

117951 *William L. Williams* PATENTED AUG 8 1871
Impt. in Knives for Wood Splitting Machines.

Fig. 1.

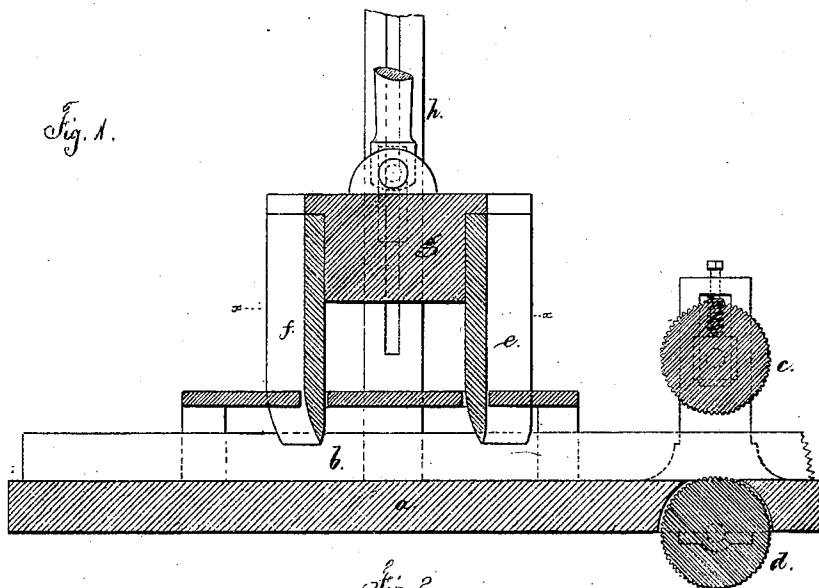
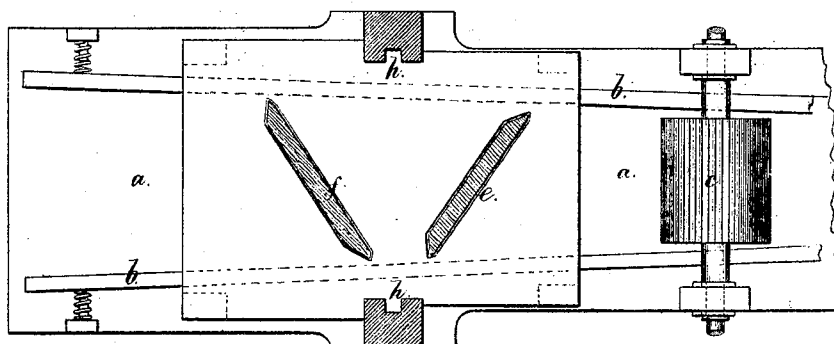


Fig. 2.



Witnesses

Chas. H. Smith
Geo. D. Mace, Sec.

Wm L. Williams

Lemuel W. Perrell atty.

UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN WOOD-SPLITTING MACHINES.

Specification forming part of Letters Patent No. 117,951, dated August 8, 1871.

To all whom it may concern:

Be it known that I, WILLIAM L. WILLIAMS, of the city, county, and State of New York, have invented a certain new and useful Improvement in Knives for Wood-Splitting Machines; and the following is hereby declared to be a correct description thereof.

The cutting-edges of knives for wood-splitting machines have heretofore been made as double inclines, corresponding generally to the sectional shape of an ax. Knives have also been made with the greater part of the incline or bevel upon the outer faces of the knives. When the bevel is upon the outer face of the knife nearest the feeding-rollers the wood is forced back against the feeding-rollers by the spreading action of the knife in the wood as it descends, rendering the wood liable to jam in the trough between the knife and the feeding-rollers; or the knife, if the feed-rollers do not yield to the pressure of wood against them; or else wedging the wood in the trough so that the rollers cannot feed it. If the outer face of the knife furthest from the feed-rollers is straight or nearly straight, the knife, in descending, does not force the split wood in the trough toward the delivery end of the machine; consequently, the knife does not rise from the wood with the ease it would if the wood had been slightly moved forward by the knife in descending.

My invention is made with special reference to meeting these two difficulties; and said improvement consists in arranging the knives with the bevel on the sides furthest from the feed-rollers, so that the wood in the trough between the knife and the feed-rollers will not be forced toward said feed-rollers because the flat surface of the knife is toward such feed-rollers, and the knife at the delivery side of the machine having the bevel or incline upon its outer face, will force the wood along in the trough beyond said knife, and hence allow said knife to rise easily from the mass of wood, and the knives thus aid in feeding the wood along in the trough.

In the drawing, Figure 1 is a vertical section of the feeding-trough, feed-rollers, and knives of a wood-splitting machine; and Fig. 2 is a sectional plan of the same at the line *x x*, Fig. 1.

The feed-trough, composed of the bottom *a* and yielding side pieces *b b*, is of the usual character,

as are also the feed-rollers *c d*, and need no further description. The knives *e f* are secured to the head-block *g*, which is fitted to slide in the ways *h h*, and said knives are reciprocated by a crank and connecting-rod, as heretofore, the knives descending and rising during the pause in the revolution of the feed-rollers *c d*. The cutting-edges of the knives *e f* are formed as shown in Fig. 1, the bevel or incline upon the knife *e* being upon the inner face of said knife, while upon the knife *f* the bevel is upon the outer face. The flat surface to the outer face of the knife *e* prevents the wood being forced against the feeding-rollers *c d* by said knife in descending, and precludes all danger of the wood wedging between said knife and the rollers *c d*. The bevel upon the outer face of the knife *f* acts to move forward the split wood in the trough as said knife descends; hence the knife is drawn up more easily from the mass of split wood, and said wood is not so apt to cling to the knife as it rises, and the knives aid in moving the wood along in the trough. The vertical edges of the knives should be made as shown in Fig. 2, so as to split any pieces of wood that may be between them and the sides of the trough.

I am aware that a wood-splitting machine has been made with a series of chisels set in a head, the bevel of the cutting-edge standing toward the delivery side of the machine; therefore I do not claim the same. I have arranged my cutters transversely of the feeding-trough, at an inclination to each other, and made the bevel of both the cutting-edges so that they aid in moving the wood along, and I combine these with the feeding-rollers and trough for the wood, and thereby render the machine more effective and less liable to get out of repair than heretofore.

I claim as my invention—

The knives *e f*, extending across the feeding-trough at an inclination to each other, and made with the bevel of the cutting-edges toward the delivery end of the feeding-trough, in combination with the feeding-trough *a b* and rollers *c d*, as and for the purposes set forth.

Signed by me this 27th day of February, 1871.

W. L. WILLIAMS.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.