J. ESSEX.

MACHINE FOR MAKING CARPENTERS' SQUARES.

No. 6,332. Patented Apr. 17, 1849.

Fig. 2.

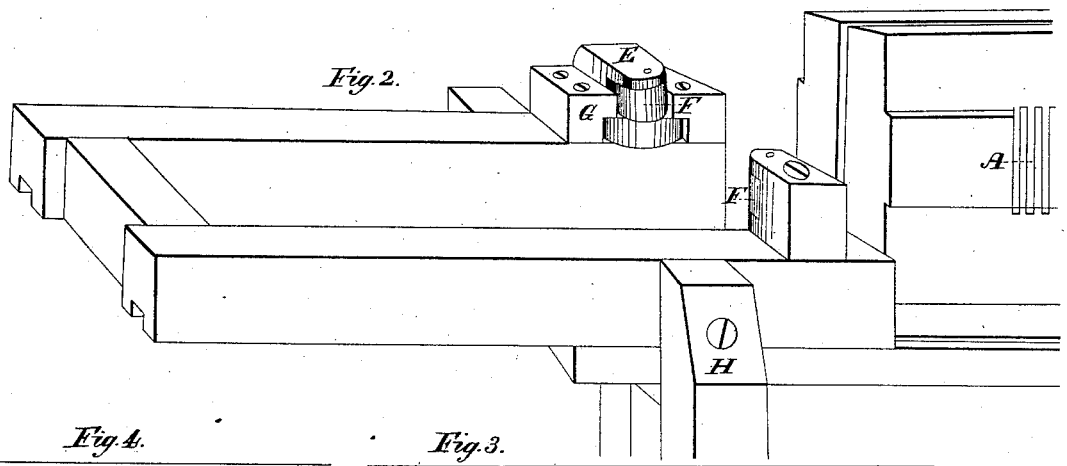


Fig. 4.

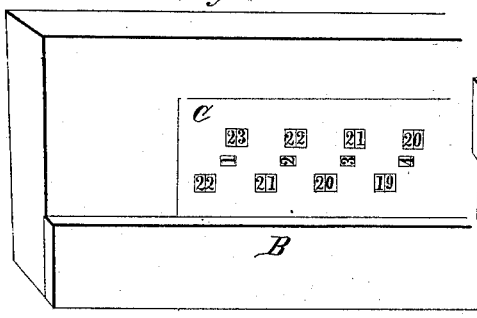


Fig. 3.

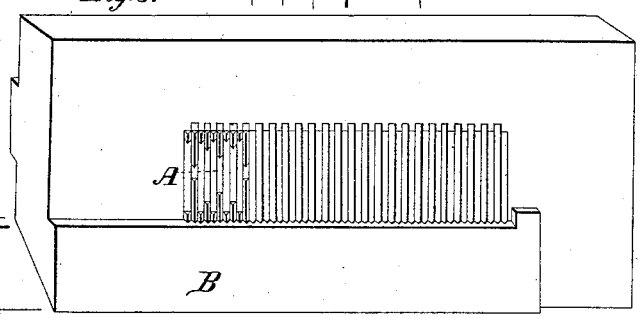
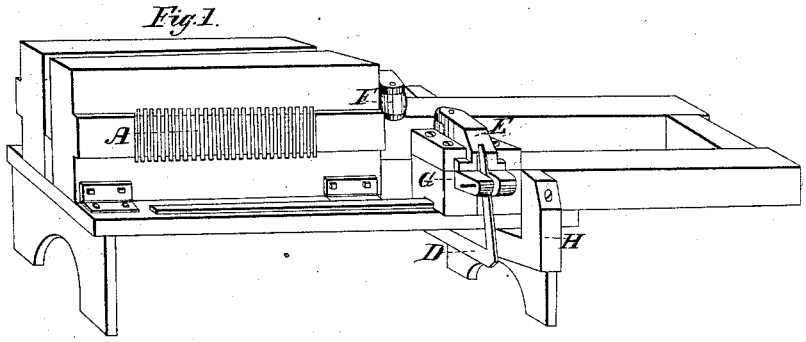


Fig. 1.



UNITED STATES PATENT OFFICE.

JEREMIAH ESSEX, OF BENNINGTON, VERMONT.

MACHINE FOR MARKING CARPENTERS' SQUARES.

Specification of Letters Patent No. 6,332, dated April 17, 1849.

To all whom it may concern:

Be it known that I, JEREMIAH ESSEX, of Bennington, in the county of Bennington and State of Vermont, have invented a new and useful Machine for Marking, Stamping, and Graduating Squares and Rules made of Iron, Steel, and other Metallic Substances or Wood.

I have a frame of the required strength to hold the bars. Upon the top of this frame I put an iron bed piece straight and level. I then put the bars on the bed piece. These bars are of the required length. A space is left between the bars two inches wide and 26 inches long; the bars are two inches up and down and 1½ inches thick each; they are placed one above the other, the lower one is placed on the bed piece with that surface down which is 1½ inches thick—it is six inches from the top of the upper bar to the bottom of the lower bar—the space between the two bars is filled with cold chisels—these cold chisels are one-eighth of an inch thick and 2 inches wide; these chisels are 1⅝ inches long, and may be longer or shorter, they are placed across the space between the two bars and play in grooves in the bars, the grooves are made on the upper side of the lower bar and the lower side of the upper bar, there are eight chisels in each inch and may be more or less—the chisels are moved back and forward lengthwise but have no sideways motion—the chisels play in the grooves they are ground to an edge and the edge is made as wide as the mark on the square is required to be made—the chisels protrude out from the side of the bars ⅛th of an inch more or less as is required, the chisels lie in a horizontal position, these chisels can be ground of such a width as to make a longer or shorter mark on the square as shall be desired by the operator. This answers for marking one side of the body of the square. The other side is fitted in the same manner with this difference—instead of the bars being bolted to the bed piece they are attached to it by two strong hinges which enables the operator to open the machine to put in and take out a square. I sometimes use three bars instead of two—these bars are made of iron, steel or any other metal—when I use three bars the third one is placed in the middle between the other two—this combination of chisels and bars answers for one side of the body of the square—and the same number of bars and chisels fitted in the same manner answers and does the marking on the other side of the square and completes the graduation upon the body of the square at one operation. The square is put between the bars and chisels with the tongue upward, when the chisels are pressed upon the square by means of two rolls that have a weight sufficient to force the chisels into the square the required depth. The bars are drawn between the rolls and the chisels are acted upon by the rolls and weight or the bars can remain stationary, and the carriage with the rolls pass over the chisels with sufficient power or weight to make the impression on the square which latter way I prefer because there is less sidewise motion to the chisels than in the other way above described.

The object in having the bar and the chisels two inches longer than the square is that each motion of the bars back and forth will graduate a square which could not be done if the bars were of the same length with the square because where the tongue joins on the body of the square for 1½ inches inside does not require to be marked, and these marks left off of the end would leave it incomplete but by having the bars and chisels two inches longer it completes both ends.

The tongue is marked in the same manner as the body of the square—it is only different in that the bars are shorter and the space between the bars narrower and the chisels make a shorter mark in proportion as is required by the less size of the tongue of the square, or the same bars can be used by taking out the two inch chisels and using others in the same places that will make shorter marks.

The figures are stamped upon the square in the same manner as the marking is done as above set forth by a set of dies arranged to act as the chisels do and one or three bars are used as is required the more figures that are put on the more bars are required.

The advantage of this construction of machinery is, 1st, it greatly reduces the expense; 2d, it makes a more perfect article than the old method.

Description of drawings.—No. 1 is a perspective view of the machine and represents the manner that the lever acts upon the roll. No. 2 is an opposite view of the carriage which sustains the rolls and moves back and forth over the chisels lying parallel with

the bars upon the bed piece which sustains the bars and the rolls are set upon the top of the bar parallel with the chisels. One of the rolls moves back and forth in a groove and is acted upon by a lever and weight as represented in the model or both the rolls may be acted upon by a lever and weight. No. 3 is a sectional view of the inside of the bars with the chisels with their divisions of 1, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ inch and also the plate that sustains the square when graduated. No. 4 represents the dies as they are placed in a bar.

A in Fig. No. 1 represents the head of the chisels.

A in Fig. No. 3 represents the chisels on the inside.

B, B, represents the plate that sustains the square.

C represents the bar and figures.

D on the Fig. No. 1 represents the lever.

E represents a block that moves in groove G and holds the roll F.

F is the roll.

G is the block with the groove which is fastened on to the carriage in Fig. No. 2.

H, H, in Figs. Nos. 1 and 2 is the yoke which prevents the carriage from spreading or trembling and passes under the bed piece as seen in Figs. Nos. 1 and 2.

I am aware that squares are now made by a machine and types set in a bed piece that is drawn under a roller with the square upon the type and the roller presses the square down upon the type. The disadvantages of this last mentioned method are, 1st, it crooks the square after one side of the body of it is stamped or marked. It then has to be straightened again. The other side is laid on to the type and the roller passes over it and it has to be straightened again in going through these processes by this method the square is stretched and will stretch according to the quality of the iron or whatever material is used. Also the marks upon the two sides of the square do not agree and the article is imperfect. Now all these objections are avoided and removed by this (my) method. The square by this method of mine is left straight. The marks on each side are made on the square on each side at equal distances apart. Each side agrees with its opposite side. The stretch which takes place in marking or graduating and stamping is always from the chisels which leaves the square the right length and two chisels upon each of the opposite sides are brought to bear upon the square at one and the same time and require much less power than the old method—and each chisel can be taken out to be repaired or replaced in a moment without disturbing the other chisels or causing any other difficulty.

I therefore do not claim pressing the square or rule blanks upon chisels or dies but

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

1. Graduating squares and rules by means of an arrangement of chisels which are movable either between or through bars and are pressed upon the square by any known mechanical device or power substantially in the manner herein described.

2. Also I claim what is termed stamping squares or putting on the figures by means of dies arranged as the chisels are and acting in substantially the same manner.

JEREMIAH ESSEX.

Witnesses:

ALFRED ROBINSON,

WM. HASWELL.