

*W. L. Williams,
Splitting Wood.*

N^o 52,352.

Patented Jan. 30, 1866.

Fig. 2.

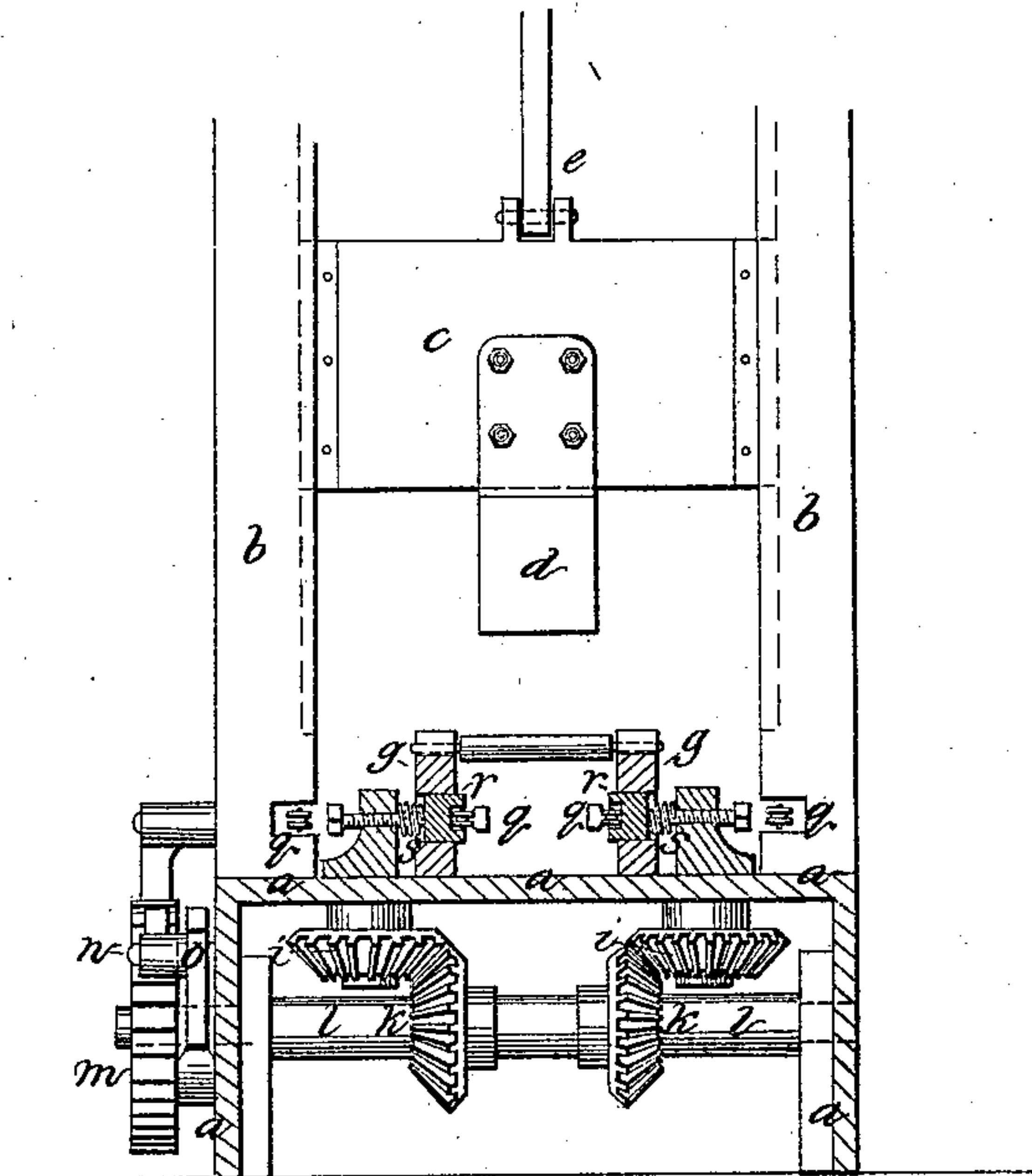
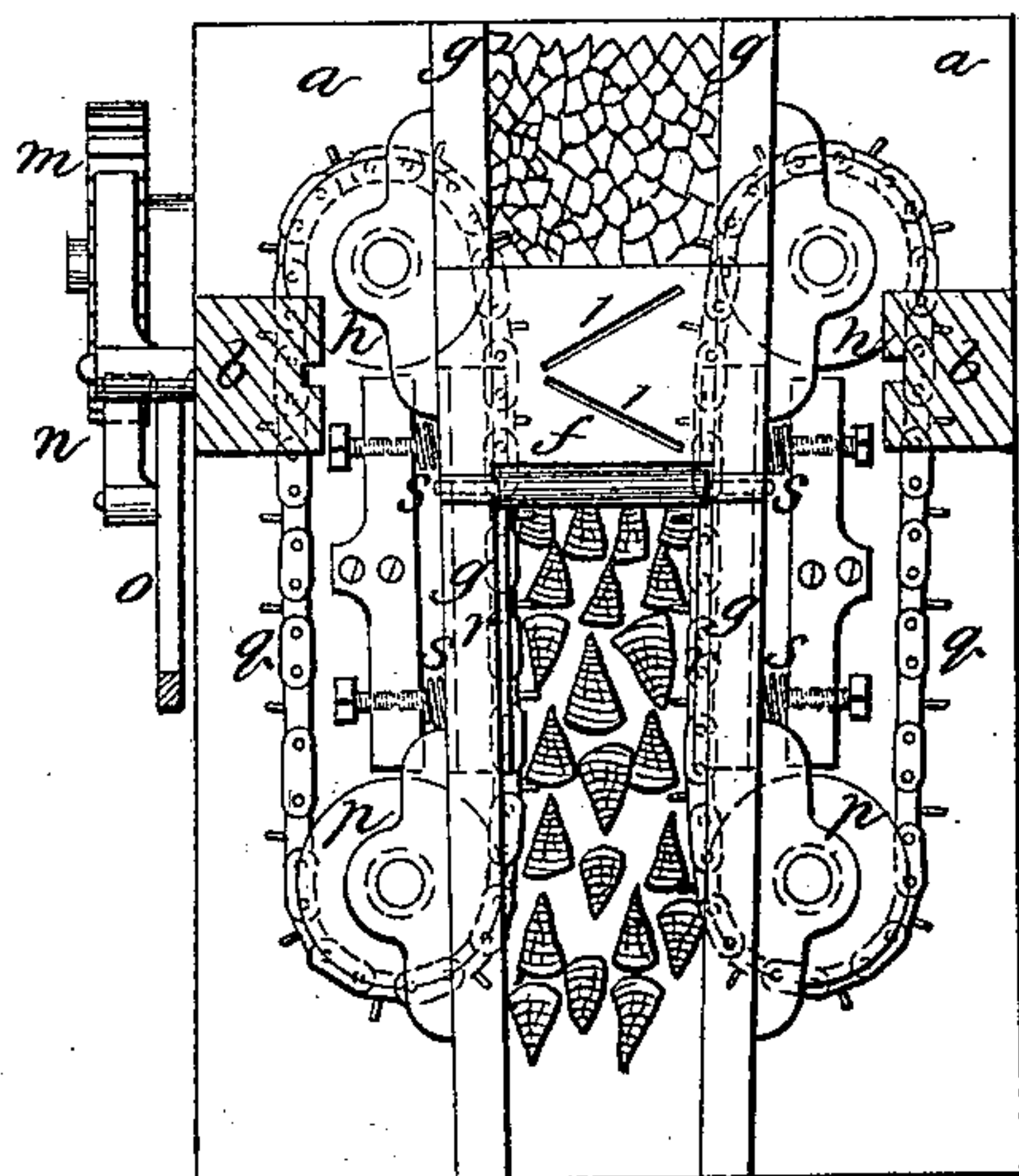


Fig. 1.



Witnesses:

*A. C. Serrell Jr.
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Inventor.

W. L. Williams

UNITED STATES PATENT OFFICE.

WILLIAM L. WILLIAMS, OF NEW YORK, N. Y.

IMPROVEMENT IN WOOD-SPLITTING MACHINES.

Specification forming part of Letters Patent No. 52,352, dated January 30, 1866.

To all whom it may concern:

Be it known that I, WILLIAM L. WILLIAMS, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Machinery for Splitting Kindling-Wood, &c.; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a plan of the bed of the machine, with the knives and frame carrying the same, and Fig. 2 is an elevation of the knife and frame and a section of the bed.

Similar marks of reference denote the same parts.

Machines for splitting kindling-wood have heretofore been made with two knives standing diagonally, so as to split the wood as it is passed beneath said knives, the wood being carried along by chains, as may be seen in Letters Patent granted to me April 14, 1857. The wood in this instance is stood endwise upon a bed within side guides or a trough, and the trough, being narrower near the knives than it is at the end where the wood is supplied, is very liable to cause the wood to become jammed in the trough so that it does not feed through regularly; and this difficulty is increased by the knives wedging the wood against the sides in the act of splitting it, and the small pieces of wood occupying more space than the unsplit wood. Besides this, the split wood is moved forward by the unsplit wood pressed along from behind.

To obviate the before-mentioned difficulties I form the trough narrower at the end where the unsplit wood is introduced that it may be constantly moved into a wider space, and I fit the chains so that they pass through at the sides of and beyond the point where the wood is split, so as to cause the wood to progress continuously until it arrives at the point of delivery from the splitting mechanism.

I provide yielding side pieces to the trough, that act in connection with the feeding-chains to prevent small pieces of wood from falling over when not packed tightly within the trough, and at the same time this device relieves the chain of undue pressure or strain if a piece of

wood wedges in or becomes misplaced in the trough.

In the drawings, *a* is the bed of the machine, sustaining the frame or slides *b*, in which is a cross-head, *c*, carrying the knives *d*, and actuated by a pitman, *e*, to a crank, as in my aforesaid Letters Patent.

The knives *d* stand diagonally or in a V form, as indicated by the mortises at 1 1, through the stationary bed *f*, that acts to hold down the wood as the knives are raised, thereby insuring the raising of the knives freely above the wood.

g g are side pieces, forming, with the bed *a*, a trough for the wood to be fed along in and split by the knives.

In Fig. 1 I have represented the pieces of wood stood up endwise for splitting, and also the split wood.

h h are chain-wheels, driven intermittingly (when the knives are not in the wood) by means of miter-gear wheels *i i k k*, which latter are on a shaft, *l*, that is provided with a ratchet-wheel, *m*, acted upon by the pawl *n* of a lever, *o*, which lever *o* is reciprocated by a connection to the motive power which moves the knives *d*. Any other convenient mechanism may be employed for giving motion to these chain-wheels *h h*.

p p are chain-wheels near the feeding end of the bed *a*, and around the respective pairs of these wheels *h* and *p* chains *q q* are passed, and on which chains claws or holdfasts are provided at short distances apart. These chains project slightly inward from the faces of the trough-sides *g g*, and cause the wood to progress gradually from the supply to the delivery ends of said trough, said chains carrying the wood beneath the knives and delivering it from the splitting mechanism; and said trough being the widest at the delivery end, there is no opportunity for the wood to become jammed in said trough.

I provide yielding side pieces, *r*, in openings in the sides *g* of the trough, said pieces *r* being formed with grooves, in which the chains pass, and being kept by springs *s s* toward the wood in the trough, so that the chains *q q* are, by these yielding side pieces, made to sustain any pieces of wood that, without them, might be unsupported and fall over, and these

side pieces will yield in case of any piece of wood wedging or becoming misplaced.

I provide a roller at the edge of the bed *a* to keep the pieces of wood down below said bed as they pass along.

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

1. A trough for containing the pieces of wood, formed narrower at the feeding than at the delivery end of said trough, in combination with reciprocating knives or cutters that split the wood, as set forth, in order that the wood may be moved along freely in said trough without jamming, as set forth.

2. Feeding the feeding-chains along the sides of the feeding-trough, in combination with reciprocating knives, so as to operate in delivering the split wood, as set forth.

3. The yielding side pieces, *r*, of the trough, in combination with the chains *q q* and knives, for the purposes and as set forth.

In witness whereof I have hereunto set my signature this 16th day of August, A. D. 1865.

W. L. WILLIAMS.

Witnesses:

LEMUEL W. SERRELL,
J. E. SERRELL, Jr.