

N. PETERSON.
KNIFE GRINDER AND BUFFER.
APPLICATION FILED AUG. 23, 1909.

973,457.

Patented Oct. 18, 1910.

2 SHEETS—SHEET 1.

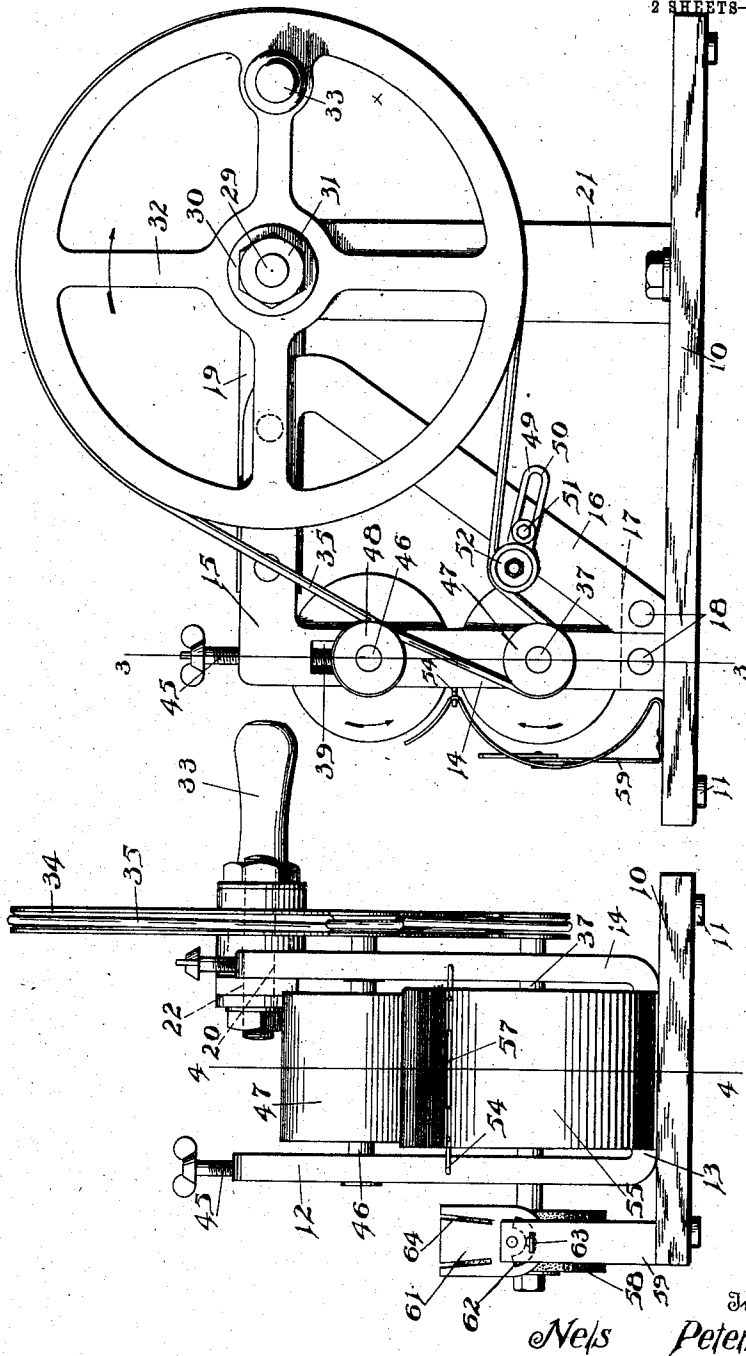


Fig. 2.

Fig. 1.

Witnesses

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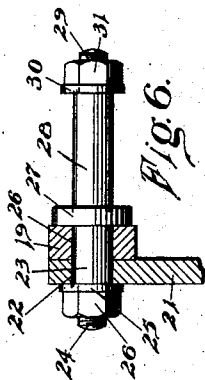


Fig. 6.

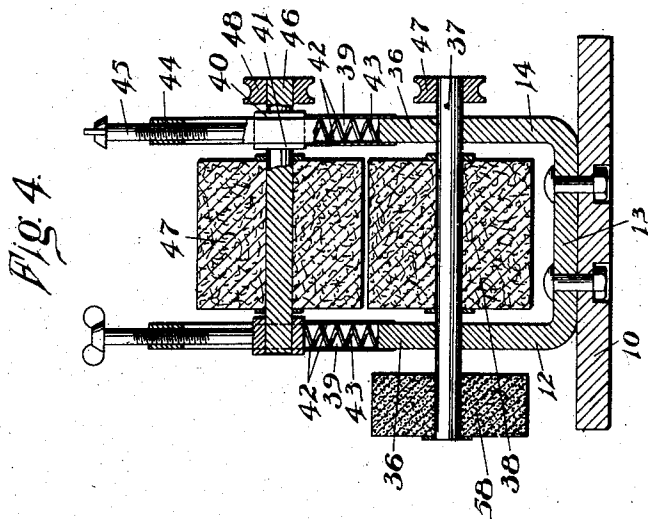


Fig. 4.

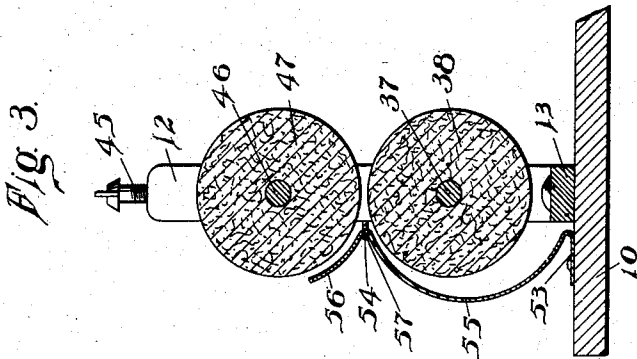


Fig. 3.

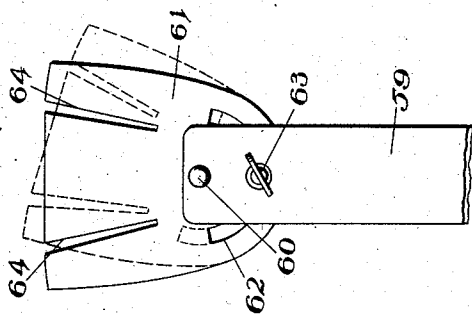


Fig. 5.

Witnesses

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UNITED STATES PATENT OFFICE.

NELS PETERSON, OF OSTRANDER, MINNESOTA.

KNIFE GRINDER AND BUFFER.

973,457.

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To all whom it may concern:

Be it known that I, NELS PETERSON, a citizen of the United States, residing at Ostrander, in the county of Fillmore, State of Minnesota, have invented certain new and useful Improvements in Knife Grinders and Buffers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to grinding and scouring machines and has special reference to a machine adapted to grind and scour flat bladed knives such as the cutlery commonly used on tables and in kitchens and butcher shops.

One object of the invention is to improve the general construction of knife grinders and scourers.

Another object of the invention is to provide an improved means of driving the adjustable rolls common in such devices.

A third object of the invention is to provide an improved rest for the grinding means.

With the above and other objects in view the invention consists in general of a frame whereon are mounted certain grinding and polishing rolls, together with means for driving the same and a suitable rest for the implement being ground and polished.

The invention further consists in certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claim.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and:—Figure 1 is a front elevation of a grinding and scouring machine constructed in accordance with this invention. Fig. 2 is a side elevation thereof. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 1. Fig. 5 is an enlarged detail view of the knife rest used with the grinding wheel. Fig. 6 is a detail showing a stub shaft used for supporting a hand wheel used in this invention.

The numeral 10 indicates the base of this invention and on this base are fixed short legs 11 preferably of rubber, leather or the like yieldable material, the purpose of the legs being to prevent scouring of a table by setting the grinder thereon.

Mounted on the base 10 adjacent the front thereof is a frame which consists of a bar of metal bent to form an upstanding member 12, a base member 13, a second upstanding member 14 which is in spaced relation and parallel to the member 12, a rearwardly extending portion 15 and a downwardly and forwardly extending portion 16. This latter portion 16 terminates against the portion 14 and the base and is secured to the bottom of the portion 14 by means of a stud 17 and rivets 18 which pass through the portions 14 and 16 and the stud 17. Secured to the portion 14 of this main frame is a rearwardly extending bar 19 which is provided with an aperture 20. A rear standard 21 is secured to the base and extends up adjacent the rear end of the member 19, being provided at its upper end with an aperture 22 which registers with the aperture 20. Held in the apertures 20 and 22 in a stub shaft having a body portion 23 provided with a reduced and threaded end 24. The body portion is held in the apertures above mentioned and the reduced and threaded end 24 projects therethrough. On this reduced and threaded end is carried a washer 25 and a nut 26 which serve to hold the stub shaft securely in the members 19 and 21 and also to hold said members securely fixed together. Oposite the threaded end 24 the body is provided with a collar 27 which bears against the outer face of the member 19 and beyond this collar is formed a journal 28 provided with a reduced and threaded end 29 whereon is held a washer 30 and nut 31. Between the washer 30 and collar 27 is the hub of a hand wheel 32 which is provided with a handle 33 for the purpose of rotating the same and has a grooved face 34 for the purpose of receiving a round belt 35, the object of which will be hereinafter explained. By means of this construction a very strong and rigid frame is provided while at the same time the construction is extremely simple. The portions 12 and 14 of the frame are provided adjacent their lower ends with bearings 36 wherein is held a shaft 37 which projects beyond the portions 12 and 14 at both ends. Between the portions 12 and 14 the shaft has mounted thereon a buffing wheel 38 of felt or other suitable material and this buffing wheel is arranged to rotate as the shaft rotates. Above the bearings 36 the portions 12 and 14 are provided with slots 39. Slid-

able in the slots 39 are bearing blocks 40 each of which is provided with lips 41 which project over the edges of the slots so that these slots are held in position. In the construction of these blocks one side of the same is detachable and is held thereon by means of suitable rivets not deemed necessary here to be shown. This construction is made necessary in order to fit the blocks within the slots 39. Attached to the blocks 41 and movable therewith are cover plates 42 which serve to close the lower ends of the slots 39. Held between the blocks 40 and the bottoms of the slots 39 are compression springs 43 which normally serve to raise the bearing blocks 40 and force them toward the top of the slots. At the upper end of each of the portions 12 and 14 and in alinement with the slots 39 are threaded apertures 44 wherein are held adjusting screws 45. The lower ends of these adjusting screws bear on the bearing blocks 40 and by means of rotating these screws the bearing blocks may be caused to move downward in the slots, the springs acting to raise them when the screws are rotated in the opposite direction. Within the bearing blocks 41 is supported a shaft 46 whereon is held a buffing wheel 47 of similar character to the buffing wheel 38 previously described. Upon each of the shafts 37 and 46 are held grooved belt pulleys 47' and 48 respectively and the belt 35 previously described is led from the upper side of the wheel 32 beneath and around the pulley 48 from whence it is led in front of and around the pulley 47'. By means of this arrangement of drive the revolution of the pulley 32 in the direction of the arrow will cause the buffing wheels to revolve in the directions of the arrows shown thereon. Furthermore, by means of this arrangement it will be observed from an inspection of Fig. 2 that the adjusting of the blocks 40 will not in any way relieve the tension on the belt 35. In order to keep this tension at the proper degree there is mounted on the portion 16 of the frame an arm 49 having a slot 50 therein wherethrough passes an adjusting bolt 51. On the end of this arm opposite the slot is an idler pulley 52 and the belt 35 runs from the belt pulley 48 over this idler pulley. By means of the adjusting bolt 51 the arm 49 may be varied in position so as to maintain a proper tension on the belt 35 at all times.

In front of the buffing wheels 38 and 47 is a guard plate. This guard plate is formed with a base portion 53 securely fastened to the base 10 and from this base portion the guard plate curves upward around the forward side of the buffing wheel 38 until it reaches a point adjacent the members 12 and 14 where it is supported by means of suitable clips 54. From this point it springs

outward again and curves closely around a portion of the buffing wheel 47. These two curved portions are indicated respectively at 55 and 56 and in the cusp formed between the two there is provided a knife retaining slot 57.

The shaft 37, as before noted, projects through the member 12 and on the outer end of the shaft is supported an abrading wheel 58 of emery or other suitable material. Adjacent this abrading wheel is supported a standard 59 which is bolted to the base 10 and at the upper end of this standard is a pivot bolt 60. Pivotaly mounted on the bolt 60 is a rest 61 provided with an arcuate slot 62 and a locking screw 63 passes through this slot and the member 59 for the purpose of clamping the rest 61 in adjusted position. The rest 61 is provided with slots 64 extending from its upper edge downward for the purpose of receiving a knife blade so that the same may be held in proper position relative to the abrading wheel 58.

In the operation of this device when it is desired to grind the knife the same is placed in one of the slots 64 and the rest 61 adjusted until the knife lies in the proper angle against the abrading wheel 58. The handle is then turned and this causes the abrading wheel to revolve. The knife is drawn back and forth in the slot 64 wherein it is placed until one side of the edge has been sufficiently ground when it may be transferred to the other slot 64 and the other side of the edge ground in like manner. After having been ground the blade may be polished by inserting the same in the slot 57 between the buffing wheels 38 and 47 and adjusting the thumb screws 45 to obtain the proper degree of pressure on the blade. The handle is again revolved and the knife drawn in and out of the slot 57 between the buffing wheels thus giving it a rapid and effective polish. The rest may be also used for grinding scissors and the like by properly positioning them upon the upper edge thereof.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the material principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claim.

Having thus described the invention, what is claimed as new, is:—

In a device of the kind described, a base platform, and a supporting frame comprising a length of bar metal consisting of an upstanding side portion, a portion bent at right angles thereto to form a base attached

to said platform, a portion bent at right angles to the base to form an upstanding side portion, a portion extending rearwardly from the last mentioned side portion, and a
5 terminal extending downwardly and forwardly to the lower end of the second upstanding portion; a strap securing said terminal to said side portion, a bar secured to and projecting rearwardly from the rear-
10 ward portion of the first bar; and a support

secured to the rear end of the last mentioned bar and extending downward to the base platform and secured thereto.

In testimony whereof, I affix my signature, in presence of two witnesses.

NELS PETERSON.

Witnesses:

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