2 Sheets. Sheet 1.

W. S. George,

Cutting Shingles.

No. 2,109. Patented May 29, 1841.

Fig: 3.

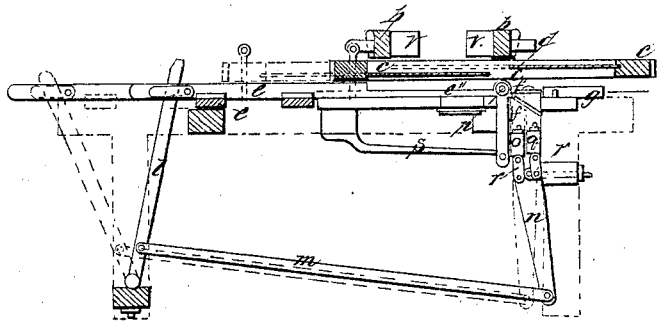


Fig: 2.

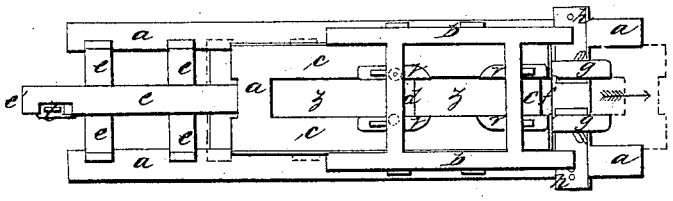
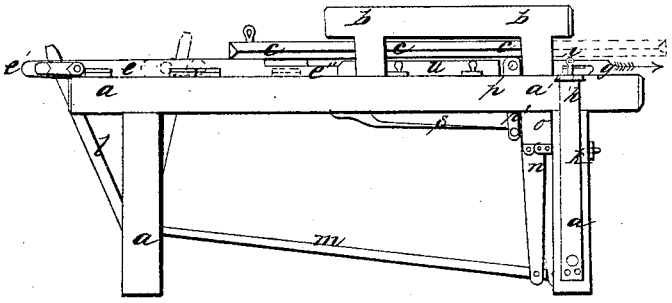


Fig: 1.



2 Sheets. Sheet 2.

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Fig: 6.

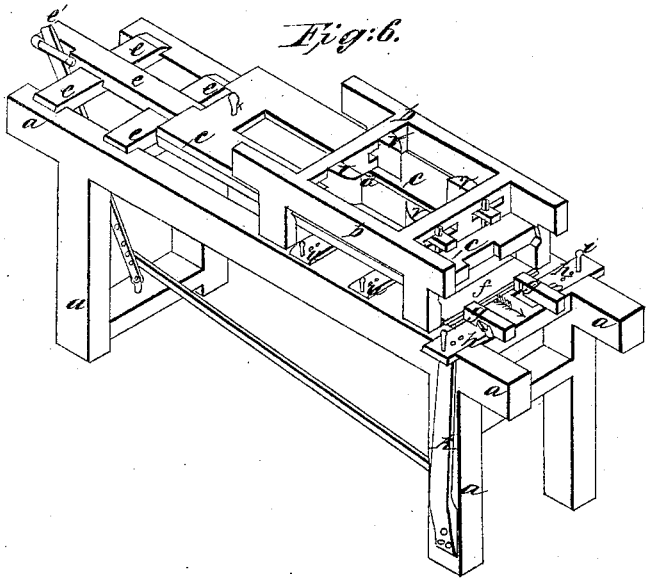


Fig: 5.

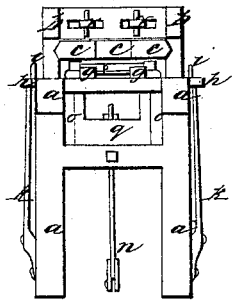
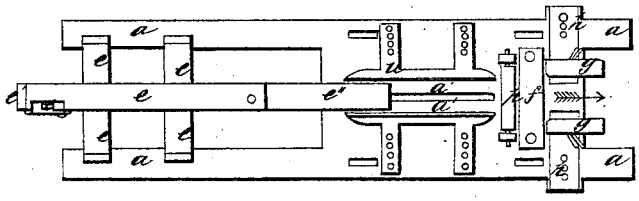


Fig: 4.



UNITED STATES PATENT OFFICE.

WM. S. GEORGE, OF BALTIMORE, MARYLAND.

MACHINE FOR RIVING AND DRESSING SHINGLES.

Specification of Letters Patent No. 2,109, dated May 29, 1841.

To all whom it may concern:

Be it known that I, WILLIAM S. GEORGE, of the city of Baltimore, in the State of Maryland, have invented an Improved Machine for Riving and Dressing Shingles; and I do hereby declare that the following is a full and exact description thereof.

The timber from which the shingles are to be made by my machine is to be cut of the proper length, and rived out so as to constitute square bolts of such size as shall adapt them to the width of the shingles to be formed from them; these bolts are to be placed in a frame prepared to receive them; a piece of the proper thickness for a shingle is then rived off by means of a reciprocating knife, which piece falls upon a table below the riving knife, whence it is driven forward between two dressing knives, which, as it passes between them, are made to approach toward each other in such manner as to give a regular taper to the shingle, the edges being jointed at the same time, by jointing irons duly fixed for that purpose.

In the accompanying drawing, Figure 1, is a side elevation of my machine; Fig. 2, is a top view of it; Fig. 3, a longitudinal and vertical section through the middle of it; Fig. 4, a top view with the riving apparatus removed; Fig. 5, an end view, and Fig. 6, a representation of the whole machine in isometrical perspective.

In each of these figures, where the same parts are represented, they are designated by the same letters of reference.

The main frame of the machine is marked *a*, *a*, *a*, and may be about 8 feet long, 2 feet wide, and 3 feet high; and upon this is placed a second frame, *b*, *b*, which stands upon legs about 6 inches high, and is firmly attached to the frame *a*, *a*; the bolts are to be placed within the frame *b*, *b*, the blocks *v*, *v*, embracing their ends so as to keep them steady; said blocks being adjustable, and confined in place by wedges, as shown in the drawing. Between the top of the main frame *a*, *a*, and that part of the frame *b*, *b*, which holds the bolt, there is a sliding frame *c*, *c*, guided in grooves in the legs of the frame *b*, *b*; and this sliding frame carries the knife by which the shingles are to be rived; the length of this frame between the end pieces must be fully equal to that of two shingles, and its width between the side pieces such as to admit the widest shingle. Two horizontal plates, or panels, *z*, *z'*, which may be made of sheet-iron, are contained in this frame, and meet nearly together at the middle thereof; the panel *z'*, is placed the thickness of a shingle above the panel *z*, and the riving knife *d*, is affixed to the front edge of the panel *z'*. The sliding frame *c*, c, is carried back and forth by means of a crank, or other device calculated to give a reciprocating motion, operating on the end *e'*, of a slide *e*, *e*; this slide and the sliding frame *c*, *c*, are connected together by a pin, or bolt, *x*, passing vertically through them; the end *e''*, of the slide *e*, *e*, is made thin, its office being to push the rived shingle forward between the dressing knives. When the bolt is in place in the frame *b*, *b*, and the frame *c*, *c*, is carried forward so as to bring the panel *z*, under the bolt, said bolt will descend and rest upon the panel; and when so situated, and the frame *c*, *c*, is forced back, a shingle will be separated from the bolt by the riving knife *d*, and will fall down upon the part *a'*, *a'*, Fig. 4, of the face of the lower frame *a*, *a*, and between the fences, or guides, *u*, *u*, situated on said frame, and made adjustable to the width of the shingle.

To facilitate the action of the riving knife, and to insure square and clean edges to the rived shingle, I place two circular cutters of plate steel *w*, *w*, Fig. 3, (and shown by dotted lines in Fig. 2), so that they shall revolve on centers on the frame *b*, *b*, in advance of the knife *d*, and on the same plane, so that their cutting edges shall cut into each side of the bolt, on the line where it is to be rived. The rived shingle is now ready to be carried forward between the dressing knives *f*, *f*, which are seen in section in Fig. 3. These knives are placed at such distance apart as is equal to the intended thickness of the butt end of the shingle. The two knives *f*, *f*, are sustained at their ends by being attached to two vertical sliding frames; and by the descent of one of these, and the ascent of the other, the knives are made regularly to approach each other as the shingle passes between them.

o, is a part of the frame to which the upper knife is attached, and *q*, that to which the lower is attached; *n*, is a lever for raising and lowering these frames; this lever vibrates on a fulcrum *r*, Figs. 1 and 3, and is connected to the sliding frames *o*, *q*, by two shackles *r'*, *r''*, by which the

knives are made to approach toward, or to recede from, each other; the lever *n*, is actuated by a rod *m*, attached to it and to the lever *l*, the upper end of which lever passes through a mortise in the slide *e*, *e*, the effect of which will be apparent. When the end *e'*, of the slide *e*, *e*, forces the shingle forward between the dressing knives, it is pressed down by a roller *p*, which revolves in a frame *p'*, a spring *s*, bearing on the lower part of the frame, and drawing the roller down upon the shingle.

To joint the shingles, they are made to pass between two jointing planes as they leave the dressing irons; these planes are affixed to slides borne up by the springs, to give them a proper bearing on the edges of the shingle.

g, *g*, are the jointing planes which are affixed to the slides *h*, *h*, working in dovetail grooves, in the top of the frame *a*, *a;* these slides are acted upon by the upper ends of the two springs *k*, *k*, there being pins *i*, *i*, which pass through the slides; and against the projecting ends of these, below the slides, the springs *k*, *k*, bear, thus allowing the planes *g*, *g*, to recede from each other.

Having thus fully described the manner in which I construct my machine for riving and jointing shingles, and explained the operation thereof, what I claim therein as of my invention, and desire to secure by Letters Patent, is—

1. The manner in which I have combined and arranged the frame *b*, *b*, for holding the bolts, with the vibrating frame *c*, *c*, its panels and riving knife, with their appendages, so as to rive shingles from the bolt by an apparatus operating substantially as described.

2. I also claim the within described manner of constructing and combining the dressing and jointing apparatus, the dressing knives being made to approach toward each other, and the jointing frames being affixed and operating in the manner, and for the purpose, above set forth.

WILLIAM S. GEORGE.

Witnesses:

JAMES BLAIR,

C. W. GRUN.