^5. In the operation of the machine the eccentric, acting through its box o^3 and casing o^2, lifts the cross-head o' and plunger o to compress a block. The carriage is then moved to the left, Fig. 3, the box-casing sliding upon the elevated box, and continued rotation of the main shaft o^5 causes a pair of lifting-cams o^6, mounted thereon at opposite sides of the box-casing, to engage suitable flanges or wings o^7 upon the sides of the cross-head o' and lift the plunger o above the compression position and to the ejecting or discharging position (shown in Fig. 5) to eject the compressed block from the mold. This arrangement permits the lifting or ejecting cams o^6 to be made of desired shape and throw without interfering with the powerful eccentric movement for exerting the compressing pressure, which frequently runs as high as two hundred tons in a press for making asphalt paving-blocks. In the press here shown the movement of the eccentric would permit the cross-head and its plunger to drop for a considerable distance before the ejecting-cams o^6 would engage the cross-head o', and to prevent this I have provided a latch p, which catches the cross-head after it has dropped slightly—merely enough to relieve the block,

so as to permit the carriage to be moved freely forward into block-ejecting position—this latch holding the cross-head until the ejecting-cams o^6 engage it from beneath to further lift it to eject the block. The latch I have shown is best illustrated in Figs. 3 and 8 and consists of a plunger p, arranged to move horizontally in a cylinder p', with a spring p^2 tending to move it normally to the left, where it will project beneath and thereby support a bracket p^3, adjustably mounted upon the cross-head o' and having its position controlled by suitable adjusting devices, (typified at p^8.) To remove the latch and permit the release of the plunger, I have provided the latch with a stem p^4, connected at its outer end with an arm p^5, fulcrumed at p^6 and having its long end opposed to a tappet-screw p^7, fast on the bed-plate b' of the press. At or near the end of the return movement of the carriage to the right, Fig. 6, the long arm of this lever p^5 engages the tappet-screw and removes the latch to permit the plunger and its cross-head when released by the ejecting-cams to drop past the latch upon the wedges w w, Figs. 3 and 6, the ~~lon~~gitudinal position of which determines the lowermost position of the cross-head, and therefore the depth of the mold prior to compression and the volume of composition that is to be compressed into a block. These wedges may be adjusted longitudinally by suitable means, as the adjusting-screw w', connected by a sprocket-chain w^2 with a hand-wheel w^3, conveniently positioned for manipulation by the operator.

To prevent the cross-head from dropping too readily from its elevated to its lowermost position supported upon the wedges w, I have provided the carriage with suitable retarding or friction devices. (Detailed in Fig. 9) These friction devices are here shown as disks d, pressed by the springs d' against the face of the cross-head where it slides in the carriage. The tension of the springs d' is adjusted in suitable manner, as by the adjusting-screws d^2.

To take up any shock that might otherwise result from the reciprocations of the carriage m^2, the latter is provided (see Figs. 1 and 3) with a rearwardly-extended rod h, which passes through the fulcrum-standard b^4 at the right, Fig. 3, and has suitably supported upon it and at opposite sides of said support the cushion-springs h' h', each adjustably supported upon said rod h. These springs are so adjusted that one or the other will be compressed just prior to the limit of movement of the carriage in either direction, thereby to take up any lost motion or shock and by their recovery to assist in starting said carriage upon its return movement.

The various shafts are driven in suitable manner, herein as best shown in Fig. 2, where power is applied through usual fast and loose pulleys e e' to a pulley-shaft e^2, provided with a fly-wheel e^3 and a pinion e^4, which drives a spur-wheel e^5, fast on an intermediate shaft e^6. This intermediate shaft has a pinion e^7, which meshes with and drives a large toothed wheel e^8 on the main or eccentric shaft o^4, described. This main shaft o^4 is provided also with a spur-wheel e^9, which drives a spur-wheel e^{10} on the cam-shaft m^{10}, described.

As will be understood from the foregoing description, in the operation of the press the block composition rests in a solid and heated column in the feeding-neck A and passage in the compression-head supported upon the mold-block m' of the carriage m^2. When the carriage reaches its rearmost position with the plunger o down, the block composition fills the mold, after which the carriage is moved by cams m^9 forward into position with the mold under the compression-head, when the eccentric o^4 lifts the plunger and compresses the block. The movement of the eccentric relieves the presser slightly after compression and leaves the cross-head and plunger resting upon the latch p, whereupon the carriage is further moved by its cams to the left to carry the compressed block over and clear of the compression-head, after which the ejecting-cams o^6 engage the cross-head and lift the latter away from the eccentric box-casing to cause the plunger by its further elevation to eject the compressed block from the mold. The carriage now begins its return movement, and the compression-head by preventing the discharged block from following the carriage causes said block to be pushed off onto the mold-head in front of the mold, where it remains until upon completion of the next succeeding block it is moved to the left, as described, with the carriage, to be engaged by the feeding-out device F.

It will be noticed that the plunger o has a fixed and invariable throw, so that the block is always compressed to a given size, regardless of the consistency or character of the composition within the mold, provided, of course, there is not too much variation in said composition. For example, asphaltic-block compositions are known to vary in consistency and in capacity to flow under varying conditions of temperature and the like, so that under even the most careful handling more of the composition will at times enter the mold than at others, notwithstanding the mold at all times would appear to be completely filled. It will be noticed, however, that whatever the condition of the composition in the mold the plunger always rises to a given elevation and compresses the material into a block of a given size, whether that block be more or less dense, as the result of the mold containing more or less of the composition—that is, within safe limits. To provide against damage to the press by the filling of the mold with such a volume of the composition as cannot possibly be com-

pressed into a block of the required dimensions, and this occasionally results under unusual conditions, the compression-head is supported by the long lever b^8 under the press and the steam-filled cylinder b^{13}. The pressure of steam in this cylinder is always sufficient to hold the compression-head down against all safe pressures, so that within a given fixed limit all blocks will be compressed to a given size, regardless of the resultant density of the blocks. Should the density, however, be such as would otherwise cause damage to the press, the compression-head may rise as required against the resistance of the steam in the cylinder b^{13} to afford whatever relief may be necessary. By applying the steam or fluid cushion through the medium of the lever arrangement shown a comparatively small cylinder with relatively low steam-pressure may be employed and at the same time obtain greater stability and freedom from undesirable fluctuations than would be possible were the compression-head directly supported by the steam-cushion member or piston. In place of the mechanical or lever connection between the fluid-cushion and the compression-head I may use any other medium interposed between the fluid and the head which will serve to communicate the pressure of one to the other, either with or without a multiplication herein provided by the lever shown.

The mold and compression-surfaces are made detachable for renewal in a manner well known in the art and which needs no description herein.

The nature of asphaltic and other similar compositions is such that unless the plunger-face is properly lubricated the composition, after having been compressed under high pressure thereupon, will adhere in greater or less quantities thereto and not only clog the plunger, but produce defective blocks. While in a press of the character shown this tendency is reduced to a minimum because the block is removed from off the top of the plunger by a shearing action as the carriage returns beneath the compression-head, nevertheless it is desirable to provide for convenient means for lubricating the top of the plunger. I have provided for this in the present machine by attaching to the front or left face, Figs. 1 and 3, of the compression-head B a spout or plate *s*, which is screwed to the front face of the head and which furnishes the active face which engages near the block and pushes the latter off from the top of the plunger as the carriage retreats under the head. As the carriage retreats and this spout pushes off the block it leaves a narrow and constantly-changing portion of the top face of the plunger exposed at the bottom of the spout as the plunger passes beneath it to its rearmost position, giving the operator opportunity to pour down through this spout and upon the plunger passing beneath it a lubricant, such as molten wax, as often and in such quantity as may be necessary. Heretofore in presses of this character, so far as known to me, it has been impossible for the operator to reach directly with any lubricant the face of the plunger, being obliged to pour the lubricant more or less promiscuously over and upon the mold face or block, trusting to chance for it to work down upon the plunger-face.

I have here described my invention in its best embodiment now known to me; but said invention is not limited to the particular embodiment disclosed, as said invention obviously may be varied without departing from the spirit and scope of the invention.

I claim—

1. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, and an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon.

2. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, and an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon, and means to aline said plunger first with the feeding-neck and thereafter with the abutment.

3. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, and an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon and means for reciprocating said plunger transversely to the line of said range of movement.

4. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon, means for alining said plunger first with the feeding-neck and thereafter with the abutment, means for retracting said plunger just sufficiently to release the material from pressure and means to thereafter impart an ejecting movement to said plunger.

5. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, means for heating the material in said neck, an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon, means for alining said plunger first with the feeding-neck and thereafter with the abutment, means for retracting said plunger just sufficiently to release the material from pressure and means to thereafter impart an ejecting movement to said plunger.

6. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon, means for alining said plunger first with the feeding-neck and thereafter with the abutment, means for retracting said plunger just sufficiently to release the material from pressure, and a latch to hold said plunger in said retracted position.

7. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon, means for alining said plunger first with the feeding-neck and thereafter with the abutment, means for retracting said plunger just sufficiently to release the material from pressure and adjustable means to hold said plunger in said retracted position.

8. In a press of the character described, a normally fixed compression-head comprising an abutment and a feeding-neck, an opposing plunger having an unvarying range of movement regardless of the pressure of the material acted upon, means for alining said plunger first with said neck and then with said abutment and positive pressure means connected with said head and adapted to maintain a maximum uniform pressure throughout the pressing action.

9. A press of the character described, comprising means to compress a body normally to given dimensions irrespective of the pressure required therefor, and pressure-means connected therewith and adapted to maintain a maximum uniform pressure throughout the pressing action.

10. A press of the character described, comprising means to compress a body normally to given dimensions, irrespective of the pressure required therefor, and fluid-pressure means connected therewith and adapted to maintain a maximum uniform pressure throughout the pressing action.

11. A press of the character described, comprising a compression-head having an abutment and a feeding-neck and means to compress a body against said abutment to given dimensions irrespective of the pressure required therefor.

12. In a press of the character described, a compression-head comprising an abutment, a feeding-neck and means to heat material supplied thereto, and means to compress a body against said abutment to given dimensions irrespective of the pressure required therefor.

13. In a press of the character described, a compression-head comprising an abutment and a feeding-neck and means to compress a body against said abutment to given dimensions irrespective of the pressure required therefor and including a plunger having an unvarying range of movement.

14. In a press of the character described, a compression-head comprising an abutment and a feeding-neck and means to compress a body against said abutment to given dimensions irrespective of the pressure required and including a plunger having an unvarying range of movement, and positive pressure means connected with said head and adapted to maintain a maximum uniform pressure throughout the pressing action.

15. In a press of the character described, a compression-head comprising an abutment and a feeding-neck and means to compress a body against said abutment to given dimensions irrespective of the pressure required and including a plunger having an unvarying range of movement, and positive fluid-pressure means connected with said head and adapted to maintain a maximum uniform pressure throughout the pressing action.

16. In a press of the character described, a compression-head, a lever opposed thereto, connections between said lever and said head, and live-fluid-pressure means operatively connected to said lever.

17. In a press of the character described, a compression-head, a lever opposed thereto, connections between said lever and said head, live-fluid-pressure means operatively connected to said lever and a plunger having an unvarying range of movement and coöperating with said head.

18. In a press of the character described, a head comprising an abutment and a feeding-neck, an opposed plunger having an unvarying range of movement, means to aline said plunger first with said neck and then with said abutment, a lever opposed to said head, connections between said lever and said head, and live-fluid-pressure means adapted to act upon said lever.

19. In a press of the character described, a head comprising an abutment and a feeding-neck, an opposed plunger having an unvarying range of movement, means to aline said plunger first with said neck and then with said abutment, a lever opposed to said head, connections between said lever and said head, and means adapted to act upon said lever to maintain a maximum uniform pressure throughout the pressing action.

20. A press of the character described containing compression means and positive fluid-pressure-controlling means therefor, said controlling means comprising a cylinder and its contained piston and a trap-discharge for said cylinder.

21. A press of the character described containing compression means and fluid-pressure-controlling means therefor, said controlling means comprising a cylinder and its piston, and means to admit pressure to said cylinder

at one side of the piston therein, normally open exhaust for the opposite end of said cylinder, and means to admit live pressure to said opposite end of said cylinder when desired.

22. A press of the character described, comprising means to compress a body normally to given dimensions irrespective of the pressure required therefor and positive pressure-controlled means connected therewith and adapted to maintain a maximum uniform pressure throughout the pressing action.

23. A press of the character described, comprising means to compress a body normally to given dimensions irrespective of the pressure required therefor and positive fluid-pressure-controlled means connected therewith and adapted to maintain a maximum uniform pressure throughout the pressing action.

24. A press of the character described, comprising a compression member having an unvarying range of movement, and an opposed pressure-receiving element having a positive fluid-pressure support adapted to maintain a maximum uniform pressure throughout the pressing action.

25. A press of the character described, comprising compression means, a pressure-receiving member thereof at one side the press, a fluid-pressure-controlled lever at the opposite side of said press and disconnected from said compression means, and connections between said pressure-receiving member and said lever.

26. A press of the character described, comprising compression means, a fulcrum element forming a part thereof, and an opposed connected fluid-pressure-controlled fulcrum element.

27. A press of the character described comprising a movable compression member and an opposed, normally stationary pressure-receiving element, and constantly-renewed pressure-fluid means to hold said element in normal position.

28. A press of the character described, comprising a movable mold-bearing carriage, a movable mold member reciprocable in said carriage, and friction devices controlling the movements of said member.

29. A press of the character described comprising a movable mold-bearing carriage, a reciprocatory mold element mounted in said carriage, means to move said mold element positively in one direction, and means independent thereof controlling the movement of said element in an opposite direction.

30. In a press of the character described a reciprocatory mold-bearing carriage, means to reciprocate the same, and cushion means to assist the reciprocations of said carriage.

31. A press of the character described, comprising a rectilinearly-reciprocable mold-bearing carriage, means to reciprocate the same, a stop member, and springs arranged to coöperate with opposite faces of said stop member and connected respectively with said carriage.

32. A press of the character described, comprising a mold-bearing carriage, a movable mold member reciprocable in and with relation to said carriage, means to impart compressing movement to said mold member, means to retract said mold member just sufficiently to release the material from pressure, and means to impart ejecting movement to said member.

33. A press of the character described, comprising a mold-bearing carriage, a movable mold member reciprocable in and with relation to said carriage, means to impart an unvarying range of movement to said mold member, means to retract said mold member just sufficiently to release the pressure, and means to impart ejecting movement to said member.

34. A press of the character described, comprising a mold-bearing carriage, a movable mold member reciprocable in and with relation to said carriage, means to impart compressing movement to said mold member, means to retract said mold member just sufficiently to release the pressure, a latch to hold said member in said retracted position, and means to impart an ejecting movement to said member.

35. A press of the character described, comprising a mold-bearing carriage, a movable mold member reciprocable in and with relation to said carriage, means to impart compressing movement to said mold member, means to retract said mold member just sufficiently to release the pressure, means to engage and hold the mold member in said retracted position, means to release said engaging and holding means by the reciprocation of the carriage, and means to impart ejecting movement to said mold member.

36. A press of the character described, comprising a mold-bearing carriage, a mold member movable in and with relation to said carriage, means to move said member to compress a block, means to impart ejecting movement to said member, means to retract the plunger to release the pressure upon the material prior to the ejecting movement of said plunger, and means controlled by the movement of the carriage to release the mold member from said retracted position.

37. A press of the character described comprising a mold-bearing carriage, a mold member movable in and with relation to said carriage, means to move said member to compress a block, means to impart further movement to said member to eject a block, means automatically to catch and hold said member between said compressing and ejecting positions, means controlled by movement of said carriage to release said catch means and

permit the return of said member, and means to adjust the effective operation of said catch means, thereby to adjust the position in which said member is held thereby.

38. A press of the character described comprising a reciprocable rectilinearly-movable mold-bearing carriage, a transversely and rectilinearly reciprocable cross-head mounted in said carriage, a box-frame loosely engaged with said cross-head, and an eccentric box slidably mounted in said box-frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LOUIS N. McCARTER.

Witnesses:
W. B. BEYER,
JNO. WAGNER.