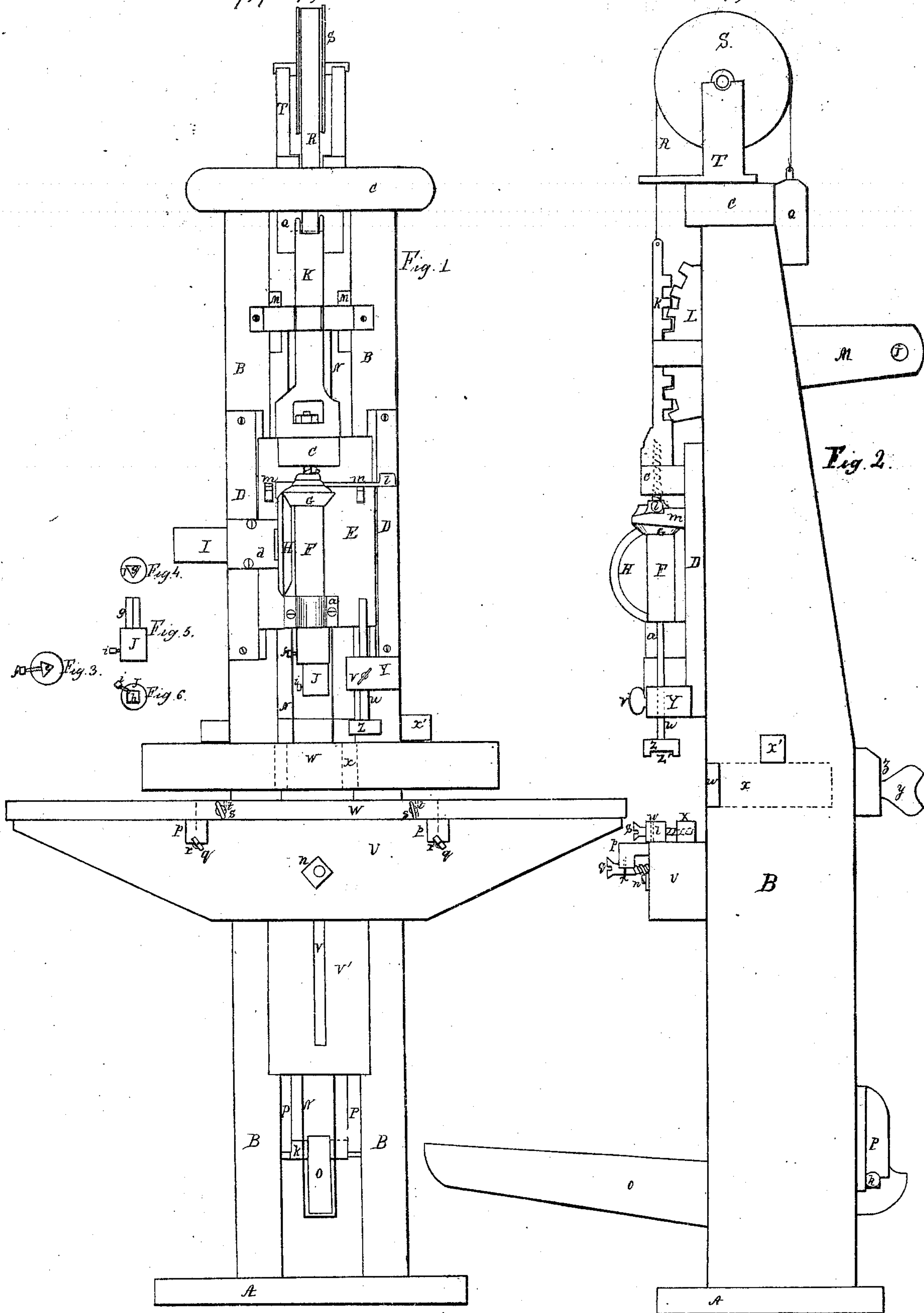


F. Purden,
Mortising Machine,
No. 9,784, Patented June 14, 1853.



UNITED STATES PATENT OFFICE.

FERGUS PURDEN, OF BALTIMORE, MARYLAND.

MORTISING-MACHINE.

Specification of Letters Patent No. 9,784, dated June 14, 1853.

To all whom it may concern:

Be it known that I, FERGUS PURDEN, of the city of Baltimore and State of Maryland, have invented certain new and useful
5 Improvements in Boring and Mortising Machines; and I do hereby declare that the same are described and represented in the following specification and drawings.

10 The nature of my invention consists in making the bed piece in two parts so that it may be adjusted to mortises in different positions and of various widths, to allow the chips to escape from the under side of the piece mortised.

15 To enable others skilled in the art to make and use my improvements I will proceed to describe their construction and use, referring to the drawings above mentioned in which the same letters indicate like parts in
20 each of the figures.

Figure 1, is a front elevation. Fig. 2 is a side elevation.

A is a base to which the posts B B are fastened and connected together by the top
25 piece C. The slides D D are fastened to the posts B and the carriage E is fitted to traverse between the slides and carries the chisel and drill stock F fitted to turn in the box *a* upon the carriage; and the upper end
30 turns on the pivot *b* in the box *c* on the carriage. The gear G fastened to the upper end of the stock F to operate it by turning the gear H and shaft I, which shaft turns in the box *d* fastened to the carriage E.
35 The lower end of the stock F has a triangular hole or socket *e* in it, see Fig. 3, to which the shanks of the drills or chisels may be fitted and fastened by the set screw *f* which is placed so as to act against one
40 of the sides of the shank inserted and press the other two sides against the corresponding sides of the socket. For small drills and chisels I use the chuck J which has a shank
45 *g* to fit the socket *e* and small square socket *h* in it to which the chisels and drills are fitted. The chuck J is represented in different positions in Figs. 4, 5 and 6. The set
50 screw *i* in the chuck J is placed so as to act diagonally against the square shank of the tool inserted in the socket *h*, so as to press two sides of the shank against the two corresponding sides of the socket, so as to hold it steadier and more firmly than if the screw
55 *i* did not act diagonally. The upper end of the carriage E is connected to the rack K as represented; which rack is acted upon

by the segment L which segment vibrates on the pivot *j* in the stand M fastened to the post B, another stand being fastened to the opposite post, for the opposite pivot. The
60 iron stirrup N surrounds the shank of the segment L and the lever O, which lever is fastened to the shaft *k* which turns in the boxes P P fastened to the posts B, when the lever O is depressed by the foot of the op-
65 erator, so as to operate the segment, rack and carriage.

The carriage is drawn up by the weight Q connected to the strap R which passes over the pulley S and is connected to the
70 top of the rack K as represented. The pivots of the pulley S turn in the stand T fastened upon the top piece C. There is a forked lever *l* that fits into a dovetailing score in the upper end of the stock F above
75 the gear G this lever is used to reverse the chisel so as to cut the opposite ends of the mortises; and the notches in the stops *m* allows the lever to turn the chisel just half a revolution.

80 The traversing bed U is supported and fastened in the desired position by the bolt *n* which traverses in the slot *v* in the plate *v'* fastened to the posts B B. There are two scores across the bed U to which the
85 slides *p p* are fitted and are traversed by the screws *q q* which screws have a score in them for the staples *r r* which are fitted to the scores, and driven into the slides *p p* so as to traverse the slides by turning the
90 screws. The traversing bed bar W is fastened to the slides *p p* so as to be traversed on the bed U to adjust the divided bed, in relation to the mortising cutter and the bed W is perforated by the screws *s s* which are
95 fitted to turn freely in it and provided with scores for the pins *t t* in the bed W represented in dotted lines so as to prevent them from slipping endwise; these screws *s s* work in female screws in the traversing bar X—
100 (which lies upon the bed U) to traverse the bar X and adjust it as the width of the mortise requires so that the bed pieces W and X support the sides of the mortise when the chips are forced out by the cutter. The
105 stand Y is fastened to the post B and holds the rod *u* which may be placed as desired and fastened by the screw *v* so as to hold the stop *z* in the position required, to prevent the material bored or mortised from
110 being raised by the chisel or drill; which stop Z has a score Z' in its under surface,

so as to allow the ends of the chips which rise above the surface of the material mortised, to pass freely under the stop, so as not to abstract the motion of the piece mortised as they might do if there was no score in the stop.

The adjusting bar *w* is fastened to the slide *x* represented by dotted lines which slide traverses in scores in the posts B B and is operated by the screw *y* which is fitted to turn in the plate *z* fastened to the ports B for that purpose so as to adjust the bar *w* as required to bring the material to be bored or mortised placed against it in a proper position under the drill or chisel. When the slide *x* is adjusted as desired it may be fastened by the key or wedge *x* which passes through the parts B

The machine having been constructed and completed as above described the piece to be bored or mortised is placed upon the bars *w* and *x* which should be so adjusted that the drill or chisel will pass between them when it goes through the article operated upon and the stop Z set so as to prevent it from being lifted by the tool as it is raised to draw it out by the weight Q after it has been forced down by the foot of the operator on the lever O, the score Z' in the stop Z allowing the ends of the chips in the mortise which project above the surface of the piece mortised to pass freely; and

when the piece is reversed they come between the bars W and X so that they fall or are pushed out of the mortise between the bars by the chisel in making the mortise on the opposite side without interrupting the work or the operation of the machine. The above mentioned devices for allowing the chips to pass on the top and to escape at the bottom are two very important improvements which will relieve the operator from much trouble and greatly facilitate the progress of the work done upon the machine. I contemplate making the stand Y to slide in a mortise in the part B or under brackets fastened to the post.

I do not claim a divided bed such as has been used heretofore; but

What I do claim is—

A divided bed so constructed that it can be adjusted to suit the width of the mortise to be cut, so as to prevent the side of the mortise from being splintered by the cutter or chips when they are forced through and driven out on the under side substantially as described.

In testimony whereof, I have hereunto signed my name before two subscribing witnesses.

FERGUS PURDEN.

Witnesses:

EDWARD G. DENNIS,

J. DENNIS, Jr.