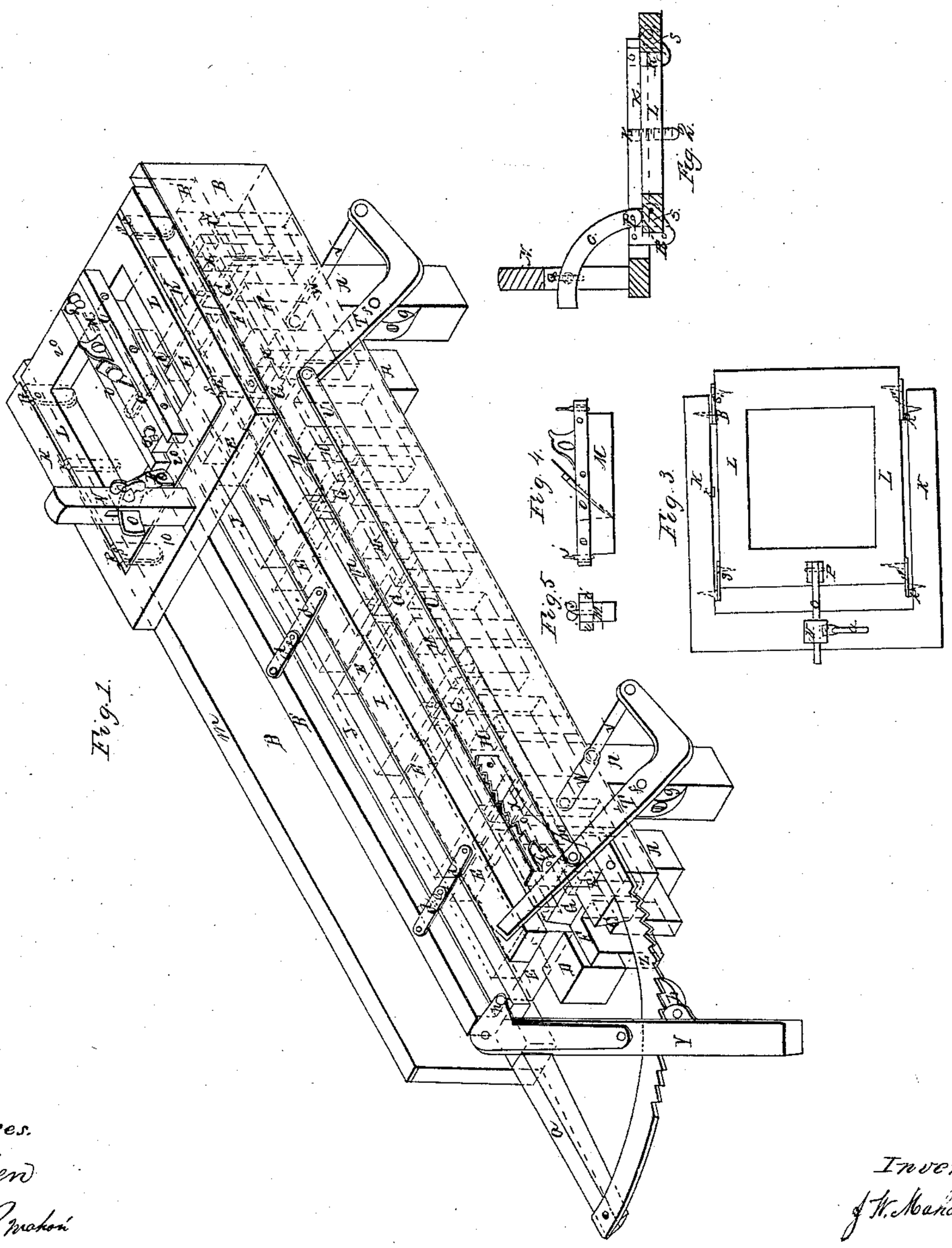
J. W. Mahan,

Work Bench.

No. 18,345. Patented Oct. 6, 1857.



Witnesses.
E Maher
A. W. Mahon

Inventor.
J. W. Mahan

UNITED STATES PATENT OFFICE.

J. W. MAHAN, OF LEXINGTON, ILLINOIS.

JOINER'S BENCH.

Specification of Letters Patent No. 18,345, dated October 6, 1857.

To all whom it may concern:

Be it known that I, J. W. MAHAN, of Lexington, in the county of McLean and State of Illinois, have invented a new and useful Improvement or Improvements upon an Improved Carpenter's Bench, which was patented by me in the United States of America March 25 and September 16, A. D. 1856; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure (1) is an isometrical view of the bench; Fig. (2) a sectional elevation of the sash runner and plane sash, Fig. (3) a top view of the sash runner and plane sash; Fig. (4) is a side elevation of the facing plane; Fig. (5) is an end elevation of the facing plane.

In Fig. (1) A, A, A, A are the legs of the bench.

B, B, B, B′, B′ are the plates and sills. C, C, is the front jaw I I is the clamping jaw. J, J, is the connecting drawing or clamping rod. *d*, *d*, *d*, *d*, *d*, *d* are the levers which operate the clamping jaw I, I. *e*, *e*, *e* are the working pins that are fast to the clamping rod J, J, J. Y is the clamp jaw lever. *h* is the working pin attaching the clamp jaw lever Y to the clamping rod J, J. *b* is the basket hook of the lever Y. Z is a circle iron passing through the lever Y. *a* is a projection of the bench to which the circle iron Z is attached at its outer end. F, F, F, are the sides of the raising bottom. G, G, G, G, G, G, G, are the ribs of the raising bottom. H, H, H, H, H, H, H, are the plugs or stops of the raising bottom. *m*, *m*, are the sash track or rests. T T are the raising levers. *g*, *g*, are the hubs of the raising levers. *f*, *f*, are the working pivots of the levers T, T. V, V, are the axles of the levers. W, W, are the friction rollers. U, U, is the connecting rod. X is the circle over which the long or front raising lever works. *c* is the ratchet hook of said lever. E, E, E, E, E, E, E, are the rib brackets of the bench through which the connecting rod J, J, works. K, K, are the sides of the sash runner. N is the stand post of the sash runner. 10 is the cross tie or rail of the sash runner. R, R, R, R, are the lips of the sash runner. L, L, are the sides of the sash. (20) (20) are the lock or end rails of the sash. S, S, S, S, are the working parallel levers of the sash. *o* is the circular tongue of the sash. P is the working pivot attaching it to the sash. Q is the thumb screw. M is the facing and jointing plane. *i i* are the plain slides. K is the gage.

In Fig. 2 *k* is the gage, K is the back side of the sash runner, N the stand post, *o* the circular sash tongue, *p* its working pivot, Q the thumb screw, L the back side of the sash, *s s* the parallel levers of the sash, R R the lips of the sash runner.

In Fig. 3 K K are the sides of the sash runner, 10 the tie or cross rails, R R R R the lips, N the stand post, Q the trunk screw, L L the sides of the sash, 20 20 are the lock or end rails, S S the parallel levers of the sash, P the pivot or pin of the circle iron O.

In Fig. 4 M is the facing plane, *i i* the plane rests or slides, *j j* the thumb screws.

In Fig. 5 M the plane stock or the end of it, *i i* the rests, *j* the thumb screw.

Now in order to enable others skilled in the art to make and use my improvement I will proceed to describe the construction and operation of the same, however inasmuch as my improvement relates to or is upon a previously patented machine and can not be used but in connection with said improvement, therefore I only deem it necessary to describe my improvement, that is, the present one. In this description I shall in the first place show the general points of difference between the construction of my present improvement and the one patented September 16, A. D. 1856. In this improvement I combine the jointing and facing bench so as to make but one bench both for facing, thicknessing and jointing lumber the operator working only on one side of the machine or bench. This is the first point of difference between my present improvement and the one of September 16, A. D. 1856.

The second general point of difference is that I use a peculiarly constructed sash for the facing and jointing plane to work in in facing and jointing. This sash also gives the gage in thicknessing.

The third general point of difference is that I use a peculiarly constructed jaw for clamping and holding the lumber both in facing and jointing. The artist now by what I have said and by the aid of the

specification of my improvement of September 16, A. D. 1856, being able to comprehend the general character of my present improvement, therefore I will now take up those points or general features and by the aid of my drawings give a particular description. There are to be 2 bents in the bench, each bent to have 3 legs only 2 legs in each bent being shown in drawing Fig. 1. The legs are marked A A A A; they are the front and middle ones; there is to be a recess framed in these bents of the bench between the front and middle legs to receive or hold the raising box.

F F F are the sides of the raising box or bottom, it is seen between the middle sill D and front jaw C in drawing Fig. 1. The raising box F is made with 2 sides open top and bottom. There are to be a proper number of heads between the sides on the top of the box; there are to be a number of ribs beveled on the upper edge. These ribs in drawing Fig. 1 are marked G. The raising bottom is also to have a number of stops or plugs the tops of which are to project one half inch above the ribs of the raising bottom (these are to be on the front side of said box) so as to form the rabbet in which one side of the stuff is held in facing. There is to be a corresponding set of ribs, the front ends of which are to rest on the middle sill D and the back ends on the back sill B and under the second sill B′.

The raising levers are to be constructed and operated the same as in the improvement of Sept. 16″ 1856. The front and stationary jaw C is to be so constructed that the upper edge of it will be $\frac{3}{4}$ in. above the upper edge of the middle sill D. The lower edge of this jaw is to be even with the front side of the raising box F. The upper edge on the inner corner is to be flared or beveled so as to project back far enough to come or be on a line with the back side of the stops or plugs. There are to be recesses or joints cut in this projection of said jaw to receive said stops when the raising bottom is drawn up to the highest point, in which position the ribs of the raising box will be on a level with the stationary ribs of the middle sill D and back sill B. The object in this is to form a continuous and even bottom across that part of the bench on which the lumber is to be placed in facing and thicknessing. The movable and clamping jaw I is to have gains cut on its under side so that it can rest down on or over the back ribs E so that its lower side will just pass freely over the middle sill D in the jaw moving back and forth in clamping. From the upper edge of the gain in the jaw the jaw is to be beveled so as to project to the front so as to fit the contrary projection of the front jaw. When they are closed the lip or projection of the jaw I can not be shown in the drawing Fig. 1. That part of said jaw is to clamp the stuff in jointing in performing, which operation the raising bottom will be down in the lower part of its recess (before described) at any desired point. The plugs H of the raising bottom also forming the rabbet in jointing that part of the jaw above the stationary ribs to square on the face front and $\frac{1}{2}$ in. thick it clamping in facing the clamping jaw I is to be opened and closed or operated. By a series of levers working on the wedge principle. See drawing Fig. 1 these levers are marked *d*, are fastened by pivots to the jaw I and the clamping rod J and upper sill on the back B′ this rod may rest in sliding and drawing on the top of the ribs E or may work through a slot in them, the levers being so set as to not interfere with said ribs, the clamping rod is drawn by a long lever. This lever in the drawings is marked Y. Its fulcrum pin must be set on a line with the pins of the lever on or attached to the back and upper or second sill B′. Its drawing pin must be on a line with the drawing pins of the levers *d* on the clamping rod J also the distance between its (the lever Y) fulcrum pin and drawing, and the fulcrum and drawing pin of the nearest lever *d* must correspond now by moving the lever Y from right to left or vice versa the jaw is slid out or in this is now understood. There is to be a projection of the back sill B; this projection is marked *a* and is to be on the front end of the bench. The front sill B at the front end there is to be a circle iron attached, its opposite end is to be attached to the outer end of the projection *a* in the drawing. This circle iron is marked Z and is to have ratchet teeth to hold the ratchet hook *b* of the lever Y when the lumber is clamped either in facing or jointing the cross ties connecting the front and second legs are not shown in drawings Fig. 1, however they are to be low or near enough the base of the legs to form the recess sufficiently deep to join 16 or 18 inch board.

Deeming the bench sufficiently described to be readily understood I will now describe the sash, however I would state that the plates of the bench must be as thin as practicable and just deep enough to admit the sash when set (with the plane in it) to the shallowest gage. The first thing or feature about the sash is the runner. In drawing Fig. 1, K K are the sides, 10 the end it being a frame with 2 sides and one end, it is to have a stand post on the end, in the center it is marked N, the post to be fastened solid into the end piece 10; there is to be a mortise in the upper end, the mortise to be parallel with the sides of the runner, the runner is to have 4 lips to project below or on the lower side, they are marked R. The next is the sash, to be a square frame. L L

are the sides. 20 20 the ends, to be made to fit nicely in the runner and to be attached to it by 4 parallel levers; they are marked S S S S. The connection is at the lower end of the lips of the runner by working pins, the levers are also attached by working pins to the sash. The various distances between all these pins in every way must all correspond and levers must also be set on a square with each other. Now it will be seen that when the levers are perpendicular with the lips of the runner the top of sash and of the runner, to understand this see drawings Fig. 1, the sash is held to its place at any given point by a circular tongue which is fastened to the front rail of the sash by a hinge joint, the opposite end passing into the mortise of the stand post N and is held by the thumb screw Q binding on it. To understand this see drawing, Fig. 2.

On the front side of the rail of the runner there is placed the gage scale; it is marked *k*. Now the gage is obtained by raising or lowering the sash in the manner just illustrated in drawing, Fig. 1.

m m is the sash runners, track to be made of iron and planed. The runner is to have brass boxes to fit said tracks there are to be 4 planes so constructed that they will set in the sash, the face of each being below the end rails of the sash and having a projection on each end to rest on the end rails of the sash, the projections on 2 of the planes to be used in jointing must be so constructed as to adapt the face of the planes to the lumber (to be jointed either square or beveled) by means of set screws on just the same plan that any jointing plane is constructed in my improvement of Sept. 16″ 1856 only the ends of the plane slides must make the projection.

Deeming further description unnecessary now I would state that, I do not claim as my invention, that is, as new the entire carpenter's and cabinet maker's assistant work bench that is illustrated and described by my drawings and specification, for part of it was patented by me in March 25 and September 16″ 1856, but

What I do claim as my invention and desire to secure by Letters Patent is—

The cabinet maker's and carpenter's assistant work bench constructed in any manner substantially the same as shown by my specifications and drawings.

J. W. MAHAN.

Witnesses:
E. MAHAN,
A. W. MAHAN.