W. Smith,

Saming Shingles.

No. 5,768. Patented Sep. 12, 1848.

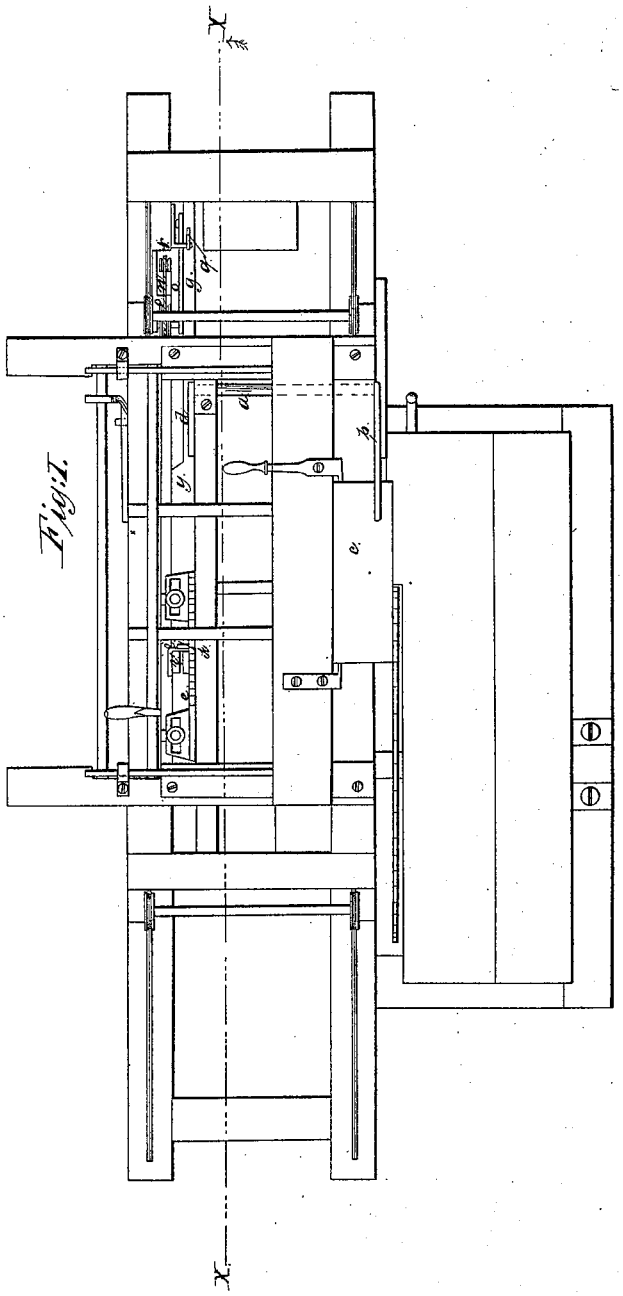

Fig. 1.

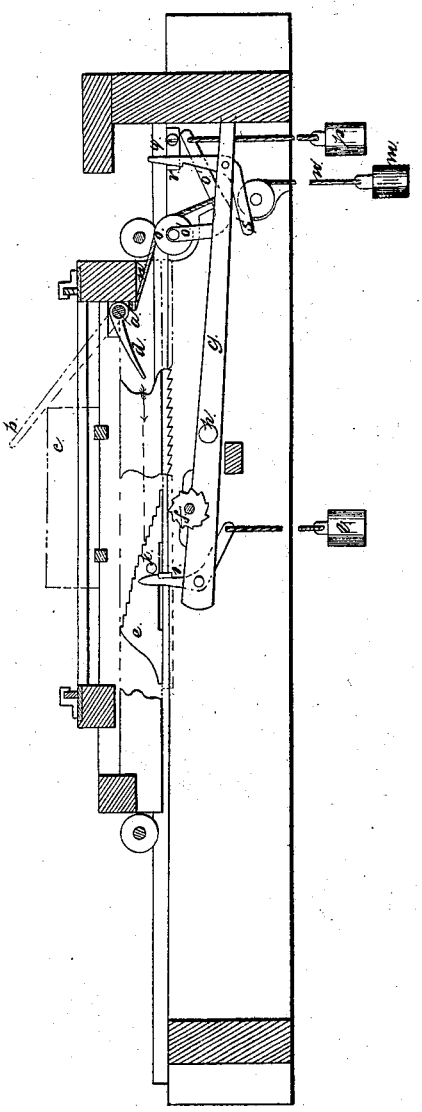

Fig. 2.

UNITED STATES PATENT OFFICE.

WILLIAM SMITH, OF BANGOR, MAINE.

MACHINERY FOR SAWING SHINGLES.

Specification of Letters Patent No. 5,768, dated September 12, 1848.

To all whom it may concern:

Be it known that I, WILLIAM SMITH, of Bangor, in the county of Penobscot and State of Maine, have invented sundry new and useful Improvements in Traversing the Carriage of Self-Acting Shingle-Machines, and that the following is a full, clear, and exact description of the principle which distinguishes it from all other things before known and of the manner of arranging, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the machine. Fig. 2 is a longitudinal vertical section through the line *x*, *x*, of Fig. 1.

The same letters refer to like parts in all the figures. The improved parts are shown colored.

It is obvious, if a shingle bolt is moved past a circular saw above its axis, that the thicker the bolt is, the farther it must move forward to be cut entirely through, owing to the curve of the saw; and if it requires as much time to run through a narrow bolt, as is occupied by a thick one, great loss of time would ensue; therefore my invention is made to obviate this difficulty, and consists in connecting an apparatus to the carriage comprising a shaft which is affixed to the rear end of the carriage on which there is a lever that rests on the bolt to be sawed, so as to gage a hand or pawl, placed on the same shaft, and make it strike a sliding inclined rack, that throws the feed pinion out of gear sooner or later, according to the thickness of the bolt to be sawed, by which a saving of time in the running of the carriage is effected, in a simple, cheap and efficient manner; and by an apparatus that is not liable to get out of order, or become clogged by the saw dust, or other causes, a difficulty which always exists in the complicated machinery now in use, in self acting shingle machines.

The carriage, ways, and frame of my machine, together with the saw, are like those now in common use. Under the rear end of the carriage a shaft *a* is placed the journals thereof being fitted to boxes attached to the frame of the carriage; on the end of the shaft *a* outside of the carriage frame a lever *b* is affixed, that extends up in an inclined position, and rests on the shingle bolt *c* which is being sawed; near the other end of the shaft *a* there is a pawl or hand *d*, that turns with the shaft and lever above named—by which it is obvious the pawl will be raised, in proportion to the thickness of the bolt on which the lever rests. An inclined rack *e* is attached to the stationary frame, near the saw shaft, and in the same vertical plane as the pawl *d*, so that when the carriage is fed forward by the feed pinion *f*, in the direction of the arrow Fig. 2, the pawl *d* will sooner or later strike the rack, according to the height to which it is raised by the bolt, as above described. When the rack is struck by the pawl it slides endwise, far enough to throw the feed pinion out of gear, and allow the carriage to run back, in a manner about to be described. A long horizontal lever *g* is attached by its fulcrum pin *h* to the side of the stationary frame. The feed pinion *f* is hung in this lever *g* so that it is moved up and down by it, and is thus thrown into or out of gear. To each end of the lever *g* a hook is attached, one of these, next the pinion, when that end of the lever is raised, catches on the pin *i* that holds it in its position. This hook *i'* which is shown in this position in Fig. 2, keeps the pinion *f* in gear with the rack on the bottom of the carriage which is thereby fed forward, till the pawl above named strikes, and moves the rack *e*, a projection *k* on which, strikes the top of the hook *i'* and detaches it from the pin *i* it is drawn down by a weight *l* suspended to it, and thus throws the feed pinion out of gear. This permits the carriage to run back to the starting point, to which it is drawn by a weight *m* that is attached to it by a cord *n*. This cord passes over a pulley *o* on the upper end of a crank lever *o'*, to the other, or horizontal arm of which a weight *p* is suspended; so that when the cord *n* is drawn tight, it holds up the weight *p*, but when the carriage runs clear back, the pulley *o* is freed from the cord *n* and the weight *p* falls so as to bear on the end of the lever *g*, which is held up by the hook *q* on the end thereof, till the carriage recedes far enough to unfasten it from the pin *r*; when they are carried down by the combined weights *p* and *s* (the latter being affixed to the hook *q*) which overbalances the weight at the opposite end of the lever *g* before named, till the pinion *f* is again brought into gear with the rack on the carriage, and the hook *i'* is caught on the pin *i* as at first described. The carriage is then drawn forward again, carrying the pulley *o* forward also, to the position shown in Fig. 2, and re-

lieving that end of the lever from the weight *p*, so that the opposite end of the lever will preponderate when the hook *i'* is relieved in the manner before described.

By the above arrangement it is obvious that the carriage will continue to reciprocate between the two points that are just sufficient to saw the shingle bolt, whatever may be its thickness.

Having thus fully described my improvements what I claim therein as new and for which I desire to secure Letters Patent is—

1. Connecting the lever, which rests on the shingle bolt that is to be sawed, with the carriage in combination with the pawl and sliding rack, for throwing the feed pinion out of gear, substantially as above set forth.

2. I also claim the weights *l*, *p*, and *s*, arranged and combined with the levers as herein made known, for causing the ends of the lever *g* alternately to preponderate, and the hooks thereon to catch, in the manner and for the purpose described.

WM. SMITH.

In presence of—
MOSES L. APPLETON,
HENRY GILMAN.