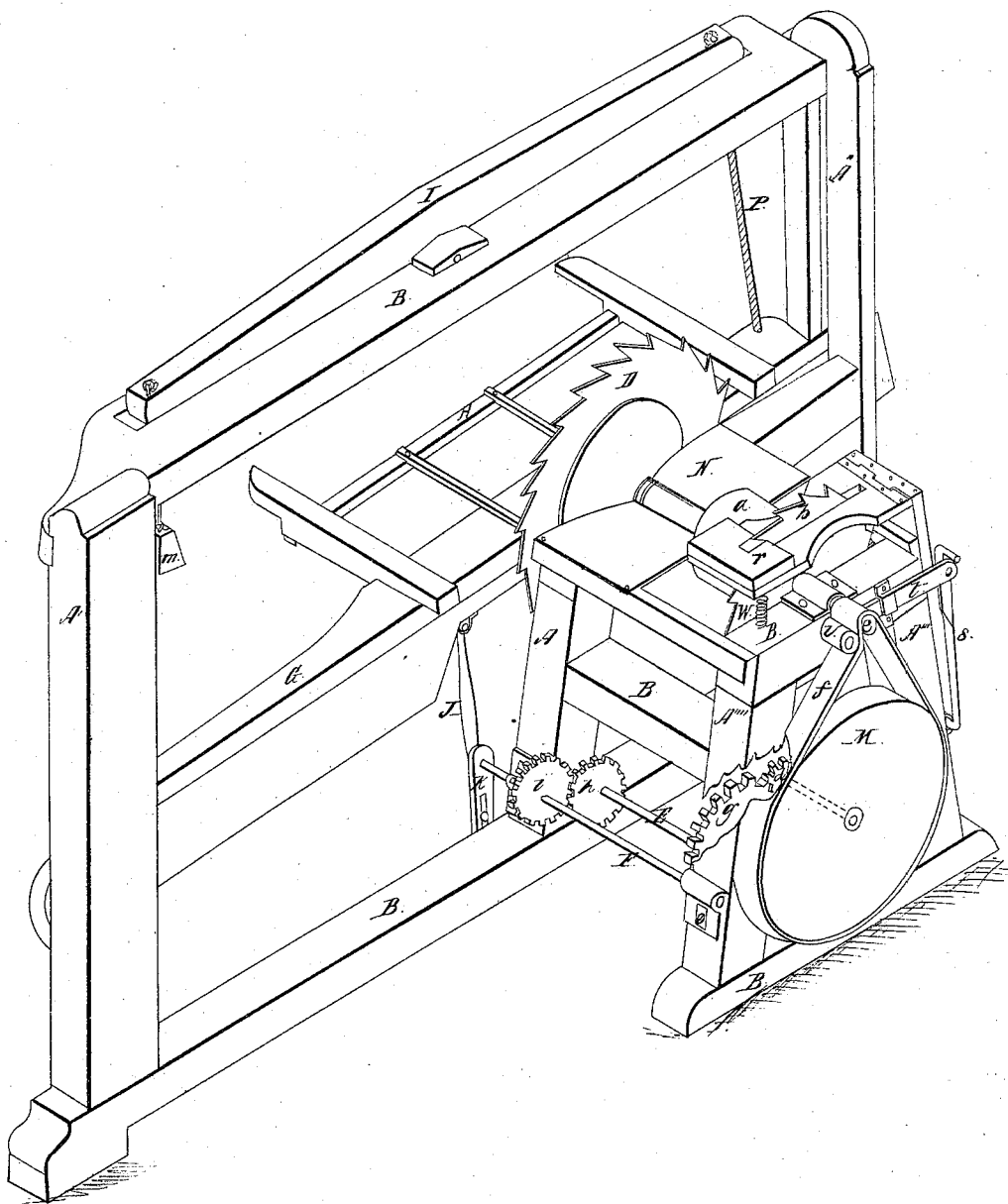


W. R. Close,
Shingle Machine.
No. 91,826. Patented June 29, 1869.



Witnesses:
Leop. Smith
Fred. H. Coombs

Inventor:
Walter R. Close

United States Patent Office.

WALTER R. CLOSE, OF BANGOR, MAINE, ASSIGNOR TO HIMSELF
AND THOMAS N. EGERY, OF SAME PLACE.

Letters Patent No. 91,826, dated June 29, 1869.

IMPROVEMENT IN SHINGLE-MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WALTER R. CLOSE, of Bangor, in the county of Penobscot, and State of Maine, have invented a new and improved Shingle-Machine; and I do hereby declare that the following is a full and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to machines for sawing and jointing shingle-bolts; and

It consists mainly in such a construction of machinery, that the "set-works" for presenting the bolt to the saw may be in the act of rising to assume the proper position for action, whilst the shingle, previously cut by it, is being presented to the jointing-saw, so that one attendant may superintend both operations of sawing and jointing, without loss of time or stopping the machine.

It further consists in the employment of a pivoted lever to carry up and down the shingle-carriage in a weighted walking-beam to counteract the weight of the lever which supports the carriage and set-works; in adjustable and eccentric gears for communicating the proper movements to the carriage-supporting lever; and in other details hereinafter more particularly enumerated.

In said drawings, which show my invention in perspective, the upright *A'''*, belt *f*, and pulley *M*, are "broken," in order to show the gear-wheels *d* and *g*.

I construct a suitable frame-work, composed of the uprights *A A' A'' A''' A''''*, and cross-pieces *B B B'*.

I construct the pulleys *a e* upon one shaft.

I attach the shingle-saw *D*, and jointing-saw, *b*, to said shaft.

I construct the pulley *M*, and provide the same with the small gear-wheel *d*.

I provide the pulleys *e M* with the belt *f*.

I construct the shaft *E*, and provide the same with the large gear-wheel *g*, and eccentric gear-wheel *h*.

I provide the shaft *F* with the eccentric gear-wheel *i*, and slotted crank *k*.

I construct the lever or arm *G*, and pivot one end thereof to the upright *A'*; the other end of the arm *G* passes through a long slot in the upright *A''*.

I secure the shingle-carriage *H* on the arm *G*. I provide the carriage *H* with the ordinary set-works for presenting the shingle-bolt to the saw.

I connect the pitman *J* with the crank *k* and arm or lever *G*.

I construct the walking-beam *I*, and provide the same with the weight *m*.

I then connect the unweighted end of the walking-

beam with the lever *G*, by means of a rope, *p*, as shown in the drawings.

I hinge the movable rest *r* to the upright *A'''*, and attach to the upright *A'''* the bent lever *s*, which may be operated from either side of the machine. I provide the lever *s* with the slide *b* and roller *v*, for tightening the belt *f* upon the pulleys *e M*.

In operation, the various parts being then in the relative position shown in the drawings, and a shingle-bolt being secured in the set-works on the carriage *H*, then, when motion is communicated to the pulley *a* by the driving-belt, not shown in the drawing, the saws rotate from right to left. The lever *s* is then pressed to the right, causing the roller *v* to tighten the belt *f* on the pulleys *e M*. Motion from right to left is thus communicated to the pulley *M*. The gear-wheel *d*, engaging with the gear-wheel *g*, rotates the shaft *E* with accelerated velocity. The eccentric *h*, by its longer radii, engages with the eccentric *i*, by its shorter radii, communicating thereto an accelerated velocity. The shaft *F* carries the crank *k* rapidly upwards, and by means of the pitman *J*, raises the loose end of the arm *G*. As the arm *G* is elevated, the weighted arm of the walking-beam *I* is dropped by the weight *m*, the weight *m* being sufficiently heavy to counterbalance the weight of the lever *G*, carriage *H*, set-works, &c.

The shingle-bolt is thus carried rapidly upwards, until the same is elevated higher than the saw.

The set-works are then actuated by a ratchet or other suitable contrivance, and the shingle-bolt is set over.

When this is accomplished, the eccentrics *h* and *i*, have so far revolved, that the eccentric *h*, by its shorter radii, engages the eccentric *i* by its longer radii.

The carriage *H* then descends with diminished velocity, presenting the shingle-bolt to the saw from above; the carriage slowly descends whilst the shingle is sawed from the bolt.

When the shingle is sawed, it falls upon the table *N*.

It is then placed by the operator upon the rest *r*, with the edge projecting slightly over the slot. The rest *r*, when not in use, is kept above the saw *b*, by means of the spring *W*. The operator then presses down the rest *r*, until the shingle is presented to the saw *b* from above, and is jointed.

This operation is performed whilst the carriage *H* is again ascending, so that the shingles may be sawed and jointed by one man.

The boxes for all the gearing, and for the pulley *M*, are slotted, and provided with bolts and nuts, so that the shafts may be readily lowered and adjusted.

When the saw *D* is worn down, the shafts are dropped in the boxes. The pitman *J* has still the same length

of stroke, but carries the carriage lower than before, that is to say, lower than the centre of the saw. This provision is made, in order that the saw, when worn down, may still saw a wide shingle.

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

The combination of the adjustable gear-wheels *d g i h*, slotted-crank *k*, pitman *J*, lever *G*, and weighted lever *I*, substantially as shown and described.

Also, the above, in combination with the jointing-saw *b*, placed upon the same shaft with the shingle-saw, and driven by the same pulley, all substantially as and for the purpose set forth.

WALTER R. CLOSE.

Witnesses:

GEO. R. SMITH,
FRED. H. COOMBS.