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T. J. NELSON

2,333,878

SCRAPER

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Fig. 1.

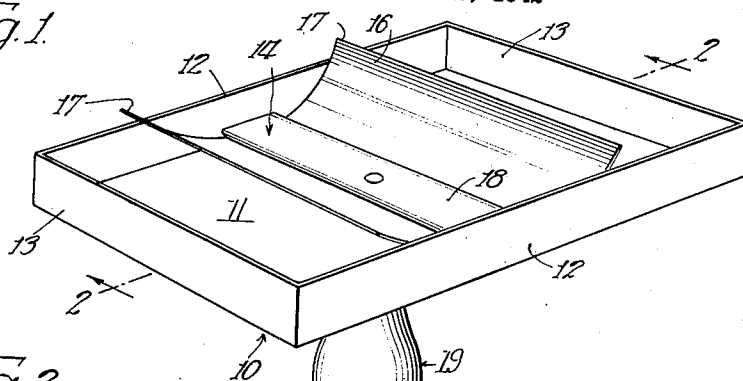


Fig. 2.

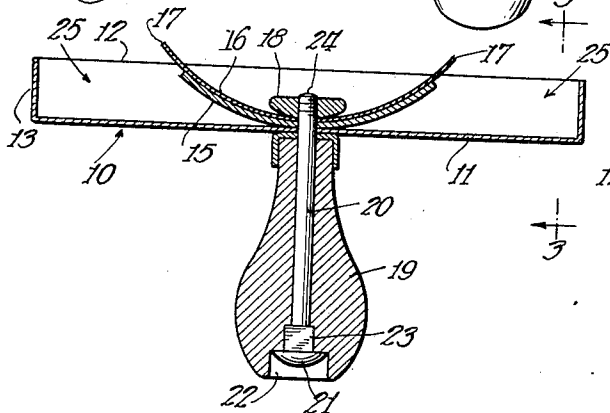


Fig. 3.

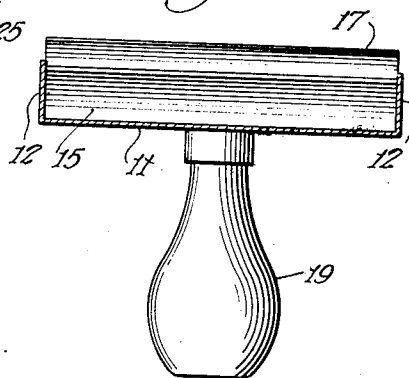


Fig. 4.

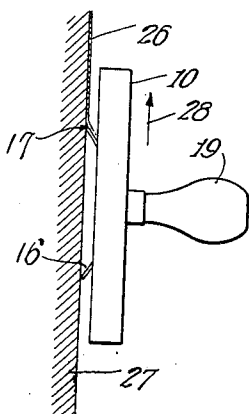
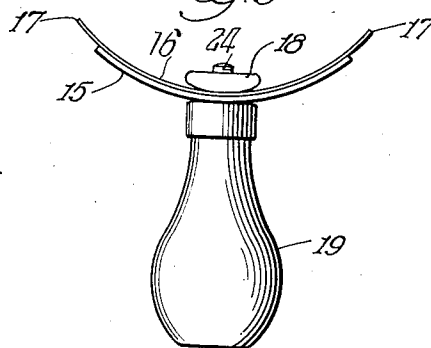


Fig. 5.



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UNITED STATES PATENT OFFICE

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SCRAPER

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10 Claims. (Cl. 30—124)

This invention relates to scrapers and it consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The scraper with which the present invention is more especially concerned is in the nature of a hand tool especially adapted for use in removing previously softened surface finishes, such as calimine and the like, from walls and ceilings.

One of the objects of the present invention is to provide a tool of the kind which is of a simple light-weight, inexpensive construction, is easy to use and is efficient in operation for its intended purpose.

Another object of the invention is to provide a tool of the kind mentioned which may be readily disassembled, for cleaning or storage in a knocked down condition and which may be readily assembled, without the aid of tools of any kind.

A further object of the invention is to provide a tool of this kind which includes means providing spaced scraping edges so arranged that in a scraping operation, one edge is being sharpened while the other edge is in actual use.

The above mentioned objects of the invention as well as others, together with the several advantages thereof will more fully appear as the specification proceeds.

In the drawing:

Fig. 1 is a perspective view of a scraper embodying the preferred form of the invention.

Fig. 2 is a longitudinal vertical sectional view through the scraper as taken on the line 2—2 of Fig. 1.

Fig. 3 is a transverse vertical sectional view through the scraper as taken on the line 3—3 of Fig. 2.

Fig. 4 is a view in side elevation of the scraper, on a reduced scale, and illustrates the manner in which the same is used in removing a softened surface finish from a wall or the like.

Fig. 5 is a view in side elevation of certain parts of the scraper when assembled together for use in the corner of a room or other close quarters.

Referring now in detail to the invention as illustrated in Figs. 1 to 4 inclusive of the accompanying drawing, the improved scraper includes a shallow open top, box-like body 10 of a greater length than width. Said body, which is preferably made of sheet metal, has a bottom 11, side walls 12—12 and end walls 13—13.

Within and extending transversely of the mid-portion of the body is a scraper means indicated as a whole as at 14 in Fig. 1. Said means includes

a backing and forming plate 15 which has a length approximating the inside width of the body so that the ends of said plate substantially engage the inner faces of the side walls 12—12. The said plate, which has a curved cross sectional shape, is made of relative stiff sheet metal having a permanent set for its curvature. The midportion of said plate engages upon the transverse midportion of the bottom 11 of the body.

The scraper means also includes a duplex scraper blade 16 preferably made of substantially thin flexible sheet metal such as wafer blade steel. This duplex blade, which is normally flat and of substantially the same length as the forming plate, is curved in the assembly of the scraper parts to engage and take the curvature of the former plate 15. When so curved, it provides two longitudinally spaced, transversely extending scraping edges 17—17 disposed in the same plane and which plane is spaced outwardly or away from the plane of the edges of the side and end walls 12 and 13 of the body 10.

The scraper means further include a relatively narrow rigid presser bar 18 disposed transversely upon the mid-portion of the scraper blade 16 and which bar, when in place, also substantially engages the inner faces of the side walls 12—12 of the body 10. The bottom surface of said bar is transversely curved on a radius to substantially conform to the forming plate.

19 indicates the handle for the scraper which extends outwardly from the central portion of the bottom wall 11 of the body. Within the handle is a carriage bolt 20, the head 21 of which is disposed in a recess 22 in the outer end of the handle. This bolt has a squared neck 23 near its end which prevents a relative turning between the handle and bolt. Said bolt is longer than the handle so that a part 24 of its threaded end passes through center holes in the body bottom 11, forming plate 15 and blade 16 respectively, so as to have a screw threaded engagement in a center hole in the presser bar 18.

In the assembly of the parts mentioned, the forming plate 15 is disposed in position on the body so that its center hole registers with the center hole in the bottom 11. The blade 16 is then placed in position to rest upon the edges of the forming plate and then the presser bar is positioned upon the blade. By pressing inwardly on the bar, the blade takes the curvature of the forming plate. Assuming, of course, that the center holes of the parts are aligned, the threaded end 24 of the bolt is then inserted through said holes from the outside of the bottom wall of

the body and is caused to enter the center hole in the presser bar. By turning the handle 19 in the proper direction, the bolt end 24 is threaded into said bar which functions as a nut to cause said presser bar to draw the blade into snug engagement with the forming plate and to draw the midportion of the former plate into a tight engagement against the midportion of the bottom 11 of the body. Thus when the parts are assembled as described, the scraping means as a whole divides the body into two end compartments 25—25 as best appears in Fig. 2, with each half of the forming plate, longitudinally of the body, overhanging a portion of the associated compartment.

In Fig. 4 I have illustrated the way in which the scraper may be used to remove the softened finish 26 from a vertical wall 27. Assume, that the finish 26 is calcimine that has been softened to a pasty consistency by the application of water thereto. The scraper is turned into a position wherein the length of the body is disposed in a plane parallel that of the wall 27 and the scraper as a whole is then moved toward the wall so that the edges 17—17 of the blade 16 engage the wall 27. The scraper is then moved upwardly along the wall as indicated by the arrow 28, when the uppermost margin of the blade will cut under the finish 26 and scrape it from the wall 27. As the scraped off finish leaves the wall, it follows down about the outside of uppermost margin of the blade and the uppermost margin of the forming plate, to be directed thereby into the associated compartment 25 as to be deposited in the bottom thereof as partly formed by said margin of the forming plate. Should any water leak through between the forming plate and the bottom 11 of the body, such water is prevented from dripping by the wall 13 now at the bottom end of the body. In the upward movement of the scraper as the advance edge 17 of the blade scrapes off the finish 26, the other or trailing edge 17 of the blade "drags" against the scraped off wall 27 so as to be kept in a sharp condition. Thus by using one edge and then the other in a scraping operation the edges 17—17 are kept relatively sharp. When it is desired to empty the scraper of the surface finish which has accumulated in the chamber 25, the scraper is dowsed or rinsed in water and it is then in condition for use in a further operation.

When it becomes necessary to work in close quarters, such as in a corner between adjacent side walls and a ceiling, the device thus far described may be readily disassembled by unscrewing the handle 19. Then only the handle, forming plate, blade and presser bar are assembled together as appears in Fig. 5. This reduces the overall length of the scraper to such dimensions that either edge of the blade may be moved into the corner between said walls and ceiling.

The device consists of but a few parts for a low cost production and such parts may be readily assembled and disassembled without the aid of extraneous tools. When disassembled, the parts may be packed in a relatively small package for storage or shipment.

While in describing the invention I have referred in detail to the form, arrangement and construction of the parts making up the scraper, the same is to be considered only in the illustrative sense so that I do not wish to be limited thereto except as may be specifically set forth in the appended claims.

I claim as my invention:

1. A scraper embodying therein a hollow body having a bottom and side walls, rigid means in the body and extending transversely thereof and having an outer surface curved toward the ends of the body and an inner surface engaged with the bottom of the body, a duplex blade member engaged with and conforming to the outer curved surface of said means and having longitudinally spaced scraping edges disposed in a plane spaced outwardly from the plane of the edges of said side walls, means for securing said rigid means and said duplex blade member in operative position in said body, and a handle fixed to the outer surface of the bottom of the body.

2. A scraper embodying therein a hollow body having a bottom and side walls, rigid means in the body and extending transversely thereof and having an outer surface curved toward the ends of the body and an inner surface engaged with the bottom of the body, a duplex blade member engaged with and conforming to the outer curved surface of said means and having longitudinally spaced scraping edges disposed in a plane spaced outwardly from the plane of the edges of said side walls, a handle engaged with the outer surface of the bottom of the body, and a member fixed to the handle and extending through said bottom, said rigid means and said duplex blade for securing them together in assembled relation.

3. A scraper embodying therein a hollow body having a bottom and side walls, rigid means in the body and extending transversely thereof and having an outer surface curved toward the ends of the body and an inner surface engaged with the bottom of the body, a duplex blade member engaged with and conforming to the curved surface of said means and having longitudinally spaced scraping edges disposed in a plane spaced outwardly from the plane of the edges of said side walls, a member engaged with said duplex blade member and having a threaded hole therein, a handle engaged with the outer surface of the bottom of the body, and a member fixed to the handle and extending through said bottom of the body, said rigid means and said blade member and having a threaded engagement in said hole in said member engaged with said duplex blade member.

4. A scraper embodying therein a hollow body having a bottom and side walls, a rigid curved plate disposed in and extending transversely of the body and curved upwardly towards the ends of said body and engaged at its midportion with said bottom, a duplex blade member engaged with and conforming to the outer surface of said plate and having longitudinally spaced scraping edges disposed in a plane spaced outwardly from the plane of the edges of said side walls, means for securing said plate and said duplex blade member in operative position in the body and a handle on the outer surface of the bottom of the body.

5. A scraper embodying therein a hollow body having a bottom and side walls, a flexible duplex blade having scraping edges, a rigid blade supporting member in said body and having an inner face engaged with said bottom and an outer face against which said blade is adapted to be drawn so as to be concaved thereby, a forming member engaged with the midportion of the blade, and means operatively engaged with said forming member and extending through said blade, rigid member and body bottom respectively for drawing and concaving said blade against the outer

face of said supporting member and for holding said parts in operative relation with the scraping edges of the blade disposed in a plane outwardly from the plane of the edges of said side walls.

6. A scraper embodying therein a hollow body having a bottom and side walls, a flexible duplex blade having scraping edges, a rigid blade supporting member in said body and having an inner face engaged with said bottom and an outer face against which said blade is adapted to be drawn so as to be concaved thereby, a forming member engaged with the midportion of the blade, a handle extending from the bottom of the body and carrying a part extending through said bottom, supporting member and blade respectively and having a threaded engagement with said forming member and operating in said threaded engagement to draw and concave the blade against the outer face of the supporting member and thereafter hold said parts in operative relation with the scraping edges of the blade disposed in a plane outwardly from the plane of the edges of said side walls.

7. A scraper embodying therein a hollow body having a bottom and side walls, a flexible duplex blade having scraping edges, a rigid blade supporting member in said body and having an inner face engaged with said bottom and a concaved outer face against which said blade is adapted to be drawn so as to conform to and be concaved thereby, a forming member engaged with the midportion of the blade, and means operatively engaged with said forming member and extending through said blade, rigid member and body bottom respectively for drawing said blade against said concaved outer face of the supporting member so as to concave said blade and thereafter hold said parts in operative relation with the scraping edges of the blade disposed in a plane outwardly from the plane of the edges of said side walls.

8. A scraper embodying therein a hollow body having a bottom and side walls, a flexible duplex blade having scraping edges, a rigid blade supporting member in said body and having an inner face engaged with said bottom and a concaved outer face against which said blade is adapted to be drawn so as to conform to and be con-

caved thereby, a forming member engaged with the midportion of the blade, a handle extending perpendicularly from the bottom of the body and carrying a part extending through said bottom, supporting member and blade respectively and having a threaded engagement with said forming member and operating in said threaded engagement to draw said blade against said concaved outer face of said supporting member so as to concave said blade and thereafter hold said parts in operative relation with the scraping edges of the blade disposed in a plane outwardly from the plane of the edge of said side walls.

9. A scraper embodying therein a hollow body having a bottom and side walls, a flexible duplex blade having scraping edges, a rigid blade supporting member in said body and having an inner face engaged with said bottom and an outer face against which said blade is adapted to be drawn so as to be concaved thereby, a forming member engaged with the midportion of the blade, and having a threaded opening therein, a handle extending from the bottom of said body and including a threaded end portion extending through said bottom, supporting member and blade respectively and having a threaded engagement in said opening in said forming member and operating in said threaded engagement to draw and concave the blade against the outer face of the supporting member and thereafter hold said parts in operative relation with the scraping edges of the blade disposed in a plane outwardly from the plane of the edges of said side walls.

10. A scraper embodying therein a flexible duplex blade having scraping edges, a support for said blade and having a blade engageable face so formed as to concave the blade when drawn thereagainst, a forming member having a substantially full length transversely curved bearing engagement with the midportion of said blade, a handle disposed perpendicularly to the face on the other side of said support, and means carried by said handle and extending through said support and said blade and having a threaded engagement with a part of said forming member, for holding said rigid member, said blade and said forming member in operative relation.

THEODORE J. NELSON.