E. W. KOTTUSCH.

KNIFE CLEANING MACHINE.

APPLICATION FILED JULY 6, 1911.

1,033,908.

Patented July 30, 1912.

2 SHEETS—SHEET 1.

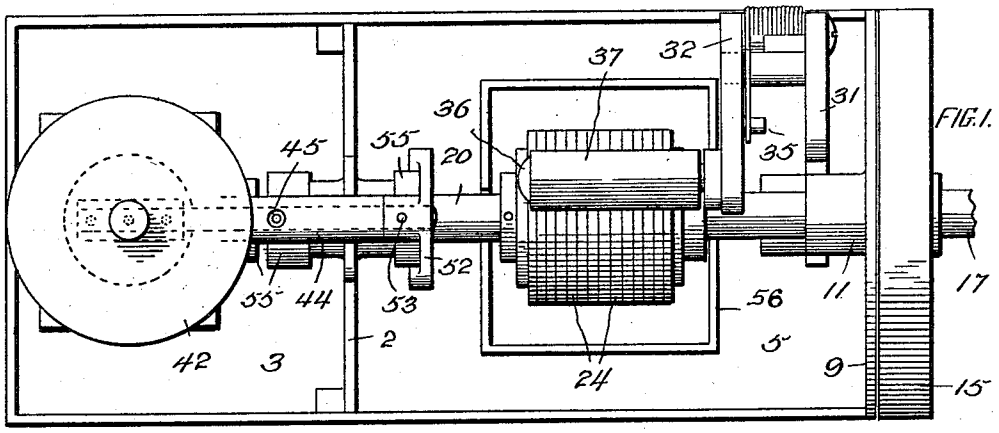

FIG. 1.

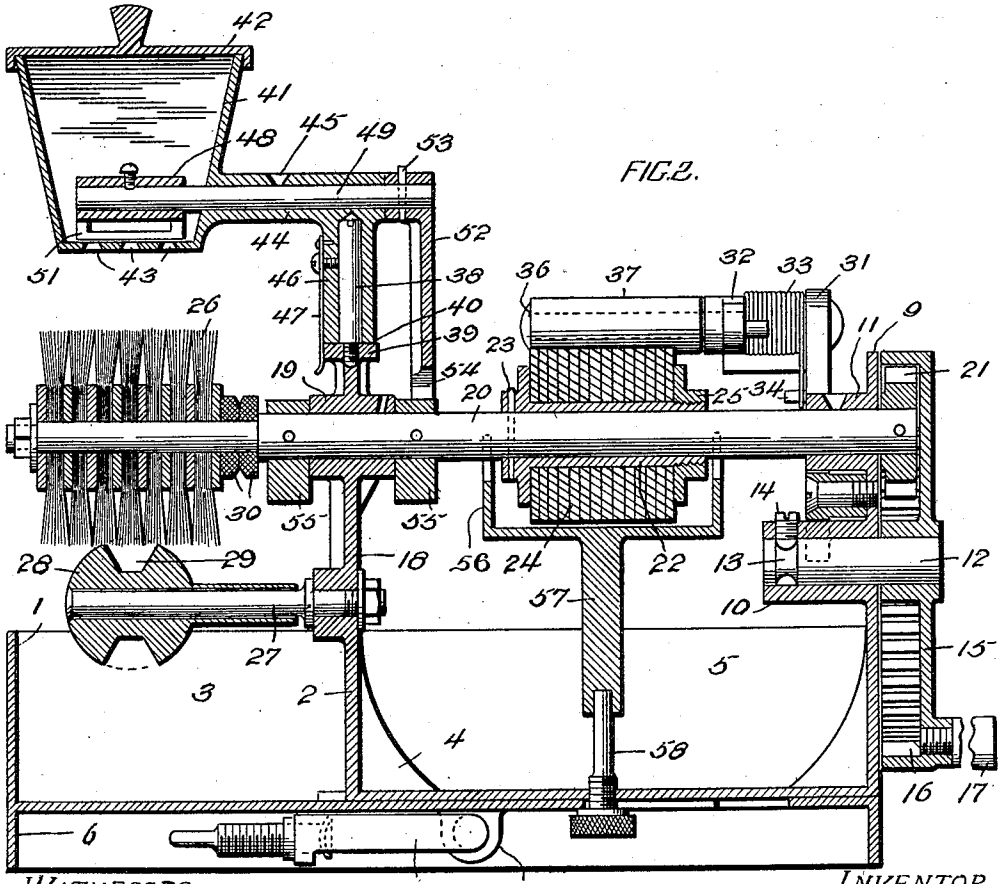

FIG. 2.

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2 SHEETS—SHEET 2.

FIG. 3.

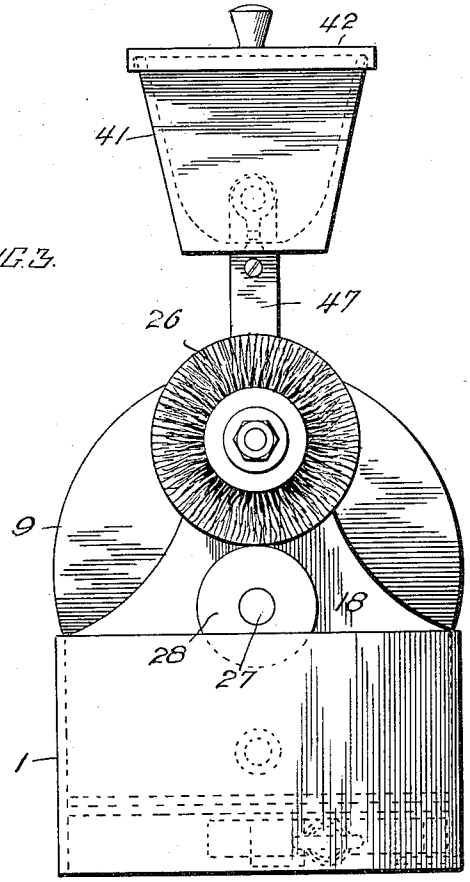


FIG. 5.

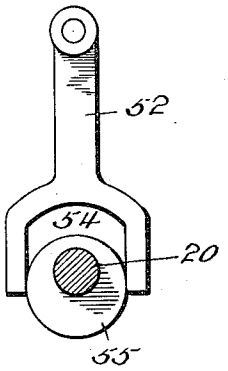


FIG. 4.

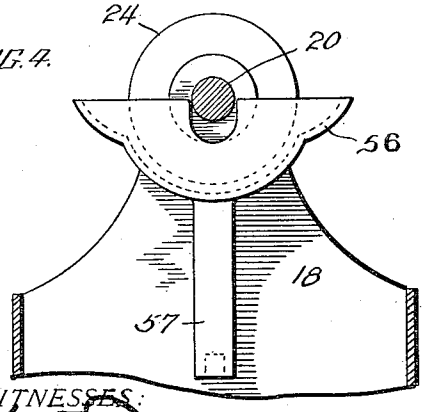
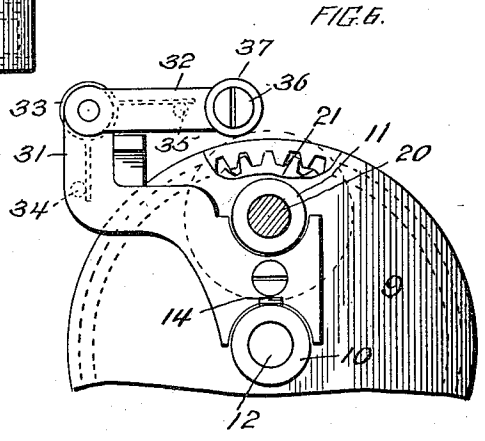


FIG. 6.



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UNITED STATES PATENT OFFICE.

EMIL W. KOTTUSCH, OF CINCINNATI, OHIO, ASSIGNOR TO THE MILLER, DU BRUL & PETERS MFG. CO., OF CINCINNATI, OHIO, A CORPORATION.

KNIFE-CLEANING MACHINE.

1,033,908. Specification of Letters Patent. **Patented July 30, 1912.**

Application filed July 6, 1911. Serial No. 637,235.

To all whom it may concern:

Be it known that I, EMIL W. KOTTUSCH, a subject of the Emperor of Germany, and residing at 3251 Bishop street, in the city of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Knife-Cleaning Machines, of which the following is a specification.

The object of my invention is to provide a machine of this character which will be simple in construction, effective in use and compact.

A further object of my invention is to provide a single machine whereby the blades and handles of the knives may be cleaned and the blades may be sharpened; and with these and minor objects in view, my invention consists of the parts and combination of parts as will be hereinafter more fully set forth.

In the drawing, Figure 1 is a top plan view of a knife cleaning machine embodying my invention; Fig. 2 is a vertical central longitudinal section of the same; Fig. 3 is an end elevation of the machine; Fig. 4 is a detail elevation showing the relative position of the second supplemental powder collector with respect to the blade cleaner; Fig. 5 is a detail elevation of the cam and yoke for the agitator, and Fig. 6 is a detail elevation, parts being broken away and parts in section, showing the relative positions of the blade cleaner and the roller for holding the blades on said cleaner.

1 represents a frame which is common to both the blade cleaner, the handle cleaner and the knife sharpener, said frame being divided into two compartments by means of the partition 2; the compartment 3 serving as a powder collector for the handle cleaner, while the compartment 4 is adapted to receive a supplemental powder collector 5. The frame 1 is preferably provided with a base rim 6.

7 is a perforated lug depending from the base of the frame, as clearly shown in Fig. 2, to which is pivoted a clamping member 8 whereby the machine may be rigidly clamped to a suitable support.

The frame is provided at one end with a standard 9 carrying shaft bearings 10 and 11. In the bearing 10, I mount a stub shaft 12 which is provided with an annular groove 13 at its rear end into which a set screw 14 is adapted to project, thereby locking said stub shaft in its bearing. Keyed to this stub shaft is a gear wheel 15 having internal teeth 16. 17 is an operating handle or frame. Of course, it will be understood that the gear wheel 15 may be connected with any suitable source of power. 18 is another standard, preferably cast integral with the box or frame 1, having a shaft bearing 19.

20 is a shaft journaled in the bearings 11 and 19 and provided at one end with a pinion 21 adapted to intermesh with the internal teeth of the gear 15.

22 is a collar or sleeve keyed to the shaft 20 by means of a suitable key 23.

24 are a series of leather disks mounted on the sleeve 22 and clamped thereon by means of the flanged nut 25.

26 is a knife handle cleaning brush mounted upon the shaft 20, but spaced from the blade cleaning disks 24. This brush may be of any desired shape, but I prefer the shape shown in the drawing.

27 is an arm rigidly fixed to the standard 18 and projecting under the brush 26.

28 is a spherical body fixed on the outer end of the arm 27, the arc of its perimeter extending within the lines of the brush, as indicated by dotted lines, said body being provided with recesses 29 constructed to receive the handle of a knife and hold it up against the brush.

30 are two disks mounted upon the shaft 20 constituting a knife sharpener.

31 is a bracket extending from the standard 9 to which an arm 32 is pivoted at one end.

33 is a coil spring, one arm of which engages a lug 34 on the arm 31, while the other arm engages a lug 35 on the arm 32, whereby the arm 32 is placed under tension. The free end of the arm 32 carries a rod 36 extending over the blade cleaner 24 on which is loosely mounted a roller 37 adapted to hold the knife blade firmly, but yieldingly, against the face of the cleaner 24.

38 is an axle surmounting the partition 18 having a base 39 formed with locking projections 40.

41 is a cleaning powder receptacle having a suitable cover 42, the base of the receptacle being perforated as at 43. This receptacle is provided with a tubular extension 44 hav-

ing a suitable oil port 45, said extension being provided with a depending tubular arm 46 adapted to receive the axle 38, the lower end of the tubular extension 46 bearing on the base 39 of the axle.

47 is a locking spring secured to the tubular extension 46 and constructed for engagement with the locking lugs or projections 40 on the base 39 to lock said tubular extension 46 in predetermined positions.

48 is a sleeve keyed upon the shaft 49 by means of the set screw 50, said shaft extending through and beyond the tubular extension 44 of the powder receptacle 41. Depending from the sleeve 48 is an agitator arm 51.

As stated, the shaft 49 projects beyond the tubular extension 44 of the powder receptacle 41. On this projecting portion of the shaft, I mount the arm 52 which is keyed thereon by means of the key 53, the lower end of said arm being formed preferably as a yoke 54, as more clearly seen in Fig. 5.

55 are cams keyed to the shaft 20 on each side of the partition 18 and are adapted to engage the yoke 54 for the purpose of swinging the arm 52, which in turn revolves the shaft 49, thus moving the agitator 51 across the openings 43 in the bottom of the powder receptacle.

In cleaning a knife by my machine, the blade is placed on the periphery of the cleaning disks 24 and firmly and yieldingly held thereon by means of the roller 37. Of course, the powder receptacle 41 is first swung from the position shown in Fig. 2 to a position directly over the blade cleaning disks 24. As soon as the blade is thoroughly cleaned, the receptacle 41 is swung over the handle cleaning brush 26, as shown in Fig. 2, the handle of the knife being inserted in the recess 29 of the member 28 which holds the handle up against the brush and serves as a guide for moving the handle up and down against the brush, thereby effectually cleaning the handle. The knife may be sharpened by the sharpeners 30.

The cleaning powder which escapes from the cleaning disks 24 is caught in the second supplemental collector 56 mounted in close proximity to the disks 24, said collector having a depending arm 57 stepped on the thumb screw 58. Surplus powder falls from the receptacle 56 into the supplemental collector 5. The powder from the brush 26 falls into the receptacle 3.

In order that the receptacle 41 may be revolved on the axle 38, it is lifted until the yoke 54 is beyond the plane of the cams 55, whereupon it is free to be revolved. Of course, it will be understood that one arm of the yoke 54 may be pivoted so that it may be swung out of the plane of the cam, thereby freeing the receptacle 41 to be swung upon the axle 38 from one cleaner to the other, without lifting the receptacle 41 on its axle 38.

I claim:—

1. In a machine for cleaning knives, the combination with a blade cleaner and a handle cleaner, spaced apart, of a cleaning powder receptacle revolubly mounted between the said cleaners and constructed to be swung from one to the other.

2. In a machine for cleaning knives, the combination with a handle cleaner and a blade cleaner spaced apart, of a cleaning powder receptacle revolubly mounted between the said cleaners, and constructed to be swung from one to the other, and means to vibrate said receptacle to discharge the powder therefrom.

3. In a machine for cleaning knives, the combination with a blade cleaner and a handle cleaner, of a common frame for said cleaners, and separate powder collectors for said cleaners, and a cleaning powder receptacle revolubly mounted between said cleaners and constructed to be swung from one cleaner to the other.

4. In a knife cleaning machine, the combination with a frame and a driven shaft mounted thereon, of a blade cleaner mounted on said shaft, a handle cleaner mounted on said shaft, and spaced from the blade cleaner, a cleaning powder receptacle revolubly mounted on said frame between the said cleaners and constructed to be swung from one cleaner to the other, and means on said shaft to agitate said powder receptacle.

5. In a knife cleaning machine, the combination with a handle cleaning member and a blade cleaning member mounted on a common shaft but spaced apart, of a cleaning powder receptacle revolubly mounted between the said cleaners and constructed to be swung from one to the other, cams keyed on said shaft, a yoke depending from said receptacle and constructed for engagement with said cams, whereby the receptacle may be agitated.

6. In a knife cleaning machine, the combination with a handle cleaning member and a blade cleaning member mounted on a common shaft but spaced apart, of a cleaning powder receptacle revolubly mounted between the said cleaners and constructed to be swung from one to the other, cams keyed on said shaft, an agitator mounted in said receptacle, a shaft extending from said agitator, a yoke depending from said shaft and constructed for engagement with said cams, whereby the powder in the receptacle is agitated.

7. In a knife cleaning machine, the combination with a handle cleaning member and a blade cleaning member mounted on a common shaft but spaced apart, of a cleaning powder receptacle revolubly mounted be-

tween the said cleaners and constructed to be swung from one to the other, cams keyed on said shaft, an agitator mounted in said receptacle, a shaft extending from said agitator, a yoke depending from said shaft and constructed for engagement with said cams, whereby the powder in the receptacle is agitated, and means locking the revoluble receptacle against revolution in its position over the respective cleaners.

8. In a knife cleaning machine, the combination with a frame, of a shaft mounted thereon, a gear wheel mounted on said shaft, a second shaft mounted on said frame and provided with a pinion adapted to engage said gear, of a blade cleaner and a handle cleaner mounted on said second shaft but spaced apart, a powder receptacle revolubly mounted on said frame and adapted to be swung from one cleaner to the other.

9. In a knife cleaning machine, the combination with a driven shaft, cams mounted thereon, of a cleaning powder receptacle, an agitator in said receptacle, a shaft extending from said agitator, and a yoke depending from said agitator shaft and constructed for engagement with said cams.

10. A knife cleaning machine including a frame comprising an integral member divided into powder collecting compartments, a supplemental powder collector in one of said compartments, a second supplemental powder collector mounted above and within the perimeter of the first supplemental powder collector, and a cleaning and polishing member mounted in the second supplemental powder collector.

The foregoing specification signed at Cincinnati, Ohio, this 28th day of June, 1911.

EMIL W. KOTTUSCH.

In presence of two witnesses:

E. F. Du Brul,

W. M. Beinhart.