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(54) **WINDOW SASH, & C.**

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Jedidiah Richards Name

Letters Patent

when the carriage is brought back by a headle it lightens the lower end and gives motion to the rod to hold the shoe to be filed off. There are two hinges with two head blocks that are let out & taken up to the length of the piece to be filed by means of the rod that is fastened under the head blocks by a screw nut each end to take up the head blocks & let them out as they may require. The head blocks are made of iron 16 inches long & ten inches wide & one half inch thick. The front block has perforations at equal distance. Two pins in the head block four inches wide rising higher than the rear rod round the two fronts of the head block. on the right hand head block there a stile, on the rear of the side there a handle that is screwed fast to the head block holds the piece when carrying. when the piece is ready to carry the handle it is screwed on the inner edge of the head blocks. There are grooves to lay on the piece at each end the head blocks are on ribbons. these ribbons lie on the left hinges of the frame. The round machine is for planing. it is cast iron two inches wide. the stile three feet ten inches high. there are two posts four long pins and three short all made exactly that are magazin all bolted with iron bolts. there are two beams the bed pieces are two feet four inches from the bottom. the wheel for the main frame is two feet ~~four inches~~ diameter with an iron crank & rest. the crank is in the form of a L with two square mortices at the end for the stile to pass thro. the stile is held in the crank at any given length by two screws. the stile is flung on the two left hand pins on a bevel at the end of the stile — the pitman is attached to a stile that goes in the crank pin of the machine. this stile is attached to a beam with a tongue & groove that holds the stile steady. this side is horizontal with the crank there two mortice sheaves of iron at the end of the stile. the stile runs on three shafts with two arms each shaft one eight inches and the other four inches. there are belts screwed to these pallets to the stile to run more deep or more belt to tighten the belts on the two wheels. there are belts fastened that run to the frame for —

The prime jack is made of three pieces of wood, the upright pieces are seven inches long. The horizontal piece is ten inches long. The two upright pieces have a gain cut in the ends to fit over the bars. They are bound with metal to prevent their wear. The jack runs between the ways. The ways are attached to a beam. The beam is secured at each end. Mortises down thro' the bed pieces, at each end of the way beam there is an iron bolt twenty inches long with a screw & nut at the bottom. The nut is fastened to the bed. The bolt has a collar that is attached to the way beam. There is a handle on the top of the bolt when the bolt is turned, it lowers and raises the prime. The bars are fastened to four upright pieces. Two pieces are at each end the way beam. on the bottom of these pieces one of the ways is fastened. The other way is fastened to the top of these pieces with irons, so that it can be let down on the back to lay on the bottom of the jack. The rising bar and pinion are fastened with two common bed pins. There is a carriage five feet long & two feet wide to carry the dough to be planed. Carriage runs on rods and pinion on rods by a crank. The dough is held by the carriage & is under the carriage with a weight of the crank hand on the pinion which lacks one inch of a circle. The way which is worked by a hand that is attached to the back side by the down & pull man moving the crank. The two upright rods which gives the prime motion.

The third machine is for skelling and lemoning. The machine is a frame with four posts two feet ten inches long with four bolts ten inches from the bottom of the posts screwed with iron bolts on these posts. I have a drum two feet diameter that carries the irons on the top of the posts. I have two spindles seven feet long and two beams four feet long between the beams. I have four cross timbers to give the workmen room for turning. I have a frame three feet long, one foot eight inches wide, twelve inches high. This frame is to hold the timber on to tenon. I have a post five feet long fitted to the frame. The end of the post frame is rounded with

this post. on this post I have two pieces of iron twelve inches long with the ends turned out to receive a screw that goes thro' the post[illegible] ends. these pieces hold the shouldering saws. these saws have a mortice in the middle and a bolt that goes through the post. a screw nut on the outside of the post. by these screws the saws are raised and lowered. moved back and forward. the saws to have guides between these saws. first the saws stand one over the other eight or ten inches beyond these saws I have two horizontal saws on one shaft that slides the tenon is pursued as the tenon is made. the shaft at the bottom stands one inch above the post by a slide and groove that it be moved off and on to come down with the shoulder saws. the upper end of this shaft is fixed with a crank that works in a steel box. this crank has a mortice and a screw bolt that these saws may be moved back and forward to any plan. these saws have a band from the main beam that passes over two wheels and down the band from a perpendicular to a horizontal beam. these wheels are twelve inches diameter. these saws hang on a frame that slides and ground to tighten and loosen the band. the band is connected to the saw shaft below the saws. the shouldering saws are about four inches apart under the platform when the stuff is sawed. a wheel about beyond the saw shafts. this wheel is six or eight inches diameter with two bolts to carry the saws at the other end of the shaft. I have a wheel four inches diameter. a band leading from this wheel to the main beam. the shaft at this end is moved & moved to stop the saws. the saw that is for tilling is on the right hand side of the frame is put in motion by an accelerating wheel. this wheel turns on a centre that is moved backwards and forwards by a treadle at back tightening and loosening a band connected with this wheel & the main beam which stops the saw & puts it in motion the object of this saw is to stop the saw and give it motion [illegible] upon the machine is for mortising. this machine has two parts. one near the left hand side is a pile about four inches long

inches wide below this upper gut is another gut the same length & size these guts are fastened to the posts by tenons and screw bolts. this gut holds two feeder posts. these hold the chisel gate on the inside of the posts there are two more ways that that are mortised fastened at each end with the ways that go through the posts. the gate is made with two pieces of timber one standing perpendicular and the horizontal about one of the horizontal pieces is a little groove that sits on these mortised ways these mortised pieces are eight inches long three inches wide & two inches thick. the middle piece is four inches wide two inches thick and six inches long. they are fastened with two iron bolts with eyes at the bottom where the pitman is hung these bolts pass and through the middle piece of the gate on the back of the gate there are two iron nuts at the upper end of the bolts on the bottom piece of this gate. I have one iron plate fastened in with screws and stuff made and three eighths of an inch thick bolted to the bolt in three places the chisel stocks are bolted on this block on one end is long a projection about one end of from each a square mortise on this projection that the chisels pass with two screws on each chisel stock that are screwed against the chisel on the back side of this block there are two projections that are to go on each side of the plate to keep the chisels steady. in the thin part of the chisel stock I have a mortise and a square bolt that enters the plate so that the stocks can be moved backwards and forward to make any size cut. in the stocks I have the mortise chisels for mortising two inches each. behind the plate I have two straight chisels that mortise the ends of the slides. the bend piece that the staff hangs on is made in a piece of timber five inches square. four feet long it stands on two arms, that the bent piece may be lowered and raised to suit any thickness of staff this bent piece lays in front of the posts. the bend piece has a mortise hole that mortises into the bend piece staff required. the piece is held between them all the staff is worked from the end between the end posts. I have middle posts when the piece is moved from one hole to the other by standing against the middle post with

piece to be worked it moves back and forth the way it is brought forward by a spring. The tilt on said part of the bed piece to work by this bed piece till the markings are made on the piece in order handling back of the bed piece marked to gauge the ends of the slates from the gate downward I have the pitch... it is attached to a mark bar with the index part. The crank shaft is by which shaft the I hang on a frame within six inches of the piece the pitch journal to fit pad in motion from the main drum it is stopped and put in motion by a handle with the pad.

The pitch machine is for hewing rough slating & making pins for this machine I have four posts two feet ten inches high four feet ten inches from the bottom on those posts I have a sheer two feet diameter on the top of the posts I have two pillars one pad cross the frame I have two beams five feet long between the beam I have five feet timbers to hang the work to on the right side of the frame I have a rough slating part on the back end of the frame I have six feet timber to the length this part is stopped and put in motion by a treading I am making what I is managed by the foot I a handle to put the shaft to any length I have a circle with a hole at one end this slide is pasted with a screw I have a block to hold the shaft against that is square with the part that moves over the part with a pin on the block for the saw to play I have this block the straight side of the shaft is held against this block is guided by two pieces nailed firm to the middle running each side of timber pad bar is to the post timbers of the frame

The pin machine is made with three pieces of timber three by five inches the two posts twenty inches long the post piece twelve inches from the tip of the posts I have a groove the gate runs in that part the three that drives the pin from the pad I have a pitman that is attached to a crank one inches accept on the crank shaft I have a shaft twenty inches diameter that carries all the part of the machine in motion when the pin is made I have

a die made the size of the pin over this die I have a gauge plate that holds the pin before it is cut above the gauge plate I have an iron box that the pin falls in when the pin is in this box there is a slide that shoves the pin & holds it until the next pin strikes it the slide is operated just as the gauge plate when the driver is down the pin falls thro a hopper by the side of the driver. The improvements different from others are as follows. The first machine is all my invention or improvement. The pointing machine differs from this in the form the former is longer & the emery wheel is upon the left hand of the frame by having two cutting shafts the one for the large end with the center of its circle to the left & the other for the small pins is placed to the right of the frame & runs above the plane of the former that runs under the frame. The former differs in shape in the former end of the steel plate the steel plate runs between the head pieces & is made in the form that any piece of wire is made before it is cut off from the natural length but the former

Remains of U.S. Patent in the pointing part. The steel plate is made thin & the pin to be pointed is put to the rollers & runs where the pin is pointed. The rollers are carried by a band from the mandrel on which the pins are put & from a perpendicular to a horizontal manner all the other machinery that enters the principles of the former are put in motion & stopped by a swing & shift. The pin machine & its parts is my improvement

Witnesses
of & & Eliot
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&c
Clk

(3094 x 25) ((Drawing in Port Folio.)