

Welch & Walker,
Planing Shingles.
No 7,009. *Patented Jan. 8, 1850.*

Fig 1.

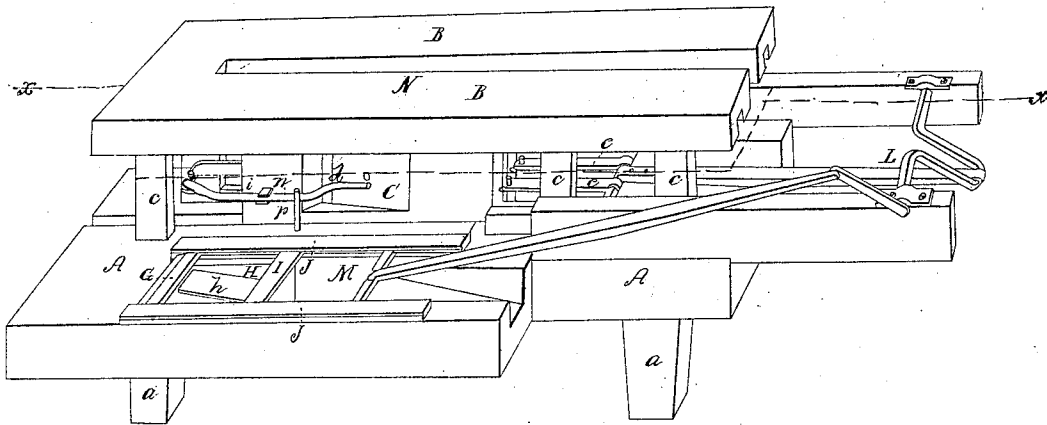
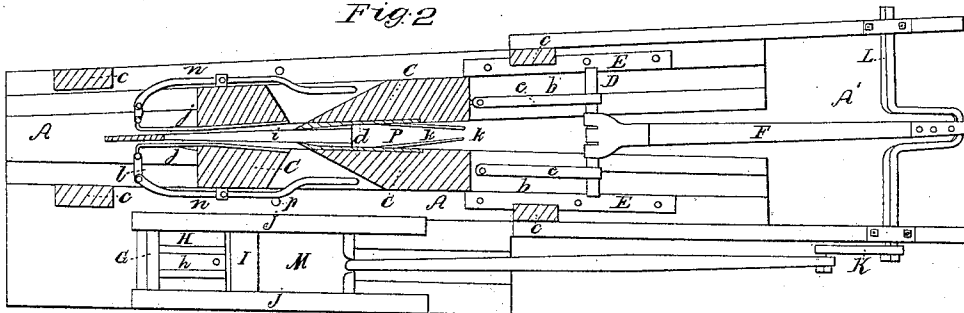


Fig 2.



UNITED STATES PATENT OFFICE.

AUGUSTUS WELCH AND ROBERT WALKER, OF BENNINGTON, INDIANA.

MACHINERY FOR DRESSING SHINGLES.

Specification of Letters Patent No. 7,009, dated January 8, 1850.

To all whom it may concern:

Be it known that we, AUGUSTUS WELCH and ROBERT WALKER, of Bennington, in the State of Indiana, have invented certain new and useful Improvements in Shingle-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which—

10 Figure 1 is a perspective view of our machine and Fig. 2 is a plan of the machine with those portions removed which are above the line *xx* of Fig. 1.

15 The nature of our invention consists in so arranging the several parts of the machine that the bolt shall be riven, and the slab shaved on both sides at once and delivered in a finished state.

20 In the drawing A, is the bed frame of the machine, supported at a convenient distance above the ground by legs *a, a, a*. Two converging longitudinal grooves *b, b*, are made in the upper surface of the bed frame A, their angle of convergence being the same as that of the faces of a finished shingle; 25 a second frame B, is supported above the first or bed frame, by standards *c, c, c, c*, the lower face of this upper frame also contains two converging grooves, parallel with and corresponding to the grooves *b, b*, in the bed frame. Within these grooves move two vertical plane stocks C, C, which are each furnished with a plane iron *d, d*, at least as wide as the widest shingle intended 30 to be made. The plane-stocks are connected by links *e, e*, with a crosshead D working in guides E, E, attached to the bed frame A and receiving motion through a connecting rod F from a crank *g* on a shaft revolving at the back end A' of the bed frame. On 35 one side of the bed frame is the riving knife G, this works horizontally above a recess H, in the bed frame just deep enough to receive a riven slab, and is attached to a rectangular frame or gate I, which works in guides J, J, and receives a reciprocating motion through a connecting rod from a crank K on the shaft L. A spring plate *h* is sunk in a socket in the bottom of the 40 recess H and attached by one end to the bed frame, the opposite end being loose and springing upward. The bolt to be riven is pressed in the recess H, and by the pressure thus applied the spring plate *h* is depressed into its socket; each revolution of the shaft 45 L produces a blow of the riving knife G,

which separates a slab from the bolt equal in thickness to the depth of the recess; the knife is projected by the crank K, beyond the end of the riven slab, which being immediately raised by the spring plate *h* is 60 received in the rectangular knife frame I, and carried backward in the retrograde motion of the knife until it falls through an opening M in the bed frame A at the hinder end of the recess H. The bolt being again 65 pressed into the recess, a second slab is riven, and the operation is continued until the whole bolt is riven into slabs.

70 The riven slab is dropped edgewise through a slot N, in the upper frame B upon a support *i* on the bed frame A between the converging faces of the plane-stocks C, C; the end of the slab further from the shaft L is prevented from moving forward by a 75 vertical stop O, attached to the two frames A, B, and the two plane-irons acting at the same moment upon its opposite faces, plane off any excess in its thickness, and by their converging motion give the requisite taper 80 to the finished shingle. The shingle should be reduced to a very thin edge at its point and the stop O should be made as thin as possible consistent with the requisite strength, because a portion of each plane- 85 stock, equal in thickness to half of that of the stop, has to be removed in front of each plane iron to allow these portions of the plane-stocks to pass the stop O, and the plane-irons to shave the shingle to its point. 90 It is necessary that the slab introduced between the planes should be held firmly while the plane irons act upon its opposite faces, to effect this we have attached to each plane stock a spring-plate *j, j*, which project 95 in front of the plane irons, receive the slab between them, and hold it firmly during the action of the planes; these spring plates are constructed to press against the stop O, and as the width of this last is less than 100 that of the slabs used, it is necessary at each retrograde stroke of the planes to draw the spring plates sufficiently apart to admit the thickest slab required to form a shingle; this is effected by attaching the front end 105 of each spring plate to the front arm of a lever (*n*) which is hinged to the plane stock and whose hinder arm has an inclined projection upon it which, just before the planes complete their back stroke, strikes a stop *p*, 110 secured to the frame A; and acting through the lever draws the spring plate outward.

This separation of the spring plates allows the introduction of the slab which is immediately seized and steadied by the spring plates as the projections of their levers are
5 liberated from the stops in the forward motion of the planes. Two similar spring-plates *k k* are attached to the stocks and project backward from the plane irons, these spring plates seize the shaved shingle and, in
10 the backward motion of the plane stocks, carry it with them toward the shaft *L* until it is released from them by the diverging of the plane-stocks and dropped through a slot *P*, in the bed frame.
15 The utility of this invention is not confined to the manufacture of shingles but it is applicable to the dressing of staves or to other analogous purposes. When arranged to dress staves, the two plane stocks must
20 be made to move parallel to each other, and convex and concave plane irons must be

used; and as the hinder spring plates would not separate of themselves to drop the stave, a device similar to that attached to the front spring plates of the shingle machine must
25 be applied to them.

Having thus described our shingle machine what we claim therein as new and desire to secure by Letters Patent is—

The combination of two planes (*C, C*)
30 guided and moving to and fro in the straight converging grooves (*b*) with the spring-plates (*j, j*) in front of the plane-irons for holding the slab, and those (*k, k*) behind the plane-irons for discharging the finished
35 shingle from the machine, the whole being arranged and operating as herein set forth.

AUGUSTUS WELCH.
ROBERT WALKER.

Witnesses:

GEO. W. D. CULP,
HARVEY GREEN.