# W. Wibirt,

## Splitting Wood.

No. 42,323. Patented Apr. 12, 1864.

Fig. 2

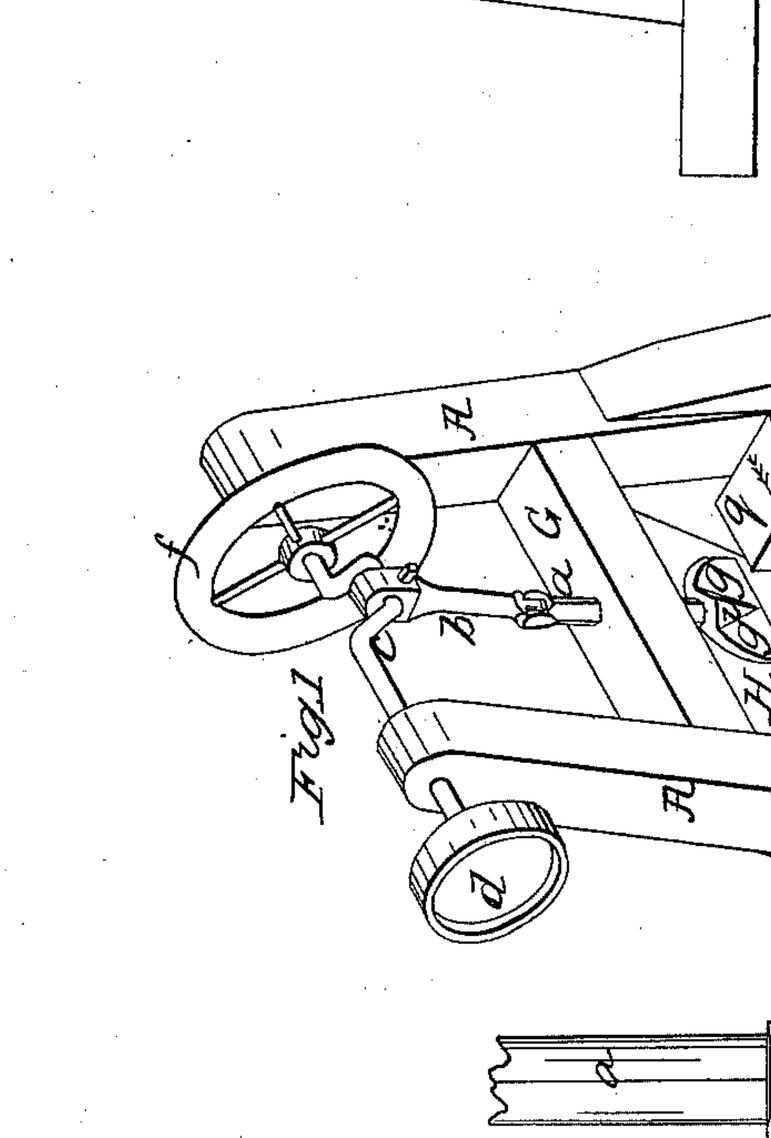


Fig. 1




Fig. 3




Witnesses:
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# UNITED STATES PATENT OFFICE.

WILLIAM WIBIRT, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN WOOD-SPLITTING MACHINES.

Specification forming part of Letters Patent No. **42,323**, dated April 12, 1864.

*To all whom it may concern:*

Be it known that I, WILLIAM WIBIRT, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Machines for Splitting Fire-Wood; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a perspective view of my improved machine; Fig. 2, an elevation of the lower portion of the same, looking on the opposite side from that seen in Fig. 1; Fig. 3, a side and edge elevation of the splitting-knife.

Like letters of reference indicate corresponding parts in all the figures.

My invention consists, first, in the peculiar construction of the splitting-knife, whereby the advantages of an acute and obtuse wedge are combined; and, second, in a graduated sliding block or carriage beneath the knife for adapting the machine to splitting longer or shorter sticks, or such as are knotty and require a greater action of the knife.

For mounting and sustaining the operating parts I prefer a frame constructed, as shown in the drawings, with two standards or uprights, A A, rising from a cross-base, B, and suitably braced at the sides by braces C C. In the center is a post, D, sustaining a bed, E, and supported by braces F F, and there is also a cross-piece, G, above, through which the shank of the splitting-knife runs. Any equivalent arrangement of the frame may be employed. Directly over the post D plays the splitting-knife H, operated up and down by any convenient means, that represented in the drawings being a guide shank, *a*, passing through the cross-piece G, and jointed to a pitman, *b*, connecting with a crank, *c*, on whose shaft are situated a driving-pulley, *d*, and balance-wheel *f*. In ordinary arrangements the splitting-knife is simply in the form of a common wedge, whose inclined sides are plain.

In operation, where the wood is knotty or of very irregular grain, the knife so formed will frequently become fast in the stick without cleaving it. When this occurs, it is extremely difficult to remove the stick from the knife on account of the cohesion produced by the large amount of surface in contact between the stick and the flat sides of the knife. As the stroke of the knife does not reach the splitting-bed, the stick has to be removed and again presented to the action of the knife in a different position. The removal sometimes requires great force, and may necessitate the stopping of the machine, besides exposing the attendant to danger. Again, if the wedge is made quite obtuse, a greater amount of power is requisite to operate it; otherwise it will rebound from the upright end of the stick, or forcibly throw the latter from place without splitting it, and to the danger of the operator. I overcome these difficulties by combining an acute and obtuse wedge in one, the former for the purpose of entering and holding in the end of the stick, which is set up vertically, and the latter for expanding the cleft and forcing the parts asunder.

As represented in the drawings, the sides *g g* and the lower cutting-edge, *h*, are in the usual form of a common plane wedge, and are made sufficiently acute or thin to enter and hold in the stick in the downward stroke, while the central portion, *i*, is made thicker and more obtuse, and does not reach quite to the bottom of the knife, the same easily entering the opening made for it, and insuring the splitting of the stick under ordinary circumstances. If the stick should not split, but still hold on the knife, it is apparent that the parts may be much more easily separated than in the use of the ordinary wedge where the bearing is equal upon the whole surface and where the inclination of the wedge is very slight.

It is apparent that the acute and obtuse wedge may be differently though not substantially arranged and a similar result attained. For instance, two obtuse portions *i* may be employed instead of one, and at different points.

In order to split sticks of different lengths, and also to adapt the machine to splitting sticks of different degrees of toughness, I employ a sliding block, K, upon the splitting-bed E, which block is moved forward by means of a cord, *l*, Fig. 1, passing over a pulley and secured to a treadle, L, operated by the foot of the attendant, and is moved back in a similar manner, when the foot is removed, by means of a cord, *m*, and weight *n*, Fig. 2, in the opposite side.

Any equivalent arrangement may be em-employed for operating the sliding block. This block is graduated or divided into sections of different degrees of thickness, as shown at *p* and *q*, so that if a stick of wood is shorter than usual the block may be moved forward till one section or another comes under the knife, (as may be required,) on which the stick is rested. In this manner the machine is adapted to splitting wood of various lengths and also of different degrees of toughness.

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

The combination and arrangement of the splitting-knife H, provided with the thin or acute sides *g g* and edge *h*, for entering the wood, and the central obtuse wedge, *i*, for cleaving it, with the adjustable sliding block K, provided with the graduations *p q*, substantially as and for the purposes herein set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

WILLIAM WIBIRT.

Witnesses:

ELLIS WEBSTER,

LEVI BUNTING.