

Dec. 5, 1961

T. L. CHRISTENSEN

3,011,194

PAINT SCRAPER ATTACHMENT FOR ELECTRIC DRILLS

Filed Dec. 4, 1958

2 Sheets-Sheet 1

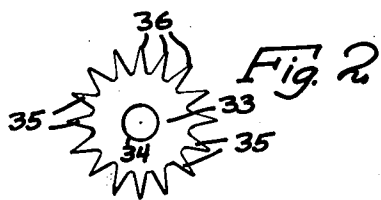


Fig. 2

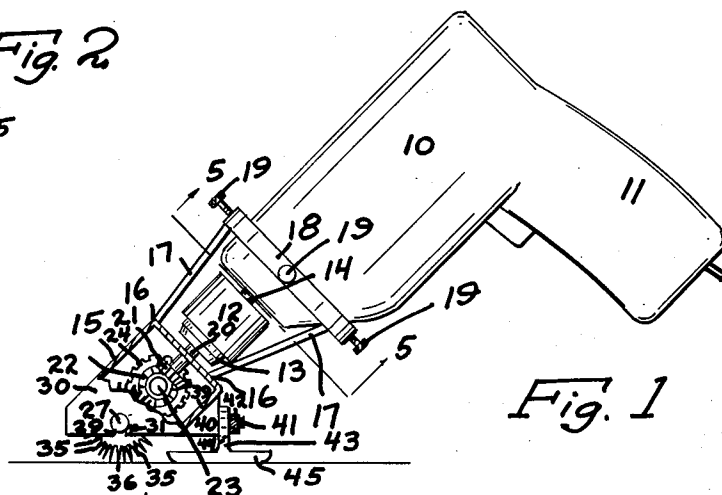


Fig. 1

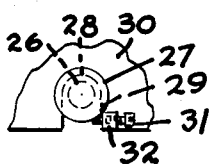


Fig. 4

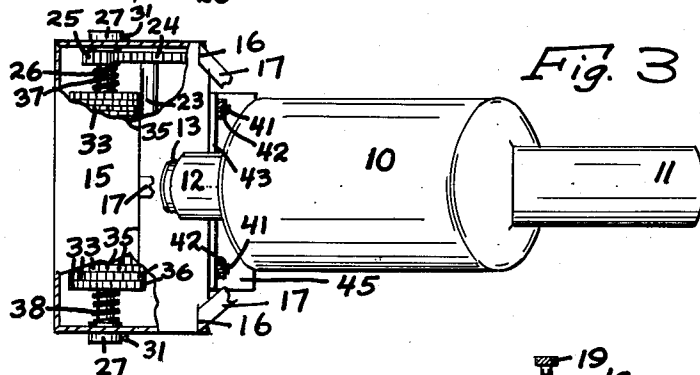


Fig. 3

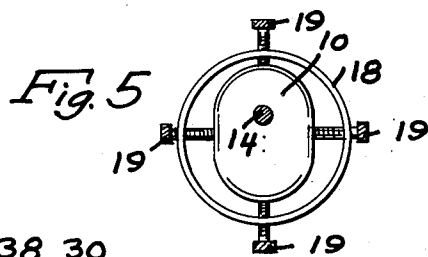


Fig. 5

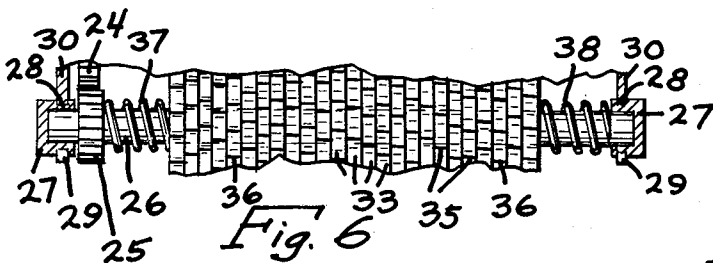


Fig. 6

INVENTOR.
Thorval L. Christensen
BY
Sam J. Slotby
ATTORNEY

Dec. 5, 1961

T. L. CHRISTENSEN

3,011,194

PAINT SCRAPER ATTACHMENT FOR ELECTRIC DRILLS

Filed Dec. 4, 1958

2 Sheets-Sheet 2

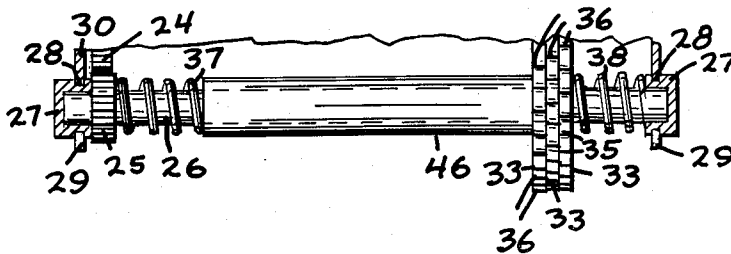
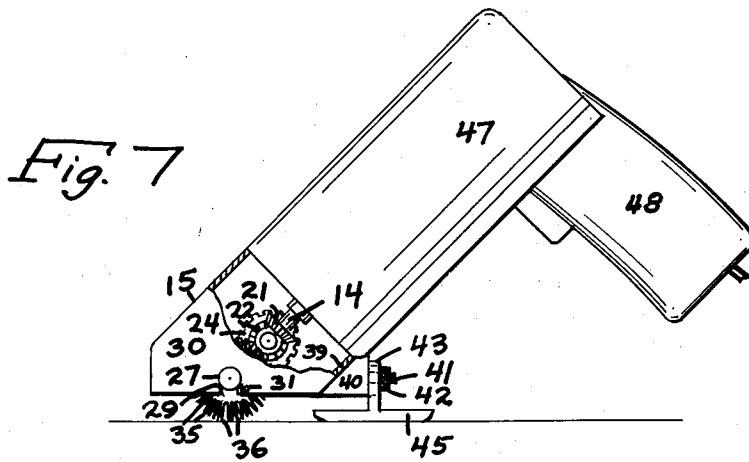


Fig. 8

INVENTOR.
Thorval L. Christensen
BY
Sam J. Slotky
ATTORNEY

1

3,011,194 PAINT SCRAPER ATTACHMENT FOR ELECTRIC DRILLS

Thorval L. Christensen, 3342 Dearborn Ave.,
Sioux City, Iowa

Filed Dec. 4, 1958, Ser. No. 778,192

1 Claim. (Cl. 15—93)

My invention relates to a paint scraper.

An object of my invention is to provide a paint scraper which can be provided as an accessory attachment to an ordinary electric drill.

A further object of my invention is to provide a paint scraper attachment for an electric drill which is efficient in operation in that it efficiently removes the paint surface and leaves a suitably textured surface for the next application of paint.

A further object of my invention is to provide an arrangement in which the scraper includes a plurality of toothed wheels which can freely slip when nails or other objects are struck without injuring the paint scraping arrangement.

With these and other objects in view, my invention consists in the construction, arrangement, and combination of the various parts of my device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

FIGURE 1 is a side elevation of the scraper with a portion thereof being taken in section,

FIGURE 2 is a detail of one of the scraping or cutting elements,

FIGURE 3 is a plan view of FIGURE 1 with portions removed,

FIGURE 4 is a detail,

FIGURE 5 is a sectional view of FIGURE 1 taken along the lines 5—5 thereof,

FIGURE 6 is an enlarged detail,

FIGURE 7 is a side elevation of a non-elected modification showing the device as used as a compact unit with an electric motor, and

FIGURE 8 is a further detail.

My invention contemplates the provision of a device which functions as a paint remover and which can be attached to a standard electric drill, my invention further contemplating a paint remover which can be electrically motor driven in a compact unit form.

I have used the character 10 to designate the electric motor of an electric drill having the handle 11, the character 12 indicating the usual chuck, and the character 13 the jaw portion, the character 14 indicating the motor driven shaft.

I have further used the character 15 to indicate a casing of my invention, to which is attached at 16 the spaced arms 17 which are attached to the ring 18, with which ring are threadably engaged the knurled screws 19, this arrangement thereby providing an adjustable arrangement for securing the casing 15 to the drill, the screws 19 permitting attachment thereto regardless of the shape of the drill (see FIGURE 5).

I have further used the character 20 to indicate a shaft which is of a suitable size to fit within the jaws 13 of the drill, the shaft 20 being attached to a bevel gear 21 which meshes with a further bevel gear 22, which bevel gear 22 is attached to the shaft 23, which shaft 23 is attached to a flat gear 24, which gear 24 meshes with a reduced size further pinion gear 25, the gear 24 being relatively larger than the gear 25 to provide a greater speed at the gear 25.

The gear 25 is securely attached to a transverse shaft 26 which is journaled within the end bearings 27, which

2

bearings include the recessed annular portions 28 to allow the bearings 27 to be placed within the lower slots 29 in either side casing wall 30, the small set screws 31 which pass through the further ears 32 providing means for securing the bearings 27 in place.

I have further used the character 33 (see FIGURE 2) to indicate the principal cutting elements of my paint remover, these members 33 including the central openings 34, the members 33 also including the radially extending teeth 35 having the relatively sharp edges 36.

Positioned between the gear 25 and the end-most of the members 33 is a relatively strong compression spring (see FIGURE 6) 37, a further compression spring 38 being positioned between the further end member 33 and the bearing 27, it being specifically noted that I have provided several of these members 33 in adjacent relation, these members fitting snugly against each other with their openings 34 receiving the transverse shaft 26.

The lower casing wall 39 includes a boss 40 extending therefrom, to which boss is attached a pair of threaded studs 41, which engage the knurled nuts 42, the character 43 indicating a vertical bracket having the slots 44 therein to receive the studs 41, the bracket 43 terminating in the lower horizontal plate 45.

The device is operated in the following manner. The shaft 20 is slipped into the chuck members 12 and 13 which are tightened, and the various screws 19 are also tightened to secure the arrangement to the drill, and thence the handle 11 is grasped and the motor is started which correspondingly causes the shaft 20 to rotate the gears 21 and 22 thereby rotating the shaft 23 and operating the gears 24 and 25, with the speed of the shaft 26 thereby being approximately doubled or considerably increased.

The plate 45 is rested upon the paint surface which is to be removed, this plate being adjustable so that any depth of desired cut can be effected, and the unit is pushed forwardly, and as a result the sharpened edges 36 of the members 33 due to the rapid rotation thereof will efficiently cut away the hardened paint surface.

Since the springs 37 and 38 will exert a constant pressure against the members 33, whenever a nail or other hard portion is struck, that particular member 33 will cease its rotation until the obstruction is passed, this feature thereby preventing undue injury to the device, and as will be noted from the various figures, the points 36 will be in offset relation since the members 33 are free to slip, however the spring pressure is sufficient to provide a firm cutting action.

I have found that this device efficiently removes the paint surface and can be used in any position, and leaves a satisfactory texture to the wood for the application of the next pain coat without unduly marring the surface.

FIGURE 8 illustrates an arrangement using the same device for removing putty for instance, and in this arrangement the bearings 27 are removed, and several of the units 33 are removed, and only two or three of these units are used and a spacer 46 is employed, and I have found this arrangement to work very efficiently for removing hardened putty.

FIGURE 7 illustrates a modification of the device wherein it is not an extra attachment but is a compact unit provided in one assembly with identical characters indicating identical parts, with the character 47 indicating an electric motor having the handle 48, the other portions being substantially the same with the exception that the arm 17, ring 18 and screws 19 are not used since this structure is formed as an integral unit.

It will now be noted that I have provided the advantages mentioned in the objects of my invention with further advantages being apparent.

Some changes may be made in the construction and arrangement of the parts of my invention without depart-

3

ing from the real spirit and purpose of my invention, and it is my intention to cover by my claim any modified forms of structure or use of mechanical equivalents which may be reasonably included within its scope.

I claim as my invention:

A paint scraper attachment for an electric drill comprising a shaft, a plurality of paint scraping members attached to said shaft, said paint scraping members having centrally positioned openings for receiving said shaft, and including radially extending teeth having sharpened peripheral edges, a pair of springs receiving said shaft and bearing against said paint scraping members, means for driving said shaft, said means including a gear attached to said shaft, one of said springs bearing against said gear, a further gear meshing with said gear, a further shaft, a bevel gear attached to said further shaft, a further bevel gear meshing with said bevel gear, a still further shaft attached to said further bevel gear, said still further shaft

4

being receivable within the chuck of a standard electric motor drill, a casing enclosing and supporting said shafts, the first mentioned shaft removably supported in said casing, the other of said springs bearing against the inside of said casing, means for securing said casing to said electric drill including arms extending from said casing and attachable to said drill.

References Cited in the file of this patent

UNITED STATES PATENTS

357,445	Bacon	Feb. 8, 1887
1,374,181	Bohlman	Apr. 12, 1921
1,663,059	Peterson	Mar. 20, 1928
2,085,202	Sauer	June 29, 1937
2,104,900	Holhut	Jan. 11, 1938
2,801,432	Randrup	Aug. 6, 1957