

(No Model.)

A. ROSENBERGER.
NAIL EXTRACTOR.

No 407.371.

Patented July 23, 1889.

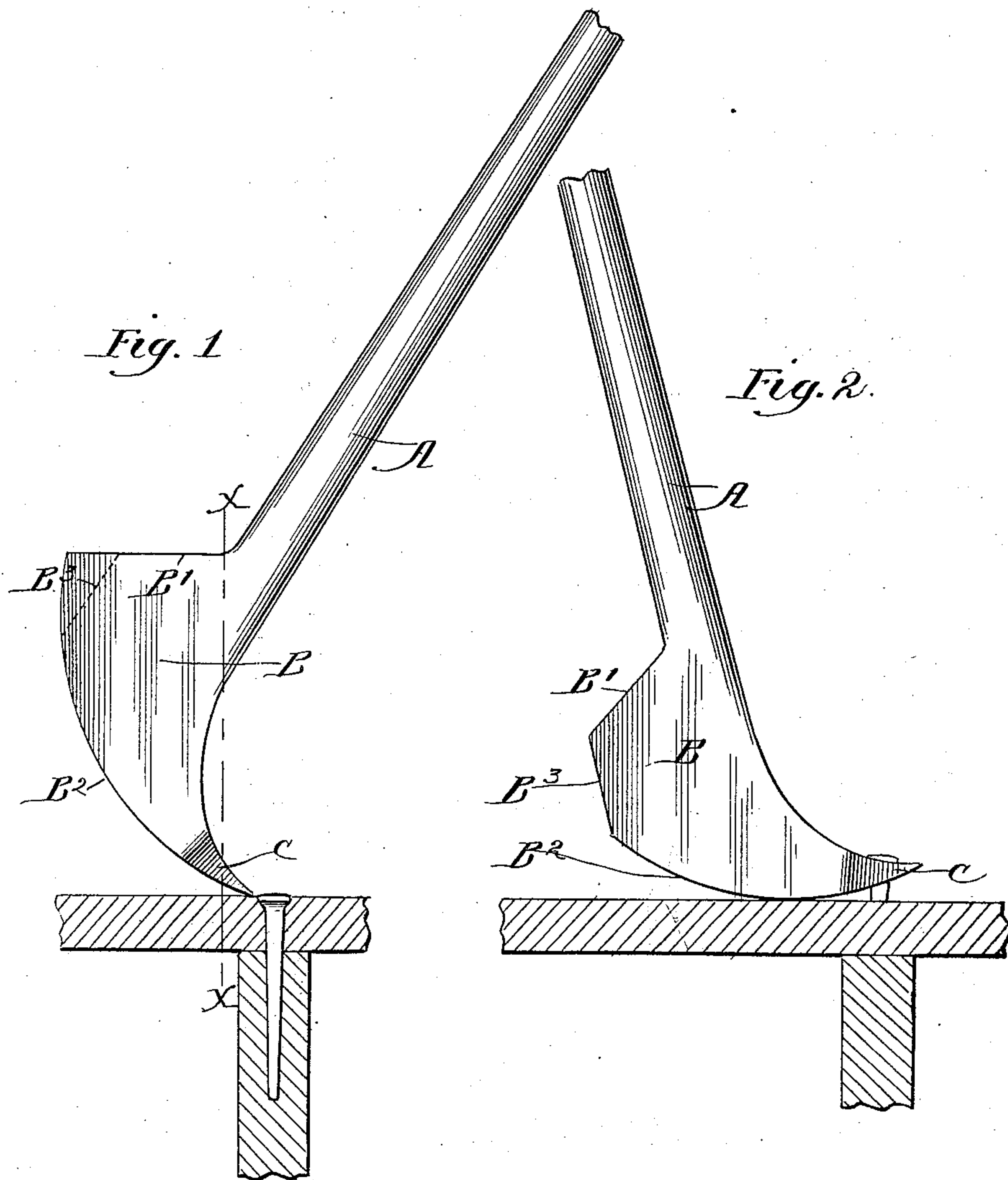
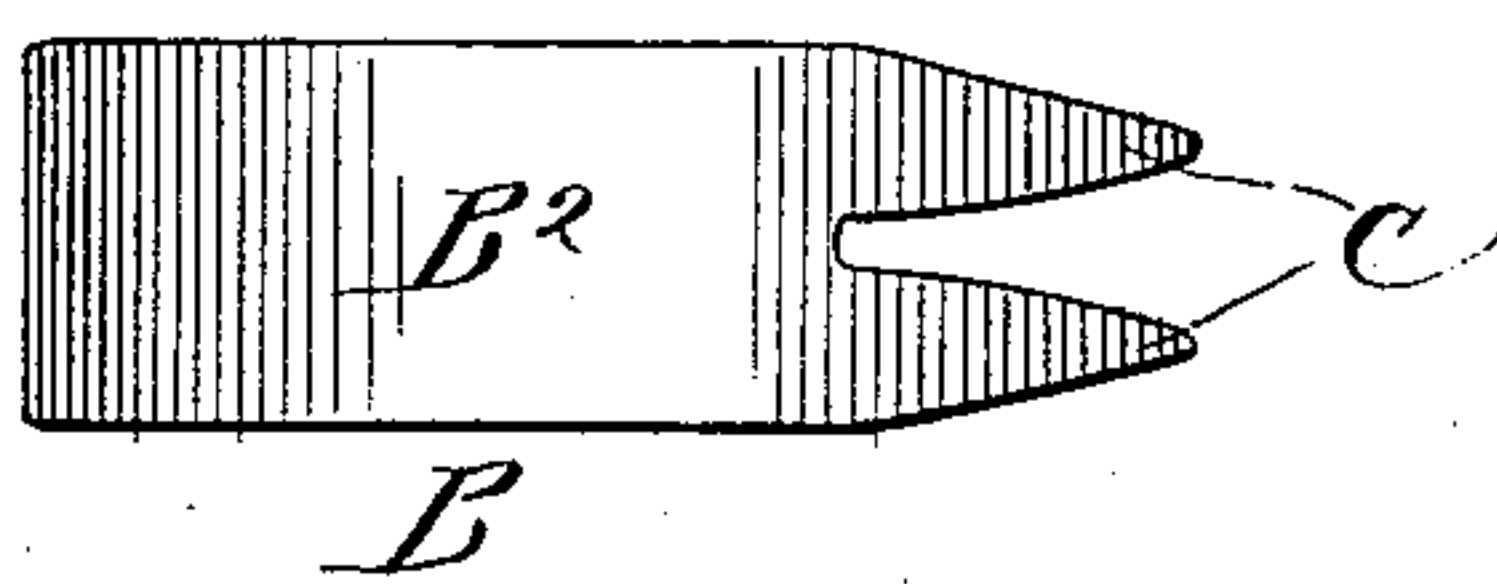


Fig. 3.



Witnesses:
Jean Elliott
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UNITED STATES PATENT OFFICE.

ABRAHAM ROSENBERGER, OF CHICAGO, ILLINOIS.

NAIL-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 407,371, dated July 23, 1889.

Application filed September 10, 1888. Serial No. 285,082. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM ROSENBERGER, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Nail-Extractors, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

Figure 1 is a side elevation showing my nail-extractor in position to be forced under the head of the nail by a blow from a hammer upon the head. Fig. 2 shows a side elevation in the position of withdrawing the nail, the extractor being shown in slightly-modified form, (indicated by the dotted partial outline in Fig. 1.) Fig. 3 is a bottom plan.

A is the handle.

B is the head, having the pointed teeth C C, which constitute the claw. The upper end B' of the head B is horizontal in the position in which the tool would be placed in order to be forced into engagement under the nail-head. The head has the curved surface B² extending from the back corner of the upper end B' convex outwardly to the end of the claw C C. The handle A protrudes from the forward edge or corner of the end B' of the head B in a direction obliquely upward when the tool is in the position shown in Fig. 1—that is to say, that the handle A makes with the end B' of the head an obtuse angle. The lower portion of the side B², which constitutes the under surface of the claw, is approximately at right angles with the direction of the handle—that is to say, a tangent at the under surface of the claw at the end has that direction. The points of the claw are preferably extended far enough toward the same side as that on which the handle is located, so that they are at that side of a vertical plane through the forward edge of the end B'. Such a plane is indicated on Fig. 1 by the dotted line *x x*.

The use of this tool is as follows: The operator is supposed to hold it in his left hand, placing the points of the teeth C alongside of the head of the nail to be extracted and holding the tool with the end B' of the head horizontal, the handle therefore extending obliquely upward toward the left, and being

seized by the left hand, as stated. The end B' is therefore in position to receive a direct blow from the hammer held in the right hand, and such blow causes the points of the teeth C C to enter the wood underneath the nail-head in a course determined by the direction of the tangent to the surface B² at the points of the teeth—that is to say, in the direction of a plane which, produced upwardly to the right, would intersect the plane B', making an acute angle therewith in the lower side of said plane toward the head B. The tool is thus caused to move downwardly toward the left, and the claw being thus driven under the head of the nail the tool is, by means of the handle A, rocked on the curved face B², which constitutes the fulcrum, and the nail thereby is withdrawn, as shown in Fig. 2.

The essential peculiarities of the device are the provision of the head B, having the upper end B' in the position described to receive a blow, while the points of the claw incline obliquely toward the nail, and the handle extending in an oblique direction, making, therefore, an obtuse angle with the end B', so that it diverges from the plane of the board from which the nail is to be extracted, leaving ample room for the hand to grasp it above the board, and at the same time diverges from the vertical plane in which the hammer will descend to strike the end B', so that the hand of the operator is out of danger from that blow and the operator under no necessity for special care in striking it, and he has the opportunity to strike a direct downward blow with full force and without danger of glancing from the head. This arrangement of the several parts also brings the handle in such position that in the rocking movement by which the nail is extracted there is little or no tendency to withdraw the claw from under the head of the nail. The contrary would be the case if the handle extended horizontally, or at least care is necessary to avoid that result when such is the direction of the handle, and the operator is entirely unable in that case to apply with the hand which grasps the handle any pressure in a direction which will keep the claw engaged with the nail, because the movement which he is obliged to give to the handle tends natu-

rally to push the claw from under the nail, and, at best, he can only prevent that result by care in applying the pressure to produce the rocking movement, whereas in the structure shown the operator may press downwardly—that is, longitudinally upon the handle at the same time that he is rocking it over, and by such downward pressure he may not only remove danger of the claw slipping from under the nail-head, but may even force it farther under. To produce this result in the highest degree without sacrificing any other of the advantages named, I make the handle to extend, as stated, at right angles to a plane tangent to the points of the claw on the side B^2 , so that longitudinal pressure upon the handle operates directly against the resistance of the wood in contact with the points, and the rocking movement simultaneous with such pressure tends to force the points under the nail if the wood yields at all to the longitudinal pressure.

For convenience, in order to adapt the same implement for driving as well as extracting nails, the corner formed by the end B' of the head and the curved surface B^2 may be beveled off, forming the plane face B^3 parallel with the direction of the handle. This face will then correspond to the ordinary head of the hammer and be adapted to the same use.

I claim—

1. In a nail-extractor, in combination, a head and a handle, the head having a claw and a flat blow-receiving surface, the direction of both the handle and claw being oblique to the blow-receiving surface, and both pointing to the same side of a plane at right angles to said surface and to the opposite sides of the plane of said surface, substantially as set forth.

2. A nail-extractor comprising a head and a handle, the head having a flat blow-receiving surface at one end and a claw at the other end, the handle and the claw both pointing obliquely away from the plane of the blow-receiving surface and toward opposite sides thereof and obliquely away from a plane at right angles to said surface and toward the same side of said plane, such handle and claw being approximately at right angles to each other, substantially as set forth.

3. A nail-extractor comprising a handle and a head, the head having a flat blow-receiving surface at one end and a claw at the other end, and a convex outer surface from the handle to the claw, the handle and claw both pointing in directions oblique to the plane of the blow-receiving surface and toward opposite sides thereof and toward the same side of a plane at right angles to said surface, substantially as set forth.

4. A nail-extractor comprising a handle and a head, the head having a claw and a flat blow-receiving surface, the direction of both the handle and claw being oblique to the blow-receiving surface and both pointing to the same side of a plane at right angles to said surface and to the opposite sides of the plane of said surface, the head having also a flat face B^3 intersecting the blow-receiving surface and extending parallel to the handle, substantially as set forth.

In testimony whereof I hereunto set my hand, in the presence of two witnesses, this 30th day of August, 1888.

ABRAHAM ROSENBERGER.

Witnesses:

CHAS. S. BURTON,
JEAN ELLIOTT.