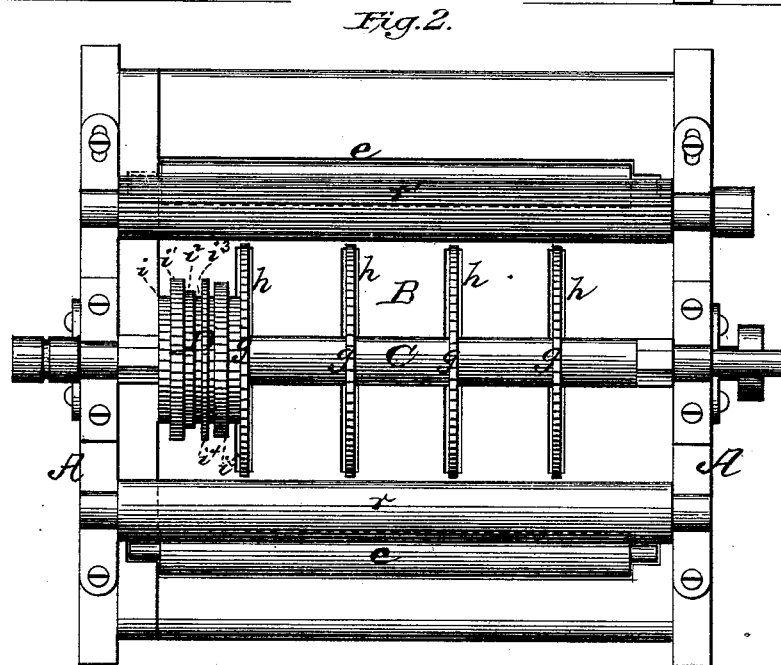
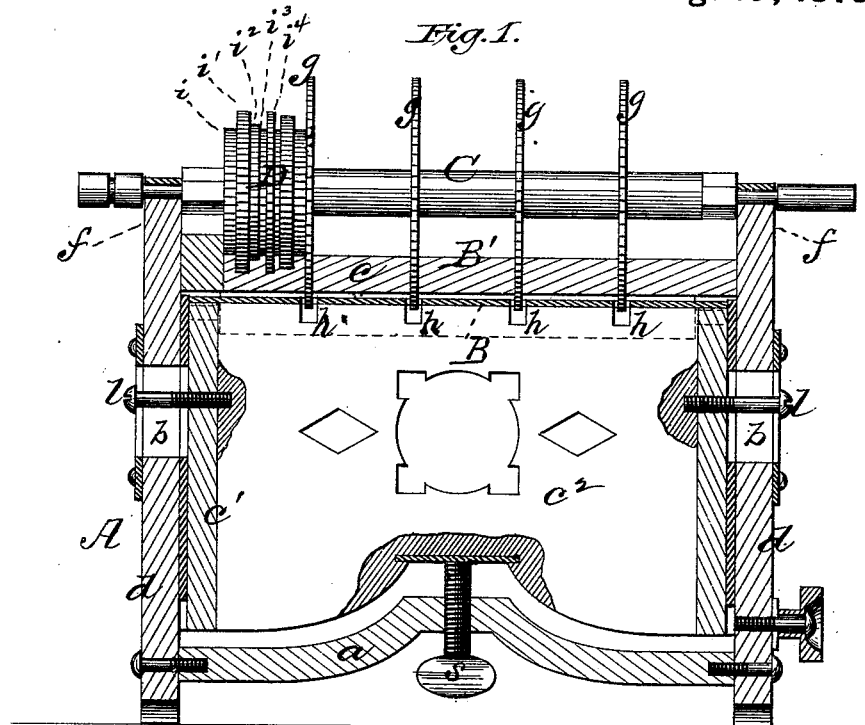


A. F. TEMPLE.  
Machine for Making Fire-Kindlers.

No. 218,794.

Patented Aug. 19, 1879.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR MAKING FIRE-KINDLERS.

Specification forming part of Letters Patent No. **218,794**, dated August 19, 1879; application filed May 24, 1879.

*To all whom it may concern:*

Be it known that I, ANSEL F. TEMPLE, of Montague, in the county of Muskegon and State of Michigan, have invented a new and valuable Improvement in Machines for Making Fire-Kindlers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my machine, and Fig. 2 is a plan view thereof.

This invention has relation to improvements in machines for grooving boards longitudinally.

The object of my invention is to devise a machine that will cut boards into equally wide strips, and at the same time form in the upper surfaces of said strips grooves of the nature shown, cut in the length of the fire-kindler blanks described in the Letters Patent of the United States dated April 29, 1879, granted to me; also, to render the table upon which the said board rests vertically adjustable, in order that I may be enabled to make the sections of the kindler out of boards of different thicknesses, according to requirements.

The nature of my invention will be fully set forth hereinafter.

In the annexed drawings, the letter A designates the frame of the grooving-machine, consisting usually of two upright side pieces, *d*, suitably braced together at bottom, usually by an arched beam, *a*. These side plates are usually of metal, and are each provided with an oblong vertical slot, *b*.

B indicates the feed-table, consisting usually of a platform, *c*, legs or hangers *c'*, and a central vertical brace, *c''*, connecting said legs and fitting between the said side pieces.

The lower edge of brace *c''* conforms to the shape of the lower brace, *a*, and affords a bearing to an adjusting-screw, *s*, extending

through the brace *a*, and operating to raise or lower the said table, as may be desired.

The table is guided during its adjustments by means of guide-arms *l*, projecting from legs *c'* through slots *b* of the side pieces of the frame, and is provided at each end with a transverse roller or rollers, *e*, generally recessed, that prevent the stuff from binding thereon.

C indicates a saw-arbor having its bearings in a raised central portion, *f*, of the side pieces, *d*, and provided with a number of spaced rip-saws, *g*. These are usually at the same distance apart, and extend through slots *b* in the table a suitable distance below the upper surface of the same.

At one end of the mandrel, and between each pair of saws *g*, is a compound saw, D, composed of a number of independent saws, *i i' i'' i''' i''''*, &c., of different diameters, arranged side by side upon the mandrel, and designed to cut grooves of varying depths in the upper surface of the board, while the rip-saws *g* divide it into strips of equal width. These grooves are lengthwise of the strips, and when the latter are placed with their grooved faces together, ducts are formed extending completely through the kindler thus formed, to expedite combustion.

The board B' is held down to the table and fed to the saws by means of a pressure-roll, *r*, at one side of the mandrel, and a corrugated feed-roller, *r'*.

The entire mechanism is operated by a system of belts and pulleys in any suitable manner.

The mandrel being stationary and the feed-table adjustable, boards of varying thicknesses may be used in manufacturing the kindler-sections.

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

1. In a machine for making fire-kindlers, the combination, with a feed-table, with its pressure, feed, and anti-friction rolls, of a mandrel having spaced rip-saws secured thereon, and a compound saw formed of a number

of independent saws of varying diameters, arranged at one end of the mandrel, and between each pair of rip-saws, substantially as specified.

2. The combination, with a frame, A A, of a mandrel, C, carrying the equidistant rip-saws *g* and compound saws D, journaled therein, and the feed-table B, vertically adjustable relative to the frame and mandrel, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ANSEL F. TEMPLE.

Witnesses:

MARSHALL L. STEPHENSON,

DAVID McLAUGHLIN.