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George Page of Keene New Hampshire

Letters Patent (Patented March 18. 1836)

The schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said George Page himself of his improvement in the machine for mortising small timber.

To all persons to whom these presents shall come, Be it known that I George Page of Keene in the County of Cheshire and State of New Hampshire, have invented a new and useful improvement in the method of mortising by a machine, which machine is described as follows. The bottom consists of two pieces of oak wood four inches wide: three inches thick, one piece three feet long, the other piece three feet and four inches, these are locked together crossing each other at right angles. The plan of intersection in the shortest piece being at equal distances from each end and in the longest piece at a distance two feet from one end. The short end being at the front of the machine. At the place of intersection a mortise is made into which by a tenon is fixed an upright post four inches square and seven feet high from the bottom of the sills. Beginning at three inches from the top of the sills a mortise is made in the direction of the longest sill through this post one inch wide and eleven inches long. Into the end of the long sill behind the post is fixed by a mortise an tenon an upright post four inches wide two inches thick and seventeen inches high from the bottom of the sills. On the top of this post one end of a lever is inserted a pivot passing through the post and end of the lever which lever passes through the mortise in the post and has upon the other end a piece of board upon which to place the foot, nine inches above the mortise in the post another mortise is made through it in the same direction seven eighths of an inch wide and fifteen inches long. Through this mortise passes two moveable iron bolts with a screw collar and nut on one end of each: one of these bolts passes through a piece of timber called a rest and has a head on that end. Through the other

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end of the other bolt a hole is made through which passes an iron in the shape of a segment of a circle each end of which is attached to the lower side of the sleds. This steel is from two to two & a half feet long, & four inches wide. By means of two bolts screws &c the sled may be made fast and steady at any desired height or inclination. A board three inches and a half wide is let into the post, even with the face of it and projecting at the upper edge long two inches above the top of the mortise the board being cut away against the mortise. Near the top of the board a steel or piece of iron is screwed firmly to the post to prevent the timber from rising by the operation of the machine. About four feet three inches from the bottom of the sills a brace of the size of the post and three feet long is inserted in the post inclining forwards at an angle of nearly two degrees from a horizontal line. This brace is made steady by a girt or an iron rod with a screw and nut on one end and a head on the other passing through it and the post near the top of the sills. Beginning five feet nine inches from the bottom of the sills a mortise is made thro the post, in the same direction as those below, an inch wide and eight inches long. A similar mortise is cut in this brace. To the outside of the brace below the mortise is fastened by screws a piece of cast iron shaped thus ⊥ having a horizontal hole thro the projecting end. This by means of two flat pieces of iron eight or ten inches long is connected with the end of a lever which passes thro the mortises in the brace and post, and is about two feet nine inches long. Back of the post several holes are made horizontally thro this lever and corresponding holes thro the two flat irons. A rod with a clevis at each end connects the two levers, the pins being placed thro such of the holes as will give the purchase and motion wanted. The end of a spring made of hickory rods or other elastic timber is inserted in a mortise near the top of the brace and passing over the top of the post is

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connected with the upper lever at the end by a leather strap having a buckle by which it may be lengthened or loosened at pleasure. The important part of the machine, is a slide which is a rod of iron polished round seven eighths of an inch in diameter and two feet seven inches long. Into the lower end a hole is drilled longitudinally two inches deep to serve as a socket for the chisel. About two inches from the lower end in front a hole or mortise half an inch long and three sixteenths wide is made thro it by which the chisel may be keyed or driven out. About two inches from the lower end on one side a small hole is also drilled thro it, and four and a half inches above another, into which is inserted and fastened the bent end of a square iron guide. Into the top of the slide a hole is also drilled two inches deep into which a bolt is inserted and fastened by a pin. The bolt has a head shaped like the half of a globe or ball the top being round with pins projecting at opposite sides called a yoke fits around the bolt between the head and the side the pins going thro the ends of a crevis which passes over the upper lever near the post. To the lower side of this lever is fastened an iron plate, into which a hole is countersunk to receive the head of the bolt, which is drawn up into it by a wedge driven between the upper side of the lever and the crevis. About two inches below this lever the slide passes thro a box shaped thus B. The projection is inserted in a hole thro the post. Against this hole on the left side a mortise is made into the post and a small hole is bored to the mortise from the right side. A hold fast being a screw with an eye on one end and a thumb nut on the other is introduced into the mortise and hole, the projection of the box passing through the eye. By means of this the slide may be set at any desired distance from the post. The slide then passes down through a hole in the brace, and about two inches above the lower end of the slide it passes thro another box constructed thus. It consists of several parts and is made of cast iron. One part is shaped thus C and the other thus D. The length of the larger piece from a to b, is about six inches, the general thickness three fourths of an inch, a rib or projection rising at the edges a and b. The part c,

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is inserted in a hole thro' the post, and made fast in the same way as the upper box before described. The smaller piece is the same thickness, a little shorter and is connected with the larger by screws so that the two half circles form a hole or box an inch and a quarter in diameter, within this an inner box: the hole thro which is seven eighths of an inch in diameter being the same as that of the slide. It has a perpendicular groove cut on one inside side for the square wire or guide to run in. It is an inch and a half long and has a groove reaching it on the outside as wide as the two first described parts are thick, and so deep that the part thus made smaller may be received into and turn within the outer box. At the upper end of this inner box on one side, or side is a small projection one fourth of an inch long, round half an inch in diameter with a hole made into it longitudinally to receive one end of a small spring or latch. By this spring or latch the slide may be turned half round and may be kept steady in place by letting the latch fall into a small groove or hole made in the ribs or projections above mentioned. The machine should be set up on the right side of a stud or post and bolted to it. and if convenient a long spring may be used fastened to a joist above instead of the door one attached to the machine. When the machine is to be used the movable rest is adjusted and made fast at the proper place to admit the wood to be mortised between the rest and the chisel on the post. The wood to be mortised is ~~to be~~ placed on the rest, the chisel is set to cut either head of the mortise the lower lever is stepped down by the foot which brings down the upper lever to which the slide is attached and drives the chisel into the wood. The foot being raised the spring at the top withdraws the chisel from the wood, which is then moved, and the foot applied as before and soon until one head of the mortise is finished. By means of the thumb or latch, the slide is then turned half round, and the other head of the mortise is finished by a similar operation. To cut a round mortise one end of the rest should be raised or lowered by means of the segment of a circle or circular brace before described. What we claim as our own invention and not previously known in the above described machine is the mode of attaching the slide to the upper lever and that lever to the machine, and also the lower lever and the circular brace as herein described

Witness { William Lamson
Thalona Hale

George Page 1820 Woods