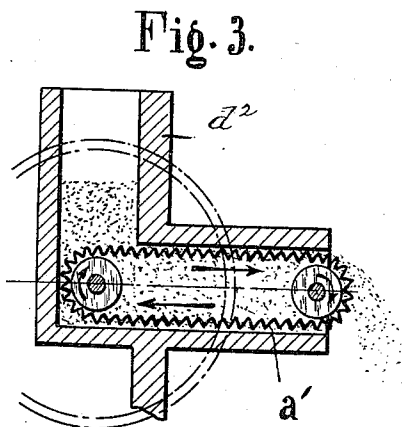
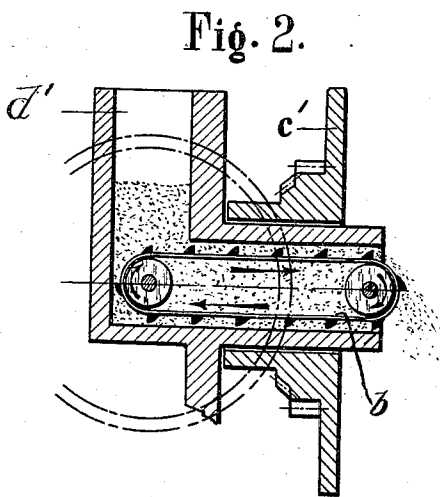
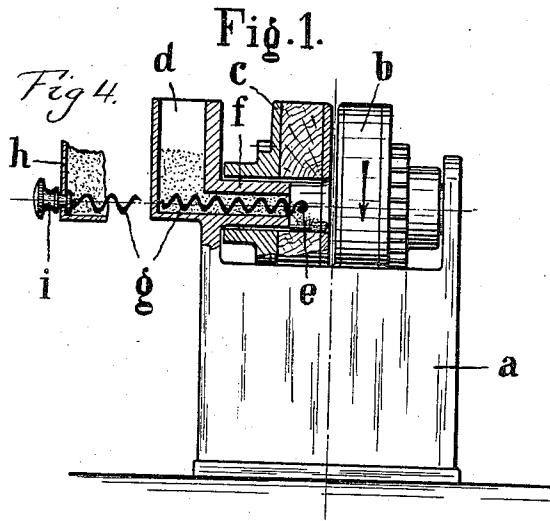


W. ABEL.
KNIFE CLEANING MACHINE.
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1,059,652.

Patented Apr. 22, 1913.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLY ABEL, OF BERLIN-SCHÖNEBERG, GERMANY.

KNIFE-CLEANING MACHINE.

1,059,652.

Specification of Letters Patent.

Patented Apr. 22, 1913.

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To all whom it may concern:

Be it known that I, WILLY ABEL, manufacturer, a subject of the German Emperor, and resident of 7/8 Geneststrasse, Berlin-Schöneberg, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Knife-Cleaning Machines, of which the following is a specification.

The invention relates to a machine for cleaning knives and the like by means of cleaning disks, to which the cleaning medium is supplied from a container.

Machines of this kind are known, in which the cleaning medium is conveyed by shovels to the cleaning surfaces. Here, however, the cleaning medium is positively moved during the first part of its travel only, while it is left to itself during the latter part of its travel and is supposed to reach the cleaning surfaces by gravity or by the centrifugal force. It is unavoidable for the cleaning medium to be scattered and wasted during this part of its travel. This trouble is remedied by the present invention by that the cleaning medium is positively moved till up to the cleaning surfaces as far as this is practically possible and necessary.

The conveying mechanism for the cleaning medium may be driven in any suitable manner according to requirement and practicability, that is either by hand or positively by some moving part of a machine. This positive drive of the conveying device may also be disconnected while the machine is working and may be operated for a given or any length of time, say by the arrangement of a switch, which again may be operated either by hand or automatically by the machine.

The constructional forms of the present invention shown in the accompanying drawings illustrate the novel design and the cleaning machine to which this improvement refers, in their principal parts only. All parts have been omitted which do not directly refer to the present improvement.

Figure 1 is an elevation of the machine with parts shown in cross section. Fig. 2 is a sectional view of a modified form of the invention and Fig. 3 is a similar view of still another form. Fig. 4 is a sectional detail of a modification of Fig. 1.

a is the body of the machine; b are the cleaners (cleaning disks). They consist generally, as may be seen from the section of the left hand disk, of the pad forming

the cleaning surface, made of leather or the like, a backing and the part c , on which the cleaning disk proper b is secured.

d is the container for the cleaning powder. The communicating passage between this container and the opening e in the cleaning disk passes through the bearing pin f , on which the disk b revolves and which is fitted to the body a , to which also the container with the cleaning powder is secured. From the cleaning disk or its bore e a worm conveyer extends through the passage f into the container d . The conveyer g is secured with its one end within the bore e in the disk b . When the disk revolves the worm conveyer must therefore necessarily revolve with it whereby the cleaning medium is conveyed from the container d to and between the cleaning disks. For obtaining this object it is not necessary for the conveyer to reach up to the cleaning surfaces, and it will be sufficient if it reaches so far as it is practically necessary and advisable. The cleaning medium moved by the conveyer will always push that part of this medium, which is ahead of it, forward, as far as this may be still necessary, after the bulk of the cleaning medium has been advanced through the disk till up to close to the cleaning surfaces. If necessary such a conveyer may also be provided in both cleaning disks. The conveying means may furthermore be of any other suitable type. The worm conveyer may also be so arranged, as to be operated by hand instead of by the machine. For this purpose it is only necessary to let the conveyer penetrate, as shown in a part of the drawing, the wall h of the container d , and make it in form of a handle i , a knob or the like as shown in Fig. 4. In such case of course the other end of the conveyer must not be joined to the disk b .

Fig. 2. This constructional form consists essentially in that the belt elevator a conveys the cleaning medium from the container d' through the cleaning disks c' to the operative surfaces of the latter. This small elevator may also be arranged within the hollow disk spindle and be either operated by hand or driven by the machine, and may run continuously or intermittently, as has been hereinbefore stated. According to their purpose the elevator buckets can be of course of a very small size only in so small a machine, as it will be sufficient to supply a small quantity of cleaning medium only

particularly if the supply is a continuous one. In such case therefore the elevator may consist of a flexible belt only fitted with small shovel shaped barbs, recesses or the like.

A very simple and according to the purpose very practical type of elevator belt is shown in Fig. 3. Here the elevator belt consists of a spiral only, which is carried as an endless band over guide rollers.

In the open spiral the cleaning powder is received where it will be accordingly conveyed. An advantage of this spiral belt consists in that the same will generally remain well under tension in consequence of its inherent elasticity, and will for the same reason vibrate during operation, so that the mostly very finely grained, dense and cohering powder is loosened and will more easily fall into the elevator or the open spiral and again out of the same.

A smooth plain endless belt, guided in the same manner as this elevator belt, would not meet its purpose as it would in consequence

of its smoothness pass ineffectively beneath the cleaning medium piled on it.

I claim:

1. A knife cleaning machine with perforated cleaning disks, through which the cleaning medium reaches the cleaning surfaces, means for positively conveying the cleaning medium up to the cleaning surfaces, said means consisting of an endless belt conveyor.

2. A knife cleaning machine with perforated cleaning disks, through which the cleaning medium reaches the cleaning surfaces, means for positively conveying the cleaning medium up to the cleaning surfaces, said means consisting of a belt elevator arranged in form of a spiral.

In testimony whereof I have hereunto set my hand, this 10th day of April, 1911, in the presence of the subscribing witnesses.

WILLY ABEL.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.