

Jan. 19, 1971

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3,555,679

SCRAPER TOOL

Filed Sept. 12, 1968

**FIG. 1.**

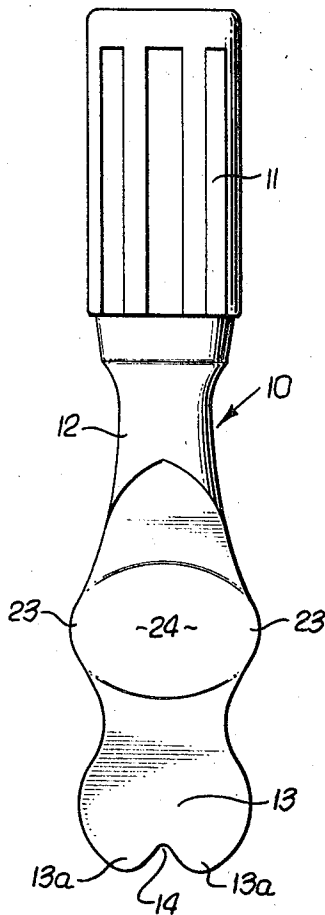


**FIG. 2.**

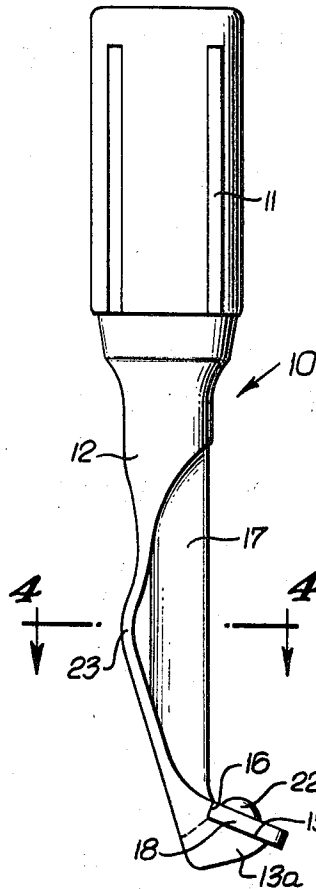


**FIG. 3.**

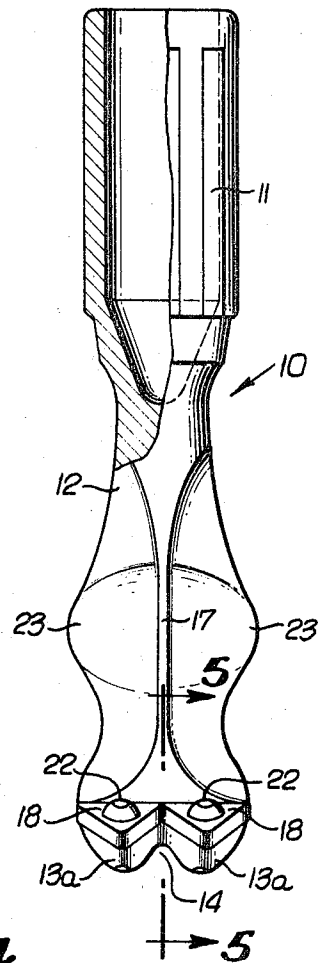


**FIG. 4.**

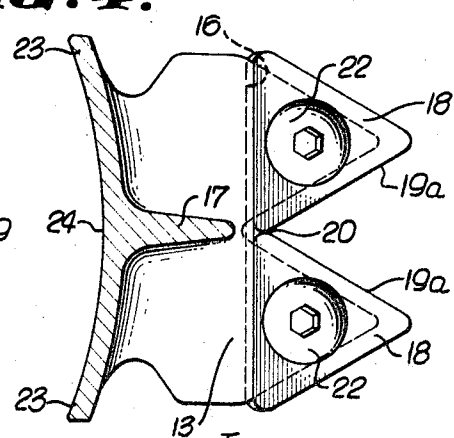


**FIG. 5.**

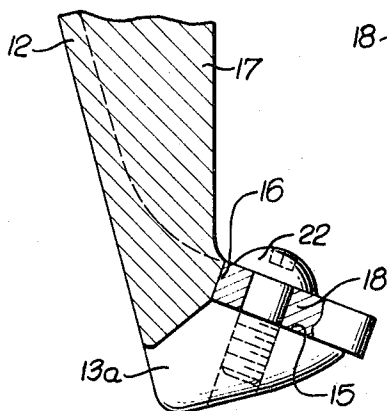
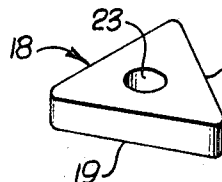


**FIG. 6.**



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## SCRAPER TOOL

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Filed Sept. 12, 1968, Ser. No. 759,398

Int. Cl. B27g 17/04; B26g 3/00

U.S. Cl. 30—172

8 Claims

### ABSTRACT OF THE DISCLOSURE

The invention provides an improved tool for scraping metallic work edges, the tool having a head terminal to which is detachably secured invertible opposed equilateral triangular inserts made of tungsten carbide and defining between them scraping edges which are interchangeable to a total of twelve because of the detachability and invertibility of the inserts.

### GENERAL FEATURES AND OBJECTS OF THE INVENTION

Particularly in sheet metal usage and fabrications, right angular edges of the metallic sheet have burrs or other irregularities requiring removal for subsequent handling or processing of the sheet. Such removal has been accomplished by scraper tools moved manually along the irregular edges.

The present invention is directed to improvements in this type of tool, which increase the effectiveness and useful life of the tool significantly beyond the capabilities of conventional scrapers.

Achievement of various advantages of the present tool is predicated upon the provision in association with the head terminal of a handled body, of detachable triangular hard metal inserts in opposed relation forming between them a V-recess defined by sharp deburring edges movable along and against the work sheet edges.

Of particular advantage toward realization of maximum effectiveness and life of the tool is the use of equilateral triangular hard metal elements (which are termed inserts in that they are supported by and shouldered against the tool head) having flat uniform thickness configuration presenting a total of twelve potential scraping edges which are functional in any of selected pairs by virtue of the detachability, invertibility and interchangeability of the inserts.

In its more specific aspects the invention contemplates formation of the tool head in essentially bifurcated conformance with opposed inserts shouldered against the head and attached thereto by centered screws.

These and other features of the invention will be more fully understood from the following description of an illustrative embodiment shown by the accompanying drawing, in which:

### BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a top plan view of the scraper tool;

FIG. 2 is a side elevation of FIG. 1;

FIG. 3 is a view partly in section showing the tool in bottom plan;

FIG. 4 is an enlarged cross section taken on line 4—4 of FIG. 2;

FIG. 5 is a fragmentary enlarged section on line 5—5 of FIG. 3; and

FIG. 6 is a showing in perspective of one of the hard metal inserts.

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

The tool is shown to comprise preferably a one-piece body generally indicated at 10 cast of relatively light

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weight metal such as aluminum alloy, the body having a handle 11, intermediate shank portion 12 and a head 13 bifurcated at 14, see FIG. 3, to form claw-like terminals 13a.

These terminals 13a present bearing surfaces 15 in about the FIG. 2 angular relation to the longitudinal axis of the body and forwardly of a transverse continuous bearing shoulder 16. Being integrated with a central rib reinforcement 17 of the shank 12, the terminals 13a are assured of strength and support adequate for all scraping usages of the tool.

In reference to FIG. 6, each of the terminals 13a mounts a tungsten carbide insert 18 of equilateral triangular flat configuration, the two inserts being of identical size and uniform thickness with sharply abrupt edges 19 at each face so that each of the inserts presents potentially six scraping edges and together the inserts present potentially a total of 12 scraping edges. Mounted to the head of the tool as shown in FIG. 4 in bearing engagement with body shoulder 16 and with their corners in contact at 20, the inserts present V-related scraping edges 19a at 60 degree angularity.

Each insert is shown to be detachably secured to its respective head terminal by a screw 22 inserted through centered hole 23 and threaded into the terminal. Since each insert is supported against shifting toward the shank by engagement with bearing shoulder 16, the function of the screw 22 is primarily that of holding the insert flatly against surface 15.

As best illustrated in FIG. 1 the shank 12 may be transversely enlarged as by wing-like extensions 23, and given shallow recessing at 24 to accommodate such degree of thumb pressure as may be exerted by a user of the tool.

In the usual practical service the scraping edges 19a are applied to burred or other irregularized condition of sheet metal sufficiently thin to be received between the tungsten carbide edges.

Ordinarily only light hand pressure on the tool is required to debur the sheet metal edges, and because of the hardness of the inserts, a single pair of the scraping edges will remain serviceable after extensive usage. At such time as the edges may become dulled to the extent of warranting change, it is only necessary by removal of the screws 22 to reorient the inserts to present new edges at their V-convergence. Thus with their capacity for inversion, the inserts together have a total potential of 12 scraping edges.

It is to be understood that the drawing is to be regarded as illustrative of the invention in a typical though preferred embodiment, and that changes and modifications may be made within the scope of the appended claims without departure from the intended spirit and scope of the invention.

I claim:

1. A scraper tool comprising a body including handle, intermediate shank and terminal head portions, a pair of triangular hard metal inserts detachably secured to the head and positioned at opposite sides of an axial plane of the body with a first pair of the insert edges aligned transversely of said plane a second pair of the insert edges defining between them a V-shaped recess for reception of a work edge to be scraped, said first pair of insert edges bearing against shouldered surfaces of the head supporting the inserts against turning and the inserts individually being secured to the head by centered screws.

2. A tool according to claim 1, in which the body shank has a transversely enlarged surface depressed portion to accommodate a user's thumb for pressure application to the insert scraping edges.

3. A tool according to claim 1, in which said inserts are of identical equilateral triangular shape and thickness.

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4. A tool according to claim 3, in which each insert has opposed flat faces in relation to which the sides of the inserts are sharply right angular so that the insert has six scraping edges.

5. A tool according to claim 4, in which said inserts are attached by centered screws to the under side of the head and incline downwardly and forwardly of the body, said first pair of insert edges bearing against straight shouldered surfaces of the head.

6. A tool according to claim 5, in which said head is angularly bifurcated substantially in shape correspondence with the inserts.

7. A tool according to claim 5, in which said inserts are tungsten carbide.

8. A tool according to claim 5, in which the body

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shank has a transversely enlarged surface depressed for user's thumb accommodation.

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U.S. Cl. X.R.

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