May 27, 1947. W. F. ALLEN 2,421,231

CHIPPING APPARATUS

Filed Feb. 15, 1945

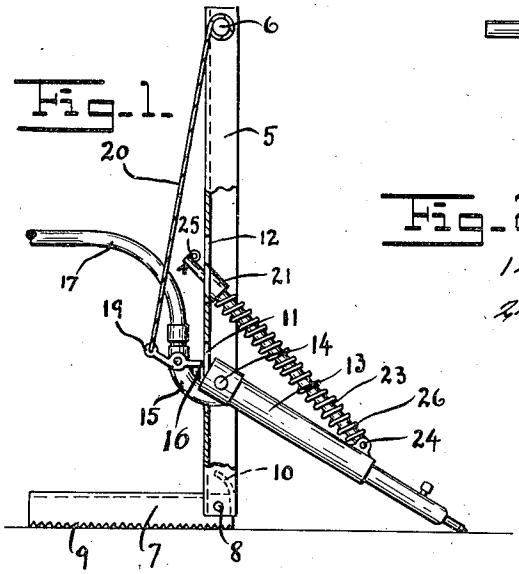


Fig. 1.

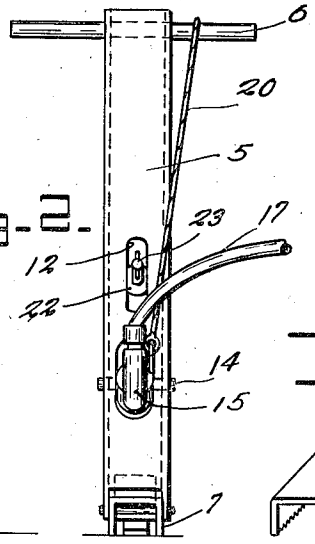


Fig. 2.

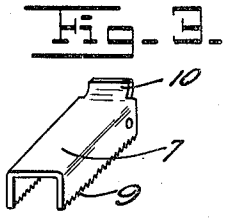


Fig. 3.

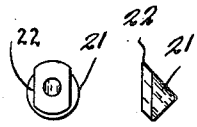


Fig. 4. Fig. 4A.

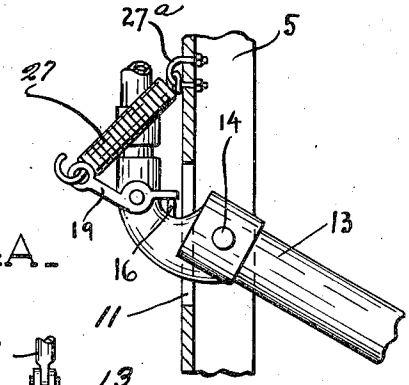


Fig. 5.

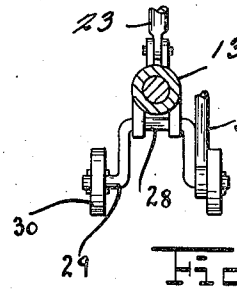


Fig. 7.

Fig. 6.

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Patented May 27, 1947

2,421,231

UNITED STATES PATENT OFFICE

2,421,231

CHIPPING APPARATUS

Walter F. Allen, Los Angeles, Calif.

Application February 15, 1945, Serial No. 578,008

2 Claims. (Cl. 29—81)

1

The present invention relates to new and useful improvements in machines for cleaning, scaling or chipping the surfaces of metal and other work and has for its primary object to provide a portable support for a pneumatically operated chipping machine and adapted upon a pre-determined movement of the support to open and close the air valve for the machine.

A further object of invention is to provide a portable support for a pneumatic chipping tool and which embodies simple and practical structural features and in which the operation of the tool may be controlled by a workman in an upright position and without bending over the work and in which the support may be manufactured at relatively low cost and which at the same time is strong and durable, easy to manipulate and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view with the parts broken away and shown in section.

Figure 2 is a rear elevational view.

Figure 3 is a perspective view of the base for the support.

Figure 4 is an end elevational view of the guide for the spring biased rod of the chipping tool.

Figure 4*a* is a side elevational view thereof.

Figure 5 is a fragmentary vertical sectional view of a modified control device for the air valve.

Figure 6 is a side elevational view of a modified form of invention, and

Figure 7 is a fragmentary sectional view taken substantially on the line 7—7 of Figure 6.

Referring now to the drawing in detail and first with respect to the form of invention illustrated in Figures 1, 2, and 3 inclusive, the numeral 5 designates an upstanding channel shaped supporting member having a handle 6 projecting horizontally from opposite sides thereof at its upper end, the lower end of the support being pivoted at one end of an inverted channel-shaped base 7 by means of a pin 8.

The lower edges of the base 7 are formed with teeth 9 adapted for biting into the surface on which the device is supported to prevent slipping thereon.

The front end of the base 7 is formed with an upwardly and rearwardly extending stop 10 adapted for engagement by the lower portion of

2

the support 5 to limit forward tilting movement thereof.

The support 5 is formed with a lower vertically extending slot 11 and an upper vertically extending slot 12.

A pneumatically operated chipping tool 13 is pivoted at its rear end on the lower portion of the support 5 by means of a pin 14 and with its cutting or work engaging end projecting downwardly and forwardly from the support.

The tool 13 includes a rearwardly and upwardly extending pipe 15 inserted through the opening 11 and in which a depressible air valve 16 is operated by means of a pivoted lever 19. The upper end of the pipe 15 has an air hose 17 attached thereto leading to a suitable source of air under pressure.

One end of the lever 19 is adapted for engaging the valve 16 and to the other end of the lever is attached a cord or other flexible member 20 which extends upwardly to the handle 6 for attaching thereto.

A tubular guide 21 has a reduced flat end 22 slidably mounted in the slot 12 and through which a rod 23 is slidably inserted, one end of the rod being pivoted as at 24 to the forward portion of the tool 13 and the other end of the rod has a cotter key or pin 25 inserted transversely thereof to limit forward movement of the rod in the guide.

A coiled spring 26 is positioned on the rod between the guide 21 and the pivot 24 and exerts its force downwardly on the tool 13 so as to yieldably maintain its front end into engagement with the work.

In the form of invention illustrated in Figures 5 to 7 inclusive the lever 19 for operating the valve 16 is controlled by a coiled spring 27 loosely connecting the lever to a U-bolt 27*a* attached to the support 5 above the pivot 14 of the pneumatic chipping tool 13, tension being placed on the spring by a forward tilting movement of the support.

Where the device is constructed of a relatively large size, a carriage may be provided to facilitate transportation thereof and which comprises an axle 28 journaled beneath the chipping tool 13 and having crank arms 29 at each end on which rollers or wheels 30 are journaled.

A rod 31 is attached to one of the crank arms 29 of the axle and extends upwardly and rearwardly for pivotal connection to the lower end of a lever 32 which is pivoted at its upper portion on a pin 33 projecting from the side on the support 5. The upper end of the lever is formed

with a quadrant 34 having notches 35 formed therein and adapted for selectively receiving the lower end of a spring projected detent 36 slidably mounted in guides 37 on the sides of the support. A coiled spring 38 carried by the detent and positioned between the upper guide 37 and a collar 39 secured to the detent urges the detent downwardly into engaged position with one of the notches 35 to secure the rollers 30 into either their raised or lowered position.

In the operation of the device, the spring 26 maintains the support 5 in an upright position and at the same time urges the chipping tool 13 downwardly. One or both feet of the operator may be placed on the base 7 to keep the tool from slipping.

By tilting the support 5 forwardly the cord 20 will pull the rear end of the lever 19 upwardly and lower the front end of the lever to depress the valve 16 and admit compressed air to the tool for operating the same.

The valve 16 is of a conventional spring projected type and when the support 5 is returned to its upright position the lever will release the valve to permit closing thereof.

It is believed the details of construction, operation and advantages of the device will be readily understood from the foregoing without further detailed explanation.

I claim:

1. In a device of the class described, a base, an upright support pivoted on said base for swinging movement, a pneumatic tool pivoted at one end on the support to incline downwardly therefrom into work engaging position and permit swinging of the support relative to the tool in the direction of inclination of the tool toward the work, an air control valve mounted on said tool and normally closed, and means operative by swinging of said support to open the valve comprising a valve lever, and a flexible pull connection between said lever and support.

2. In a device of the class described, a base, an upright support pivoted on said base for swinging movement, a pneumatic tool pivoted at one end on the support to incline downwardly therefrom into work engaging position and permit swinging of the support relative to the tool in the direction of inclination of the tool toward the work, an air control valve mounted on said tool and normally closed, means operative by swinging of said support to open the valve, and spring means connecting said support and tool and yieldingly opposing swinging of said support when the tool is engaged with the work.

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