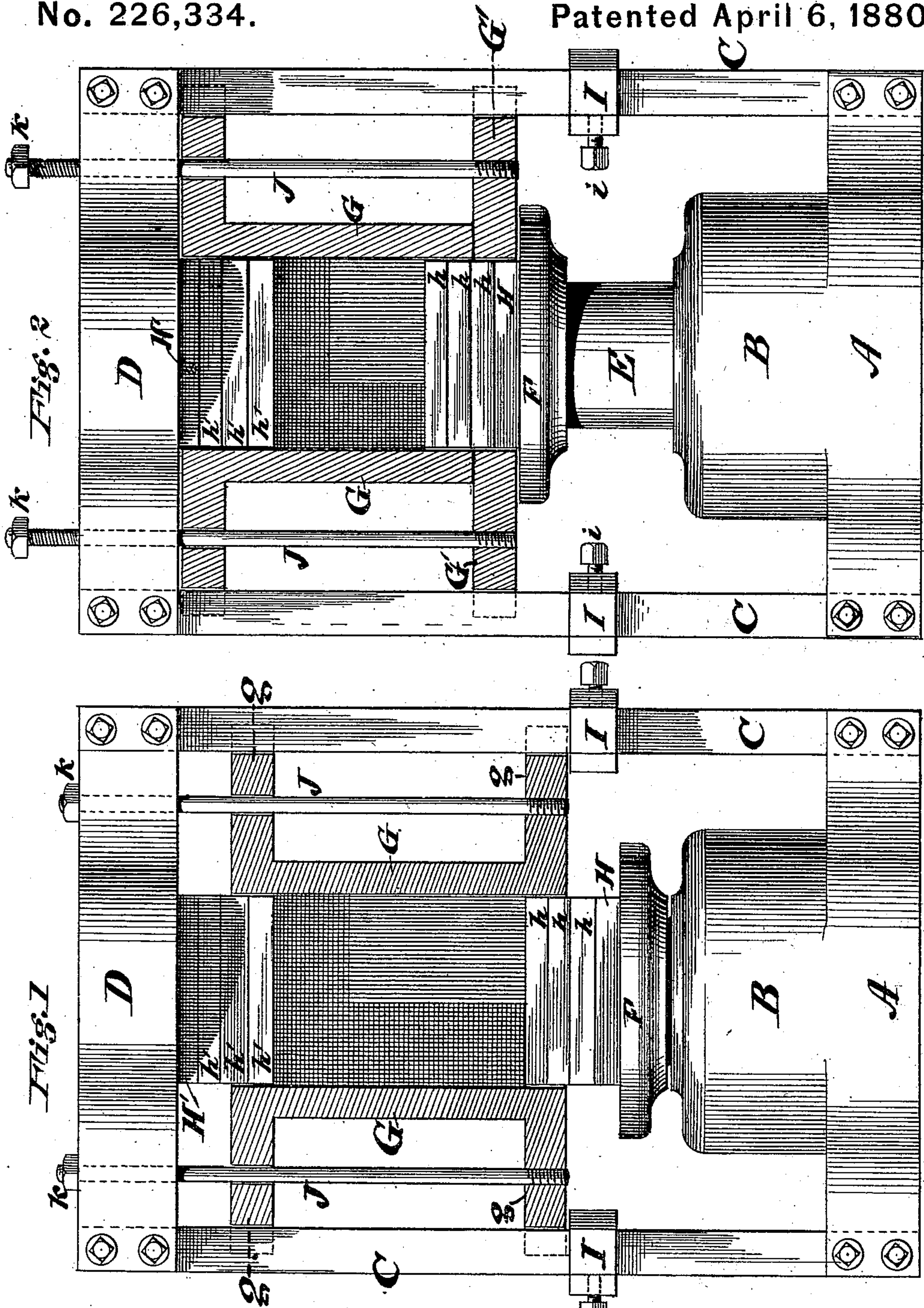


J. H. MCGOWAN.
Tobacco-Press.

No. 226,334.

Patented April 6, 1880.



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UNITED STATES PATENT OFFICE.

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TOBACCO-PRESS.

SPECIFICATION forming part of Letters Patent No. 226,334, dated April 6, 1880.

Application filed January 12, 1880.

To all whom it may concern:

Be it known that I, JOHN H. MCGOWAN, of Cincinnati, Ohio, have invented a new and useful Tobacco-Press, of which the following is a specification.

My invention relates to tobacco-presses in which a "compress-box" or "mold" or "finisher," as variously termed, is used, in connection with a hydrostatic press or other device, for producing the pressure required for condensing and finishing tobacco-plugs in the process of their manufacture for the market; and the object of my invention is, generally, to improve the efficiency and utility of such machines.

My improvements consist in combining in one machine parts heretofore separately employed, and adding thereto certain other features of utility, by which, in the operation and use of my improved machine, the process of finishing tobacco-plugs may be more conveniently, thoroughly, and expeditiously accomplished, and the machine itself rendered more durable, all as more fully pointed out in the following description.

My invention is embodied in the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved press, showing the mold or compress-box in section and the plunger depressed to its lowest position. Fig. 2 is a similar elevation, showing the position of the parts when the plunger is elevated.

Similar letters of reference are used to indicate similar parts in the several views.

The base A, side standards, C, and head-piece D constitute the frame of the press. Upon the base A is secured the cylinder B, in which operates a plunger, E, carrying a head or platen, F.

As ordinarily constructed and used the platen F is a flat plate forming the head of the plunger, upon which the compress-box or finisher is placed filled with the newly-wrapped plugs of tobacco. Upon the stack of plugs in the finisher is placed a block of wood or metal, loosely fitting the receiver, and the whole then elevated and powerfully compressed against the upper brace or head piece, D. The pressure is thus concentrated upon the tobacco by means of the block, which is caused to sink down upon the tobacco and condense it toward

the lower end of the finisher. By this mode of manipulation the pressure frequently breaks or strains the finisher, because the pressure is unequally distributed and is brought to bear upon the weakest portion of the mold—to wit, its edge or outer end. Another source of danger lies in the difficulty of always adjusting the compress in the center of the platen, for unless this is done a side strain of the parts ensues which is injurious, and sometimes produces serious damage to all the parts concerned.

By my improvements these disadvantages are overcome.

I construct the head of the plunger or platen F with an elevated portion, re-enforce, or tablet, H, centered thereon, and corresponding with the internal cross-section of the mold. This elevated portion H of the platen enters within the opening of the mold, and thus condenses the contents toward the central portion of the compress and relieves the strain from the edge when the plunger is elevated, as shown in Fig. 2. I also provide upon the under side of the upper brace, D, a similar tablet, H', centered in the vertical projection of the cylinder-axis, which tablet enters the upper opening of the mold when the latter is elevated and condenses the contents toward the center and relieves the strain upon the upper edge of the mold.

If it is desired to increase the thickness of the tablets H H' at any time, additional ones, h h', may be added thereto, being held in place by suitable dowel-pins provided for the purpose, or by screws, in the ordinary manner. By thus building up the compression plates or tablets the exact space into which the contents of the mold are to be compressed may be determined.

The elevated or re-enforced portion H of the platen-surface F furnishes a means of adjusting and retaining the compress or mold G in its proper position in relation to the axis of movement; but I prefer to construct the mold with lugs or jaws g, extending sidewise and engaging the vertical supports C, so as to guide and retain the mold in its proper line of movement. Or, instead of the lower set of lugs, g, an independent cross-head, G', may be employed, which is guided upon the side supports, C, and is provided with a central opening corresponding with the raised portion H

of the plunger-head and fitting over it. I also provide means for sustaining the compress-box at any desired elevation, and prevent its descending to the limit of the plunger's travel.

5 Of these I have shown two forms in the drawings—to wit, the suspension-rods J and the adjustable dogs or cleats I. The suspension-rods J are secured to the lower guide-lugs, *g*, of the compress-box G, or to the independent

10 cross-head G', and pass thence upward through the upper guide-lugs, and also through the upper brace, D, of the press-frame. The upper part of the rods J is provided with screw-threads and set-nuts *k*, by which the adjust-

15 ment is effected and the limit of the downward movement of the mold G determined.

The suspension-rods J may be secured to the base A of the frame and operate as supporting-standards, rising through the cross-head

20 G' or lower guide-lugs, with the same means of adjustment; or they may be used as suspension-rods secured to the head-piece D with the adjusting-nuts operating beneath the cross-head G'.

25 The other form of supporting devices mentioned consists of the dogs or cleats I, which embrace the side pieces or guides, C, and are adjustable thereon by means of set-screws *i* at any desired point.

30 Both the suspension-rods J and the cleats I may be employed in conjunction with each other at the same time in order to preserve the limit of movement of the compress-box accurately at a given point and provide

35 against accidental displacement of nuts, &c., on either support.

It will readily be perceived that by increasing or diminishing the thickness of the raised portions H H' of the plunger-head and press-

40 bar, respectively, and adjusting the limit of movement of the compress-box the press may be easily and quickly adapted to any desired limit of compression.

It will be apparent, also, that it is not absolutely necessary that the compress-box should

45 be guided upon the side supports, C, as the raised portion of the plunger-head serves to retain the mold in the proper axis of movement.

50 The suspension-rods J also serve as guides to the mold; but on many accounts I prefer the construction shown, as affording a more durable apparatus for dealing with great pressures.

55 The mode of operation is as follows: The parts being in the relative position shown in Fig. 1 and the compress-box filled with plugs of tobacco or other substance to be compressed, the driving force is applied to the plunger.

60 As the latter rises, the compress block or blocks H rise in the mold, thus producing a preliminary compression before the mold itself is elevated. When the lower face of the plunger-head F reaches the lower edge of the

65 mold the latter is also carried upward, and this movement causes the upper compress-blocks, H', to descend relatively in the mold

G until the upper edge of the mold reaches the press-bar D, or the movement is otherwise sooner stopped, as may be desired. In the

70 former case the parts, at the end of the operation, occupy the position shown in Fig. 2, and the compressed substance is held between the inner faces of the compress-blocks H H' in the central portion of the mold.

75 Where partitions are used in the compress the compress-blocks are suitably divided by slots to allow the passage of the partitions through them.

Having described my invention, I claim and

80 desire to secure by Letters Patent—

1. In a hydrostatic or other press, in combination with a vertically-movable compress-box or mold adapted to be used therewith and raised thereby, a plunger-head or platen provided with a raised portion corresponding

85 with the internal cross-section of the mold, substantially as and for the purpose specified.

2. In a hydrostatic or other press, in combination with a vertically-movable compress-

90 box or mold adapted to be used therewith and raised thereby, a plunger-head or platen, and a head-piece, against which the mold is elevated, both provided with raised tablets corresponding with the internal cross-section of

95 the mold and centered upon the axis of movement, substantially as and for the purpose specified.

3. In combination with the plunger-head and upper press-bar of a tobacco-press and a

100 vertically movable and guided compress-box adapted to be used therewith, the detachable compress-blocks *h h'*, provided with dowel-pins, screws, or other means of adjusting and retaining the same in position, substantially

105 as and for the purpose specified.

4. In combination with the plunger-head of a hydrostatic or other press provided with reinforcing compress-blocks H, a movable and adjustable cross-head, G', provided with an

110 opening corresponding with the said blocks, substantially as and for the purpose specified.

5. In combination with the guides C and the vertically-moving mold G, provided with guide-lugs *g*, the dogs or stops I, adjustable

115 upon the guides, substantially as and for the purpose specified.

6. The adjustable suspension-rods J, in combination with the mold G, substantially as and

120 for the purpose specified.

7. The tobacco-press substantially as described, embodying in combination the cylinder B, plunger E, plunger-head F, side supports, C, head-piece or press-bar D, mold G, provided with guide-lugs *g*, and means for re-

125 taining the mold at any elevation independently of the plunger, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 5th day of January, 1880.

JOHN H. MCGOWAN.

Witnesses:

C. F. HESSER,
L. M. HOSEA.