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Sheet 1. 2 Sheets

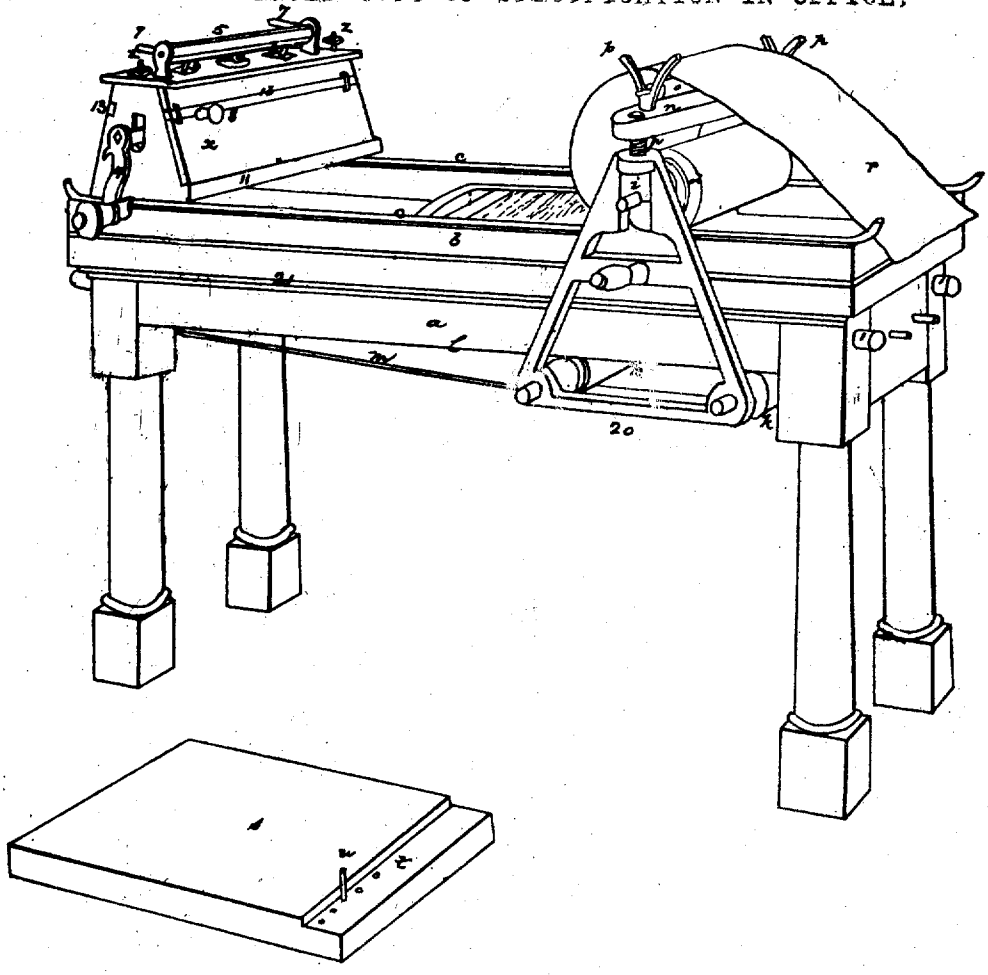
J. Warren.

Printing Press.

No.

Patented May 2. 1835.

NO PRINTED COPY OF SPECIFICATION IN OFFICE.



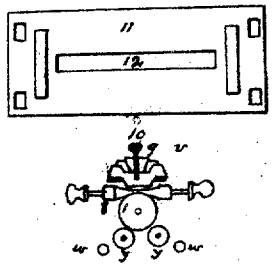
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J. Warren. Sheet 2. 2 Sheets.

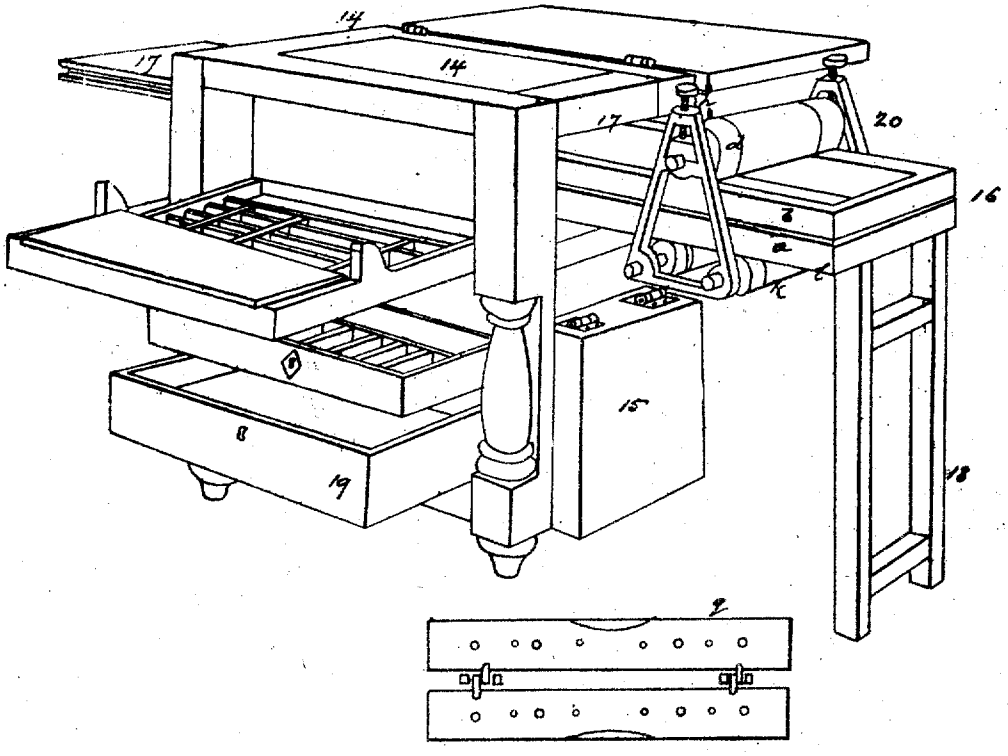
Printing Press.

No. 11

Patented May 2. 1835.



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May 2 1835

Frank Mason of Norwich Ohio

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Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Frank Mason himself of his improvements is an specification for Printing called Masons Improved Printing apparatus.

Be it known that I Frank Mason of Norwich Township Muskingum County and State of Ohio have made an improvement in the method of using an apparatus for printing called Masons Improved Printing apparatus which is described as follows. First a frame or case which supports and contains the different parts. The platform or table on which the types are placed. Three Rope rollers connected together at their ends in a triangular relation to each other. one to pass over the types called the impression Roller. supported at each end by a lateral railway and two Granite pressure rollers. resting up against similar railways upon which the type table rests. clamps and guides for making Register; Inking apparatus. consisting of a chest or box containing the ink reservoir, distributing rollers, inke rollers with knobs in which they are suspended. said knobs regulating the height of the inke rollers by nuts and screws. a trough for holding water to wet the rollers with. The frame (a) in the annexed drawing is made rectangular. of any convenient size adapted to any kind of work for which it is intended. On the upper side is a plain horizontal surface made of iron. stone. wood. or any other suitable material. and it may be covered with a hard coating of shellac and sand. or shellac and iron filings. or when made of wood the under or first part of the coating may consist of glue and sand. and the upper or finishing coat of shellac and iron filings. The form of types is placed upon this surface above the table and resting on the sides thereof is another frame (b) called the upper railway between which and the table is put some elastic substance. such as hair cloth. metal springs or gum elastic for keeping the press rollers always at the desired height. being

which would allow the impression Roller to approach near enough to the type to give the impression. Said rails falling below the level of the face of the rail ways may be made of wood alone, or wood with metalic rods (c) fastened on three sides. The impression roller bearing a groove at each end on which the iron rods work, and upon which the impression roller moves backwards and forwards; The impression roller (d) is made of steel or metal and turned true, and of any convenient diameter, from 2 1/2 to five inches being covered with cloth, or other elastic substances, the cloth secured & closed by a fine drawn seam. to procure an equal surface. The cloth being covered lastly with paper, to be changed when desired. The pressure upon the types is regulated by the screws (k) acting upon the metalic Bows (i) over the gudgeons of the impression Roller being counteracted by the two under rollers (k). pressing up against the under surface of the under railways (l.) said Rail ways may be of wood, or metal or both. the under or counter pressure rollers may be made of wood with or without metalic ends. having groves or flanges to keep them in track. The three combined rollers are kept square or at right angles with the type table by means of cords (m) or racks & pinions on the under rollers. The under rollers are placed at a suitable distance apart so that when the combination of Rollers is moved the motion will be steady and the pressure uniform. To keep the paper smooth and to prevent its running before the impression Roller. a bar (n) is placed over the impression roller, over which the paper is drawn. When this friction is not sufficient to prevent the paper from wrinkling. the roller (o) is drawn to the Y (p). to add to the friction by the whole or part of its weight. This being modified by the screws of the Y's together with the elastic clothing of said roller; or the paper is drawn over the roller. when the least friction is desired. The regulating clamps (q) consist of two pieces of brass hinged together and recessed pleasure, having points soldered at convenient distance in one side and corresponding holes in the other. These are the points in the furniture which is locked up with the form and placed at any convenient distance from the type; and corresponding holes in said clamps, fitting upon the points in the furniture

which

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being the paper (P) when clamped in the right position to be printed, and furniture having also slots to guide the bearings of the clamps into place. S is a square frame having a rabbet (R) on one inside edge with its sides. The clamps being placed upon against the shoulder of the rabbet receive one end of the paper when it is placed on the board, the edges of the sheet corresponding with the edge of the board, the clamps being shut, clasp the paper in a proper position to be printed. The pins in the clamps (P) enforcing the paper, by which holes the second side of the sheet is registered. The clamping sheets of different widths as may be the (R) is used against the end of the clamps (P) place so as to make the paper when clamped, correspond with the pins. The making apparatus (V) may be double or single one as best to each purpose. The double roller is constructed as being as the typestable (T) resting at the ends upon friction rollers (R) which are placed to run upon the rods of the railways. It consists of a box (X) or sheet containing two ink rollers (Y) suspended by hooks, and their height regulated by the screws and nuts (Z) at the top of said hooks, above the ink rollers is a distributing roller (I) which receives ink from the cloth (E) in the bottom of the ink reservoir (3) and is thereby put down upon the ink rollers and turned by a crank (H) having also a lateral motion, which motion distributes the ink upon the ink rollers, which being done, the distributer is lifted from the ink rollers and suspended between them and the ink reservoir by means of the bar (5) so that the short pins (6) stand vertically. When more ink is taken from the bar is turned further round and the long pins (7) forces the distributer against the reservoir and keeps it there if desired.

The pin (9) a small from the little transverse roller (8) is inserted upon the distributer to carry the ink from the ends to the desired place. Above the distributer is the ink reservoir having a top (9) and light with a hole stopped with a screw (10) The object of the air light top is to prevent the ink from falling when not in use, and that of the screw stopper is to let air in when the ink is required. The bottom of the ink (11) is movable at pleasure having attached to it a trough (12) made of lead or other metal not subject to corrosion.

by hand. The bearing rollers run all round the box sitting over it keeping the rollers even & the ends of the box there one stop (13) through which the handles of the transverse rollers (12) protrude. These being stopped with the sticks render the box, while not in work impossible to draw and keeps the moisture within the box. The simple ink roller the ink being taken from the reservoir by the little transverse roller which as the frame drops down upon the ink roller, and works from end to end of it. Giving the handles of the transverse rollers one thirty second turn by which the ink roller is turned. The object of this invention is to simplify and cheapen the printing press so as to adapt it to the circumstances and capacities of private citizens. It may however be used to advantage by professional printers. When used by private citizens the Press, inking apparatus, type cases and all the implements necessary for printing are enclosed (if desired) in one piece of furniture such as a secretary (14) dining table chest of drawers, or counting house desk. When combined with the secretary or similar piece of furniture the ends are covered with falling doors (15) the type table (16) and cases (17) sliding in metal at either end. The type table when drawn out is supported at the outer end by a movable standard (18). the other end remaining in or resting on the piece of furniture to which steps are affixed to keep it at the proper place. But when shut up the rollers inking apparatus &c may be deposited in one of the drawers (19) When the types are to be chosen & laid by those who are unaccustomed to their use I propose that the nicks in the faces of the brackets (20) should be made to correspond with those in the letters so as to admit of the rod moving them confining each corresponding stick full together, so that they can be handled while dry and clean without displacing them, and without that fatal and still which results from long exposure. Mode of manufacture; The type table when made of iron or steel, may be covered with a hard coating of shell lac and when turnings and fittings of shell lac and sand. Thus having the bed fastened permanently upon the wooden railways which are provided ready for printing put a thick coat of shell lac dissolved in good alcohol over the surface of the bed. Then throw on some more turnings and when the shell lac has set brush off the loose turnings and what sticks constitutes a kind of frame work for the coat. Put on the combination of press rollers (21)

marking the wooden rollers (R) take care against the wooden railways, then bringing the top rollers to their places work backwards and forth it will roll down the coating to a surface corresponding exactly to the surface of the top rollers and the lower railways. Then coat and this process is to be repeated till the top rollers touches at all points. Then another coat of shell lac is spread on with a straight edge, and iron filings evenly sand is immediately sifted over the surface. when this becomes dry oil is smeared down with sand stone, and the dust made by smearing is used in the after coats instead of sand, or mixed with the iron filings or fine turnings, and this process of coating and smearing is repeated till the surface is sufficiently even. Then the rollers are put on the railways at top and bottom & impression rolling and a block of wood is cut out so as to fit the diameter of the impression roller, and slipped on it and reaching down to the surface to be smeared, adjust both ends of the impression roller (d) precisely at the same distance from the under surface of the under railway. Then throw dry sand upon the surface and move the rollers backwards and forth, and the block alternately along the whole width of the bed. Thus grinding the surface to correspond at all points with the impression roller, using the surface of the impression roller as a pressure to the grinding block. when the bed is made of wood there are mouldings (21) all round projecting above the wood foundation. take a gages scribing tool with two moving points to answer to the two under rollers. Place the two points up against the under railway and scribe the upper surface of said mouldings down to the desired height, so that using the scribed edge as a guide for the thickness of the coating it will be from an eighth to a quarter of an inch thick. Then take cream glue and sand about the consistence of cream, or as thick as it will spread, and having the wooden surface previously heated as above the same temperature, spread on the coat of glue and sand, with a straight edge or spreading Box, using the scribed edges of the projecting mouldings as gages or setting points for the straight edge to work and before the glue cools sift as much fine sand into its surface as it will receive. when dry brush off the loose sand and proceed to finish with coats of shell lac and iron filings as before directed. To avoid the necessity of heating the wooden bed when it is done

to prevent blistering. The glue and sand may be put on in two coats. the blistering of the first being thus prevented in which case the sand is not sifted into the surface of the first coat. in this last case the straight edge or box is notched at the ends where it bears upon the mouldings. so that the first coat shall constitute but about half of the thickness of the casing. the next coat is put on without notches in the spreading rest which makes the surface flush with the top of the mouldings. The top surfaces of said mouldings are used throughout the process of spreading the after coats of dissolved Shell Lac. The object of which is that the surface of the type can be easily made to correspond with the surface of the under railways. upon which correspondence the perfection of the impression depends. The roller moulds are made by dipping a polished mandrille into melted metal such as lead and antimony equal parts, or pewter. a coat immediately chills around the mandrille which is then stretched with gentle blows of a hammer. and being thus disengaged the mandrille is forced out by placing a wooden plug against the end and striking a heavy blow with a large hammer. adding a tin bottom to this tube it is ready for use after putting to it the usual top. The troughs in the ink boxes are made by dipping a mandrille part way into the melted metal in a horizontal position. The coat that chills forms the trough complete. If the trough be too long as to settle in the middle upon drawing out the metal the middle is sustained by a hook in the hand of a second person. Mode of Operation. The types being placed on the table or platform locked up in a chase in the usual manner, with the registering pieces of furniture placed at a proper distance from the form of types. The rollers of the inking apparatus having been supplied with ink are passed over the form by moving the apparatus back and forward. its ends resting on the railways. The sheet (r) to be printed is placed upon the registering board (S) its upper edge corresponding with the upper edge of the board. and the clamps are placed upon the settled end (t) with their ends against the movable pin (u). so as when shut to clasp the paper in the right place. the clamps on their sheet. clasping one end of the paper and by means of the printed marks serving for registering. the second side of the sheet. The sheet is then

moved by the clamps to the press. The bars and thumb screw the feather bars (m) and the clamps the movements there being guided by slots and pins. The combination of rollers (RR) is then moved forward and gives the impression. For a further illustration of these improvements I refer to the annexed drawings and to the models deposited in the Patent office. We therefore claim and desire to be secured by Letters Patent as the above described apparatus for inking, registering & placing the sheet and giving the impression in printing. Particularly the arrangement and combination of the plate and their application to ornamental articles of furniture

Josiah Warren

Witnesses
William P Elliot
James Bayliss