

G. B. MYERS.
DIE PRESS.
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937,460.

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Fig. 1.

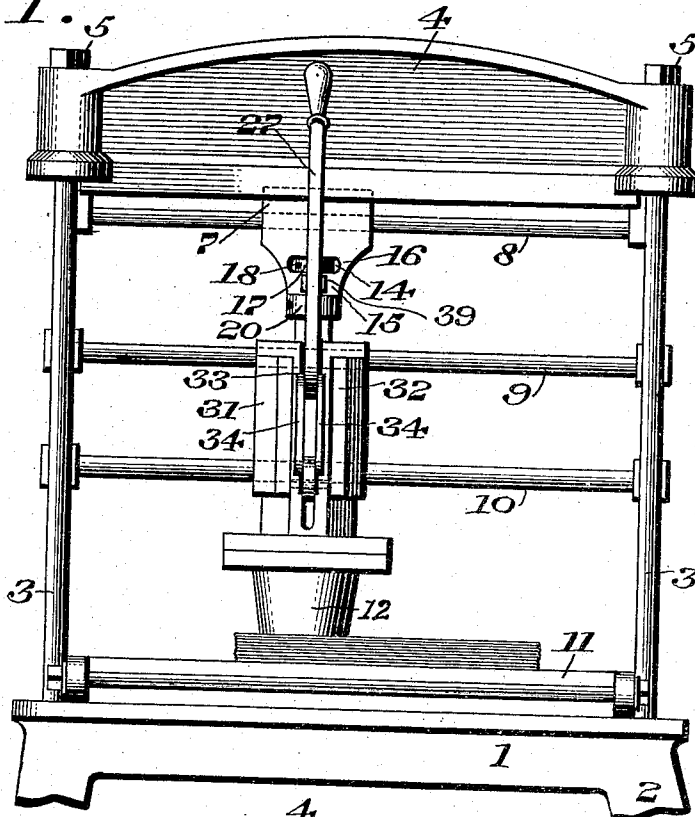


Fig. 2.

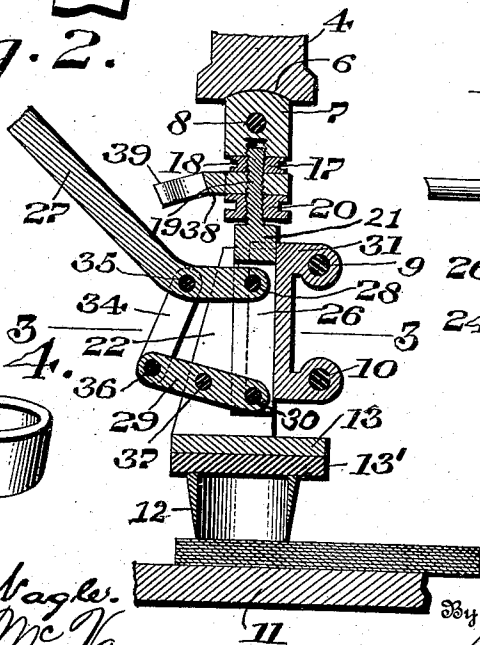
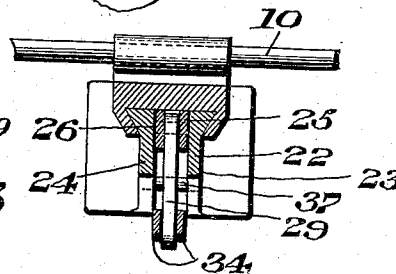


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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DIE-PRESS.

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To all whom it may concern:

Be it known that I, GEORGE B. MYERS, a citizen of the United States, residing at Camden, in the county of Camden, State of New Jersey, have invented a new and useful Die-Press, of which the following is a specification.

The purpose of my invention is to permit hand operation in a dying-out machine.

10 A further purpose of my invention is to provide a hand operated dying-out mechanism which is laterally adjustable upon the machine and which is properly supported at all points in its adjustment.

15 A further purpose of my invention is to provide mechanism for forcing a die through the material to be cut, to place it upon suitable guides permitting lateral adjustment, and to support its thrust in its several positions.

20 A further purpose of my invention is to provide vertical adjustment for a hand operated die operating mechanism, which mechanism is laterally movable and supported against vertical thrust.

25 It further consists of other novel features of construction, all as will be hereinafter fully set forth.

30 Figure 1 represents a broken front elevation of my dying-out machine, omitting the legs of the supporting frame. Fig. 2 represents a broken transverse section of Fig. 1. Fig. 3 represents a horizontal section upon the lines 3—3 of Fig. 2, omitting the table and material supported thereon. Fig. 4 represents, in elevation, a die which may be used with my invention.

Similar numerals of reference indicate corresponding parts in the figures.

40 Referring to the drawings, 1 designates the frame of my machine supported upon any suitable legs 2, and carrying at each side, a pair of vertical supporting rods 3, which provides for a preferably trussed top member or beam 4, which is held rigidly in place upon the rods 3 by means of nuts 5, which are screwed upon the rods 3 to retain the top truss against vertical movement, as hereafter seen. The truss 4 is concaved upon its under surface at 6 throughout practically its entire length to provide bearing for a correspondingly curved head 7 of the dying-out mechanism.

55 Upon the vertical supports 3 at suitable locations thereon and preferably upon the rear support of each of the side pairs there-

on, I support cross-guides 8, 9 and 10, shown in the form of rods also. Evidently other forms of guide could be used in these several places, the functions of the guides being to support the several parts of my dying-out mechanism hereinafter referred to and to permit free lateral movement of the same without interfering with their proper support. This permits lateral movement of my dying-out mechanism to bring it above any preferred part laterally of the table 11 of my machine, which table is supplied with any suitable surface to bring it over any part of suitable material to cooperate with the die used.

As the purpose particularly in mind is the cutting out of symbols, pictures, seals, and other devices from a large number of sheets of paper or other material at the same time, it will be seen that any surface for the table will answer which will hold the paper and not injure the die. Likewise the material to be operated upon may be clamped in place if desired, it being understood that adjustments longitudinally of the machine are made by moving the material, except as to such slight movements as may be accommodated by moving the die beneath the press. Lateral adjustments to bring the mechanism over the portion to be died-out are accomplished by moving the mechanism upon the guides already referred to, illustrated by rods 8, 9 and 10.

The operating mechanism by which I force the preferably separate die 12 downwardly with reference to the frame, table and other fixed parts of my machine, comprises primarily the head 7, a base-plate 13, preferably cushioned against the die by a plate 13' of wood or other suitable material, and mechanism for moving the two relatively to each other, which mechanism bears some resemblance to a reversed lifting-jack. While the combination with a die press of the particular adjustment by which this is accomplished originated with me, a large part of the advantage of my invention may be obtained by other mechanism for producing the relative movement referred to, that is by which the parts 7 and 13 are moved, preferably by hand power.

The head 7 travels upon the rod 8. This head 7 is preferably considerably wider than it is thick in order to permit of an opening 14, of general slotted form without entirely severing the material which joins the lower

part 15 with the main or upper part of the head 7 by means of the unsevered parts 16, upon either side of the slot 14. At the same time the nut 17 lying within this
 5 slotted opening 14 and having spanner openings 18, can be reached by any suitable wrench and turned to adjust the rod 19 within the head 7, said rod being secured in its adjusted position by the lock-nut 20.
 10 This rod 19 is threaded upon its upper portion and at its lower portion is of preferably rectangular cross-section at the extension 21, which, by reason of its preferred shape I call a block, but which may evidently be
 15 otherwise formed to carry out its function. This slides within the frame 22 which is divided into two parts, 23 and 24, to permit the block 21 to lie therebetween and to allow the lever mechanism to play between these
 20 parts 23 and 24 which form guides for the block 21 or vice versa. The lower portion of this block 21 is here shown slotted to form two portions 25 and 26, between which the hand lever 27 is pivoted at 28 and the
 25 short lever 29 is pivoted at 30. In this manner, the hand lever and short lever 29 are provided with pivotal connection within the block 21, which block is adjustable to any
 30 suitable height, but which by the thread and nuts described having been adjusted, becomes fixed vertically for the purpose of the use of the levers and thus forms an adjustable pivot-point for each of these two levers,
 35 though their pivot-points are not relatively adjustable.

The frame 22 while affording a guide for the block 21 is itself intended to move within a guide 31, whose edges 32 and 33, confine the block between them against lateral
 40 movement while permitting and guiding vertical movement of the same, and this vertical movement is effected through the leverage of the lever 27, links 34, and lever 29, the links 34 being pivoted at 35 and 36
 45 to the levers 27 and 29, respectively. The lever 29 is pivoted to the frame 22 by means of a pin 37 which imparts movement to the frame 22 when the lever 27 is operated. The vertical movement of the frame 22 within
 50 the guide 31 moves the base-plate 13 vertically and places any desired pressure upon the separate die 12, which will be forced into or through the material which is to be died-out in whatever position the die is
 55 placed so long as it is beneath said base-plate. It will be evident thus that nicety of adjustment of the die beneath this plate is not necessary, as it will be forced down even though it may not register with the
 60 center of the plate. This allows approximation of the location of the material longitudinally upon the bed of the machine and permits also approximation merely in the lateral adjustment of the operating mechanism,
 65 effecting a great saving in time by

avoiding necessity for perfect register of the parts, as the dies only need exactly register with the work to be died out, and not the plunger and operating mechanism. Block 38 and spring jaws 39 stop and retain
 70 arm 27 in its upper position.

The guide 31 is supported by the rods or guides 9 and 10 and is laterally movable thereon, but when laterally adjusted is fixed
 75 otherwise affording proper side support to the plunger 22 and preventing swinging or other movement of this plunger 22 outside of the vertical line of movement intended.

It will be evident that any form of frame and cross-sections of guides may be used
 80 with some of the advantage of my invention and that other means for securing movement of the parts may be used. It is further evident that other forms of abutment than the trussed member 4 may be used to take the
 85 thrust of the rod 19 or head 7, or the parts corresponding thereto, and that other forms of adjustment and retention of the parts than those illustrated may be used.

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

1. In a machine for dying-out materials, a laterally adjustable die press, a lateral
 95 guide therefor, an abutment against which said press impinges, and means carried by the die press for operating it to effect the dying-out.

2. In a machine for dying-out materials, frame members, a beam secured thereon, a
 100 plurality of laterally extending guides between said frame members, a vertical guide supported by and laterally adjustable upon said lateral guides, a plunger movable within
 105 said vertical guide, a head abutting against said beam, a block secured to said head, and means between said plunger and block for relatively moving them.

3. In a machine for dying-out materials, frame members, a beam supported upon said
 110 frame members, lateral guides connected to said frame members, a vertical guide supported by and laterally adjustable upon said lateral guides, a plunger movable within
 115 said vertical guide, a lever movably connected with said plunger, and means for pivotally supporting said lever and transmitting the thrust thereof against the beam.

4. In a machine for dying-out materials, a frame, a beam secured upon the top of said
 120 frame, a lateral guide beneath the beam and independent thereof, a die press mounted upon the guide to impinge against the beam, a lever carried by said press for operating
 125 the same, and means for adjusting the distance between the guide and the presser head of said press.

5. In a machine for dying-out materials, a frame, a horizontal beam carried thereby,
 130 a horizontal guide beneath said beam, a lever-

operated die press traveling upon said guide and abutting against said beam in operation, and a screw adjustment between the upper part and the presser head of said press.

5 6. In a machine for dying-out materials, a frame, a plurality of lateral guides beneath said beam, and a hand operated die-press comprising a head supported upon one of said guides in proximity to the beam, a
10 vertical guide supported upon the other of said lateral guides, a plunger operating in said vertical guide, and means for moving the head and plunger respectively.

15 7. In a machine for dying-out materials, a frame, a beam, a plurality of lateral guides beneath said beam, and a hand operated die-press comprising a head supported upon one of said guides in proximity to the beam, a
20 vertical guide supported upon the other of said lateral guides, a plunger operating in said vertical guide, means for adjusting the head and plunger with respect to each other, and means for moving the head and plunger respectively.

25 8. In a machine for dying-out materials, a frame, a beam supported thereby, guides in proximity to said beam, a head supported on one of said guides, a vertical guide supported on the other of said lateral guides, a
30 plunger movable in said vertical guide, a block adjustably connected to said head, and

a lever connection between the block and plunger for moving them relatively.

9. In a machine for dying-out materials, a frame, a beam upon the frame concaved 35 on its under side, a die press movable beneath the beam and arranged to abut against the concavity of the beam, and means for guiding the die press in its movement beneath the beam. 40

10. In a machine for dying-out materials, a frame, a beam secured to said frame, a die press movable beneath the beam, guides for directing the path of movement of the die press along the beam, and an adjustment 45 within the die press whereby the position of the stroke thereof is varied.

11. In a machine for dying-out materials, a frame, a beam supported upon the frame and concaved on its under side, a guide be- 50 neath the beam extending in the same direction as the beam, a die press movably mounted upon the guide and having a portion adapted to engage the concavity of the beam, and means for adjusting the distance from 55 the beam at which the stroke of the die press begins.

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Witnesses:

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