A. F. TEMPLE.

Machine for Making Fire-Kindlers.

No. 226,569. **Patented April 13, 1880.**

Fig. 1.

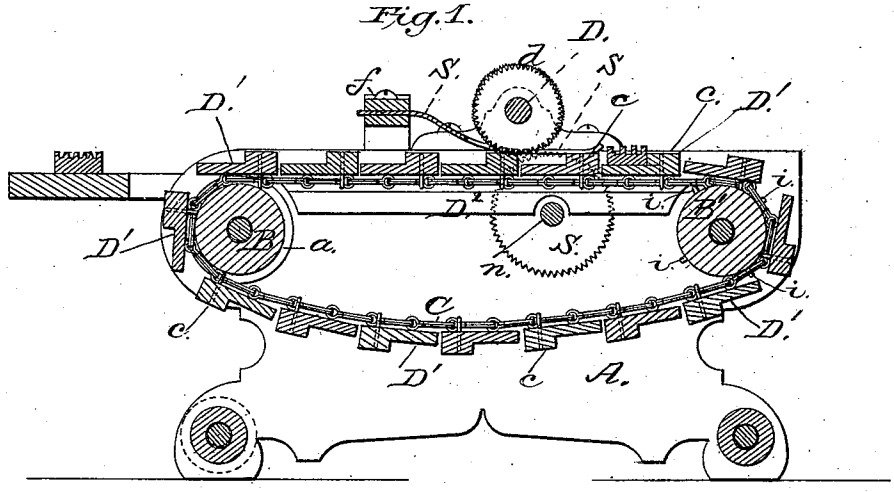
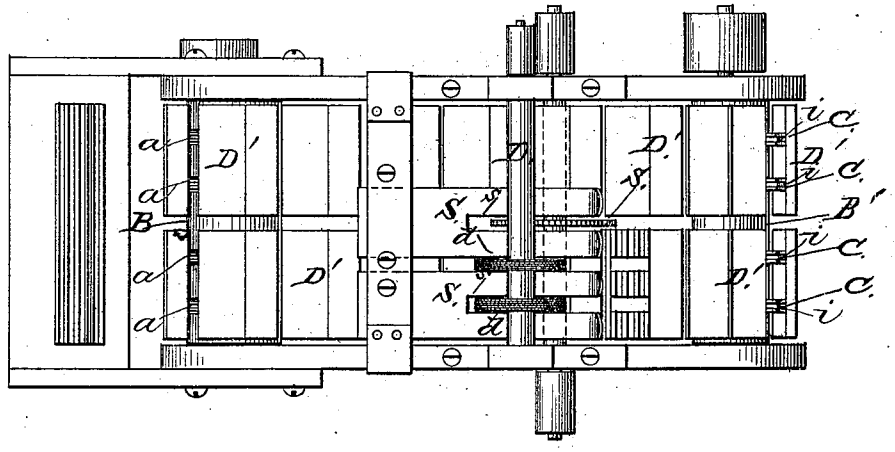


Fig. 2.



WITNESSES

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MACHINE FOR MAKING FIRE-KINDLERS.

SPECIFICATION forming part of Letters Patent No. 226,569, dated April 13, 1880.

Application filed December 6, 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 central section of my machine, and Fig. 2 is a plan view thereof.

This invention has for its object to devise a machine for making the cross-grooves in the fire-kindler for which Letters Patent of the United States were granted to me, dated April 29, 1879, and numbered 214,969, and for cutting the kindler-blank into lengths simultaneously.

The nature of the invention consists in the construction and novel arrangement of parts, as hereinafter shown, described, and set forth in the claim.

In the annexed drawings the letter A designates a strong upright frame, the side plates of which are suitably braced together and afford bearings to the carrier-rollers B B′, one being arranged at each end of the frame in suitable bearings.

The roller B is provided, at suitable distances apart, with annular grooves *a*, and the roller B′ with projecting pins *i*, arranged in line with the grooves *a* aforesaid and in line with each other transversely of the machine. Passing around these rollers are the endless chains C, fitting in the grooves *a* and engaging the pins *i* of the roller B′, so that when rotary motion is imparted to it the belts are actuated. These latter are coupled together in pairs by means of the angular plates B′, the projecting flange *c* of which serves to hold the kindler-blanks in place and carry them from end to end of the machine at right angles to its length.

The blank, previously longitudinally grooved, as shown in my Letters Patent aforesaid, is laid upon the holder-plates, between the contiguous ledges *c*, and is carried under a gang of saws or rotary cutters, *d*, arranged on a mandrel, D, above the table D^2, and the transverse grooves expeditiously cut in their upper surfaces.

The grooves *c′* may be composed of a number of saws arranged side by side, with their teeth in or out of line with each other; or I may use a cutter-head fixed on the mandrel and having knives attached thereto. There are usually two saws or cutters to each kindler; but there may be a greater number if desired.

Beneath this mandrel is a second mandrel, *n*, upon which are fixed, at proper distances apart, the crosscut circular saws S, acting from below through slots in the table, upon the under side of the blank, and dividing it into lengths. These saws may, however, be fixed upon the mandrel D, and act upon the blanks from above, in which case the mandrel *n* may be dispensed with.

As the blanks are grooved and divided into lengths they are held down upon the angular holders D′ by means of the pressure-springs S, rigidly secured to a beam, *f*, bridging the machine at one end and overhanging the carrier at the other. These springs are provided with slots *s*, through which the cutters and saws work.

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

A machine for cross-grooving fire-kindlers and dividing them into lengths, consisting of the frame A, having the rollers B B′, the former provided with grooves *a* and the latter with pins *i*, the chains C, engaging said grooves and pins of said rollers, the plates D′, having flanges *c*, secured to said chains, whereby the flanges are adapted to receive a longitudinal grooved kindler-blank, a gang of rotary cutters arranged upon a mandrel above the carrier to form grooves upon the upside of said blank, and a saw or gang of saws arranged on a mandrel below the upper branch of said carrier, to divide the blank into proper lengths, as shown and described.

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

ANSEL F. TEMPLE.

Witnesses:

FRANCIS J. MASI,

PHILIP C. MASI.