H. BONER.

CLEAVING WEDGE.

APPLICATION FILED MAY 10, 1921.

1,407,719. Patented Feb. 28, 1922.

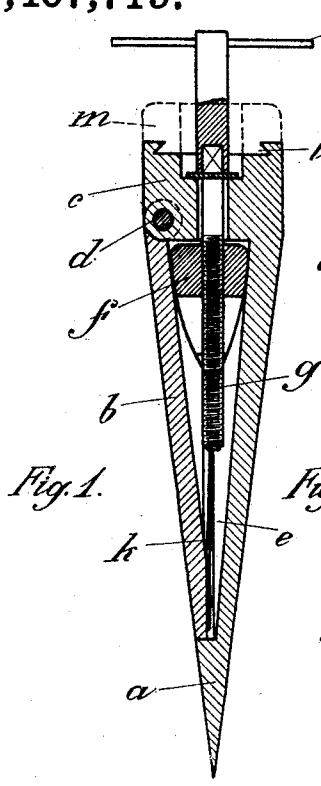


Fig. 1.

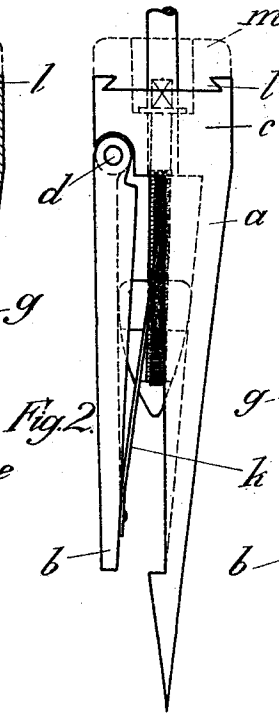


Fig. 2.

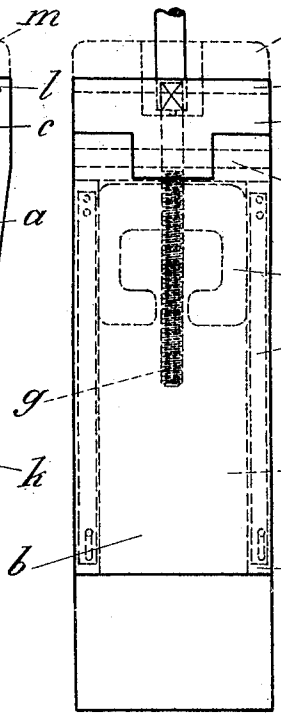


Fig. 3.

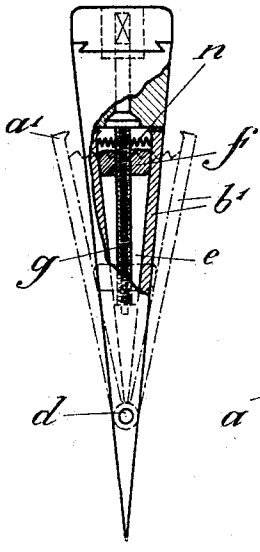


Fig. 4.

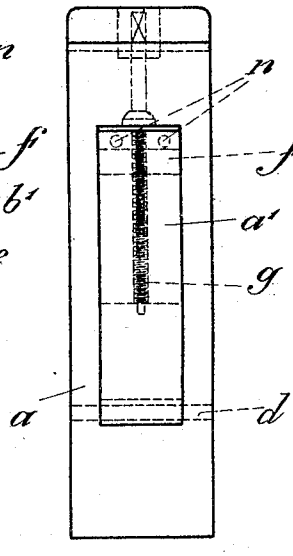


Fig. 5.

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UNITED STATES PATENT OFFICE.

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CLEAVING WEDGE.

1,407,719. Specification of Letters Patent. Patented Feb. 28, 1922.

Application filed May 10, 1921. Serial No. 468,350.

To all whom it may concern:

Be it known that I, HANS BONER, citizen of the Republic of Switzerland, residing at Madulein, in the canton of the Grisons and State of Switzerland, have invented certain new and useful Improvements in Cleaving Wedges, (for which I have filed an application in Switzerland, December 23, 1919,) of which the following is a specification.

The subject of the present invention is a cleaving-wedge, wherein at least a part of at least one of the sides forming the surfaces is jointed to the other and can be forced assunder by means of a wedge-shaped block arranged between the sides and driven by means of a screw spindle.

For this purpose the parts of the sides jointed to each other are connected with each other in such a way by one or more springs, that they can again be automatically drawn towards each other, after the withdrawal of the wedge.

The drawing shows two forms of the invention, the first of which is shown in —

Fig. 1, in longitudinal section across the surface of the wedge, in

Fig. 2, in a side view of the same position, in

Fig. 3, in a side view, turned to Fig. 2 by 90°.

Figs. 4 and 5 show the second form in similar views, the first in partial section.

In the form according to Fig. 1—3 *a* represents one of the sides forming the surfaces of the wedge, which together with the head *c* of the wedge consists of one piece. *b* is the part which forms the side of the other surface of the wedge and is hinged at *d* to *a*. The two sides leave between them a wedge-shaped hollow space *e*, in which an obtuse-angled wedge-block *f* is arranged. Through this passes a screw-spindle *g* which is accessible from the head of the wedge, so that a hand-lever *h* can be placed on its squared head.

On each narrow side of the wedge a slit *i* is formed between the wall *a* and the portion of the wall *b* for the reception of a lamella-spring *k* which is fixed above at *a*, brought below to *b* and secured there.

The wedge is manipulated as follows:—A block *m* of hard wood or lead is placed in a dovetail rabbet *l* in the wedge head, and by a suitable blow on the block *m* the wedge is driven the desired depth into the block of wood or other article to be cleft. Thereupon the block *m* is removed from the rabbet *l* and the hand lever *h* is placed on the squared end of the screw spindle *g*.

By turning the hand-lever and the spindle, the block of the wedge *f* is driven forward whereby the portion of the side *b* is driven outwardly (as indicated by dotted lines in Fig. 2) and causes thereby the cleaving of the wood. After the wood is cleft the hand-lever *h* is turned backwards whereby the springs *k* return the side *b* to the original position. In the example according to Figs. 4 and 5 the parts *a'* *b'* of the walls *a* and *b* forming the surfaces of the wedge, are so jointed to each other at their lower ends *d* that they can swing with their upper (free) ends beyond the other portion of the wall in question. Above these portions a^1, b^1 are connected with each other by two spiral springs *n*.

Between the parts a^1, b^1 a wedge-like hollow space *e* is left, in which a wedge-block *f*, mounted upon the screw-spindle *g* is accessible from the side of the wedge so that a hand-lever, a key or the like can be placed on the squared head.

If such a hand-lever, a key etc. be turned so that the wedge-block *f* is pushed downwards, the upper ends of the parts a^1, b^1 are driven asunder as shown by dotted lines in Fig. 4 so that they have a cleaving effect.

A cleaving-wedge of the character described can be used not only for the splitting of blocks of wood etc., but also for the felling of trees, by driving it into the saw-cut and by afterwards manipulating it in the manner above described. Thereby it is possible to give the falling tree any direction desired.

Having described the nature of my invention, what I claim as new and desire to secure by Letters Patent of United States is:—

1. A cleaving wedge, comprising a pair of interconnected relatively movable wedge members having a space therebetween, a wedge in said space, means for reciprocating the wedge in the space, and resilient means tending normally to draw the wedge members towards each other.

2. A cleaving wedge, comprising a pair of interconnected relatively movable wedge members having a space therebetween, a wedge in said space, and a screw spindle for reciprocating the wedge in the space.

3. A cleaving wedge, comprising a pair of interconnected relatively movable wedge

members having a space therebetween, a wedge in said space, means for reciprocating the wedge in the space, and resilient means tending normally to draw the wedge members towards each other.

4. A cleaving wedge, comprising a pair of interconnected relatively movable wedge members having a space therebetween, a wedge in said space, means for reciprocating the wedge in the space, and springs in the space tending normally to draw the wedge members towards each other.

5. A cleaving wedge, comprising a pair of wedge members pivotally interconnected at one of their ends, a wedge block movable in a space between said wedge members, means for reciprocating the wedge block, and spring means connected to the opposite ends of said wedge members and tending normally to draw the same towards each other.

In testimony whereof I have affixed my signature.

HANS BONER.