

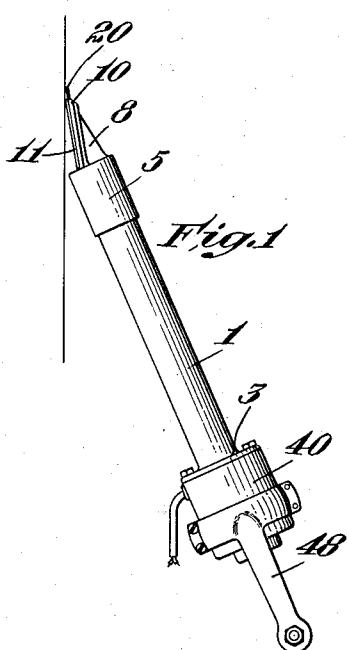
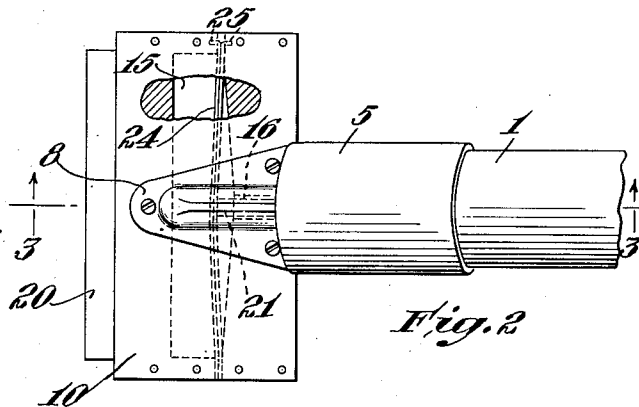
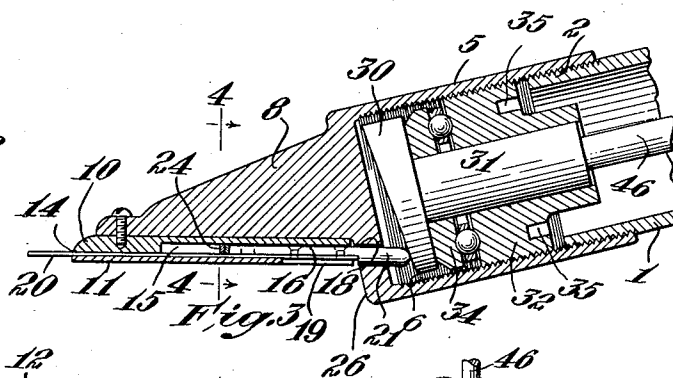
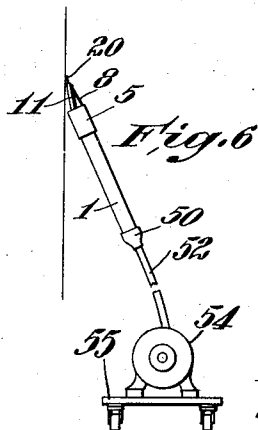
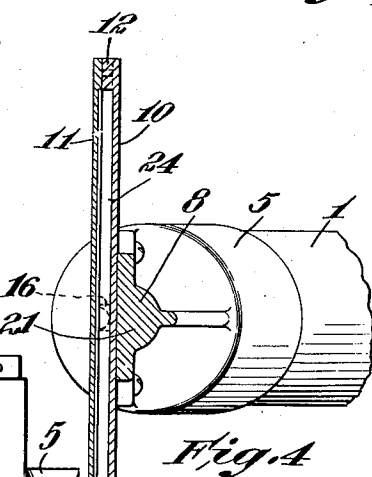
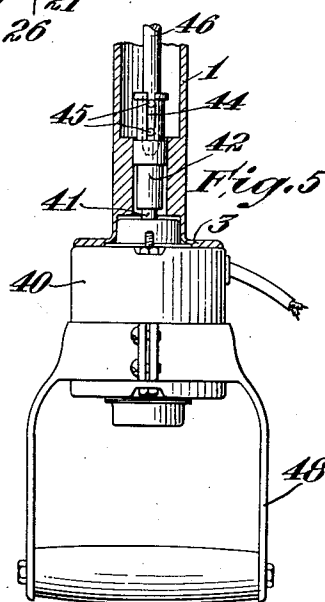
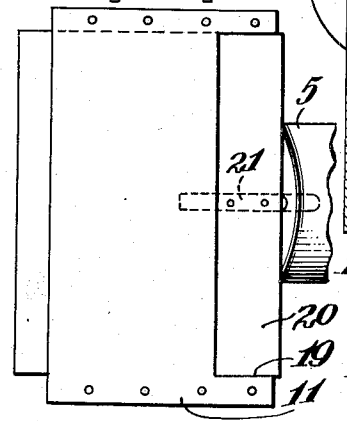
June 6, 1939.

T. E. CHERRY

2,161,335

SCRAPING DEVICE

Filed March 4, 1937



Inventor
Thomas E. Cherry
by Robert Cushman Nordberg.
Att'ys.

UNITED STATES PATENT OFFICE

2,161,335

SCRAPING DEVICE

Thomas E. Cherry, Cambridge, Mass.

Application March 4, 1937, Serial No. 129,046

2 Claims. (Cl. 30—272)

This invention relates to power actuated scraping devices suitable for removing paper, paint and other coating materials from a wall, ceiling or the like surface.

5 The principal objects of the invention are to provide a scraper device which is of strong and durable construction and which is reliable and efficient in operation; to provide a scraper which is so constructed that the actuating mechanism 10 may be adjusted to vary the effective stroke or oscillatory movement of the scraper blade or knife, thus not only permitting a more efficient operation of the device on different types of surfaces but also enhancing its range of usefulness; 15 and to provide a scraper which is so designed that particles removed from a wall or other surface can not work their way into the vicinity of the actuating mechanism.

Further objects will be apparent from a consideration of the following description and the 20 accompanying drawing, wherein:

Fig. 1 is a side elevation of a scraper constructed in accordance with the present invention and illustrating one manner of using the 25 same;

Fig. 2 is an enlarged top plan view, with parts broken away and shown in section, of the front end of the device shown in Fig. 1;

Fig. 3 is an enlarged section on the line 3—3 of Fig. 2;

Fig. 3^a is a fragmentary bottom plan view, on a reduced scale, of the nose piece;

Fig. 4 is a section on the line 4—4 of Fig. 3;

Fig. 5 is an enlarged view, partly in section, 35 of the rear end of the device shown in Fig. 1; and

Fig. 6 is a view showing a modification and illustrating the use of the device for removing paper, paint or other coating material from an upright wall.

40 The embodiment shown in Figs. 1 to 4 comprises an elongate tubular body 1 having at one end a threaded peripheral flange 3. A cap 5, having an interiorly threaded wall 6, is carried by the front end of the body 1, and the outer end of this cap is provided with a nose piece 8 45 to which is rigidly secured a rectangular casing consisting of an upper plate 10, a lower plate 11, and beads or spacers 12 provided along the side edges of one of the plates to hold them in spaced relation so as to provide an elongate narrow slot or shallow chamber 14 which extends from the front edge of the casing to its rear edge, as shown in Fig. 3. The upper plate 10 is formed with a recess 15 (Figs. 2 and 3) which extends 50 from adjacent one lateral edge to adjacent the

opposite edge, and the rear margin of the plate 10 is formed with a groove 16 which is in alignment with an opening 18 formed in the outer end of the cap proper, as shown in Fig. 3. The rear edge of the plate 11 is formed with a recess 19 5 (Figs. 3 and 3^a) which provides a discharge opening communicating with the interior of the nose piece 8 and through which scrapings accumulating within the nose piece may be discharged.

A scraper blade 20 has a snug sliding fit within the slot 14 and an arm 21 is riveted or otherwise 10 secured to the rear edge of the blade, as shown more clearly in Fig. 3. The arm 21 loosely fits in the groove 16 and extends through the opening 18 into the interior of the cap or tubular body 1. A pair of narrow leaf springs 24 are 15 disposed in the recess 15 and one end of each of the springs is bent to provide a lug or ear 25 which snugly fits into a recess formed in the lateral margin of the plate 10, as shown in Fig. 20 2, and their opposite ends loosely fit in a corresponding opening in the opposite edge, thus providing an anchoring means which not only holds the springs in position within the recess 15, but also permits flexing.

25 The fixed end of the arm 21 projects above the upper surface of the blade 20 and provides, in effect, an abutment against which the springs 24 normally act to hold the scraper blade and arm in the retracted position. The parts are 30 preferably so constructed and arranged that when the scraper blade and arm are in retracted position, the springs 24 are slightly bowed and the front edge of the scraper blade projects outwardly beyond that of the casing, as shown in 35 Figs. 2 and 3. The inward movement of the scraper blade and arm is limited by the engagement of the rear edge of the blade with the end 26 (Fig. 3) of the cap, which constitutes, in effect, a stop limiting the inward movement of 40 the scraper blade and arm.

Mounted within the lower end of the body is an oscillating mechanism, herein shown by way of example, as comprising a plate cam or swash plate 30 mounted on or integral with one end 45 of a stub shaft 31 rotatable in a cylindrical bearing 32, there being a thrust bearing 34 interposed between the bearing 32 and the inner end or surface of the cam 30. The periphery of the bearing 32 has a screw-threaded engagement 50 within the bore of the cap 5 and in order to facilitate insertion, removal, and adjustment of the bearing 32, its inner end is formed with diametrically opposite openings 35 (Fig. 3) to accommodate a spanner wrench or the like tool. 55

The parts are so constructed and arranged that the cam 30 is normally positioned to engage the end of the arm 21, at least during a part of one revolution, so that rotation of the cam causes the arm and associated scraper blade to reciprocate or oscillate, the stroke or magnitude of the oscillatory movement being governed by the position of the cam relative to the end of the arm. The maximum stroke may be secured by positioning the bearing 32 so that the dwell portion of the cam 30 is maintained in engagement with the end of the arm 21, and if a shorter stroke is desirable, it is merely necessary to adjust the position of the bearing 32 inwardly, relative to the end of the arm, so that the arm 21 is engaged by the cam 30 only during a part of one revolution.

Referring to Fig. 5, an electric motor 40 is rigidly secured to the flange 3 of the body 1, so that its driving shaft 41 projects into the bore of the body and a coupling 42 is pinned or otherwise secured to the shaft 41. The inner end of the coupling is formed with diametrically disposed slots 44 which receive a pair of pins 45 carried by the end of a driving shaft 46 which extends axially through the body 1. The opposite end of the driving shaft 46 is connected to or integral with the stub shaft 31, as shown in Fig. 3. A handle 48 is attached in any suitable manner to the casing of the motor.

In the embodiment shown in Fig. 6, the tubular body and front end of the device are substantially identical to the previously described embodiment and the same reference numerals are applied to like parts. However, in place of the motor 40 and handle 48 there is provided a cap 50 which carries a coupling member connecting the driving shaft 46 to one end of a driving cable 52, the other end of the driving cable being connected to an electric motor 54 mounted on a truck 55 which may be conveniently drawn or moved from place to place.

It will be noted that in a device constructed in accordance with the present invention the stroke or magnitude of the oscillatory movement of the scraper blade may be varied in accordance with the particular type of material being removed. For example, in removing wall paper it may be desirable for the oscillating mechanism to impart the maximum stroke to the scraper blade, in which case the cap 5 and associated parts are first removed and the bearing 32 is then adjusted longitudinally so that the end of the arm engages the dwell portion of the cam 30, as previously explained. But should it be desirable to shorten the stroke, then the bearing 32 may be moved inwardly away from the end of the arm 21 until its position is such that the cam 30 causes a looser displacement of the arm 21. By reason of this adjustment a more efficient operation is possible, and furthermore

the device may be used to remove various types of materials which would otherwise be difficult, if not practically impossible.

It will be further noted that the nose piece or casing which slidably supports the scraper blade is separate from the housing for the actuating mechanism, and although particles scraped from the wall or other surface may work their way into the casing or nose piece, they are discharged through the opening 19 at the rear and hence can not work their way into the interior of the housing or body where they would tend to clog or impair the operation of the oscillating mechanism.

While I have shown and described one desirable embodiment of the invention, it is to be understood that this disclosure is for the purpose of illustration and that various changes in shape, proportion, and arrangement of parts, as well as the substitution of equivalent elements for those herein shown and described, may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

I claim:

1. A scraper device comprising a tubular body, a nose piece rigidly secured to the front end of said body, said nose piece having a slot extending from its outer edge inwardly toward said body and an opening providing a communication between said slot and the interior of said body, said nose piece also having a discharge opening communicating directly with the inner end of said slot, a scraper blade mounted in said slot for oscillatory movement, said scraper blade having an arm extending through said opening into the interior of said body, and actuating means constructed and arranged to actuate said arm, thereby to effect the oscillation of said scraper blade and the discharge of any particles in said slot through said discharge opening.

2. A scraper device comprising a tubular body, a nose piece rigidly secured to the front end of said body, said nose piece having a slot extending from its outer edge inwardly toward said body and an opening providing a communication between said slot and the interior of said body, said nose piece having a discharge opening through which particles accumulating in its interior may be discharged, a scraper blade mounted in said slot for oscillatory movement, said scraper blade having an arm extending through said opening into the interior of said body, resilient means within said nose piece yieldingly urging said scraper blade inwardly, and oscillating means disposed within the front end of said body, said oscillating means being engageable with said arm to effect the oscillation of said scraper blade.

THOMAS E. CHERRY.