Jan. 12, 1954 P. M. SIVERTSEN 2,665,531

CLEANING DEVICE FOR SLICING MACHINE SHARPENERS

Filed Jan. 29, 1953

2 Sheets-Sheet 1

Fig. 1.

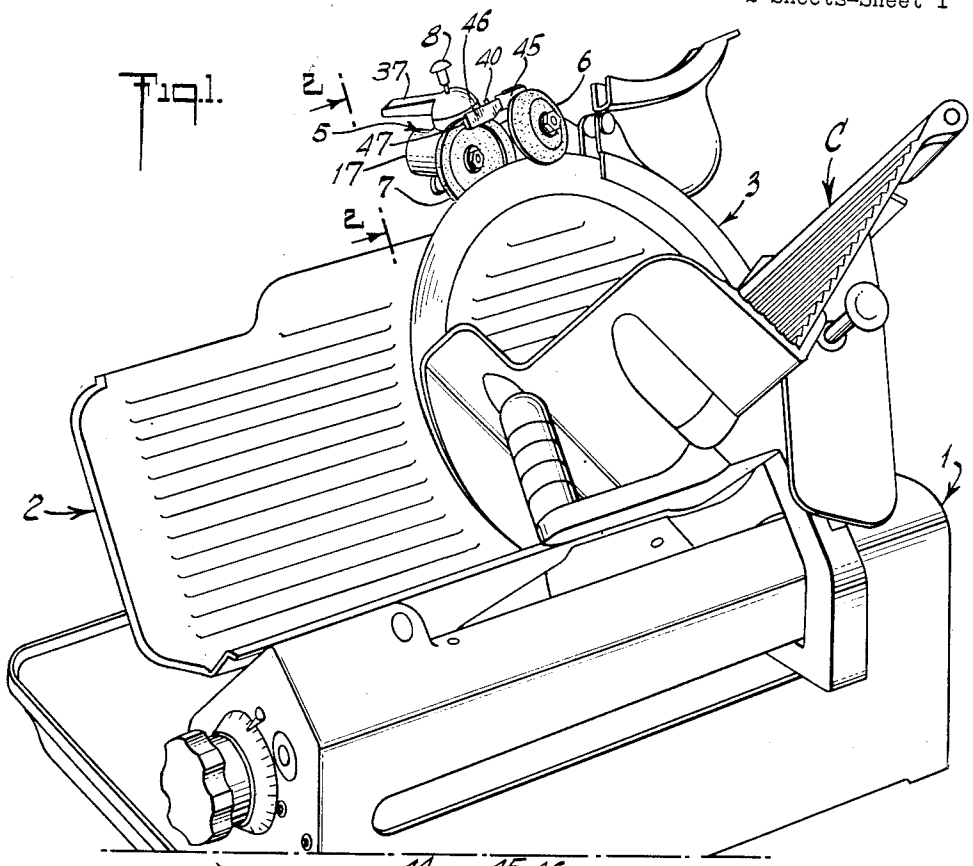
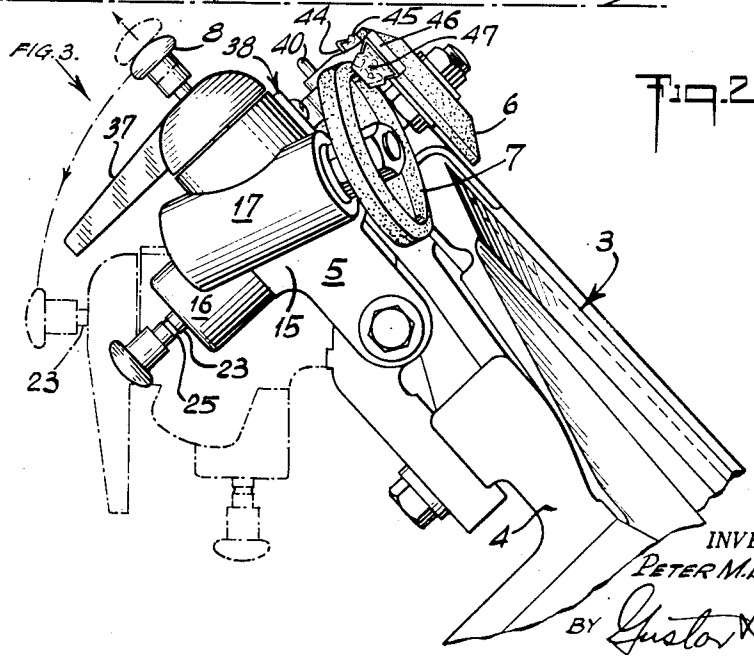



FIG. 3.

Fig. 2.




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Fig. 3.

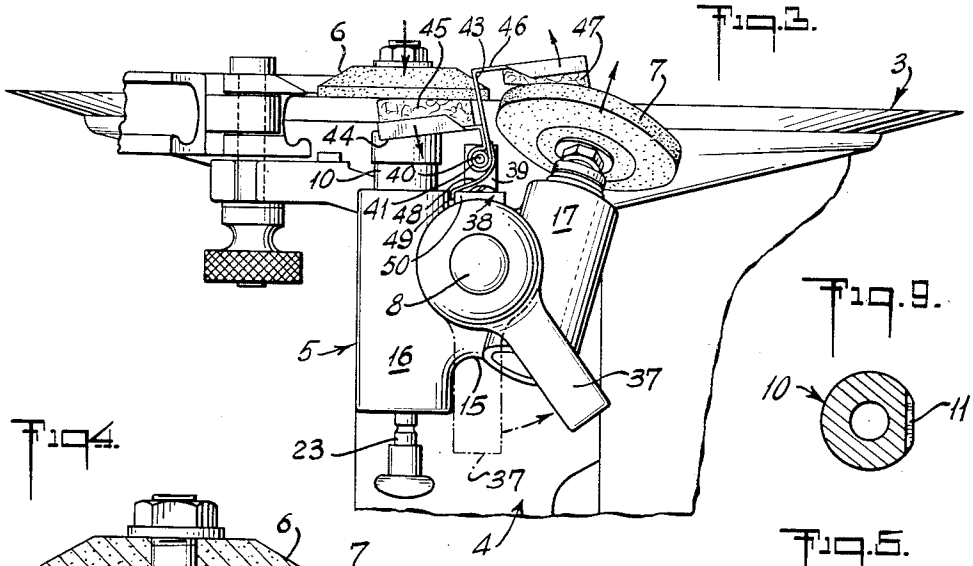



Fig. 9.




Fig. 4.

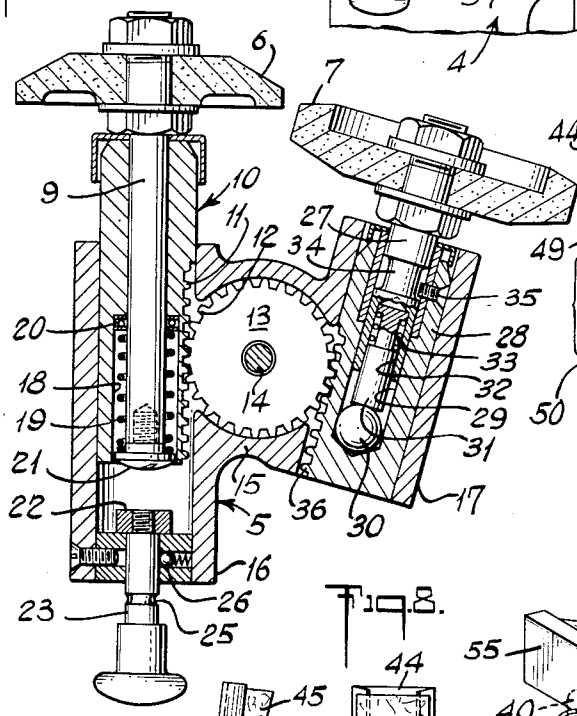



Fig. 5.

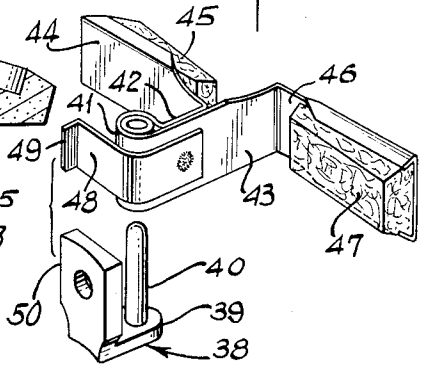



Fig. 6.

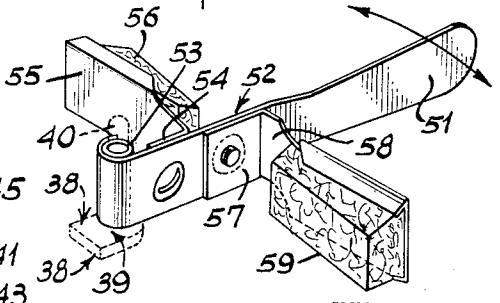



Fig. 8.

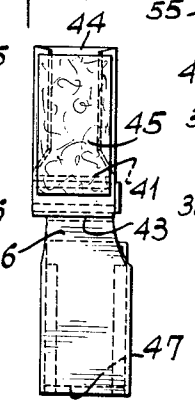
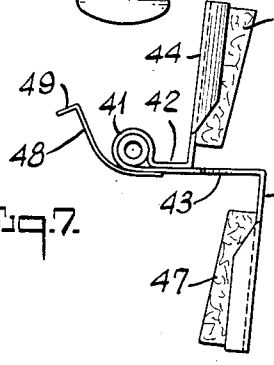



Fig. 7.




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# UNITED STATES PATENT OFFICE

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## CLEANING DEVICE FOR SLICING MACHINE SHARPENERS

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Application January 29, 1953, Serial No. 333,858

7 Claims. (Cl. 51—262)

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This invention relates to cleaning devices for the sharpeners of slicing machines, and more particularly to wipers for the sharpeners of the rotary knives of slicing machines.

Among the objects of the present invention, it is aimed to provide an improved cleaning device for the sharpeners of slicing machines which can readily be attached to the sharpener of the conventional gravity feed slicing machine such as disclosed in the design patent of applicant, Patent No. D. 162,996 dated April 17, 1951.

It is still another object of the present invention to provide an improved wiper for the sharpener of the rotary blade of a slicing machine which can readily be attached to the sharpener to wipe or clean the sharpener during the sharpening action which will materially reduce the hazard to the operator when wiping or cleaning the sharpener.

These and other features, capabilities and advantages of the present invention will appear from the subjoined detailed description of specific embodiments thereof illustrated in the accompanying drawings, in which

Fig. 1 is a perspective of a slicing machine equipped with one embodiment of a wiper made according to the present invention.

Fig. 2 is a side elevation enlarged partly broken away showing the sharpener, its bracket, and the wiper illustrated in Fig. 1.

Fig. 3 is a plan view on substantially the same scale as Fig. 2, also partly broken away showing the sharpener, its bracket, and the wiper illustrated in Fig. 1.

Fig. 4 is a section still further enlarged showing the sharpener and its bracket for which the present invention is particularly adapted.

Fig. 5 is an exploded perspective enlarged of the embodiment of the wiper shown in Fig. 1 and its mounting.

Fig. 6 is a perspective of a second embodiment of the wiper.

Fig. 7 is a side elevation of the embodiment shown in Fig. 5.

Fig. 8 is an end elevation of the embodiment shown in Fig. 5.

Fig. 9 is a transverse section of a detail of the sharpener.

In the embodiment shown, there is illustrated a slicing machine of the type disclosed in the aforesaid design patent having a main frame 1, and a gauge plate 2 secured thereto and inclined to the horizontal with a rotary cutting knife 3 operatively mounted in the extension 4 of the frame 1 and this knife 3 disposed adjacent to

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the gauge plate 2 and in substantially the same plane as the gauge plate 2. Slidably mounted on the frame 1 to reciprocate to and from the cutting edge of the knife 3, there is provided the commodity carrier or chute C. At the outer end of the extension 4 there is pivotally mounted the supplemental frame 5 for the sharpener, consisting of the grinding wheels 6 and 7 composed of some suitable abrasive material such as an abrasive stone or the like. This supplemental frame 5 may be anchored in the grinding position, that shown in full lines in Fig. 2, or in the inoperative position, that shown in dash and dot lines in Fig. 2. The control for anchoring the supplemental frame 5 in either of these two positions consists of a spring pressed plunger 8, the inner end of which, not shown, is caused under spring pressure to engage one of two recesses in the frame 5 such as disclosed in United States Letters Patent No. 2,069,431. The wheels 6 and 7 when in grinding position, may be brought into engagement with the knife 3 and if the knife 3 is rotating will then function to grind the opposite faces of the knife 3 adjacent the cutting edge thereof according to convention as set forth in the aforesaid patent. While the mechanism for bringing the wheels 6 and 7 into and out of grinding engagement with the knife 3, after the frame 5 has been anchored in grinding position, constitutes no part of the present invention, it will be briefly described to facilitate an understanding of the inventive feature here sought to be covered.

The grinding wheel 6 is secured to the outer end of the rod 9 slidably mounted in the cylindrical bar 10 having the teeth 11 on one side thereof to mesh with the teeth 12 of the toothed wheel 13 pivotally mounted on the shaft 14 which is mounted in the intermediate portion 15 of the supplemental frame 5, such portion 15 being disposed between and connecting the tubular portion 16 to the tubular portion 17 of the supplemental frame 5. The tubular portion 16 slidably receives the bar 10. The inner end of the bar 10 at 18 is chambered to receive the coil spring 19 tensed between the thrust bearing 20 formed at the inner end of the chamber 18 and the head 21 formed at the inner end of the rod 9. The spring 19 normally maintains the grinding wheel 6 in its retracted position relative to the bar 10 so that when the toothed wheel 13 is turned to retract the bar 10 relative to the tubular portion 16, it will carry the grinding wheel 6 with it in the retracted position until the head 21 engages the nut 22 at the end of the pin 23 slidably

mounted in the cap 24 secured in the lower end of the tubular portion 16. The pin 23 has a groove 25 therein to receive the spring pressed ball 26 mounted in the cap 24 when the pin 23 is moved into its innermost position, when, upon retraction of the bar 10 by the wheel 13, and the head 21 engages the nut 22, the spring 19 will yield and permit the bar 10 to be retracted while the rod 9 and grinding wheel 6 is extended a short distance relative to the bar 10.

The grinding wheel 7, on the other hand, is mounted on the rod 27 which is slidably mounted in the bar 28 which in turn is slidably mounted in the tubular portion 17 of the frame 5. The inner end of the chamber 29 of the tubular portion 17 has positioned therein the ball 30 engaged by the plug 31 slidably mounted in the chamber 32 of the rod 27 in which is disposed the coil spring 33 tensed between the plug 31 and the inner end of the chamber 32. The rod 27 is provided with an annular groove 34 into which projects the pin 35 formed in the bar 28. The groove 34 with the cooperation of the pin 35 thus anchors the rod 27 for limited slidable movement in the bar 28. The bar 28, on the other hand, is anchored in the tubular portion 17 by engagement of its teeth 36 with the teeth 12 of the wheel 13. The shaft 14 of the wheel 13 has secured thereto the handle 37 so that when the handle 37 is actuated to the right from the dash and dot line position into the full line position shown in Fig. 4, it will retract the bar 10 and partly project the bar 27, the springs 19 and 33 facilitating the yieldable engagement of the grinding wheels 6 and 7 with the opposite faces of the knife 3 when the bracket 5 is positioned in the full line position shown in Fig. 3. When the pin 23 is retracted when its groove 25 is engaged by the ball 26, then the grinding wheel 6 may be anchored out of knife engaging position and enable the grinding wheel 7 alone to contact the knife 3.

The device now to be described constitutes the main part of the present invention. On the intermediate portion 15 there is secured the supporting bracket 38 shown in Figs. 3 and 5 having the projection 39 from which extends the pin 40. If the embodiment shown in Figs. 5, 7 and 8 is used, then the pin 40 receives the loop 41 from which extend the two arms 42 and 43 adjacent to one another for a short distance whereupon the arm 42 branches off into the plate portion 44 on which the wiper pad 45 is mounted. The arm 43 extends a short distance beyond the arm 42 and then branches off into the plate portion 46 on which the wiper pad 47 is mounted. The pads 45 and 47 face in opposite directions so that they may engage the opposing faces of the grinding wheels 6 and 7, the pad 45 engaging the lower face of the grinding wheel 6 and the pad 47 the upper face of the grinding wheel 7. In order yieldably to urge the pads 45 and 47 into engagement with the grinding wheels 6 and 7, there is provided the spring finger 48 having the lip 49 to engage the edge of the plate portion 50 of the bracket 38.

The embodiment shown in Fig. 6 differs primarily from the embodiment shown in Fig. 5 in that it dispenses with the spring finger 48 and is provided with a finger engaging arm 51 which is the continuation of the main bar 52 provided with a pin receiving cylinder 53 at its inner end to receive the pin 40. On one side of the bar 52 there is secured the flange 54 having the plate portion 55 on one side of which there is secured the wiper pad 56. On the other side of the bar 52 there is secured the flange 57 having the plate portion 58 on one side of which there is secured the wiper pad 59. The wiper pads 56 and 59 face in opposite directions to engage the opposing faces of the grinding wheels 6 and 7, respectively, the wiper pad 56 to engage the lower face of the grinding wheel 6 and the wiper pad 59 to engage the upper face of the grinding wheel 7. When this embodiment is used with the aid of the arm 51, the attendant may vary the pressure of the pads 56 and 59 on the grinding wheels 7 and 6, respectively, by exercising a greater or less force on the handle 51 during the wiping engagement, while the embodiment shown in Fig. 5 depends mainly upon the resiliency in the finger 48 to maintain the two pads in engagement with the two grinding wheels until they have been wiped to the satisfaction of the attendant.

The wiper pads 45, 47, 56 and 59 are preferably composed of wool felt, but may also be composed of cork, pressed steel wool, wood, paper fibre, and the like.

The value of these wipers flows not only from the greater safety to the user resulting therefrom, but also from the greater efficiency of the same. Heretofore the attendant found it expedient to wait until the grinding operation or a portion of the grinding operation was completed, and then to swing the bracket 5 out of grinding position before attempting to wipe or clean the grinding wheels 5 and 6, in particular due to the fact that he generally used a cloth and such cloth frequently became caught between the grinding wheels and the knife, not only tearing the cloth but also endangering the hands of the attendant since the cloth was frequently unexpectedly caught and sucked in by the knife to transmit a tug on the same and before the attendant was aware of what was happening, his hand would be drawn inwardly with the cloth. With the present wiper, however, one or the other of the embodiments shown would be attached before a grinding operation was begun and then the grinding knives wiped and cleaned simultaneously with the grinding of the knife 3.

The need for wiping such grinding wheels would ordinarily not arise until the grinding operation had been begun. In the first place, on account of the hazard to injury, the knives 3 are not wiped any oftener than is necessary and consequently generally when the slicing machine is extensively used during a big shopping day, Saturday as an instance, and the attendant suddenly finds the knife become dull, it then will be unnecessary with the present invention for him first to wipe the knife before initiating the grinding operation or to run the hazard of having his cloth caught during the grinding operation should he wish to wipe the grinding wheels during the grinding operation. Now the attendant is merely required to attach the wiper to the pin 40 and while completing his grinding operation permit the wipers to perform their function.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. A wiper device for the sharpener of the rotary knife of a slicing machine in which the sharpener consists of a frame and at least one grinding wheel rotatably mounted thereon and operatively mounted on the frame to be yieldably pressed against the knife to rotate with the same,

in which the wiper device is characterized by a bracket mounted on the frame, an arm extending from the bracket, and a wiper pad mounted on said arm, the bracket being disposed adjacent the grinding wheel and the arm being movable relative to the bracket to enable said wiper pad to be pressed into engagement with the grinding face of said grinding wheel, and a spring connected to said arm yieldably to press the wiper pad into engagement with the grinding face of said grinding wheel.

2. A wiper device for the sharpener of the rotary knife of a slicing machine in which the sharpener has a frame and two grinding wheels rotatably mounted thereon, and operatively mounted on the frame to be yieldably pressed against the opposite faces of the knife adjacent its cutting edge to rotate with the same, in which the wiper device is characterized by a bracket mounted on the frame, arms extending from said bracket, and wiper pads mounted on said arms and spaced from one another, the bracket being disposed adjacent the grinding wheel and the arm being movable relative to the bracket to enable said wiper pads to be pressed into engagement with the grinding faces of the two grinding wheels.

3. The combination as set forth in claim 2,



having a spring connected to the arms yieldably to press the wiper pads into engagement with the grinding faces of the grinding wheels.

4. The combination as set forth in claim 2 in which said arms are pivotally mounted on said bracket and have a control arm extending therefrom for engagement by the attendant to actuate one or the other wiper pad into engagement with the grinding face of one of the other grinding wheels.

5. The combination as set forth in claim 2 in which the wiper pad is composed of wool felt.

6. The combination as set forth in claim 2 in which the wiper pad is composed of pressed steel wool.

7. The combination as set forth in claim 2 in which the wiper pad is composed of paper fibre.

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