

G. H. HAMMOND.
VALVE PICK-UP TOOL.
APPLICATION FILED APR. 29, 1915.

1,169,955.

Patented Feb. 1, 1916.

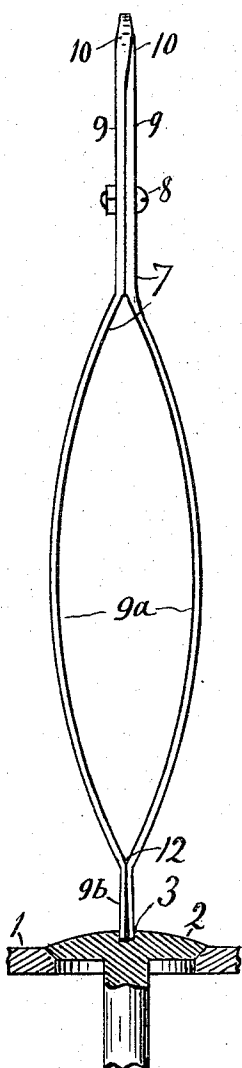


FIG. 5.

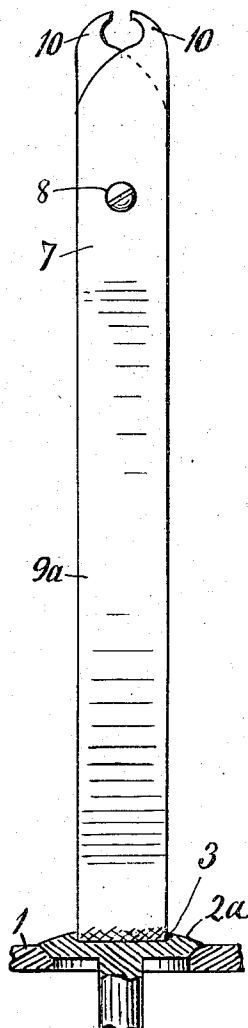


FIG. 6.

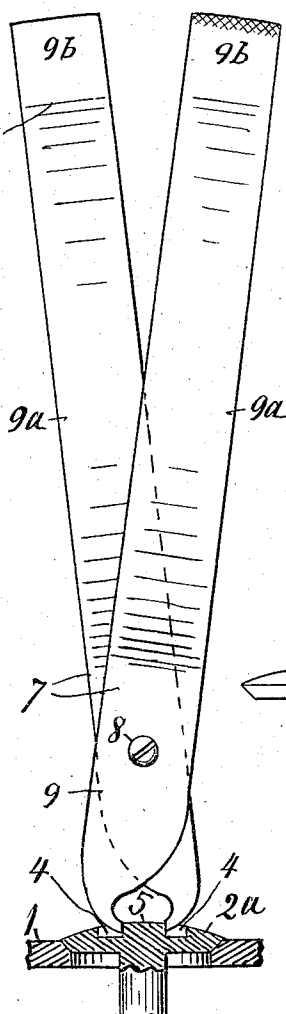


FIG. 7.

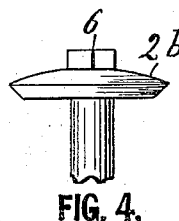


FIG. 4.

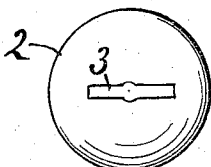


FIG. 1.

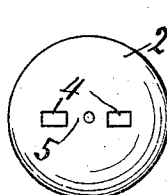


FIG. 2.

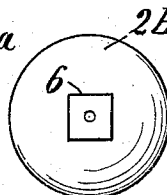


FIG. 3.

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UNITED STATES PATENT OFFICE.

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VALVE-PICK-UP TOOL.

1,169,955.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE H. HAMMOND, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Valve-Pick-Up Tool, of which the following is a specification.

My invention relates to valve-pick-up tools, and the object is to provide a pick-up tool adapted to get a hold of valves having tops with variously shaped means for taking hold of in picking them up.

My present invention may also be considered as a further improvement upon the pick-up tool described in my United States Patent No. 1,128,135, issued on February 9, 1915.

In the accompanying drawings, Figure 1 is a top view of a valve having in its top a groove for the insertion of a tool either for grinding the valve or for picking it up. Fig. 2 is a top view of a valve having two cavities instead of one in Fig. 1. Fig. 3 is a top view of a valve having a projection at its top for taking hold of with a tool. Fig. 4 is a side elevation of the valve shown in Fig. 3. Fig. 5 is an edge view of the pick-up tool in position for picking up a valve, the latter being of the type shown in Fig. 1 and shown partly in diametrical section. Fig. 6 is a side view of Fig. 5 with the valve intersected along the groove in its top. Fig. 7 is a side elevation of the tool turned with its head end downward and engaging a valve of the form shown in Fig. 2.

Referring to the drawing by reference numerals, 1 designates a valve seat in which a valve 2, or 2^a or 2^b rests, usually in a valve chamber (not shown) where it is impossible to get below the valve and push it upward when it is to be removed from its seat. For that reason the top of the valve is provided with either a groove 3, like the valve 2 in Fig. 1, or two cavities 4 and an intervening margin or rib 5, as shown in Figs. 2 and 7, by the valve 2^a; or a central projection 6, as on the valve 2^b, so as to fit a socket tool for grinding the valve. The projection 6 may also be either hexagon or octagon.

To enable my pick-up tool to get a hold of all of said forms of valve tops, I make it of two flat metal bars 7, which are pivoted together at 8 so as to form a pair of

short arms 9 which terminate in a pair of curved and pointed jaws 10, by which to grip either the margin 5 of a valve like 2^a, or the projection 6 of a valve like 2^b in picking up valves having such tops. The other and much longer arms, 9^a, of the bars form two outwardly bulged bows, whose end portions 9^b for a short distance come normally together in parallel position and are roughened at 11 upon the outer sides so as to take more firmly hold in the inner sides of the groove 3 when placed as shown in Figs. 5 and 6, and the bows 9^a are pinched toward each other by the operator's fingers, (not shown). For when said bows are sprung toward each other their contacting at 12 causes the roughened extreme ends 9^b to spread, as shown in Fig. 5 and thus engage the sides of the groove 3 while the valve is being picked up.

What I claim is:

1. A tool for picking up valves having tops of different shapes, said tool comprising a pair of flat spring metal bars pivoted together near one end and bent outward to form comparatively long bowed legs, the free ends of which come normally together flatwise for a short distance, so as to spread at their extremities when the bowed legs are sprung toward each other.

2. A tool for picking up valves having tops of different shapes, said tool comprising a pair of flat spring metal bars pivoted together near one end and bent outward to form comparatively long bowed legs, the free ends of which come normally together flatwise for a short distance, so as to spread at their extremities when the bowed legs are sprung toward each other; said metal bars having also short legs in opposite direction from the said long legs and forming a pair of gripping jaws, to which the long legs serve as handles.

3. A tool for picking up valves or other articles by taking hold either inside a cavity or outside a projection of the article, said tool comprising a pair of flat spring metal bars pivoted together near one end and bent outward to form comparatively long bowed legs, the free ends of which come normally together flatwise for a short distance, so as to spread at their extremities when the bowed legs are sprung toward each other; said metal bars having also short legs in opposite direction from the long ones and

forming a pair of gripping jaws; said long
legs being pivoted to swing edgewise and to
thus form the operating handles or levers
of the short jaws, and to overlap upon each
5 other with the first mentioned jaws when
the gripping jaws are closed together.

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

GEORGE H. HAMMOND.

Witnesses:

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Washington, D. C."