Sept. 11, 1951 W. J. STACHURA 2,567,356

SHEET METAL LIFTING TOOL

Filed Sept. 30, 1948

Fig. 1.

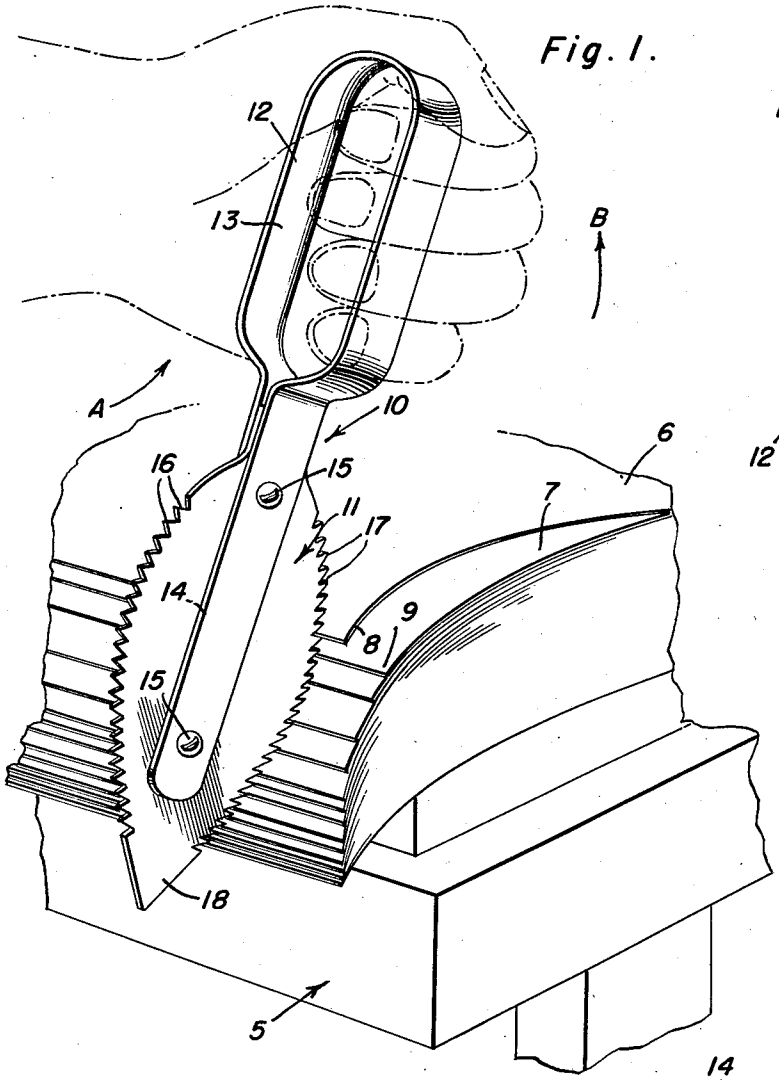


Fig. 2.

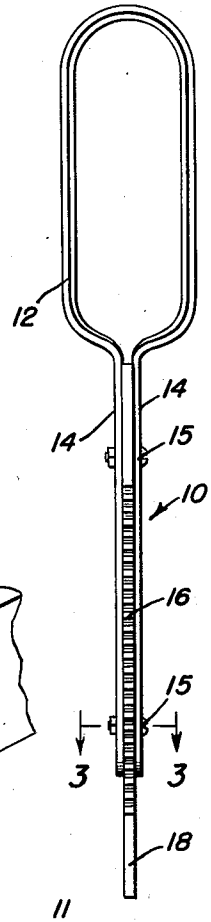


Fig. 3.

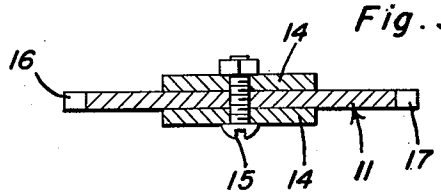
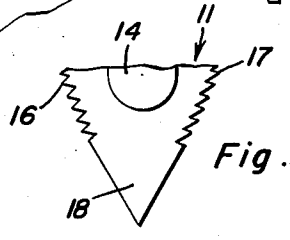


Fig. 4.



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SHEET METAL LIFTING TOOL

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3 Claims. (Cl. 294—1)

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The present invention relates to a novel hand tool which is expressly designed and adapted to enable a user to conveniently lift and pick up heavy plates of sheet metal such as are piled in a stack for second and third operations on the table portion of a punch press.

It is a matter of common knowledge that some of the sheets are flat throughout and stick together and are hard to separate and lift. Others have cupped and rolled edges which nest together and become stuck and hard to separate for lifting and handling. Using one's finger tips to accomplish the task is laborious and dangerous and results in cutting and bruising the fingers, and using other makeshift instruments and tools to attempt to pry the sheets apart for lifting is equally unsuccessful. As a general proposition, the tool or implement ordinarily employed is a rubber suction cup with suitable handle means, but here again the plates are heavy and if the suction is lost, as the suction cup wears and deteriorates, the top plate of the stack which is being lifted will drop and promote hazards and a considerable loss of time.

With the above and other objects and disadvantages in mind, I contemplate substituting for the common rubber suction cup a unique hand tool having satisfactory hand-grip means at one end and having an appropriate head at the opposite end, said head being in the form of an elongated plate or blade and having its edge portions serrated to provide teeth and said teeth being selectively engageable with the edge portion of the topmost sheet on the stack to permit same to be temporarily engaged and lifted clear of the next or underlying plate, whereby to facilitate handling of the lifted plate or sheet.

More specifically, a preferred embodiment of the invention comprises a handle unit made from strap metal which is bent between its ends to provide a loop-like hand-grip which embraces and saddles over the hand of the user, the limb portions of the strap being securely fastened to the intermediate portion of an elongated plate or blade, the latter being preferably elliptical in form and the opposite curvate edges being serrated to provide teeth for practical and convenient use.

In carrying out the ideas and principles of the invention, I have evolved and produced a simple, practical and economical hand tool which will greatly out-last instruments and tools such as are now used, will save time, save the worker from getting cut, will minimize labor and effort and will permit the worker, once he gets the

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knack of using the tool, from encountering the aforementioned difficulties.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawing.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a fragmentary perspective view showing a portion of a punch press table or equivalent support, showing a stack of metal sheets piled on the table for second and third operations on the punch press, showing the improved tool and the manner in which same may be successfully used for engaging and lifting the topmost sheet;

Figure 2 is an elevational view of the tool per se;

Figure 3 is an enlarged cross-section on the line 3—3 of Figure 2, looking in the direction of the arrows; and

Figure 4 is a fragmentary elevational view of the pointed end portion of the toothed blade.

Referring now to the drawings and to Figure 1, the numeral 5 designates a table or other support with sheets of metal piled and stacked thereon, the uppermost sheet being denoted by the numeral 6 and the next or underlying sheet by the numeral 7, and said sheets having curvate or so-called cupped edge portions 8 and 9 which, when together, tend to stick and are so tightly nested as to interfere with ready separation and lifting for punch press operation. Many sheets are flat throughout and others are of the general cupped configuration shown. In any event, when the sheets are piled high, and since they are comparatively heavy and often unwieldy to handle, the handle-equipped rubber suction cup (not shown) commonly used, fails to perform the desired services. It is believed that the tool herein shown will do the work satisfactorily. It comprises a handle unit 10 and a head unit 11, these being the two main parts. The handle is preferably formed from a single piece of rod or strap metal, the same being bent upon itself to provide a loop-like hand-grip 12 which embraces the hand of the user and provides a convenient lifting and actuating member, the portions of the loop being appropriately rounded, as at 13, to embrace the hand with requisite nicety in an obvious manner. The parallel limb portions 14 straddle and are bolted or otherwise connected as at 15 to opposite sides of the head plate or blade 11. This is of rigid sheet metal stock of appropriate gauge and thickness and

of suitable size, and is preferably substantially elliptical in general form. The opposite curvate edges are serrated to provide sheet edge engaging teeth 16 on one side, and teeth 17 on the other. Here it will be noted that the teeth 16 are of a slightly different shape and angle in relation to the teeth 17. That is to say, the teeth 16 are conformable to the teeth on a cross cut saw whereas those on the other side, the teeth 17, are at acute angles and are conformable to a sharp angled rip saw. In any event, a user will, obviously, employ those teeth which seem best suited for the particular job undertaken. The point 18 may be used as a prying element and shoved between overlapping plates to initially separate same. For example, it may be necessary to wedge the point 18 in between two plates which are slightly stuck and then after the plates are loosened the teeth 16 or 17, as the case may be, may be brought into use in the manner shown in Figure 1 of my drawings.

It is a matter of common knowledge among those who use tools that all users do not follow an exact procedure and technique in handling same. That is to say, all carpenters do not employ a claw hammer according to approved requirements for use. By the same token, users of the tool herein shown may not necessarily use same in an identical manner. It is believed, however, that the mode of use is similar to that shown in the drawings wherein the toothed edge of the head is swung bodily in the direction of the arrow A against the edge portion of the topmost sheet 6. Then, the tooth closest to the plane of the sheet edge 8 is engaged with the edge of the plate and the tool is bodily rocked and then lifted in the direction of the arrow B, whereby to elevate the plate and clear it above the underlying plate 7 to a degree sufficient to permit it to be slid off or otherwise handled without undue inconvenience. The fulcruming point 18 may or may not be rested on the table, this depending on the elevation of the stack of sheets and mode of handling the tool by a particular user. Both edges are toothed so that either edge may be brought into play, depending on the working conditions present at the time.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. A hand tool for engaging an edge of the top sheet of a stack of sheets of metal to lift and render same easy to handle comprising a relatively broad substantially ovate flat rigid blade having its curvate marginal edges serrated to provide saw-like edge engaging and lifting teeth, the outer end of said blade having a spear-shaped prying and fulcruming point, and a handle rigidly connected to said blade.

2. A hand tool of the class described comprising a substantially elliptical flat rigid plate having opposite marginal edges serrated to provide saw-like teeth, and a rigid strap metal handle having limb portions straddling, embracing and rigidly attached to opposite sides of the blade and having an intermediate portion formed into a loop adapted to encircle the hand of the user.

3. A special hand tool for releasably engaging an edge of the top sheet of a stack of sheets of metal to lift and render same easy to handle comprising a rigid handle embodying a loop which is adapted to embrace the hand of the user and a pair of spaced parallel rigid limbs, a flat rigid plate having its intermediate portion situated between and rigidly secured to said limbs, said plate being substantially ovate in outline and the curvature marginal edge portions projecting uniformly from opposite longitudinal edge portions of said limbs, said curvate edge portions having sheet engaging and lifting teeth, the teeth on one edge being at right angles to the longitudinal axis of the handle and the teeth on the opposite edge being oblique to said axis and pointing in a direction toward the loop, one end portion of said plate projecting beyond the outward ends of the limbs and terminating in a spear-shaped fulcruming and sheet prying point.

WALTER J. STACHURA.

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