(No Model.)

H. MIDWOOD.

KINDLING WOOD SPLITTING MACHINE.

No. 257,966. Patented May 16, 1882.

Fig. 1.

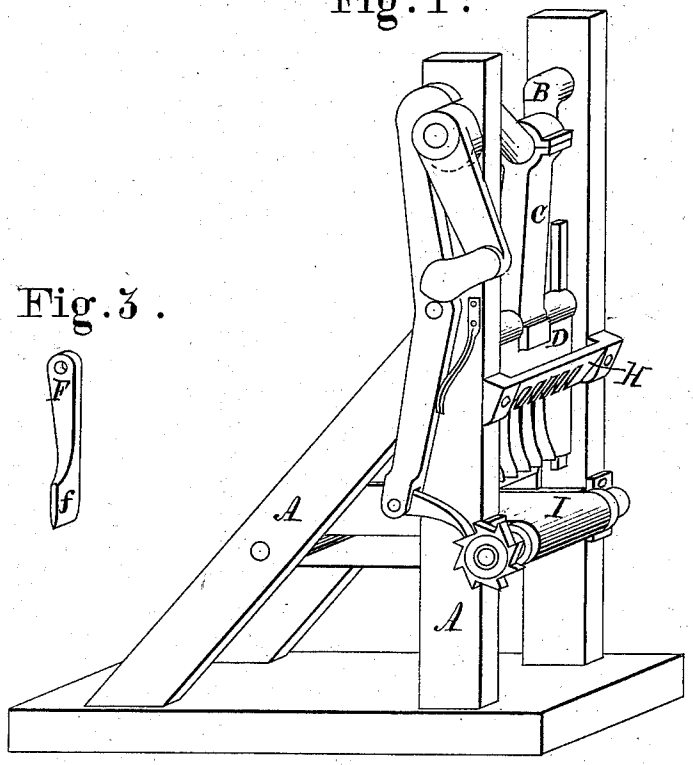


Fig. 3.

Fig. 2.

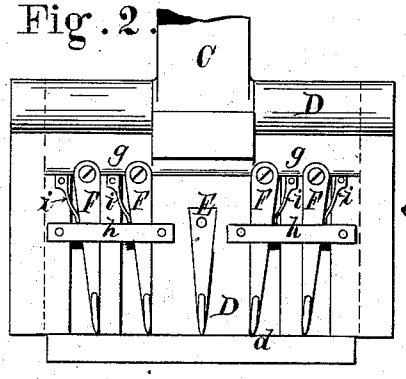
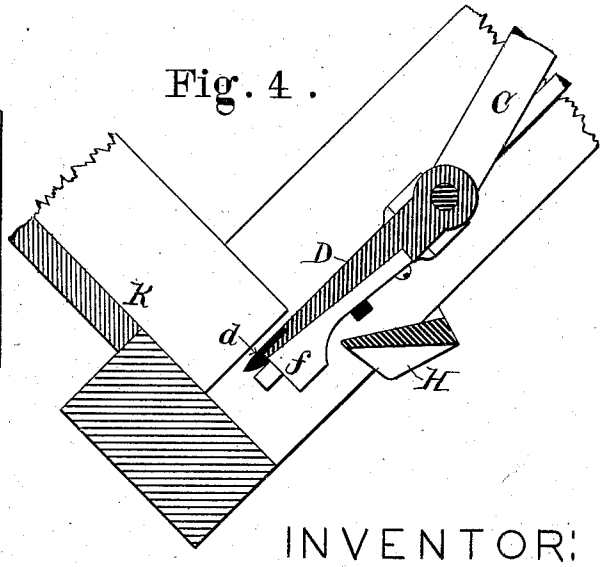


Fig. 4.



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UNITED STATES PATENT OFFICE.

HENRY MIDWOOD, OF PROVIDENCE, RHODE ISLAND.

KINDLING-WOOD-SPLITTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 257,966, dated May 16, 1882.

Application filed November 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY MIDWOOD, of the city and county of Providence, State of Rhode Island, have invented a new and useful Improvement in Kindling-Wood-Splitting Machines; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention has reference to an improvement in the knife by which the wood is sliced and the slices are split into small pieces, such pieces as are used for kindling fire, and are usually sold at grocery-stores.

The invention consists in the peculiar and novel construction of the knife by which the sliced wood is subdivided, and in the stripper, all of which will be more fully set forth hereinafter.

Figure 1 is a perspective view of my improved kindling-wood-splitting machine. Fig. 2 is a front view of the reciprocating knife, showing the cross-splitting knife hinged at the upper end. Fig. 3 is a perspective view of one of the cross-splitting knives. Fig. 4 is a sectional view, showing the knife set at an angle, as well as the platform on which the wood is placed.

In the drawings, A represents the frame of the machine; B, the crank-shaft; C, the connecting-rod connecting the knife with the crank, so as to reciprocate the knife when the crank-shaft is revolving. E is the central fixed cross-splitting knife, and F F are cross-splitting knives hinged at their upper end, and held in place by springs, as is shown in Fig. 2. The knives F F are pivoted to the slicing-knife D at their upper end, and their lower end is provided with the extended cutting-edge *f*. To enable the knives F F to withstand the strain when forced through the wood, and to relieve the strain on the pin or screw on which they are pivoted, they are made to bear against the thrust-blocks *g g* on their upper end.

H is a stripper secured to the frame across the knife, and provided with openings in which the knives E and F F may reciprocate, but through which the split wood cannot pass.

I represents the apron by which the wood is fed to the knives, and K is an inclined platform, on which wood may be fed to the knives by hand or allowed to slide down by gravitation.

Kindling-wood-splitting machines have heretofore been provided with cross-splitting knives similar to the knife E. Such knives had to be made very thin, and even when made quite thin the wood becomes tightly wedged between the knives.

The object of this invention is to secure greater strength in the cross-cutting knives and prevent the wedging of the wood between the same. For this purpose the knives are made strong and durable. They are allowed to yield to the wood, so that as they descend and enter the wood they yield sidewise, and by thus yielding exert a lateral splitting force, by which the wood is much more readily separated than when the wood is confined by the knives.

The operation of the machine is as follows: Wood being placed under the reciprocating knife D, a slice across the width of the machine is separated, and this separated slice is again cut by the cross-cutting knives E and F F. As these knives enter the wood to split the same the wood is divided laterally, and, as the knives F F are free to yield, the force of the wood moving from the center toward each side exerts a prying leverage, by which the wood is more readily divided; and the machine can be run with much less power than similar machines in like wood with knives not so hinged.

To prevent any splinters from entering behind the yielding knives F F and allow them perfect freedom to yield, I extend the cutting portion *d* of the knife D over the ends of the knives E and F F, as is shown in Fig. 4. The stripper H is secured in front of the machine, as is shown in Figs. 1 and 4. It is set at an angle to the knife sufficient to throw the split wood outward and out of the way of the new wood supplied. The knives F F are held in place by the bars *h h*, on which stops are provided, against which the knives are held by the springs *i i*.

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

1. In a kindling-wood-splitting machine, the

combination, with the knife D, of the yielding knives F F, substantially as and for the purpose set forth.

2. The combination, with the reciprocating knife D and the central knife, E, of the hinged knives F F, constructed to yield to the wood and split the same, as described.

3. The combination, with the reciprocating knife D, the knife E, and knives F F, pivoted at their upper ends, of the stripper H, set at an angle to the knife D, as described.

4. The combination, with the knife D, provided with the thrust-bearing for the knives F F, of the knives F F, pivoted to the knife D and bearing against the thrust *g g*, the springs *i i*, and bar *h*, constructed to secure the knives and allow the same to move laterally to split the wood, as described.

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Witnesses:

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