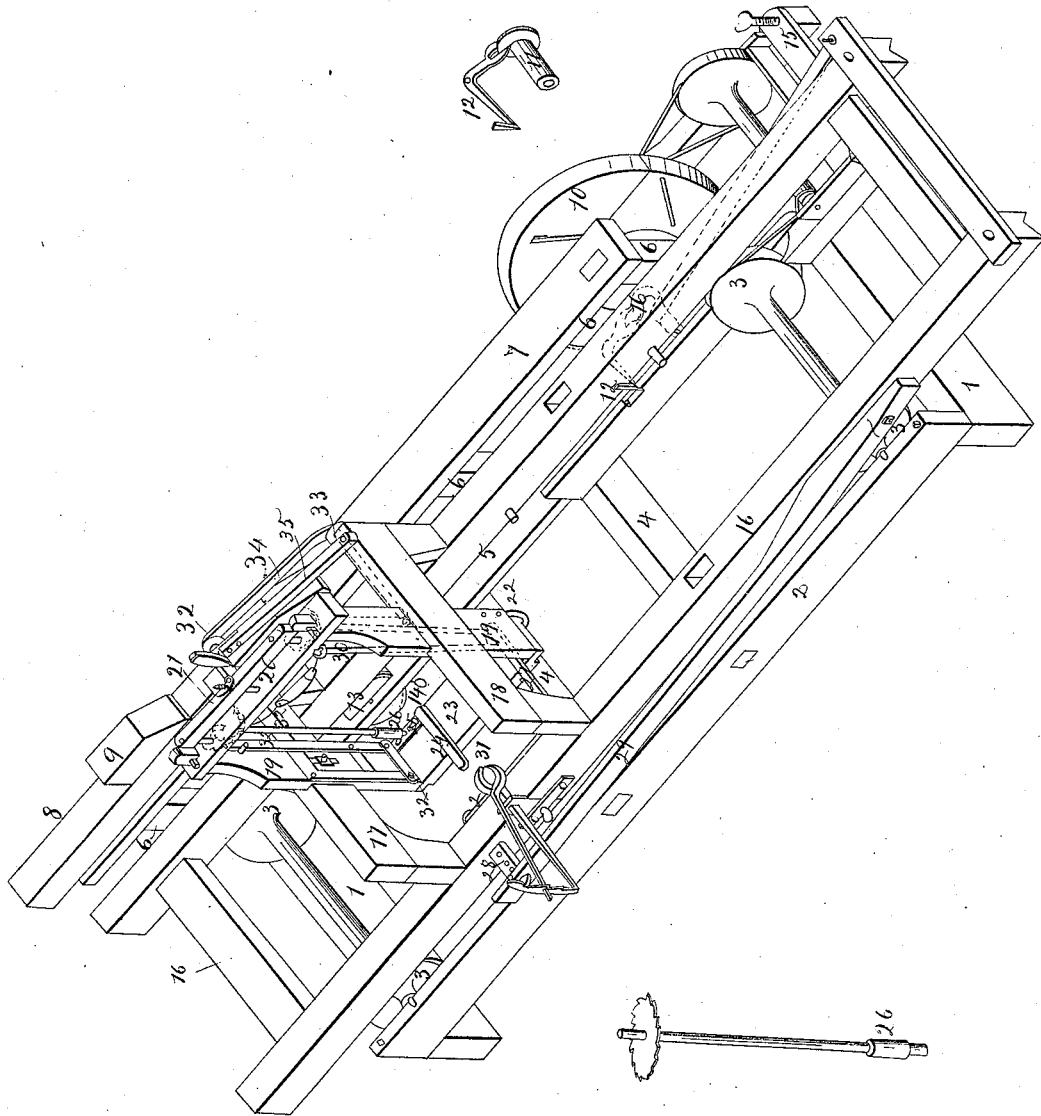


J. Hobbs,
Clayboard Machine,
Patented Sep. 14, 1836.



UNITED STATES PATENT OFFICE.

JONATHAN HOBBS, JR., OF FALMOUTH, MAINE.

MACHINE FOR SAWING SHINGLES.

Specification of Letters Patent No. 25, dated September 14, 1836.

To all whom it may concern:

Be it known that I, JONATHAN HOBBS, JR., of Falmouth, in the county of Cumberland, in the State of Maine, yeoman, have invented, made, and applied to use a new and useful improvement in the manner of making and constructing machines and making and manufacturing shingles and clapboards, of which the following is a full and exact description.

1. I make the bed frame, on which I place the operating parts of the machine in the following manner, I lay down a cross sill at each end fifty two inches long of 6 by 8 timber. 2. The ends of the front, and rear side pieces or sills are laid on the ends of these cross sills, the front sill is 3, by 8, and the back sill is 8, by 8. 3. Near each end I place a pair of friction rollers, for the carriage to travel on, eleven inches in diameter, of proper thickness the edges turned to a miter, each pair is on one shaft. The back roller is made thick enough to have a whirl for a small band, on the inside of it. 4. Four feet from the left ends of the sills I frame in a cross sill; and two feet farther, in the clear, to the right I frame in another cross sill 8 by 8. 5. On these two cross plates I lay two timbers lengthwise of the frame (No. 1,) of sufficient strength, on which I hang the circular saw. These timbers are about sixteen inches apart, and placed toward the back side of the frame. 6. On the back sill I set four posts 14 inches high, and 4, by 4. 7. On these posts I put a rail 2 inches by 6, and twelve feet long. 8. On the left end of this rail I put a block, 5 inches wide, and 7 high, and $5\frac{3}{4}$ feet long. The right end of this block is scarfed, and makes one of the inclined planes. 9. Twenty-seven inches to the left I place a loose block on the top of the other having the right end scarfed, which makes the other inclined plane. This blocks is set on loose, with two dowel pins, and can be removed to the left end of the rail when used for sawing clap boards. When shingles are sawed, both inclined planes are used, and when clap boards are sawed, the left one only is used. 10. On the back side, and near the right end, I hang a wheel or pulley about three feet diameter on a shaft about two feet long, on the outer end of the shaft I turn two whirls, on the inside of this wheel I make another wheel or pulley one, and a half foot diameter. These differ-

ent sizes are designed for different speeds in working, and are moved by belt from the main drum. These two pulleys should hang very near the outside of the frame. A number of plane iron or spoke shaves are placed on the inside of this wheel in the rim by which the shingles are edged, and jointed, being held in place by a hook, or pin. This is also called the jointing wheel. 11. On the inner end of this shaft is a loose cylinder about six inches long, and two diameter to go on loose on the shaft. This cylinder has a flanch, or rim, on the end next to the wheel two inches broad. This flanch has a pin in the side next the wheel which catches on to another pin in the wheel corresponding with it when the cylinder is pushed up against the wheel, and then it turns with the wheel, and winds a belt around it which is attached by the other end, to the piece on the right end of the carriage, and thereby runs the carriage back when the shingle is cut out, ready for the next cut. 12. On the left of this cylinder a knee is placed, one leg about six inches long with a slot which meshes onto the flanch No. 11. The other leg extends about eight inches passes under the carriage, and then turns up about four inches. This upright part of the knee is operated upon alternately by two pins standing on the inside of the back side piece of the carriage, whereby the loose cylinder is meshed onto the wheel, and unmeshed by the pins aforesaid No. 11.

When clapboards are sawed the right pin is moved about 28 inches to the right to accommodate the length of the log. This knee hangs on a pin at the angle. 13. About twenty inches from the left end of the back sill, I put in a roller about 6 inches long, and eight diameter, having a right hand screw, or spiral grooving, coarse thread, the whole length. This screw runs off on the back end of this roller, and is cut in, and makes half a turn on that end, and terminates at nearly the center. The use of this diminution is to bring the bolt, or log lightly against the saw when first beginning to cut. Near the circumference of this roller, and against the termination of the scroll I bore a dozen holes, or less, and put a pin into any one of them as occasion may require. 14. Then I take a line of proper length, and fasten one end of it to the left end of the back side pieces of the carriage,

and pass it twice around the roller, and then hang a weight to the other end below sufficient to carry the carriage forward to the cut. The piece aforesaid should be so placed that, when the carriage is hauled back, and the machine set for the next cut, the line should bear a little against this pin so as to start the carriage easy. Then when the line leaves the pin it hangs at the diminution of the scroll aforesaid which gives the weight a light power upon the carriage, when the saw first begins to cut, which increases as the roller turns forward, until it comes to its full strength at the circumference. Any other method of carrying the bolt forward may be used if preferred. 15. At the right end of the back sill I place a platform about 26 inches square; on this I set a sliding frame about 22 inches by 12, held in place by two wooden hooks standing over the sides. In this sliding frame I hang a whirl fifteen inches in diameter on a shaft about 21 inches long. This whirl stands in range with the whirl on the jointing wheel; on the other end of this shaft is a whirl corresponding with the one on the friction roller No. 3, a band passes around this large whirl, and the whirl on the outer end of the shaft of the jointing wheel, and a cross band passes around the whirl on the friction roller, and the whirl on the other end of this shaft. In a line with the sides of the sliding frame about eight inches to the right I set two pins one inch in diameter from each side piece of the sliding frame, I attach a line to each pin. The use of these pins, and lines is by winding or unwinding these lines around these pins. The bands on the whirls aforesaid can be tightened or loosened at pleasure. This apparatus is called the regulator, 16, on the friction rollers aforesaid No. 3, I place the traveling carriage aforesaid about sixteen feet long, and three feet four inches wide. The side pieces 4 by 6, having ties or cross timbers about two feet from each end. At the right hand end I put a strip of board across running out at the back side about 4 inches to which I fasten the belt having the other end fastened to the loose cylinder No. 11. These side pieces are about three feet one inch apart in the clear. 17. Three feet nine inches from the left end of the carriage I set a head block on the carriage, by framing a post into each side piece, and putting a beam across, and is twelve inches high. Two and a half feet to the right I put a tail block made in the same manner. This is the place for the tail block when sawing shingles. When sawing clapboards the tail-block is not five feet two inches to the right of the head block. These are made of timber about 6 by 3. 19. On the inside of the head block, and tail block in the center. I

halve on a piece perpendicular two feet ten inches long 8 by 2. I call these pieces stirrups. These stirrups have each a short slot through which they are bolted onto the head, and tail blocks; each block has several holes, by which the stirrup can be raised, and lowered as well as by the slot. 20. On the tops of these stirrups I put a cap piece, having long tenons passing up through the cap piece, and keys through each tenon over the cap piece. 21. In the center of this cap piece I pass a bolt up through it, and through a wooden spring. This spring reaches nearly the length of the cap piece, having two iron rods fastened into it which pass loose through two holes down into the rag wheels by which the setting for the shingles is performed. These pins are pressed down hard by the bolt on these rag wheels whereby the jaws are kept firmly in their places at each set, as the shingles are sawed. 22. At the lower end of each stirrup a plate of iron is riveted on the inside, and goes down below the wood far enough to admit a mortise one inch; the ends of the foot piece of the stirrup enter these mortises, whereby it is supported. The front corner of each of these plates is drawn to a hook turning outward. The use of these hooks is when sawing clapboard to pass a line around them and strain up with a fid after the manner of a wood saw, so as to hold the stirrups hard against the ends of the log so as to hold it firm in its place at each set for a board. 23. The foot piece of the stirrups is 6 by 2, reach between the stirrups, and having a tenon at each end passing through the mortise in the plate, at the bottom end of each stirrup. 24. About 8 inches from each end cross pieces are riveted into the foot piece about twelve inches long, on which the shingle bolt rests when sawing. 25. At the left end of the foot piece of the stirrups, an iron plate — by 4, is riveted, having several holes for the bottom gudgeon of the left shaft of the jaws to stand in, as occasion may require, to accommodate a long or short shingle bolt. 26. The jaws that hold the bolt are made thus: take a rod of $\frac{5}{8}$ round iron, and $2\frac{1}{2}$ feet long. A hub about six inches by two is put fast on the lower end. These hubs are set with short sharp teeth which sink into the end of the bolt, and hold it fast; on the upper end of each shaft is a rag wheel 6 inches diameter. These wheels, on the edges are cut with eight sets of rags or notches, and every other one twice the length of the other, so as to set for the head, and point of a shingle alternately, as the bolt is sawed. The left jaw piece stands about six inches from the left stirrup piece, the lower gudgeon in one of the holes in the iron plate, and the upper gudgeon in an iron on the cap piece, the

right jaw piece is set the lower gudgeon in one end of a knee, and the upper end in the iron on the cap piece. These jaws stand about 19 inches apart. 27. The knee on which the right jaw piece stands is a flat rectangular piece of iron, the inner end about seventeen inches long, and the outer one twenty-five, this knee is hung at the angle on a pin; the longer leg runs to the left inside of the front side piece of the carriage frame having the end drawn to a pin, and turned down through a hole, in a flat piece of iron, which passes loose through a mortise in the front side piece of the carriage. The lower gudgeon stands in the short end of this knee, and the upper gudgeon in the iron on the cap piece. On the under side of the cap piece I rivet on two flat pieces of iron about $\frac{1}{4}$ inch wide, and 4 long, on the back side the upper gudgeons of the jaw pieces pass through these irons close to the cap pieces, and the upper end of the rod which holds up the right jaw piece of the right setter, passes up through the end of the flat piece of iron on the front. 28. The flat piece of iron which hitches on to the long leg of the knee, and passes through the side piece of the carriage, also passes loose through a mortise in a wooden spring on the front side of the carriage having several holes in the outer end, whereby it may be shortened, or lengthened by a pin, in some one of those holes. 29. This spring is of proper length, and strength, and is bolted on to the front side of the carriage. This spring as it is tightened or loosened by placing the pin in different holes brings the right jaw up harder, or lighter as occasion requires in holding the bolt, when this spring is pushed in, it opens the jaws to receive the shingle bolt, and when the spring halts back it shuts the jaws up on the bolt and holds it fast. A like motion opens the jaws to take the bolt out if necessary. 30. The inner, or short end of this knee is held up by a small rod of iron passing through it with a nut pin or head on the under side, and the other end passing up through the iron on the cap piece aforesaid with a pin, or nut on the end. 31. A pair of nippers takes hold of the outer edge of the bolt to keep it from canting. Each jaw end of these nippers is turned up to a round sharp point. The under arm of these nippers lies on the upper side of the front side piece of the carriage, passing through a hole in a piece of iron on the front side of the carriage. It then turns up having notches on the edge into which the other arm catches to hold the bite of the nippers. 32. The setters which move the rag wheels on the upper ends of the shafts of the jaws, are made as follows: The setter on the head block is a knee, or right angular piece of iron, attached to the head block, on the in-

side, by a pin at the angle, having one leg reaching down from the angle about 18 inches and the other reaching back horizontally about 28 inches. At the bottom end, a flat piece of iron 6 inches long is pinned on, and the other end pinned on to another flat bar of iron standing perpendicular, and parallel with the lower leg of the knee, it also passes up by the horizontal part of the knee, and is pinned on to the stirrup. This pin is about 28 inches long, and the upper end works on the left rag wheel to set it. The outer end of the horizontal part of the knee, at the outer end is turned up with a quarter twist, which turns the flat side the other way, having a bolt hole through it. A flat piece of iron about ten inches long having a slot nearly the whole length is bolted on by means of the slot; this piece can be set up, or down at pleasure. At the lower end of this piece a pin is riveted standing out about three inches, with a nut, or pin at the end. A trunk 4 inches in diameter is put on this pin. 33. The setter on the tail block is fastened on to the inside of the tail block by a pin at the angle. It is a rectangular knee like the other having one leg run up perpendicular about 18 inches, and the other running back horizontally about 28 inches. The upper end works on the right rag wheel in setting. The outer end of the horizontal part is made round, and a trunk put on it like the other. A line is passed from one either to the other loose, or to which a light weight is put which inclines the setters together, whereby they are kept up to the rag wheels so as not to make any mistake in setting. 34. Outside of these trucks, a rail is put on to their gudgeons, which keeps the trucks at equal distances at all times from each other. 35. A brace is slipped on to the gudgeon of the truck, on the setter attached to the head block by one end, and the other end is slipped on to a pin standing in the upper side of the tail block, at the back end. This brace keeps the setters, and trucks steady in their places as they run up, and down on the inclined planes, in performing the operation of setting for the shingles as they are sawed. Whenever the machine is put in operation the rag wheels should be relatively so placed that one setter will set a short notch, when the other a long one, and then they will actuate continuously, in setting butts, and points of the shingles, and will never miss. Then when the saw has made a run, and the carriage has run back till the saw is clear of the bolt, the trucks mount the inclined planes, whereby the setters operate upon the rag wheels, and set for the next shingle, and they will continually set alternately, a long notch, and a short one, whereby the butts, and the points of the shingles are changed alternately.

The following are the parts I claim as my own invention.

1. The lengthening of the shafts of the jams which gives a greater scope for accom-
- 5 modating the different lengths of bolts; 2, putting the rag wheels on the top of the shafts instead of the bottom as in the old machine; 3, the different shape of the set-
- 10 ters for working at the top instead of the bottom; 4, the cap piece and the apparatus on the top of it; 5, the bed piece on which the bolt lies; 6, the difference in the con-
- 15 struction of the head, and tail blocks, and the stirrups; 7, having the left saw stationary. 8. The knee on which the right saw stands, and the rod holding it up; 9, the string and weight which holds the setters together. 10. The double prong hand which regulates the set. 11. The regulating appa-

ratus described in No. 15. 12. The 18 inch 20 pulley on the inside of the jointing wheel. 13. Having the pins which work the knee which moves the loose cylinder, on the shaft of the jointing wheel on the inside of the back side piece of the carriage, instead of 25 on the outside. All the other parts, and movements of this machine, I consider either embraced in my former patent, or common to other machines to which I claim no ex-

clusive right in these specifications. 30
In testimony that the above is a true specification of my said improvement as above described, I have hereunto set my hand this eighth day of July, A. D. 1836.

JONATHAN HOBBS, JR.

Witnesses:

JONATHAN MORGAN,
PETER SANBORN.