(No Model.)

W. M. HALL.

CUTTER FOR WOOD SPLITTING MACHINES.

No. 259,010. Patented June 6, 1882.

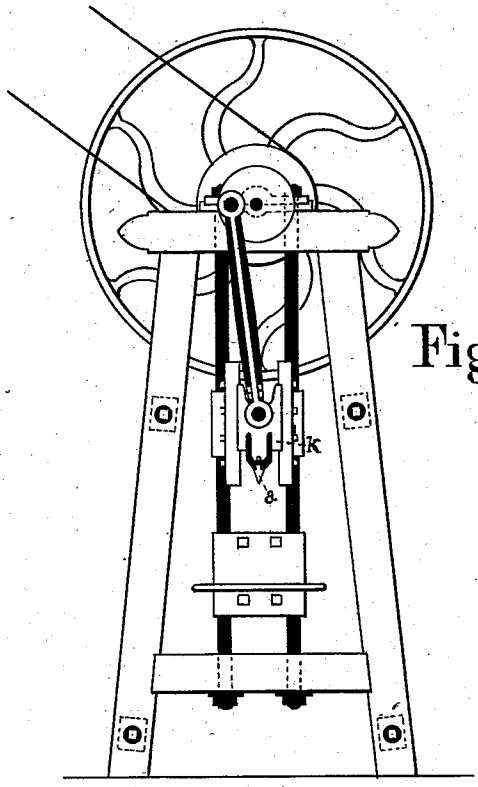
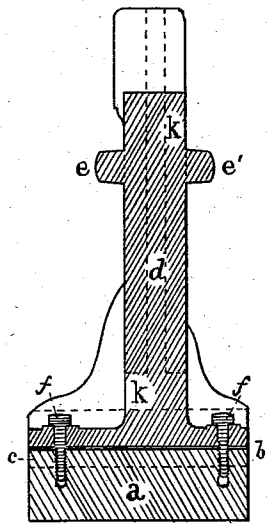


Fig. 1.

Fig. 3.



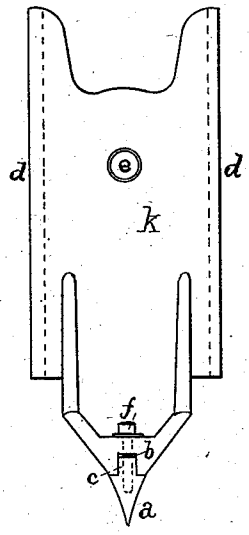


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLARD M. HALL, OF WORCESTER, ASSIGNOR TO EDWIN A. HILDRETH, OF HARVARD, MASSACHUSETTS.

CUTTER FOR WOOD-SPLITTING MACHINES.

SPECIFICATION forming part of Letters Patent No. 259,010, dated June 6, 1882.

Application filed February 21, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLARD M. HALL, of Worcester, in the county of Worcester and State of Massachusetts, have invented a certain new and useful Improvement in Cutters for Wood-Splitting Machines, of which the following is a specification.

My invention relates to that class of wood-splitting machines in which the wood to be split is held upon a table by the hands of the operator while the wood is presented to the action of a single knife driven by mechanism provided for the purpose.

The nature of my invention consists in the construction and attachment of the knife-edge to the supporting ax-head to which it is attached in such a manner that the ax-edge can easily be removed to be ground, or for the insertion of a new ax-edge or knife, being firmly held in place to resist the severe strain to which it is subjected.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a front view of a wood-splitting machine embodying my invention. Fig. 2 is a front view of the ax-head, showing the method of attaching the removable knife. Fig. 3 is a section of the ax-head and knife in a vertical plane passing through the edge of the knife.

k represents the ax-head or cross-head, which is driven up and down upon the tracks or ways on each side of the cross-head, which tracks fit into the grooves *d* in the edges of the cross-head. The driving-pitman is connected to the pivots *e e'*. Upon the lower end of the cross-head *k* an extended bed is cast formed to support the knife-edge and flanged up onto the face of the cross-head *k*. The lower face of this bed is of a wedge shape truncated, as shown in Figs. 2 and 3. The truncated wedge-shaped knife-bed cast upon the cross-head *k* is formed of equal length with the knife-edge *a*. A groove, *b*, is formed in the truncated edge of the knife-bed, leaving a square shoulder on each side of the groove, as shown in Fig. 2. The knife-edge *a* is formed with a tongue or shank, *c*, having shoulders on each side of the tongue. The tongue *c* is formed to fit into the groove *b*. Bolts *f f* pass through the main body of the knife-bed, as shown in Figs. 2 and 3, and are tapped into the top of the tongue *c*. After the tongue *c* of the knife-edge *a* is inserted into the groove *b* the bolts *f f* are passed through holes in the knife-bed and screwed tightly into the seats drilled and tapped into the top of the shank *c*. The shank *c* of the knife *a* is not intended to reach the bottom of the groove *b*, but should be a little shorter than the depth of the slot *b*, so that as the bolts *f f* are tightened they will bring all the pressure onto the shoulders of the knife on each side of the shank *c*. The shoulders on the knife *a* on each side of the shank *c* should exactly correspond with the shoulders on the bed on each side of the groove *b*. When the bolts *f f* are screwed down tight the pressure of the knife edges or lips upon the shoulders at each side of the slot *b* will hold the knife so firmly in position that it will resist the severest strain to which it will be subjected in splitting the toughest and most knotty wood. The bolts *f f* are not liable to become loosened by the strain of the work, and the knife-edge will not be liable to work loose in its socket. If from any cause the knife *a* should work loose, it can always be tightened by setting down the bolts *f f*.

By removing the bolts *f f* the knife *a* can be removed at any time to be sharpened, or a new knife can be inserted in a few minutes.

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

The combination, in a wood-splitting machine, of the ax-head *k*, formed with the grooved recess *b* in the lower edge thereof to receive the tongue or shank *c* of the ax-edge or knife *a*, bolts *f f* passing vertically through portions of the ax-head and into the shank *c* of the ax-edge *a*, the groove *b* being formed of sufficient depth to allow the vertical bolts *f f* to bind the ax-edge *a* firmly to the ax-head *k* against the shoulders on both sides of the base of the shank *c*, substantially as and for the purpose specified.

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