(12) **United States Patent**
Jacobs

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(54) **SAWING BOARDS**

(76) Inventor: **Ruel Jacobs**

Reuel Jacobs of Wilton New York

Letters Patent

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Reuel Jacobs himself of his improvement in the machine for sawing Boards called the Economical Sawyer.

To all to whom these presents shall come — Reuel Jacobs of the Town of Wilton, County of Saratoga and State of New York, sends Greeting; Be it known that I the said Reuel Jacobs have Invented, constructed and applied to use, new and useful improvements in the sawing of timber, which are contained in a machine called by me the Economical Sawyer, and that the following is a full and exact description of the construction and operation of the said machine as invented and improved by me.

The objects proposed to be accomplished by the economical Sawyer are to saw Boards and other timber without a shake shot and to gauge the thickness of the board or other thing into which the saw log is to be sawn and to keep the saw log plumb while it is being sawed; Construct a common head Block of the size in all respects required by the size of the carriage, with the usual gain on the upper and inside surface and the usual gain or kerf to receive the saw. When more than one saw is used at a time in sawing it is necessary to have something to hold the inner board up in its place, or the board which runs between the saws otherwise when it is sawed off, it will drop in the saw gain of the head block and between the saws, and thus hinder the return of the carriage; To prevent this the following piece of machinery is necessary. Dig one oblong mortise six inches in length, two inches wide, and two inches deep on the inside of the head block. Bring one or other of the sides, near the saw gains and between the upper and under side of the Block. Let the length of the mortise be parallel with the upper surface of the head block. Cut

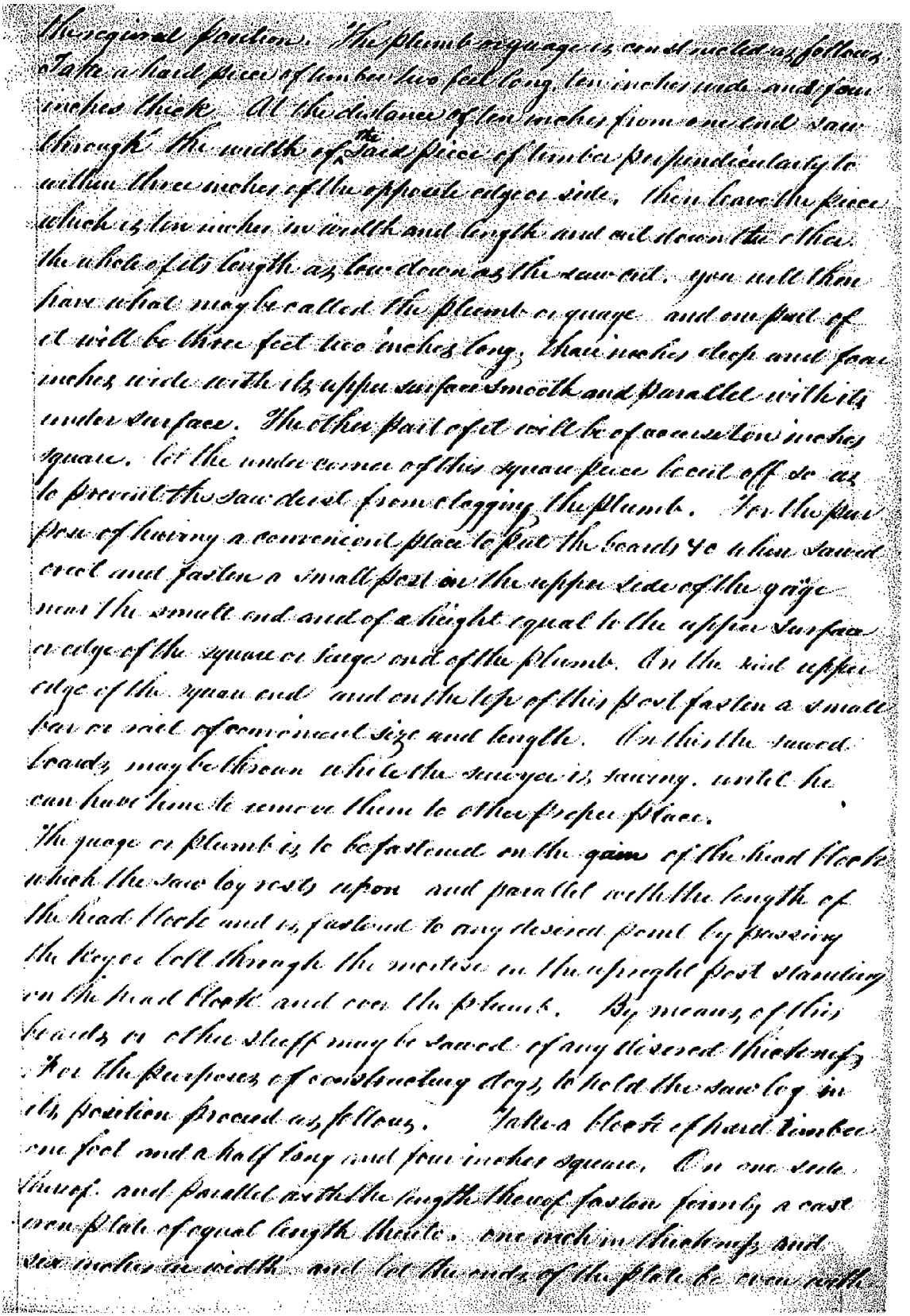
of wire of the size of number six or eight make a coiled spring five inches in diameter and six inches in length. Place the spring length wise in the said mortise. Then take a piece of timber made the length of one of the said insides of the head block about three inches wide, and about one inch and a quarter thick. Call this the slide or sufflenter. Let a piece of iron be wrought twelve inches in length, a little less than two inches in width and about a quarter of an inch in thickness. Let one end of it be turned up perpendicular to the length of the said piece of iron so that the end turned up shall make a hook two inches long. Then turn the other end of the said piece of iron in the same direction and manner so as to make a similar hook one inch long. Let this piece of iron be turned at each end be fastened on one of the broader sides of the said slide or sufflenter parallel with the length thereof, and in the middle of the breadth thereof and so that the said ends turned up or hooks shall project at right angles from the length of said slide, and so that the outside of the shortest hook shall extend to, or be even with the one end of the said slide.

Let the slide or sufflenter be placed on the said inside of the head block in which the mortise was dug and the coiled spring placed lengthwise and parallel with the said inside so that the hook of the aforesaid piece of iron which is two inches long will pass into the mortise at the end of it nearest the face going in the said block and be turned and the end of the spring thereon and so that the other hook will extend to and be just even with the end of the head block next to the side of the carriage. Let two cleats or slats be fastened on the said inside of the head block parallel with the length thereof and far enough apart from each other just to allow the said slide or sufflenter to move backward and forward horizontally between them. Let two or three staples fasten the said slide to the head block so it may slide under them forward and backward between the cleats aforesaid according as the said slide may be moved by means herein used as hereinafter described. The said mortise must be so deep and the said

clutch fastened at such a place as will bring the upper edge of the slide or supporter about an inch below the log resting on the gain of the head block. For the purpose of constructing the machinery to move the said slide or supporter proceed as follows. At the end of the and inside on which the said slide moves. that is nearest to the side of the carriage and at right angles with the length of the said inside, dig a channel or gain about three inches deep and about three inches wide and along the whole length of the said end of the head block. so that the bottom of said channel shall be all the way perpendicular with and at right angles to the said slide. Get of some hard wood make a piece of timber about six inches longer than the length of the said inside width of the head block. and of a breadth and thickness easily to fit into the said channel or gain. at the distance of about nine inches from one end of the last mentioned piece of timber which may be called the lever. and on the side of the depth or thickness thereof shave it equally and gradually to the point or end of the lever so as to make a regular slope. and so that the end of the lever shall be about a half an inch in thickness. Make a piece of wood two inches wide about a quarter of an inch thick and an inch and a half longer than the length of the lever, fasten this lengthwise on the side of the lever opposite the shaven or sloped side, in the middle of that side. and so that one end of the said piece of wood shall project beyond the shaved end of the lever the distance of an inch and a half. let this be bent at right angles towards the said gain in the head block. and then bent again at right angles to the widest side of the slide, so that the piece projecting towards the slide shall be an inch in length. measuring from the last bend or angle. This is intended to meet and act upon the hook upon the end of the slide nearest the side of the carriage. The lever must be fastened into the channel or gain on the end of the head block by a pin put through a hole bored through the sides of the gain or channel and through the lever so as to work with the end of the head block. and at a distance of about

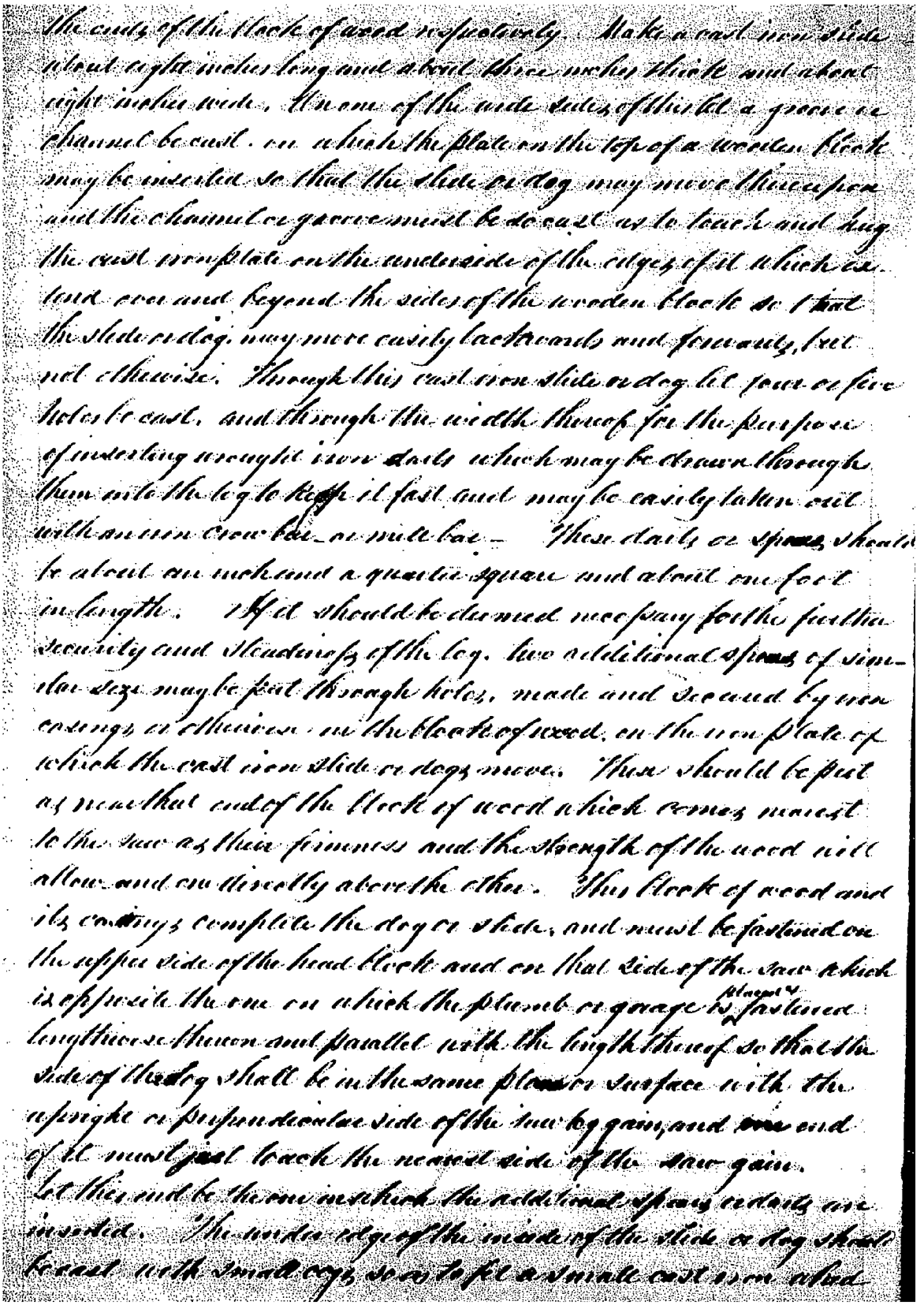
when racked from the inside of the block piece and about an inch and a half from the end of the block piece. Then the result will be that the hook in the end of the lever being caught upon the hook upon the end of the slide that whenever the lever is pressed into the channel made for it the slide will be drawn back from the saw again so as to leave that gain free for the passage of the saw, and when the lever is not pressed in the slide will be under the saw log so as to catch and hold the board when sawed off.

To push in the lever whenever the saw enters the saw gain let an arm made of wood be fastened upon the female post of the saw mill that shall just touch the lever and press it in whenever the block piece touches it, and which of course will cease to operate when the head block of the carriage has passed it, and which of course will leave the slide always under the saw log to hold up the boards as they may be sawed, and will withdraw the slide whenever the saw enters the saw gain. To construct the gauge and plumb necessary for fixing the thickness of the board and keeping the saw log plumb. Fix a post on the upper surface of the head block halfway between the saw gain and the end of the head block, and at a distance of about two inches from the gain for the saw log, fasten perpendicularly and firmly a post about eight inches high six inches wide and four inches thick so that the broadest side shall be parallel with the length of the head block. Through the two broadest sides of the post and in the middle thereof and commencing at the surface of the head block fix a mortise three inches high and two inches wide so that the bottom of the mortise shall be level with the surface of the head block and the upper side of the mortise three inches above the said surface. Make a wooden bolt or key about eighteen inches long of a size to fit the mortise in the upright post tapering a little from one end to the other so as easily to go in the said mortise and snugly to fit after it is in. This key or bolt is for the purpose of fastening the plumb or gauge on

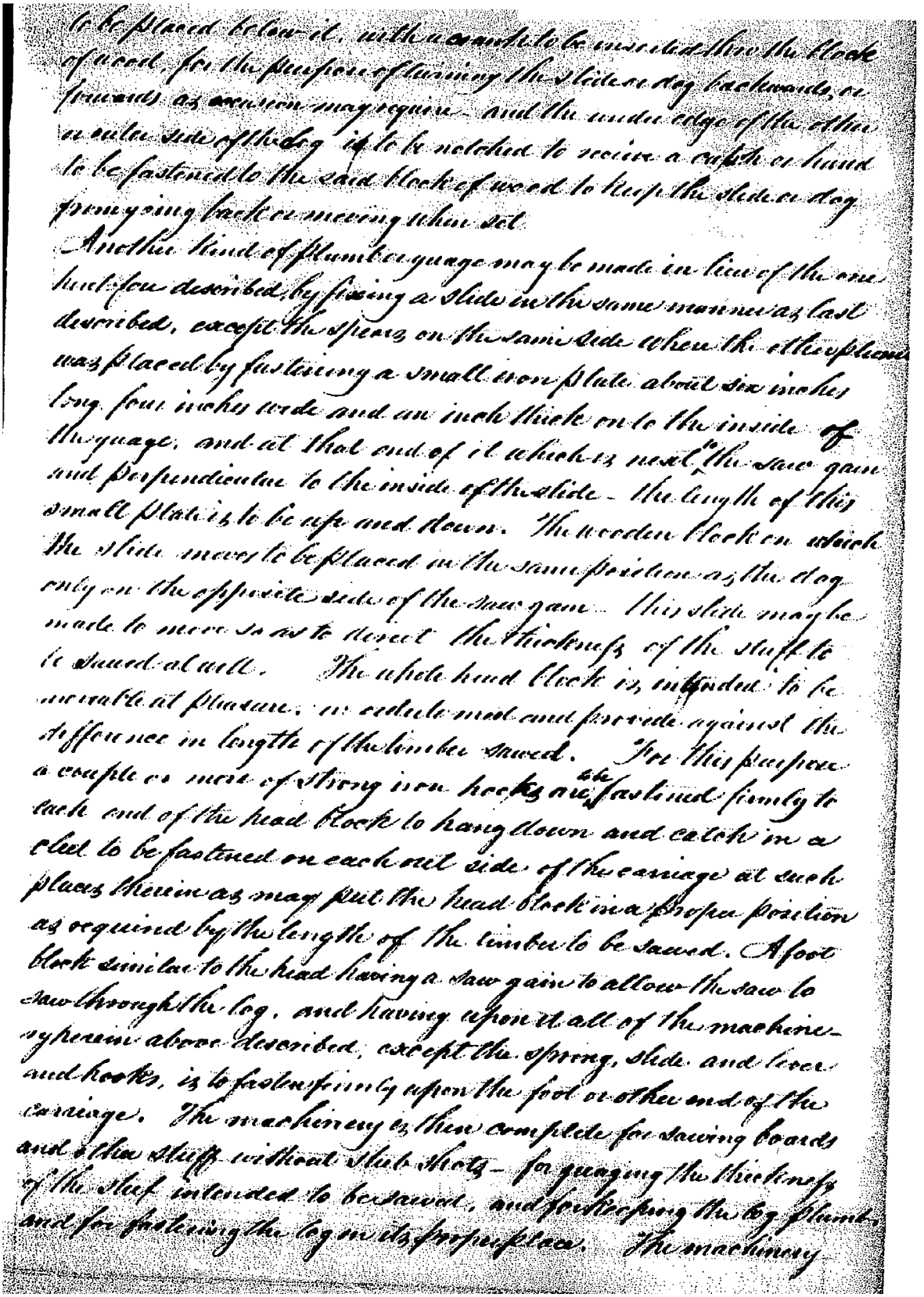


Mercginal fraction. The plumb gauge is constructed as follows. Take a hard piece of lumber two feet long, ten inches wide and four inches thick. At the distance of ten inches from one end saw through the width of the said piece of lumber perpendicularly to within three inches of the opposite edges or side. Then leave the piece which is ten inches in width and length and cut down the other the whole of its length as low down as the saw cut. You will then have what may be called the plumb gauge and one part of it will be three feet two inches long, three inches deep and four inches wide with its upper surface smooth and parallel with its under surface. The other part of it will be of a cube or ten inches square. Let the under corner of this square piece be cut off so as to prevent the saw dust from clogging the plumb. For the purpose of having a convenient place to put the boards &c when sawed cut and fasten a small post on the upper side of the gauge near the small end and of a height equal to the upper surface or edge of the square or gauge end of the plumb. On the said upper edge of the square end and on the top of this post fasten a small bar or rail of convenient size and length. On this the sawed boards may be thrown while the sawyer is sawing, until he can have time to remove them to other proper places.

The gauge or plumb is to be fastened on the gain of the head block which the saw log rests upon and parallel with the length of the head block and is fastened to any desired point by passing the hooks bolt through the mortise in the upright post standing on the head block and over the plumb. By means of this boards or other stuff may be sawed of any desired thickness. For the purposes of constructing dogs to hold the saw log in its position proceed as follows. Take a block of hard timber one foot and a half long and four inches square. On one side thereof and parallel with the length thereof fasten firmly a case iron plate of equal length thereto, one inch in thickness and six inches in width and let the ends of the plate be even with

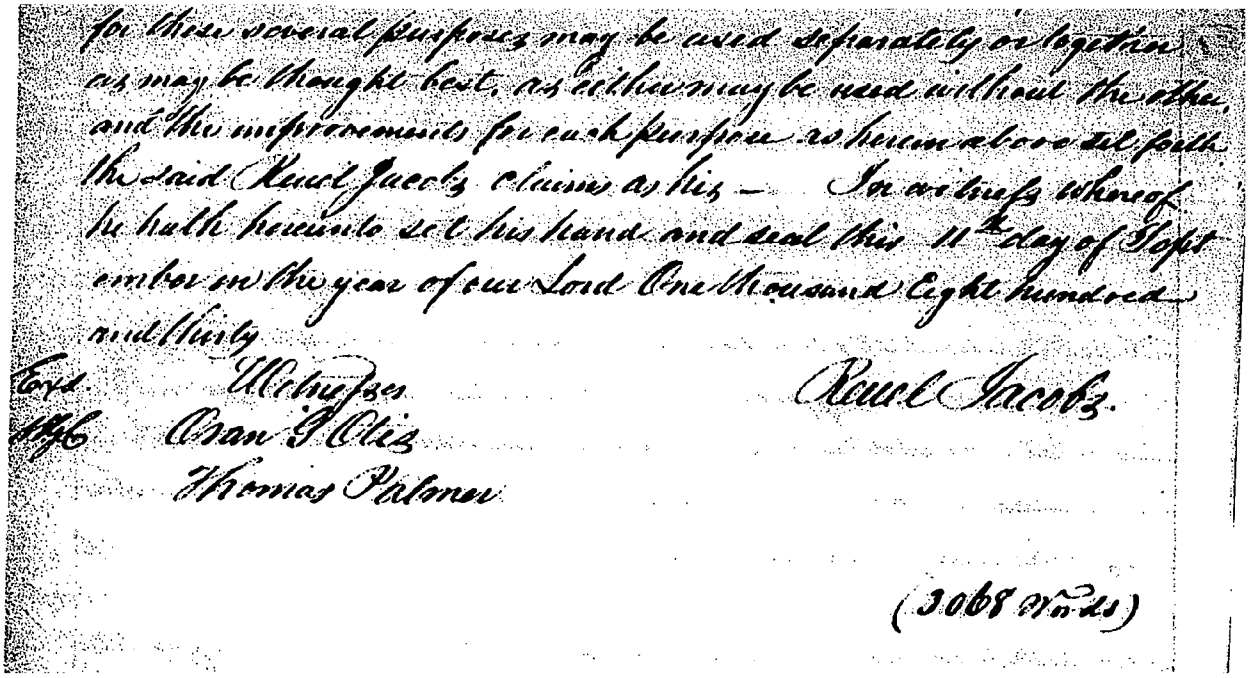


the ends of the block of wood respectively. Make a cast iron slide about eight inches long and about three inches thick and about eight inches wide. Down one of the side sides of this cast a groove or channel be cast. on which the plate on the top of a wooden block may be inserted so that the slide or dog may move thereupon and the channel or groove must be so cast as to have it and dog the cast iron plate on the underside of the edges of all which are bound over and beyond the sides of the wooden block so that the slide or dog may more easily backwards and forwards, but not otherwise. Through this cast iron slide or dog let four or five holes be cast. and through the middle thereof for the purpose of inserting wrought iron dogs which may be drawn through them into the log to keep it fast and may be easily taken out with an iron crow bar or mill bar. These dogs or spikes should be about one inch and a quarter square and about one foot in length. If it should be deemed necessary for the further security and steadiness of the log. two additional spikes of similar size may be put through holes, made and secured by iron casings or otherwise in the block of wood on the iron plate of which the cast iron slide or dogs move. These should be put as near that end of the block of wood which comes nearest to the saw as their firmness and the strength of the wood will allow and one directly above the other. This block of wood and its castings compose the dog or slide, and must be fastened on the upper side of the head block and on that side of the saw which is opposite the one on which the plumb or gauge Plate 4 Fig 1 & 2 is fastened lengthwise thereon and parallel with the length thereof so that the side of the dog shall be in the same plane or surface with the upright or perpendicular side of the saw gain, and one end of it must just touch the nearest side of the saw gain. To this end be there in which the additional spikes or dogs are inserted. The under edge of the inside of the slide or dog should be cut with small cogs so as to fit a small cast iron rib



to be placed below it, with a mortice to be inserted there the block of wood for the purpose of running the slide or dog backwards or forwards as occasion may require. And the under edge of the other or outer side of the dog is to be notched to receive a catch or hook to be fastened to the said block of wood to keep the slide or dog from going backwards when set.

Another kind of plumbers gauge may be made in lieu of the one hereinbefore described by fixing a slide in the same manner as last described, except the spring on the same side where the other spring was placed by fastening a small iron plate about six inches long four inches wide and an inch thick on to the inside of the gauge, and at that end of it which is next the saw gain and perpendicular to the inside of the slide. The length of this small plate is to be regulated down. The wooden block on which the slide moves to be placed in the same position as the dog only on the opposite side of the saw gain. This slide may be made to move so as to regulate the thickness of the stuff to be sawed at will. The whole hand block is intended to be movable at pleasure, to accommodate and provide against the difference in lengths of the timber sawed. For this purpose a couple or more of strong iron hooks are fastened firmly to each end of the head block to hang down and catch in a cleet to be fastened on each and side of the carriage at such places therein as may put the head block in a proper position as required by the lengths of the timber to be sawed. A foot block similar to the head having a saw gain to allow the saw to saw through the log, and having upon it all of the machinery herein above described, except the spring, slide and screw and hooks, is to be fastened firmly upon the foot or other end of the carriage. The machinery is then complete for sawing boards and other stuff without stub shots - for gauging the thickness of the stuff intended to be sawed, and for sawing the log plumb and for fastening the log in its proper place. The machinery



for these several purposes may be used separately or together as may be thought best, as either may be used without the other, and the improvements for each purpose as herein above set forth. The said Reuel Jacobs claims as his — In witness whereof he hath hereunto set his hand and seal this 11th day of September in the year of our Lord One Thousand Eight hundred and thirty

Reuel Jacobs.

Wm Hughes
Wm J Ellis
Thomas Palmer

(3068 words)