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DEVICE FOR DRESSING GRINDING WHEELS

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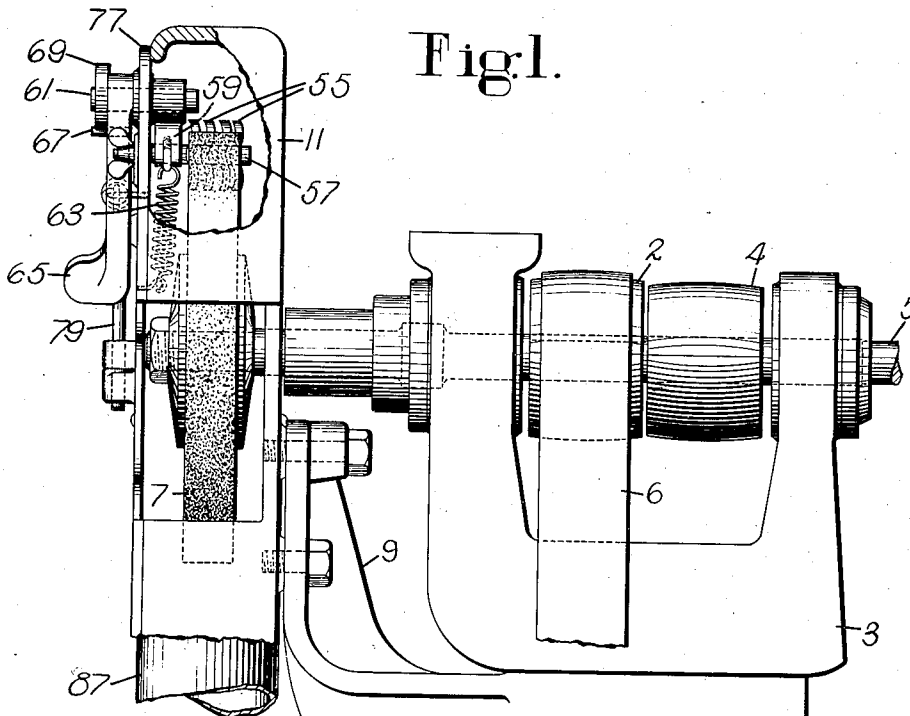
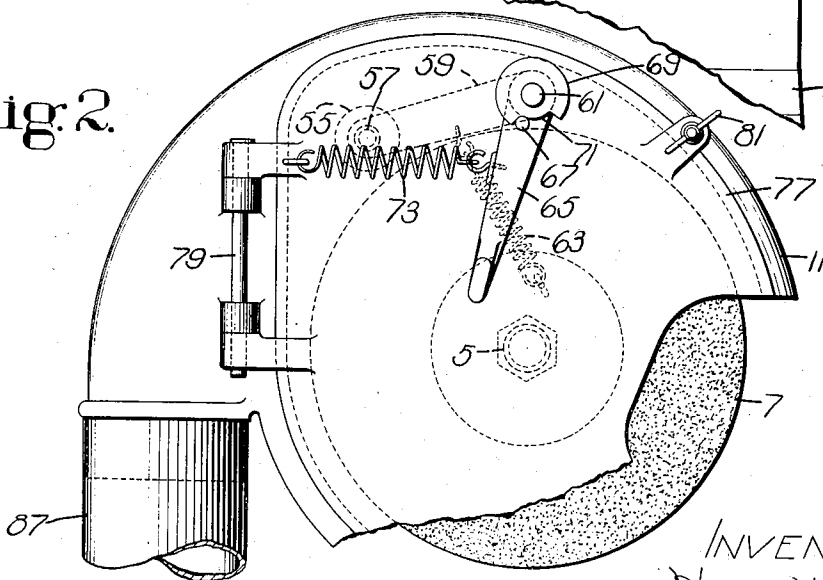


Fig. 2.



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DEVICE FOR DRESSING GRINDING WHEELS

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Original application April 21, 1932, Serial No.
606,691. Divided and this application May
29, 1934, Serial No. 728,146. In Great Britain
May 20, 1931

5 Claims. (Cl. 125—11)

This invention relates to devices for dressing
abrading wheels and is herein illustrated as em-
bodied in an abrading machine of the character
disclosed in my copending application for Let-
ters Patent of the United States Serial No.
606,691, filed April 21, 1932, of which this appli-
cation is a division.

It is an object of the invention to provide an im-
proved device for dressing grinding wheels, which
device may be conveniently operated and is so ar-
ranged as to render both itself and the abrading
tool readily accessible. In accordance with a
feature of the invention, there is provided in com-
bination with an abrading wheel a dressing tool
mounted for movement toward and from the
wheel, means for pressing the dressing tool with
predetermined force against the abrading wheel,
means for normally holding the dressing wheel
away from the abrading wheel, and operator-
controlled means for releasing the dressing tool
from the holding means to render operatively the
pressing means. In the illustrated machine, a re-
latively weak spring is provided for urging the
dressing tool toward the abrading wheel and a
relatively strong spring is provided for normally
holding the dressing tool away from the abrading
wheel. The device is illustrated as mounted upon
the hinged door of a dust hood associated with
the abrading wheel, so that when the door is open
both the dressing device and the abrading wheel
will be readily accessible.

These and other features of the invention will
be described as embodied in an illustrative ma-
chine and pointed out in the appended claims.

Referring now to the accompanying drawing,

Fig. 1 is a view in front elevation showing the
head of the machine; and

Fig. 2 is a view in side elevation of the parts
seen in Fig. 1 looking from the left.

The frame of the illustrated machine comprises
a vertical column 1 having a head casting 3 at
its upper end in which is supported a horizontal
shaft 5 extending from left to right of the opera-
tor as he stands in front of the machine. The
horizontal shaft is provided with fixed and idler
pulleys 2 and 4, respectively, and a belt 6 driven
from any suitable source of power may be shifted
from the idler pulley 4 to the fixed pulley 2 to
start the machine. A grinding wheel 7 is secured
to the left hand end of the shaft to be rotated
thereby. A bracket 9 is secured to the machine
head and extends close to the grinding wheel 7
and has bolted to it a circular dust collecting
hood 11 enclosing the wheel 7. The hood 11 has
an outlet opening in its rear portion, from which

outlet opening a suction conduit 87 extends down-
wardly. The suction conduit 87 is connected to
the usual exhaust blower (not shown) for dispos-
ing of dust which arises from the operation of
the wheel 7 upon the work.

In order to prevent the surface of the grinding
wheel from becoming glazed by its grinding ac-
tion on insoles a dressing wheel 55 is provided
which can be lowered into contact with the pe-
riphery of the wheel and serves by pressing on the
latter to keep its surface rough. This dressing
wheel 55 comprises a number of corrugated steel
discs mounted side by side on a pin 57 which is
secured in the rear end of a rocker arm 59 which
is housed inside the dust hood 11 and is secured at
its forward end to a freely rotatable shaft or
pivot 61 which extends through the left hand side
of the dust hood surrounding the wheel. A spring
63 is secured at one end to the arm 59 which
carries the dressing wheel and at the other end
to a hook on the dust hood and tends to pull the
dressing wheel down on to the periphery of the
grinding wheel. A hand lever 65 is freely mount-
ed on the pivot 61 for the arm 59 on the outside
of the dust hood and has a pin 67 secured to it
close to the pivot which pin extends towards the
left. A cap member 69 is secured to the extreme
left hand end of the pivot 61 and has an arcuate
slot 71 formed in it into which slot extends the
pin 67 secured to the hand lever 65. A spring
73, which is stronger than the spring 63 which is
connected to the arm 59 carrying the dressing
wheel, is secured to the hand lever 65 and tends
to pull the latter rearwardly so that the pin 67 se-
cured to the hand lever presses against the rear-
ward end of the slot 71 formed in the cap member
69 and thus lifts the arm 59 carrying the dressing
wheel away from the grinding wheel. By pulling
the hand lever 65 forwardly against the action of
the spring 73 the pin 67 can be retracted from
the rearward end of the slot 71, thereby enabling
the spring 73 to press the dressing tool against
the grinding wheel. It will be noted that the
pressure of the dressing tool against the grinding
wheel is not derived from the lever 65 but from
the spring 63, and is accordingly predetermined.
If, however, a greater pressure is desired, the op-
erator can pull the lever 65 forwardly far enough
to cause the pin 71 to bear against the forward
end of the slot 71, thus transmitting additional
pressure to the dressing tool. Immediately the
hand lever 65 is released the dressing wheel is
raised owing to the rearward movement of the
hand lever under the action of the spring 73 which
is connected to it.

In order to allow a free access to the grinding wheel the left hand side of the dust hood which carries the pivot 61 for the link 59 is formed as a door 77 which is secured to the dust hood on a vertical pivot pin 79 near to its rear side. A thumb screw 81 normally holds the door 77 clamped in closed position but by release of the thumb screw the door can be swung open and the grinding wheel can be easily seen and reached. Furthermore, when the door is open the dressing tool and its associated mechanism are also accessible.

Having described the invention, what is claimed as new and desired to be secured by Letters Patent of the United States is:

1. In combination with an abrading wheel, a dressing tool mounted for movement toward and from the abrading wheel, means for pressing said dressing tool with predetermined force against the abrading wheel, means for normally holding said dressing tool away from the abrading wheel, and operator-controlled means for releasing said dressing tool from said holding means to render operative said pressing means.

2. In combination with an abrading wheel, a dressing tool mounted for movement toward and from the abrading wheel, a relatively weak spring for urging said dressing tool toward the abrading wheel, a relatively strong spring for normally holding said dressing tool away from the abrading wheel, and operator controlled means for overcoming said relatively strong spring to enable said relatively weak spring to press the dressing tool against the abrading wheel.

3. In combination with an abrading wheel, a dressing tool mounted for movement toward and from the abrading wheel, a relatively weak spring for urging said dressing tool toward the abrading wheel, an operating lever, a lost-motion connection between said operating handle and said dressing tool, and a relatively strong spring acting upon said operating lever in a direction to

maintain said dressing tool out of engagement with the abrading wheel, whereby, when said operating lever is manually moved in opposition to said relatively strong spring said relatively weak spring will be free, by reason of said lost-motion connection, to press said dressing tool with predetermined force against the abrading wheel.

4. An abrading machine comprising an abrading wheel, a dust hood associated with said abrading wheel, a shaft journaled in and extending through a wall of said dust hood, an arm secured to said shaft within said dust hood, a dressing tool carried by said arm and movable into engagement with said abrading tool upon swinging movement of said arm, a relatively weak spring constructed and arranged to urge said dressing tool toward said abrading wheel, an operating handle freely pivoted upon said shaft outside of said dust hood, a lost-motion connection between said operating handle and said shaft, and a relatively strong spring acting upon said operating handle to cause the operating handle, through said lost motion connection, normally to hold said shaft in a position to maintain said dressing tool out of engagement with said abrading wheel against the opposition of said relatively weak spring, said relatively weak spring serving, when the operating handle is moved in opposition to said relatively strong spring, to press said dressing tool against said abrading wheel.

5. An abrading machine comprising an abrading wheel, a dust hood partially surrounding said wheel, said hood having a hinged door adjacent to a side face of said wheel, a tool carried by said door for dressing the operating surface of said abrading wheel, and operator-controlled means for causing said dressing tool to engage the operating surface of said abrading wheel when said door is closed.

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