(No Model.)

E. S. MARSHALL.

WEDGE.

No. 443,581. Patented Dec. 30, 1890.

Fig. 1.

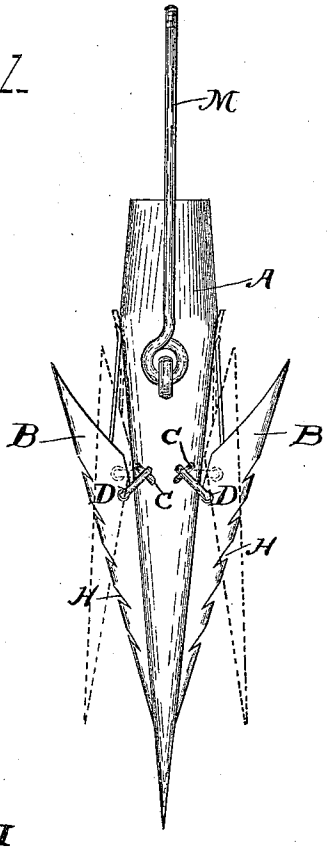


Fig. 2.

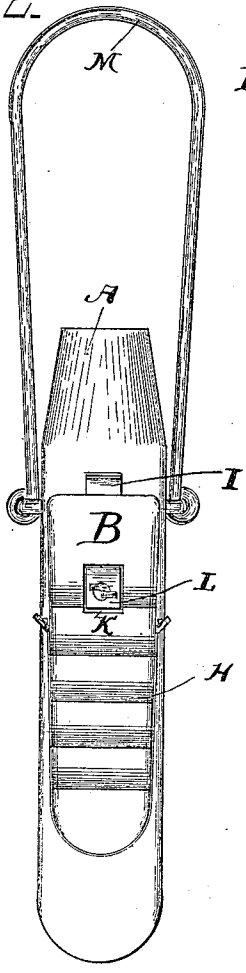


Fig. 3.

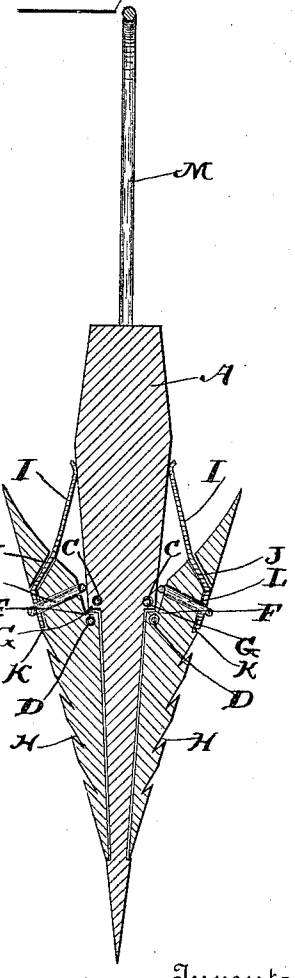
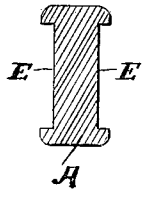


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD S. MARSHALL, OF GREAT FALLS, MONTANA.

WEDGE.

SPECIFICATION forming part of Letters Patent No. 443,581, dated December 30, 1890.

Application filed July 19, 1890. Serial No. 359,264. (No model.)

To all whom it may concern:

Be it known that I, EDWARD S. MARSHALL, a citizen of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Wedges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in wedges for splitting wood and other substances wherever a wedge is applicable; and it has for its object to increase the efficiency of the wedge, and to make it of such a construction that it will be not only simple and inexpensive to construct but also durable in use.

To the accomplishment of these objects and such others as may hereinafter appear the invention consists in the construction and combination of parts hereinafter particularly described and claimed, reference being had to the accompanying drawings, forming part hereof, and in which—

Figure 1 is an end elevation showing the wings distended in dotted lines. Fig. 2 is a side elevation thereof. Fig. 3 is a vertical section through the wedge; Fig. 4, a cross-section through the shank of the wedge, showing the grooves for receiving the wings.

In the drawings, the letter A indicates the shank of the wedge made tapering, as usual, from its upper to its lower end. This is made of metal or other suitable material, and is provided on its two opposite sides with wings B, suitably hinged or pivoted to the shank. One mode of hinging is to pass a rod or pintle C through the shank from side to side and another rod or pin D through the wings, and cause the ends of the pintle and pin to engage with each other by an eye-and-hook connection, as illustrated. Any other mode of hinging the wings to the shank, however, may be adopted. These wings are made tapering or wedge-shaped, and their lower portions normally lie in recesses E, formed in the sides of the wedge, so that their lower ends will not form obstructing projections on the sides of the shank, and in order that the flanges formed by the walls of the recesses will brace the wings against lateral movement or displacement. The upper ends of the wings next to the sides of the shank flare outwardly, so as to set out from the sides of the shank, in order that when pressed inwardly the lower ends may be thrown outwardly. It is preferred to form shoulders F on the inner faces of the wings to engage with shoulders G on the sides of the shank, so that when the wedge is driven or forced into the substance to be split or separatad the wings will be prevented from being forced upward, the shoulders resisting that tendency or movement. The outside faces of the wings are formed with teeth or serrations H, which will not interfere with driving the wedge home, but which will take hold of the substance being forced apart and prevent the wedge from slipping upward or backward.

For the purpose of holding the lower portion of the wings against the side of the shank when they are in their normal position, springs I are inserted between the shank and the upper ends of the wings. These springs may be of any form and arranged in any desired manner; but a simple and efficient arrangement is illustrated in the drawings. As there shown, each spring is composed of a piece of flat spring steel or metal having its lower portion passed through an opening J, formed in the upper end of the wing, and its end then turned at an angle to its length and rested in a recess or depression K, formed in the outside face of the wings, so that it will lie below the face and not be an obstruction to the movement of the wedge. A pin L or other fastening may be passed through the spring and wing, so as to hold them together. The upper ends of the spring will bear against the sides of the shank, as illustrated.

A bail M may be provided, with which to lift the wedge.

In operation, as the wedge is driven home, both the shank and wings enter and force apart the wood or other substance, as in ordinary wedges, until the wedge has entered far enough to bring the upper or flaring ends of the wings against the walls of the substance being separated. At that point the confining pressure of the walls forces the upper ends of the wings inwardly toward the shank, which causes the lower ends of the wings to spread outwardly away from the

shank, as illustrated by dotted lines in Fig. 1. The spreading out of the wings forces the substance apart, so as to completely separate the two parts, when the wedge can be easily removed. The assisting of the wedge by the distended wings to perform its function will be apparent to and appreciated by all persons having occasion to use wedges, and therefore the advantages need not be enlarged upon herein.

The whole construction is simple and practical and strong and efficient for the purposes in view.

Having described the invention and set forth its merits, what is claimed is—

1. A wedge composed of a shank provided with wings hinged thereto and set out from the shank at its upper end, whereby when the upper end is pressed toward the shank the lower end is thrown away from it, substantially as and for the purposes set forth.

2. In a wedge, the combination, with the shank, of wings hinged to opposite sides thereof and set out from the shank at their upper ends, said wings being adapted to be thrown out from the shank at their lower ends when their upper ends are pressed inwardly, substantially as and for the purposes set forth.

3. In a wedge, the combination, with the shank formed with the recesses in its opposite sides, of the wings pivoted or hinged to the shank with their lower portions normally lying in said recesses and their upper ends setting out from the shank, substantially as and for the purposes set forth.

4. In a wedge, the combination, with the shank, of the wings hinged or pivoted thereto and having their outer faces provided with teeth to engage the body being split and prevent the wedge slipping backward, substantially as and for the purposes set forth.

5. In a wedge, the combination, with the shank, of the wings hinged or pivoted thereto and adapted to have their lower ends thrown outward as their upper ends are thrown inward, and the springs bearing against the upper ends of the wings, substantially as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD S. MARSHALL.

Witnesses:
JOHN F. NEWBOULD,
JOHN W. STANTON.