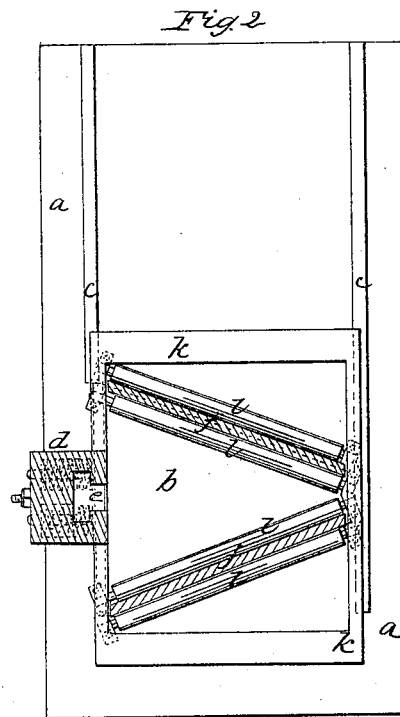
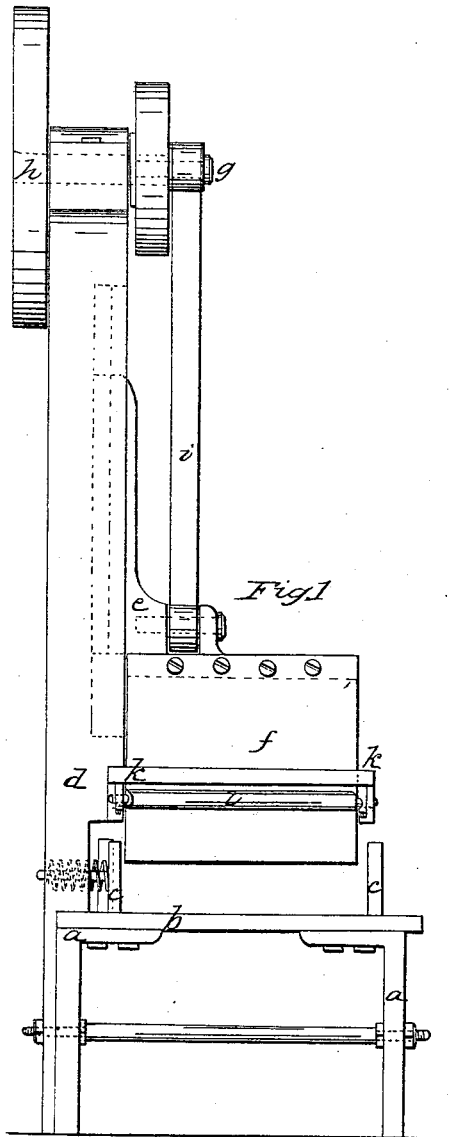


*W. L. Williams,*  
*Splitting Wood.*  
*No 51,500.* *Patented Dec. 12, 1865.*



*Witnesses:*  
*Lemuel W. Penell*

*Chas H. Smith*

*Inventor:*

*W. L. Williams*

# UNITED STATES PATENT OFFICE.

WILLIAM L. WILLIAMS, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND  
THOMAS J. O'CONNOR.

## IMPROVEMENT IN MACHINES FOR SPLITTING WOOD.

Specification forming part of Letters Patent No. 51,506, dated December 12, 1865.

*To all whom it may concern:*

Be it known that I, WILLIAM L. WILLIAMS, of the city and State of New York, have invented and made certain new and useful Improvements in Machinery for Splitting Kindling or Fire Wood; 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 part of this specification, wherein—

Figure 1 is a side elevation of my said machine, and Fig. 2 is a sectional plan through the knives.

Similar marks of reference indicate the same parts.

In the machinery heretofore used for splitting wood a knife or knives have passed through a stationary plate and been supported thereby while acting on the wood to split the same. In this instance the knots of the wood often cause the knives to spring, producing great friction, particularly in cases where resinous matter adheres to the knives; besides this, splinters of wood become jammed between the said knife and the plate.

The nature of my said invention consists in a series of friction-rollers, one on each side of each knife, whereby the friction caused in splitting is lessened, and the knives do not become clogged by resinous matter or splinters on their surface, for said rollers pass over, compress, and remove any such substances.

In the drawings, *a a* is a frame, of any desired character, carrying the bed *b*. *c c* are the sides of a trough along which the blocks of wood are fed by any competent means. *d* is a standard or frame, provided with a groove, in which the stock *e* travels, and to this stock a knife or knives, *f*, are attached, and the stock and knives receive a reciprocating motion from a crank-pin, *g*, rotated by a pulley, *h*, and acting, through the connecting-rod *i*, or otherwise, on said stock *e*.

*k* is a frame surrounding the knives *f f*, within which rollers *l* are so set in journal-boxes that they come up against each side of the knives *f f* and effectually guide and steady the same while splitting the wood on the bed *b*. Said rollers prevent the thin knives from springing or bending when coming into contact with a knot or crooked piece of wood, and also press off from the knife as it rises any pieces of wood that may adhere to said knives, and any splinters of wood or resinous material adhering to the knives does not obstruct the operation of the rollers or knives.

In splitting kindling-wood the hard, crooked, or knotty pieces often cause the knife to spring as it passes into the wood, and sometimes the nuts that hold the knives to the screw-bolts, and stock become loose. If under these circumstances the knives rise above the holding-down plate, as they often do, particularly in splitting short wood, the edges of the knives, instead of entering the slot in said plate, are very apt to rest upon the plate itself. The result is that the knives are spoiled and the machine broken. The guide-rollers which I employ in place of the before-mentioned plate obviate these difficulties, and being rounding cause the knife to glance off and pass down between the rollers, even if said knife is bent or has become loose in its attachment to the stock.

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

The rollers *l l*, applied to each side of the knives in splitting fire-wood, in the manner and for the purposes specified.

In witness whereof I have hereunto set my signature this 30th day of September, 1859.

WM. L. WILLIAMS.

Witnesses:

LEMUEL W. SERRELL,  
CHAS. H. SMITH.