Feb. 16, 1971 J. P. VAUGHN 3,562,826

MULTIPURPOSE SCRAPING TOOL

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FIG. 1.

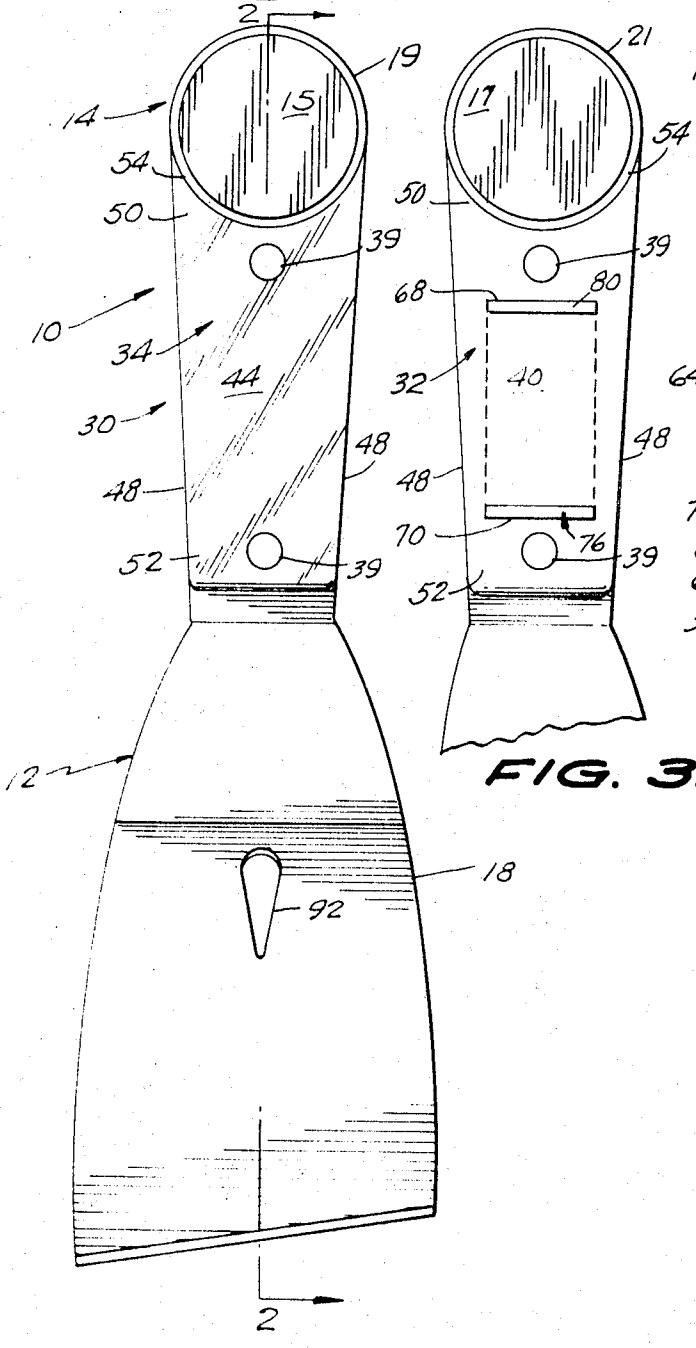
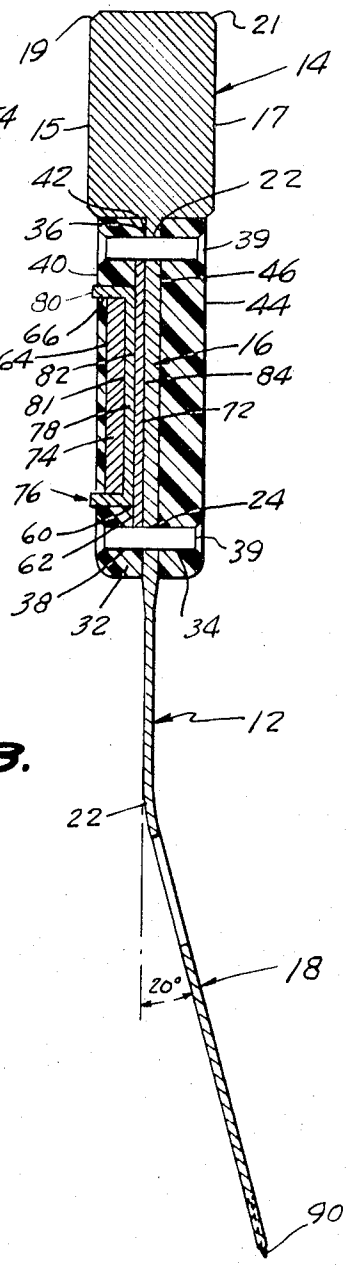


FIG. 3.

FIG. 2.



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MULTIPURPOSE SCRAPING TOOL

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ABSTRACT OF THE DISCLOSURE

A multipurpose scraping tool having a magnetic device secured thereto for removably attaching said tool to any magnetizable surface. The tool is especially useful to a housepainter in preparing a wall preliminary to painting, said tool comprising a handle, hammering means at one end, a sharpened edge for scraping at the other end, nail-pulling means located therebetween, and a magnetic device secured to the tool.

This invention relates to a multipurpose tool having a magnetic device secured to said tool for attaching said tool to any magnetizable surface where it is easily located and removed, and more particularly, this invention relates to a multipurpose scraping tool especially useful to a housepainter, combining novel features within its structure to permit use as a scraper, a glazing tool, a nail puller, putty knife, and a hammer.

A housepainter, or one performing similar tasks, ordinarily must carry a multitude of separate tools, each having one or two functions, in order to perform operations which are preliminary to the painting operation. Frequently, these tools are misplaced, or fall from the ladder to the floor below, thereby resulting in damage to the tool, or injury to persons. The instant invention rectifies these difficulties by providing a single tool having a multitude of uses, such as a paint scraper, hammer, nail puller, glazing tool, putty knife, all of which are incorporated within the tool structure, and including means for magnetically attaching the tool to any magnetizable surface nearby, such as a steel ladder, or scaffold, where it is retained for future use.

It is, therefore, an object of this invention to provide a multipurpose scraping tool which is efficient in design, simple to use, and economical to manufacture.

Another object of this invention is to provide a multipurpose scraping tool having a handle, a hammerhead at one end of said tool, a sharpened edge useful for scraping, glazing, or puttying, at the other end, nail-pulling means located therebetween, and a magnetic device secured to the tool for attaching the tool to any nearby magnetizable surface.

Another object of the invention is to provide a multipurpose scraping tool having a handle with a built-in magnetic device.

Other objects and advantages of this invention will be made readily apparent from the disclosure in the attached specification, and from the accompanying drawing, wherein:

FIG. 1 is an elevational rear view of a specific embodiment of the multipurpose scraping tool comprising the subject matter of the instant invention.

FIG. 2 is a sectional view taken substantially on line 2—2 of FIG. 1, showing the various components of the magnetic device.

FIG. 3 is a partial elevational front view of a specific embodiment of the instant invention showing the projected portions of the magnetic device attached to the scraping tool.

Referring now to the drawing, wherein like numerals indicate like elements throughout the several views, a

specific embodiment is generally indicated by the numeral **10**. As shown in FIG. 2, the multipurpose tool, or paint scraper **10**, includes blade member **12**, preferably of one-piece steel construction, said blade member **12** having an upper portion **14**, an intermediate portion **16**, and a lower portion **18**, all of which are integrally connected so as to form the basic tool structure.

Upper blade portion **14** is a solid cylinder of considerable weight relative to the remainder of blade **12**, having flattened front and rear surfaces **15**, **17** which are parallel to the flattened intermediate portion **16**. Edges **19**, **21**, chamfered at approximately 45°, are provided on cylindrical surfaces **15**, **17**, respectively. As is readily apparent, either surface **15** or surface **17** may be used as a hammer for driving nails, tacks, etc., into a wall.

Intermediate blade portion **16** extends forwardly from said upper portion **14** and is relatively flat, having a substantially rectangular cross-section. A pair of holes **22**, **24** spaced apart and located on the longitudinal axis of intermediate portion **16** provide attaching means for handle **30**. Handle **30** comprises front and rear sections **32**, **34**, each section having a pair of holes **36**, **38** spaced apart and located on the longitudinal axis of said sections **32**, **34**, which are aligned with holes **22**, **24** so as to permit the fastening of sections **32**, **34** to intermediate blade portion **16** with rivets **39**. In lieu of rivets **39** other mechanical fasteners, such as pins, screws, or chemical adhesives, such as epoxy resins, may be substituted therefor.

Sections **32**, **34** may be made of non-metallic materials, such as plastics, wood, rubber, or non-magnetizable metals, such as aluminum, glass, or magnetizable materials which are magnetically insulated from the magnetic device placed nearby. Sections **32**, **34** have flat parallel external and internal surfaces **40**, **42**, **44**, **46**, and said external surfaces **40**, **44** may be marked, or scored, in any fashion desired to provide additional gripping surface. Sections **32**, **34** have approximately uniform thicknesses throughout their length having sides **48** which taper downwardly from the wider upper end **50** to the narrower lower end **52**. Edge **54** of handle sections **32**, **34** is contoured in a concave manner so as to partially envelop the cylindrical upper blade portion **14**, or hammer, to which edge **54** is adjacently placed.

In this manner a reduced-width handle **30** which is easy to grip, covers the underlying intermediate blade portion **16** where it is secured thereto.

A recess, or shaped cavity **60** is provided in either one of said sections **32** or **34**, as shown in **32** in the drawing, said cavity being approximately centrally disposed and extending forwardly from internal surface **42** to form a first zone **62** of rectangular dimensions and parallel with surface **42**, a second zone **64** also of rectangular shape and extending from zone **62** forwardly, but of reduced area, and a third zone **66** partially extending from zone **64** and communicating with external surface **40** by a pair of rectangular conduits to form apertures **68**, **70** on surface **40**. Cavity **60** is dimensionally proportioned so as to receive and support the magnetic device **72** which is placed therein.

The magnetic device **72** includes a permanent magnet **74** and a magnetically adhering pole piece **76**, said permanent magnet **74** being a "bar magnet" having a substantially flattened rectangular shape. Permanent magnet **74** may be made of any material possessing sufficient magnetic strength to support scraping tool **10** when said tool is placed against an upstanding magnetizable surface. Pole piece **76** is of generally U-shaped dimensions, preferably of steel construction, and has a flattened middle portion **78** with perpendicular flange members or legs **80** projecting forwardly from middle portion **78** at its upper and lower ends. Flange members **80** have a cross-sectional

rectangular shape of approximately the same size as aperture **68**, **70**. Flange members **80** are of sufficient length to project beyond surface **40** after permanent magnet **74** and pole piece **76** are placed within second zone **72** of cavity **60**.

Middle portion **78** includes a front and rear surface **81**, **82** which are disposed parallel to intermediate blade portion **16** and is separated therefrom by a magnetically insulating member **84**. Insulating member **84**, which may be of a fibrous nature, is also of generally rectangular dimensions, is placed flat against surface **82** and fills first zone **62** of cavity **60**. In this manner, the pole piece **76** and permanent magnet **74** are insulated from intermediate blade portion **16**, thereby preventing the magnetization of said blade portion.

Lower blade portion **18** includes a triangular aperture **92** being approximately centrally located along the longitudinal axis of portion **18** wherein the apex of aperture **92** points downwardly. In order to provide the leverage for removing nails, lower blade portion **18** is bent at a position above aperture **92** and said portion shown at position **22** forms an angle of approximately 20° with the longitudinal axis, thereby extending in a direction away from the surface upon which the tool **10** is placed.

In using the above-described scraping tool as a hammer, the operator grasps handle **30** and proceeds to apply the upper blade portion **14** against the nail, or tack, by means of placing surfaces **15** or **17** directly in contact with said nail. By reversing the position of the tool in the user's hand, the user may then remove nails, or tacks, by inserting said nails, or tacks, through aperture **92** and by applying the proper leverage, remove the nail, or tack, from the surface.

In a similar fashion the operator may use tool **10** to scrape paint, varnish, or any other coated surface capable of being removed by the sharpened edge **90**. Putty may also be applied to cracks, holes, by the lower blade portion **18**.

Upon completion of any of the scraping, glazing, hammering, nail pulling, or puttying operations, the user can easily temporarily attach multipurpose tool **10** to any nearby magnetizable surface merely by placing magnetic device **72** of tool **10** against said surface whereby, by virtue of the magnetic forces induced within said surface the tool is firmly held in place. The magnetizable surface requires no added holders or additional magnetic devices to be effective. Once tool **10** is secured it remains out of the user's way, but within easy reach for further use. This is especially important when working on elevated structures, such as in new building construction, where the elimination of falling objects is especially noteworthy.

Thus, from the foregoing, it will be seen that the instant invention provides a multipurpose tool which is simple in design and manufacture having a magnetic device

attached thereto for attachment and subsequent detachment from any magnetizable surface.

While a preferred embodiment of the multipurpose scraping tool has been described in the foregoing description, it should be understood that this invention is not limited in its scope to the embodiment described, and variations in the form of the invention are contemplated thereby.

What is claimed is:

1. A multipurpose tool comprising an elongate blade having integral upper, intermediate, and lower portions; said upper portion comprising a generally cylindrical enlargement of considerable weight for use as a hammer, said intermediate portion comprising a generally flat relatively thin extension of said upper portion, said lower portion comprising a thin extension of said intermediate portion having a thickness substantially less than the thickness of said intermediate portion, a sharpened edge formed on said lower portion oppositely of said intermediate portion, a pair of handle sections positioned on opposite sides of said intermediate portion, means extending through said handle sections and said intermediate portion securing said handle sections to said intermediate portion, one of said handle sections having a cavity formed therein, a permanent bar magnet positioned in said cavity, a U-shaped pole piece having a pair of spaced apart free ends connected by a bight, said bight positioned in said cavity in contact with said bar magnet with said free ends extending outwardly through apertures in said handle to a point beyond said handle to contact a magnetizable surface thereby supporting said tool on said surface, and a magnetically insulating member in said cavity between said pole piece and said intermediate portion, said lower portion having a generally V-shaped aperture formed therein spaced inwardly from each of the side edges thereof, for removing tacks and nails.

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