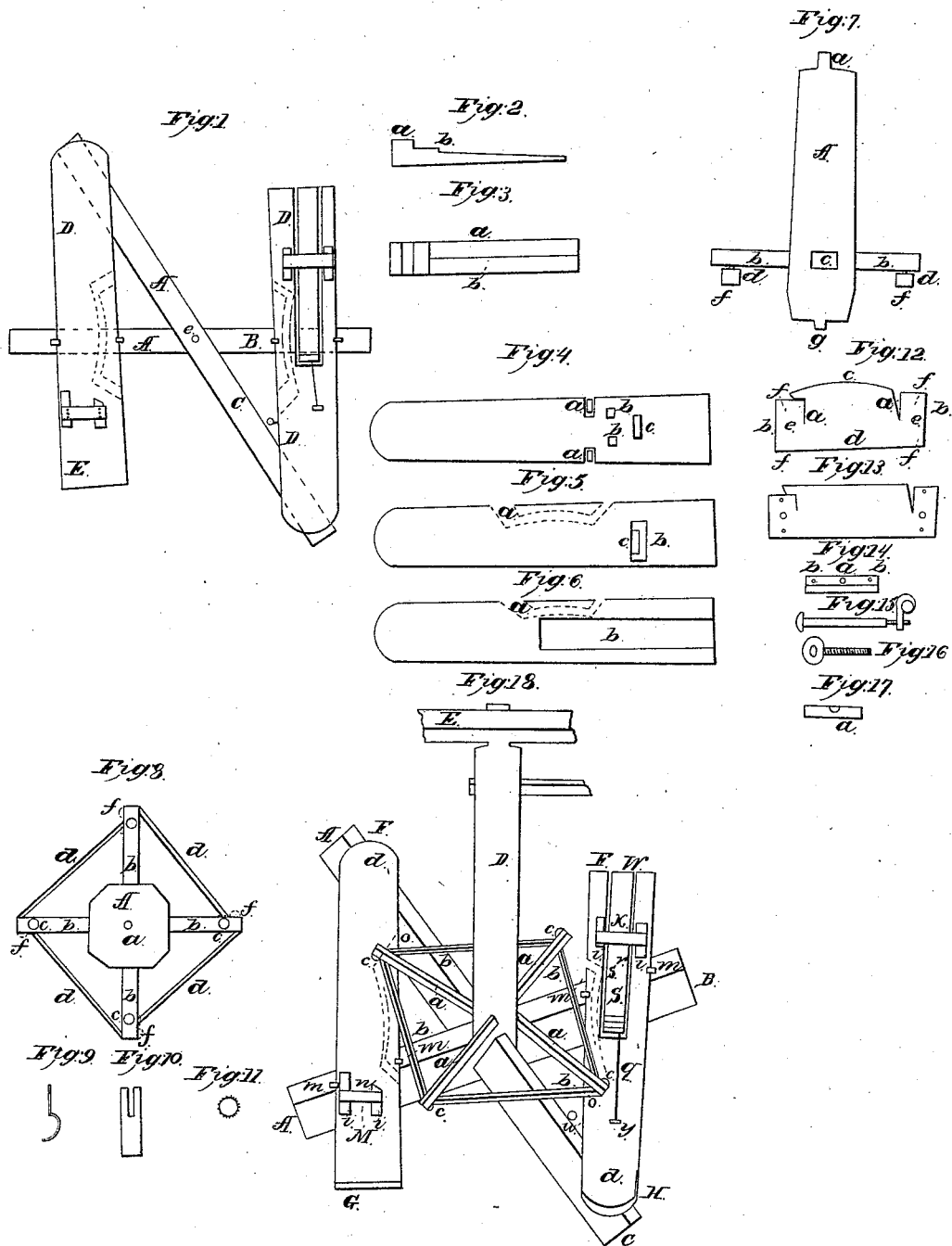


E. Luter,

Dressing Staves.

N^o 6,045.

Patented Jan. 23, 1849.



UNITED STATES PATENT OFFICE.

ELISHA SUTER, OF ROBERTSON COUNTY, TENNESSEE.

SHINGLE AND STAVE DRESSING MACHINE.

Specification of Letters Patent No. 6,045, dated January 23, 1849.

To all whom it may concern:

Be it known that I, ELISHA SUTER, of the county of Robertson and State of Tennessee, have invented a new and useful Machine for

5 Shaving Staves and Shingles, called "Suter's Stave and Shingle Machine," which is described as follows, reference being had to the annexed drawings of the same, making part of this specification, in which—
10 No. 1 is a top sectional view of bed pieces A B, and tables D D, D E with other parts to be described hereafter. No. 2 is a side view of the inclined plane used in the shingle department. *a*, is the head, *b* is the shoulder
15 against which the ends of the shingles are placed to be shaved. No. 3, is a top view of said plane. *a* shows the lower diversion of the face, *b* the higher diversion. No. 4, is the table of the stave department inverted.
20 *a a*, are wheels on which it moves when in operation, *b b*, show the ends of the large screw bolts which secure the knives, described hereafter. C, is the throat where the chips escape. No. 5, is a top view of
25 said table, *a* is the groove, *b*, is a cut in the face for bedding the under knife, *c* is the throat mentioned above. No. 6, is a top view of the table belonging to the shingle department, *a*, is the groove, *b*, is a large
30 groove in which the inclined plane No. 2 moves. No. 7, is a side view of the shaft and arms. A, is the shaft in an upright position, *b b*, are arms, to the under side of which, *d d*, are rollers supported by round
35 bolts extending up into said arms, represented by, *f f*; *a*, is the top bearing of the shaft, *g*, is the lower bearing. No. 8, is a top view of the shaft and large quadrangular wheel inverted. A, is the shaft, *a*, its
40 lower bearing, *b, b, b, b*, the arms. *d d d d* are the braces. *c c c c*, are the rollers which run through the small circular grooves shown above. Nos. 5 and 6 *f f f f* are the
45 hands, *x x x x* the bolts securing the rollers. No. 9, is a side or edge view of one of the hand irons. No. 10 shows the face of said hand iron. No. 11 one of the several rollers or small wheels employed—all being the
50 same shape and size. No. 12, is the knife used in shaving staves—the upper and under ones have the same shape and parts, *c* is edge of the blades *d*, the back, *b b*, the heads *a a*, cuts by which the blade is reversed from the heads, in order to give it a downward set.
55 *e e*, are holes for bolts to pass through, *f f* *f f*, are holes for the temper screws to work.

No. 13, is the shingle knife—the same in form and construction only straight on the edge. No. 14, one of the guards intervened between the heads of the knives hereafter described, *b a b*, are holes or apertures corresponding with those described No. 12. No. 15 is one of the large bolt screws used. No. 16 is one of the small temper screws for setting the knives. No. 17 is one of
60 the footings for the temper screws to stand on in the shingle department described hereafter, *a*, is an aperture for the bolts to pass through in fastening the knives to the tables. No. 18 is a perspective view of the machine
65 ready for operation, the posts or that which supports the girder being omitted.

A B and A C are the sills or bed pieces on which the machine rests. They are of hewn timbers of the proper length and of sufficient
70 depth to elevate the faces of the tables to a level with the under side of the large quadrangular wheel connected with the shaft. They are crossed and connected together in their centers; and by means of
75 proper cuts their upper surfaces brought level with each other, forming a foundation for the tables to rest on. The foot of the shaft also stands on the center of the sills, in an opening cut some depth down from
80 the top surface as seen at, *e*, No. 1.

D is the shaft standing in an upright position, its foot resting on the center of the sills, and its upper bearing in a large girder above as seen at E, broken off at each end.
85 Near the lower end of the said shaft is a quadrangular wheen constructed by passing two long arms transversely through its center, thus presenting the four arms seen at
90 *a a a a*.

There are then four braces *b b b b* extended between said arms and secured by mortise and tenon—these support the arms when in operation. The arms project out beyond the braces to give space for forming the
95 hands seen at *c c c c*. These hands are made by forming a semi-circular knob on the sides of the arms just at the ends—they are faced with iron see Nos. 9, 10, and catch against the ends of the staves, or the head
100 of the plane in shingle department forcing them forward. On the under side of each of said arms and near the end of each is a roller attached by a bolt extending up into the arm shown in the inverted figure of the
105 shaft and wheel at No. 8—*e e e e*—are these rollers. *x x x x*, mark the bolts that sup-

port the rollers. These rollers traverse through the small circular grooves in the tables and give to the tables a slow vibratory motion, by means of which motion the staves
 5 are made to move on a straight line while passing through the knives. *i i i i*, mark the places where these rollers are fixed below.

F G, is the table on which the staves are shaved. It rests on the sills, as stated above
 10 being suspended at *d*, by a strong pin, yet so as to move freely to the revolutions of the large shaft wheel. It has two small wheels attached to the under side at the opposite edges, seen at *m m*. These wheels rest on the
 15 sill A B, and facilitate the motion of the tables. F H is the table of the shingle department—is suspended by a pin at *d*, and moves on wheels precisely as the table F G described above.

M is the stave knives (see No. 12) to arrange them for work a cut is made in the table just before the point where the hands
 20 *c c c c*, leave the table. The under knife is settled in this cut with the edge tending upward above the face of the bench so as to take off a shaving from the under side of
 25 each stave as it passes over it, acting on the principle of the carpenter's plane. The guards *i i* are placed on the heads of the knife, with the apertures corresponding. These are intervened to prevent the staves
 30 from interfering with the screws and bolts. The upper knife is placed on the guards with the temper screws (one at each corner) passing through the apertures of the guards,
 35 and resting their points on the bottom knife, and serving to keep the knives at a proper distance; and also to change the angle of the upper knife. *u u u u* mark the temper
 40 screws, and *r r r r* the large bolt screws which pass down through the heads of both knives and the guards and table; and fasten with a screw top on the under side the table.

n, is a throat or aperture cut through the
 45 table for the chips taken off by the under knife to escape.

o v, is the groove cut circularly through the face of the table near the inner edge, through which the rollers described above
 50 pass successively as the large shaft wheel revolves, entering at *o*, and disengaging at *v*.

W is a large straight groove cut in the table F H, for the inclined plane to work in.

S is the inclined plane, which works in the groove W and on which the shingles
 55 are placed to be shaved. The face of the plane has a higher and a lower side,—*s* is the higher and *n*, is the lower. This plane is inclined from the shoulder, as described in
 60 No. 2, to the fore end, and by that means gives taper to the shingles. *g*, is a small cord attached to the head of the plane *s*.

y, is an aperture through the table through which the cord passes. *u*, is a weight at-
 65 tached to the end of said cord, by which said

plane is drawn back after being carried forward by the hands of the large shaft wheel.

X is the shingle knife, only one being employed. It is constructed like the stave
 70 knives, only straight while they are curved on the edges. It is of sufficient length to admit of two shingles passing under it on the plane, side by side. At the place where it stands are two footings of iron seen in No.
 75 17, with apertures through them for the large bolts to pass in securing the knife to its place. The said footings are bedded in the face of the table. *i i* are guards which are intervened between the table and the
 80 knife to secure the screws and bolts from injury. *r r* are the bolts which pass downward through the heads of the knife, guards, footings and table, and are fastened be-
 low by tapes as in the stave department.

u u u u are four temper screws, one to each
 85 corner of the knife—screwed through, and passing downward through the apertures in the guards and resting on the footings; and serve to set and regulate the knife.

Z is the lever or sweep by which the ma-
 90 chine is propelled.

Operation: The machine being in operation from animal or other power the large shaft or quadrangular wheel moving from
 95 left to right, as the attendant faces the tables a stave is placed on the table with one end immediately before the edges of the knives, and the other end within the range
 100 or sweep of the hands, which move successively over and close to the face of the table where it is caught by one of the hands and forced between the knives, which cut a shaving
 105 off above and below simultaneously. It is lodged in the knives till displaced by a second which is shaved in like manner and takes its place till dislodged by a third, and
 110 so on. Thus a succession of pieces is kept on the table to be shaved. When the hands have forced a stave forward till the roller comes to the last turn of the groove it throws
 the table back a little, and thus disengages itself from the end of the stave.

To shave shingles,—a piece is placed on the lower side of the face of the inclined
 115 plane, when the hand of the quadrangular wheel catches against the head of the plane forces it down the groove with the piece to be shaved on it; with the hinder ends braced
 120 against the shoulder of the plane, to prevent it from slipping back—it is thus forced under the knife and one side shaved. The arm is then disengaged from the plane by the turn in the groove—the plane is drawn
 125 back by the weight attached to it, ready for another stroke, when the piece with one side shaved is placed by hand on the higher side of the plane with the shaved side down; at
 the same time a second piece is placed on the lower side of the plane, and both are
 130 made to pass under the knife simultaneously

in which operation the first is finished and suffered to drop from the table—the plane slides back as before—the unfinished shingle is turned over and changed to the higher side of the plane to be finished, while another piece is placed on the lower side for action. Thus two pieces are kept on the plane, one being finished every stroke, or forward motion of the plane.

10 What I claim as my invention, and desire to receive by Letters Patent is—

1. The construction and application of the quadrangular wheel, with its appurtenances viz. the rollers and hands to the use and
15 purposes above described.

2. I also claim the invention of the sliding or vibrating table, and its application with its appurtenances to the uses ascribed to them above.

3. I too claim the application of the inclined plane to the purposes described above—and—

4. Finally I claim the above described construction and arrangement of the whole machine taken in combination, and applied to the purposes ascribed to them above.

ELISHA SUTER.

Witnesses:

A. M. GREER,

F. M. HAMLETT.