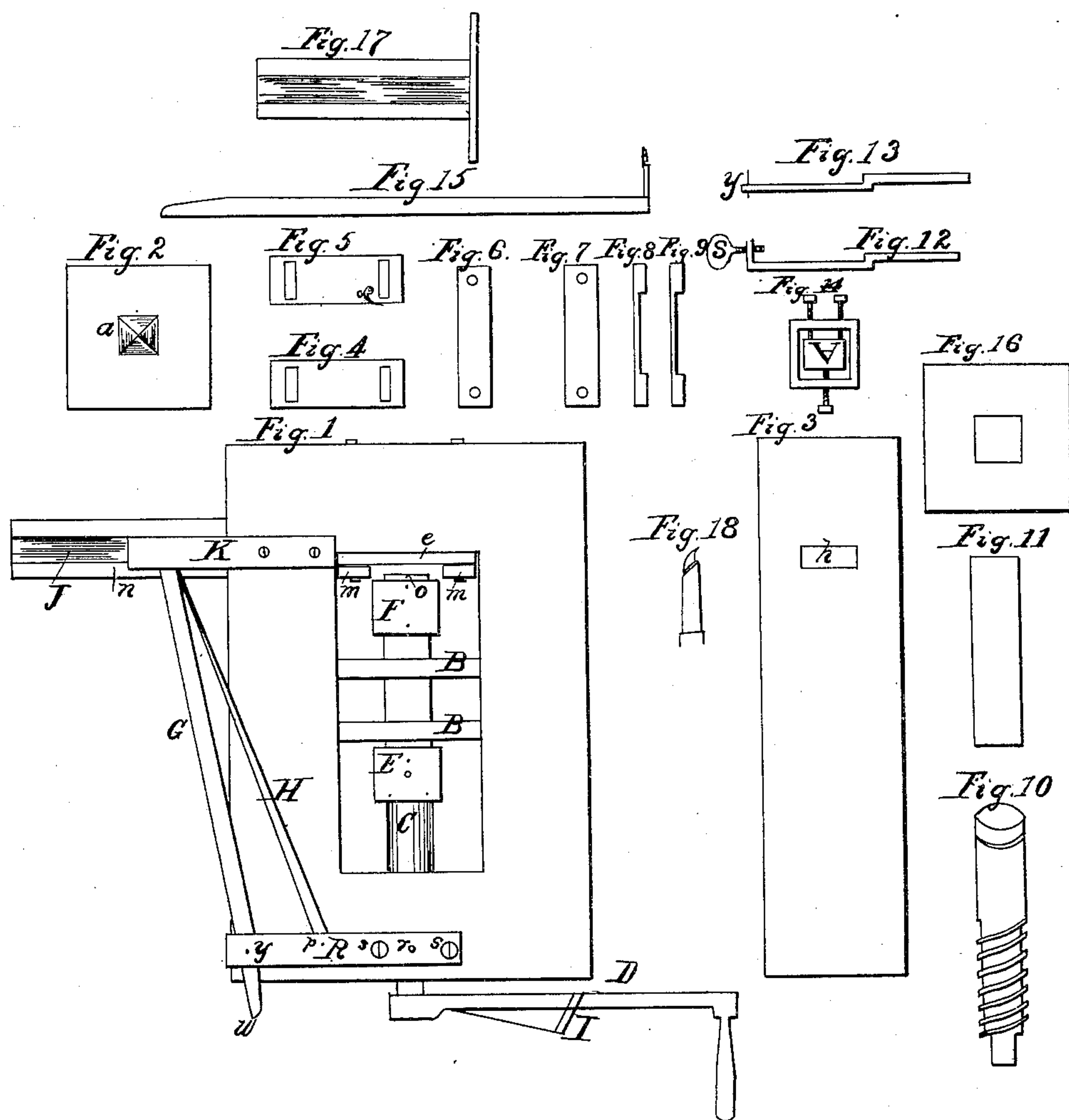


J. McCREARY.
MAKING WOODEN TYPE.

No. 9,454.

Patented Dec. 7, 1852.



UNITED STATES PATENT OFFICE.

J. McCREARY, OF CHESTERVILLE, OHIO.

MANUFACTURING WOODEN TYPE.

Specification of Letters Patent No. 9,454, dated December 7, 1852.

To all whom it may concern:

Be it known that I, JOHN McCREARY, of Chesterville, in the county of Morrow and State of Ohio, have invented a new and
5 Improved Method of Making Wooden Type and other Wooden Figures and Devices; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying draw-
10 ings and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

15 I make a die by using a suitable piece of steel or other metal of sufficient strength and solidity. I face one side and then engrave or stamp upon this face the desired letter, figure or device to the proper depth.
20 I then prepare a piece of wood by cutting it at right angles with the grain and facing it upon one of its ends and making it in all other respects of the appropriate size and shape. I then place the die with its face
25 upon the faced end of the piece of wood and apply power sufficient to make the required impression. The die is then removed and any little elevation upon the sides of the piece of wood that may have been produced
30 by the pressure are removed by the use of any convenient cutting instrument. I then saturate the end of the wood upon which the impression has been made with linseed oil or some other similar oil which prevents the
35 condensed wood from swelling when any cleansing fluid may be applied for the removal of ink from its face.

For the purpose of facilitating the operation of making the impressions by means of
40 dies as above described I use a screw-press as shown in the accompanying drawings which make a part of this specification in which

Figure 1 is a top view of the press when
45 ready for use; Fig. 2 the inner face of the forward end, Fig. 3 a side view of the front side. Figs. 4 and 5 represent two pieces of iron or wood which are placed on the inner face of the end shown at Fig. 2, Figs. 6
50 and 7 represent two other similar pieces which are placed upon the last named pieces and at right angles with them, Fig. 8 being a profile view of one of the last named pieces and Fig. 9 a profile view of the other, Fig.
55 10 represents a strong iron screw, Fig. 11 is a square bar, Fig. 12 is a profile view of

a piece of iron which is placed near the forward end of the press. Fig. 13 is a profile view of a piece of iron placed near the other end of the press, Fig. 14 is an end view of
60 a band that surrounds the forward end of the bar described at Fig. 11, Fig. 15 represents a lever with a small dog suspended at the forward end, Fig. 16 represents a side view of the bearers through which the
65 square bar passes, Fig. 17 represents a piece of wood with a groove in it and a thin piece of iron attached to one of its ends.

The frame of this press I usually make of wood. In one of the end pieces I place
70 a strong nut through which I pass the end of the large screw, the thread upon the screw being exactly adapted to the thread in the nut (this nut may be made of cast iron or other suitable metal). On the small
75 end of the screw that has been passed through the nut I place a lever or crank as shown at D Fig. 1, the other end of this screw extends toward the forward end of the press as shown at C Fig. 1. The square
80 bar which is represented at Fig. 11 is passed through two bearers as shown at B, B, Fig. 1 Fig. 16 being a side view of either of them; these bearers may be either wood or iron. The end of the square bar is then con-
85 nected to the end of the round bar or screw by an iron band as shown at E Fig. 1. The manner in which I form this connection is by passing two small bolts down through the band so that they rest in a groove that
90 is cut near the end of the large iron screw bolt entirely around it, and a small thumbscrew is passed through the upper side of the band and into the square bar; by thus
95 producing a kind of swivel, the screwbolt may be rotated while the square bar is only made to advance or recede endwise. To prevent friction and wearing upon the ends of these two bars by the end of the one rotating upon the end of the other I case-
100 harden the ends of both and make a hole through the band immediately over their ends through which I conduct oil to lubricate them. On the other end of the square bar I place a square band and secure it
105 there by a thumbscrew which passes through the band into the bar. This band projects beyond the end of the bar to the distance of $\frac{3}{8}$ of an inch. In this open end of the band I place the die with its back resting against
110 the end of the square bar and its face projecting beyond the band one fourth of an

inch; the die is secured in this situation by means of screws, two from the underside and one from the upper side, by drawing these screws one die may be removed and
 5 another put in its place at pleasure. The bearers marked B B in Fig. 1 I pass down in their situation in the frame in grooves cut in the side pieces of the frame and secure them by pieces of iron screwed upon them.

10 In the central portion of the inner face of the forward end piece of the frame I place a smooth piece of steel or hardened iron as shown at *a*, Fig. 2, this piece of steel or iron, is let into the wood until its face is on a
 15 level with the face of the wood. I then place the pieces represented at Figs. 4 and 5 upon the face of this end piece of the frame with their edges approaching near to each other and thus forming a kind of
 20 groove which extends from side to side of the press. In the upper piece I insert a small spring with one end extending down into the groove or space between these two pieces; this spring is shown at *c*, Fig. 5. The use of
 25 this is to prevent the block from going too far. These pieces are five eighths of an inch thick. There is a mortise cut near each end of each of these pieces extending nearly across them and entirely through them. The up-
 30 per edge of Fig. 5, is seen at *e* Fig. 1. I then place the pieces seen at Figs. 6 and 7 upon the pieces seen at Figs. 4 and 5 at right angles with them, with their excavated sides next to the other pieces. These pieces
 35 are secured in their places by small screw-bolts which pass through all those pieces and also through the end piece of the frame, the heads of these bolts are on the inside of the frame and on the other end I place small
 40 burs or nuts. When these burs are loose the pieces seen at Figs. 4 and 5 may be moved up or down at pleasure but when the burs are tightened these pieces are made fast; by this arrangement I can make the
 45 groove or space between them larger or smaller as I may wish. I make a mortise through each side piece of the press exactly opposite the space above described so that there is a passage directly from side to side
 50 through the frame. The position of these mortises is seen at *h* Fig. 3. I then attach the tube or grooved piece as shown at Fig. 17 to the side of the frame by means of screws that pass through the thin iron on the end
 55 of the tube, this tube is seen projecting from the side of the machine at *j* Fig. 1. I then place the lever shown at Fig. 15 (which may be made of wood or iron upon the frame as shown at G, Fig. 1. To the forward end of
 60 this lever is suspended a small dog which is made of iron or steel, near one end is a kind of hinge joint, the lower end is made pointed and hard and a little curved as shown at Fig. 18 which is a side view of this dog.
 65 This dog is suspended to the forward end of

the lever by a small bolt or rivet so that it is movable at this point. Its curved or concave side looks toward the press, and when it is carried from the press by the end of the lever a flexion is produced as the point rests
 70 upon any substance below, and when it is carried toward the press an extension is produced the point being thus made to strike into any substance will carry it forward with it. That piece of iron shown at Fig. 13
 75 is placed upon the press at R Fig. 1 and secured there by screws at *s s* Fig. 1 while the other end rises over the lever and a bolt is passed through it and the lever down into the side of the press, as shown at *y* both in Fig.
 80 1 and Fig. 13. I also place a spring either of wood or steel as seen at H Fig. 1. This spring is fastened to the under side of the iron shown at Fig. 13 by rivets as seen at *p* Fig. 1. The iron shown at Fig. 12 is placed
 85 near the forward end of the machine at K Fig. 1, so that the set screw shown at S Fig. 12 is exactly against the end of the lever. This iron is also fastened in its place with screws. There is a hole at *r* Fig. 1 that extends down
 90 into the nut for the purpose of conveying oil to the screw in the nut. The crank is made with an inclined plane on its side as seen at I Fig. 1 which when the crank is brought up and back this inclined plane will
 95 strike the lever where it projects over the end of the press as seen at *w* Fig. 1. When the crank strikes the lever at *w* it carries its short end from the center of the press and makes the long end advance toward
 100 the center. In order to make this press produce the desired results I select the wood that I wish to use and have it sawed into boards or plank of the desired thickness, the sides of these boards or plank are then
 105 made smooth (the lumber being first well seasoned.) I then measure the length of a type or any other desired length and cut transversely across the board or at right angles with the grain of the wood. One of
 110 these pieces is then placed in the tube *j* Fig. 1 and by bringing the crank back against the lever a few times the dog suspended to the other end of the lever will have brought a portion of the block imme-
 115 diately opposite to the die that is placed in the band on the end of the square bar as shown at F and *o* Fig. 1; the crank then carried forward rotates the large screw in the nut and makes it advance carrying the
 120 square bar before it and thus brings the die against the wood on which the impression is desired to be made, the crank being carried still farther causes the die to make the impression. As the crank is brought back the
 125 die is drawn from the wood it being prevented from following the die by means of the pieces shown at Figs. 6 and 7 the ends of which are seen at *m m* Fig. 1.

The distance that the end of the lever is 130

thrown back by the spring is regulated by the set screw heretofore described, when the proper distance is ascertained the screw is left in that condition so that the spring will
 5 carry the end of the lever at every movement to the same point. The crank then strikes the short end of the lever and causes the other end to carry forward the type-block until another portion is brought before the
 10 die, then by the same operation as before another impression is made and by thus moving the crank first in one direction and then in the opposite, one impression after another is made until the block is carried out of the
 15 reach of the dog. I then place another piece in the tube and repeat the operation and so continue until I have made as many impressions of one kind as I desire and then I remove the die and place another one in its
 20 place and then resume the operation with the crank. When the block has received as many impressions as it will admit it will come out at the opposite side of the press from which it entered. The little roughness
 25 upon the sides that may have been made by the condensation of the wood is then trimmed off and the face of the stick saturated with oil as above named after which the impressions are separated the one from the other
 30 until they are all separated. For this purpose I use a fine saw and a guide, a buzz saw also answers well for this purpose. When it is desirable to carry forward the block on which the impressions are to be made to
 35 a greater distance than one inch at one time I place a piece of wire on the upper side of the tube that leads into the press at such an angle as to prevent the dog from describing any part of a circle while it is
 40 carried back by the lever. This wire is shown at *n* on the tube *j* Fig. 1.

This machine or press may be worked by hand so that from twenty to thirty strokes of the crank may be made in a minute and
 45 each one produce a perfect impression and

when smallish type are to be made from four to six or eight letters may be engraved upon the same die and consequently as many impressions made upon the wood at a single stroke of the crank. Or the ma- 50
 chine may be made stronger and instead of the square bar, a broad flat bar can be used, and a screw of the appropriate dimensions and a pitman attached to the crank and steam or other patent power applied so that 55
 from sixty to one hundred large letters or two or three hundred smaller ones made in a minute. To adapt one of these presses to the application of any very potent power the crank would be necessarily shorter than 60
 those used by hand (those used by hand and the one described in Fig. 1 is eighteen inches long) and then the lead of the screw would have to be appropriately changed, so that a shorter stroke would advance the screw to 65
 a sufficient distance. The lead of a screw for a hand press I so arrange that the screw advances one eighth of an inch while the crank performs one quarter of a revolution and the inclined plane made on the side of 70
 the crank is so arranged that it will not strike the feeding-lever until the die is entirely free from the wood when it has made its impression.

I do not claim the use of a press and dies 75
 for the purpose of making wooden type; but

What I do claim as new and desire to secure by Letters Patent, is—

The arrangement of the propelling lever D so that by its return movement in combi- 80
 nation with the feeding lever G, spring H, dog, and feeding tube I, it will move forward as required the blank wood to receive the impression as above described and set forth.

JOHN McCREARY.

Witnesses:

DAVIS MILES,
 JOHN STIMSON.