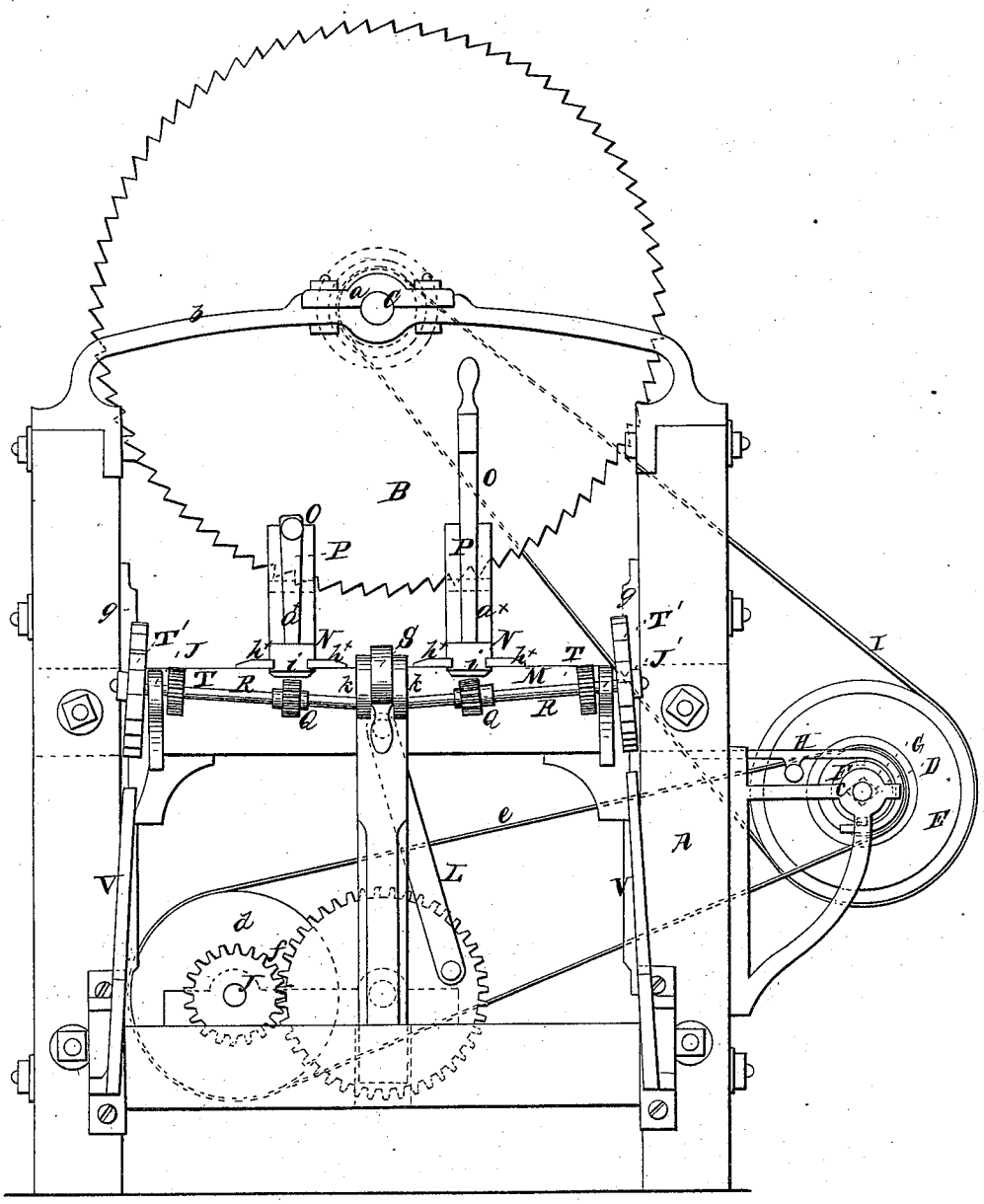
3 Sheets-Sheet 1.

T. H. Cox,

Sawing Shingles.

No. 52,507. Patented Feb. 6, 1866.

Fig 1.



Witnesses.

C. L. Popleff

Jno. Covington

Inventor.

Thos. H. Cox

By Munn & Co.

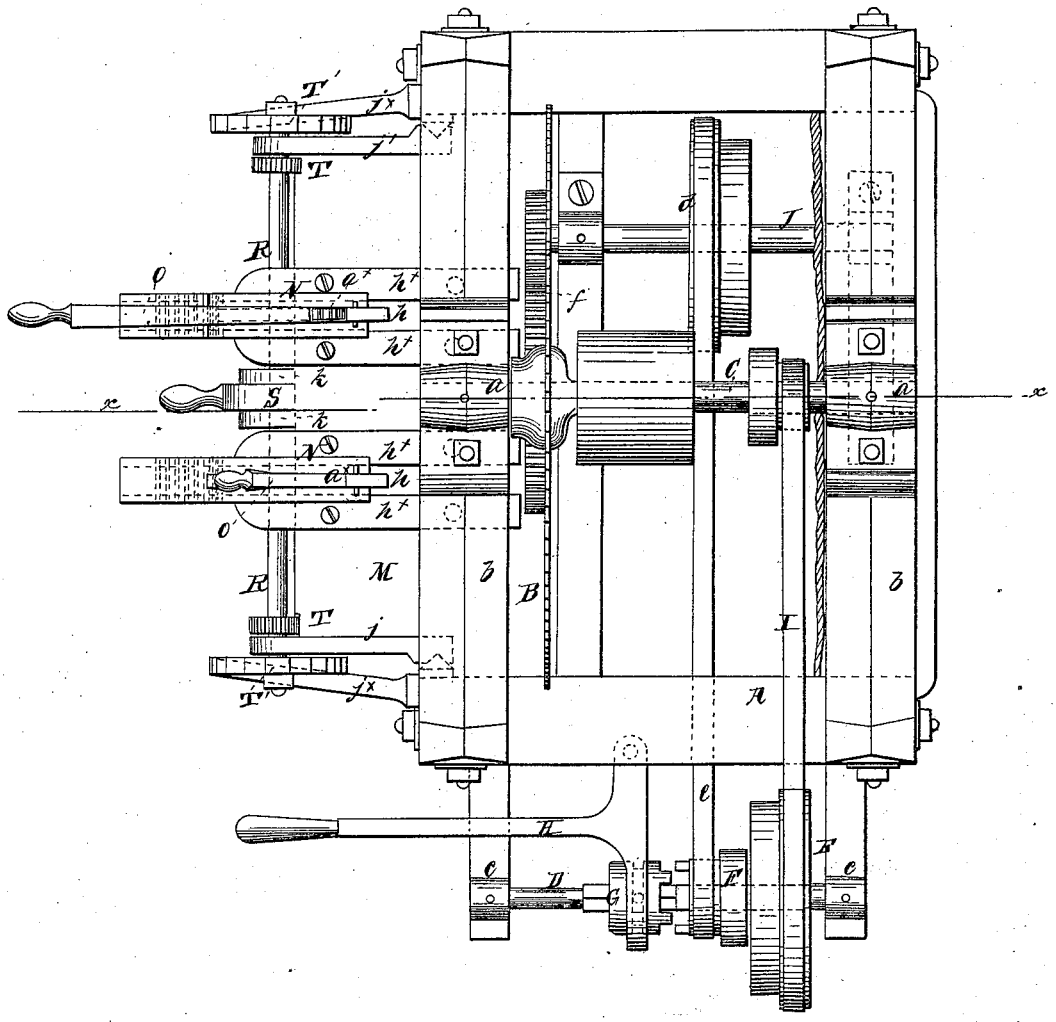
3 Sheets-Sheet 2.

T. H. Cox,

Sawing Shingles.

No. 52,507. Patented Feb. 6, 1866.

Fig 2.



Witnesses.

C L Topliff

J M Covington

Inventor.

Thos H Cox

By Munn & Co

Attys

3 Sheets–Sheet 3.

T. H. Cox,

Sawing Shingles.

No. 52,507. Patented Feb. 6, 1866.

Fig 4.

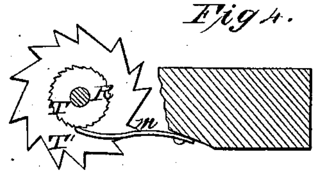
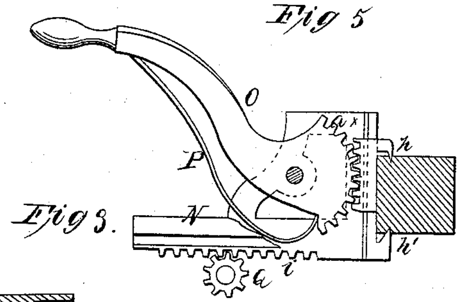
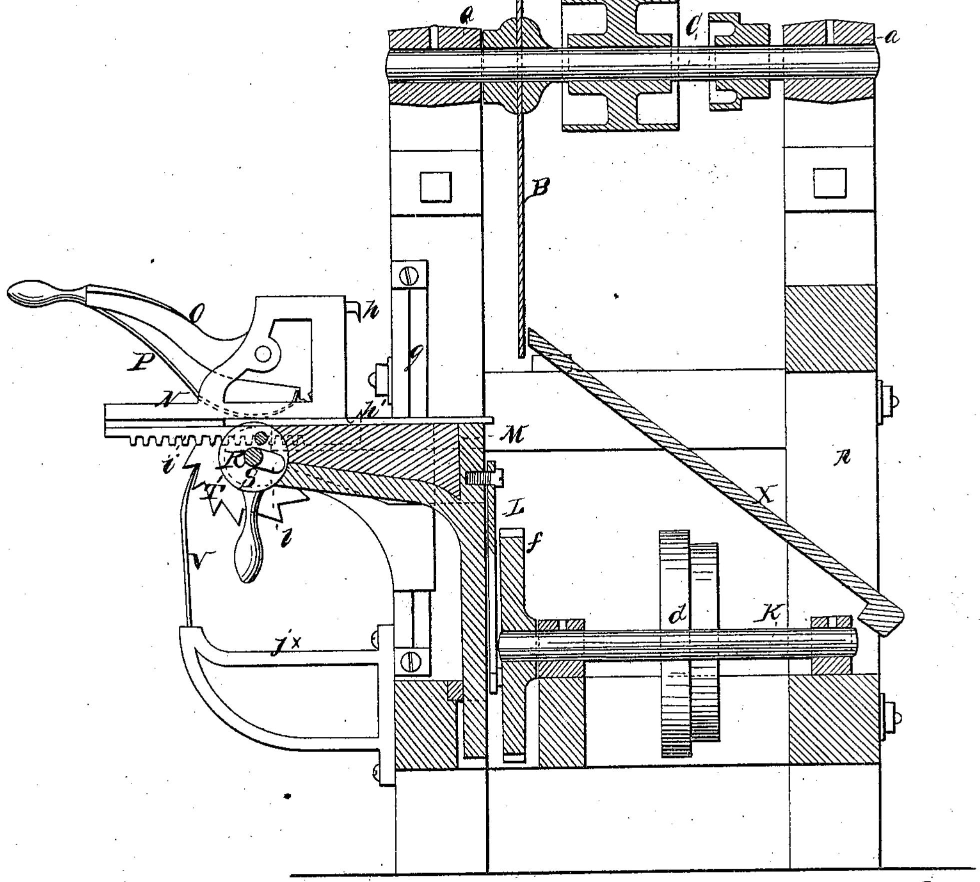


Fig 5

Fig 3.





Witnesses.

C. L. Topliff

J. M. Covington

Inventor.

Thos. H. Cox

By Munn & Co

Attys

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

UNITED STATES PATENT OFFICE.

THOMAS H. COX, OF NASHVILLE, TENNESSEE.

IMPROVEMENT IN SHINGLE-MILLS.

Specification forming part of Letters Patent No. **52,507**, dated February 6, 1866.

To all whom it may concern:

Be it known that I, THOMAS H. COX, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and Improved Machine for Sawing Shingles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, Sheet No. 1, is a side elevation of my invention; Fig. 2, Sheet No. 2, a plan or top view of the same; Fig. 3, Sheet No. 3, a vertical section of the same, taken in the line *x x*, Fig. 2; Fig. 4, a detached side view of one of the ratchets pertaining to the bolt-setting mechanism; Fig. 5, a detached side view of one of the bolt-dogs and the slide to which it is attached.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved machine for sawing shingles; and it consists in a novel and improved bolt-feeding and bolt-setting mechanism, as hereinafter fully shown and described, whereby the machine may be manipulated with the greatest facility and shingles sawed from the bolt with rapidity and in a perfect manner with an uniform taper.

A represents a framing, which may be of rectangular form and constructed in any proper manner to support the working parts; and B is a circular saw, the horizontal arbor C of which has its bearings *a* in metallic cross-pieces *b* at the upper part of the framing.

D represents the driving-shaft, which has its bearings *c* at one side of the framing A, and has a pulley, E, keyed firmly upon it, and also a pulley, F, placed loosely upon it, which pulley may be connected with the shaft D, when required, by means of a clutch, G, operated by a lever, H. The saw-arbor is driven by means of a belt, I, from the pulley E.

J represents a shaft, which is placed in the lower part of the framing A, and has a pulley, *d*, keyed firmly upon it, around which and the pulley F of the shaft D a belt, *e*, passes. This shaft J is connected by gearing *f* with a shaft, K, one of the gears *f* serving as a crank-wheel, to which a pitman, L, is attached, the upper end of said pitman being connected to a horizontal bed, M, which is allowed to slide freely up and down between suitable guides *g g*. By this arrangement the bolt is fed to the saw as the bed is moved upward, and said bolt is secured by dogs *h h'* to two horizontal slides, N N, which work between guides $h^{\times}$ $h^{\times}$ attached to the bed M. The dogs *h* are movable, and are fitted in the slides N N, so that they may work freely up and down, and they have a rack at their rear side, into which toothed segments $a^{\times}$ gear, said segments having levers O attached, against which springs P bear to keep the dogs *h* pressed down. The dogs *h'* are fixed or immovable, and they are at the lower edges of the slides, directly underneath and in line with the dogs *h*. The bolt is secured between these dogs *h h'*, the lower dogs, *h'*, penetrating the under side of the bolt, and the upper dogs, *h*, forced into the upper surface of the bolt by actuating the levers O, the springs P having a tendency to keep the dogs *h* in proper position.

The under side of each slide N is provided with a rack, *i*, and into these racks pinions Q gear, said pinions being on shafts R R, the outer ends of which have their bearings in plates *j j* attached to the ends of the bed M. The inner ends of said shafts pass through plates *k* attached to the bed M, said plates having oblong slots *l* made in them, and the inner ends of said shafts are fitted in an eccentric, S. By this arrangement the pinions Q may be thrown in and out of gear with the racks *i* of the slides N N with the greatest facility.

The shafts R R are provided with ratchets T, with which pawls *m* engage to prevent a retrograde movement of said shafts, and on the outer end of each shaft R there is keyed a ratchet, T', having alternate large and small teeth.

V V represent two fixed elastic pawls, which are attached to brackets $j^{\times}$ at the side of the framing A, said pawls being in line with the ratchets T', so as to engage therewith as the bed M descends and just before it reaches its lowest point. The ratchets T' are so placed relatively with each other as to have the long teeth of one ratchet in line with the short teeth of the other and cause the two pawls V to act alternately against the long and short teeth—that is to say, when one pawl V acts against the long teeth of one ratchet the other pawl acts against a short tooth of the other. By this arrangement the two slides, N N, have

an unequal movement, one slide being moved a rather greater distance than the other, the two slides alternating in the long movement. This causes the shingles to be cut from the bolt in taper form, the shingles being cut as the bed M rises. Thus it will be seen that the bolt is automatically fed to the saw in order to have the shingles cut from it, and also set automatically to have the shingles cut in proper taper form.

The movement of the bed M may be stopped at any time by disconnecting the pulley F from shaft D through the medium of the clutch G.

The shingles as cut pass down a chute, X, which prevents them from coming in contact with any of the working parts of the machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the saw B, rising-and-falling bed M, pitman L, and crank-wheel *f*, as and for the purposes specified.

2. The combination and relative arrangement of the shafts R R, pinions Q Q, slides N N, racks *i i*, ratchet-toothed wheels T T, and fixed pawls V V, for setting the bolt, as explained.

3. In combination with the beforenamed shafts R R, pinions Q Q, and racks *i i*, the eccentric S and slotted plates *k l*, arranged to operate as and for the purposes set forth.

4. The combination of the lever O, spring P, toothed segment $a^{\times}$, sliding toothed dog *h*, and fixed dog *h'*, arranged to operate as and for the purposes specified.

THOMAS H. COX.

Witnesses:
A. D. CREIGHTON,
A. LEEK.