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CLEANING TOOL FOR MEAT TENDERIZING MACHINES

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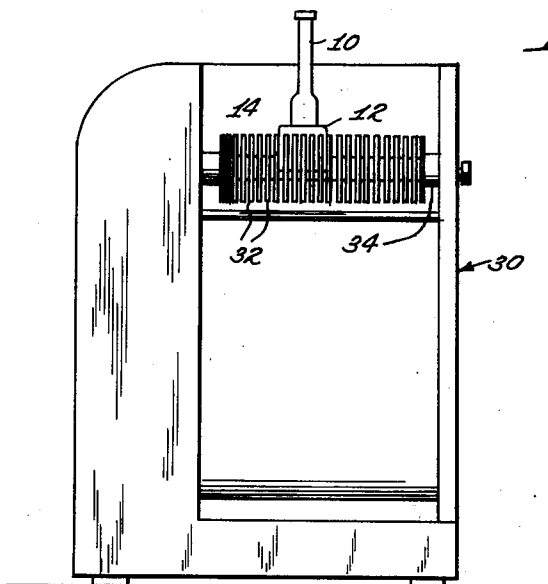


Fig. 1.

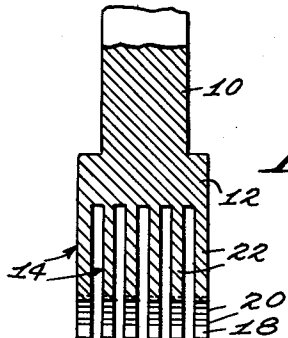


Fig. 4.

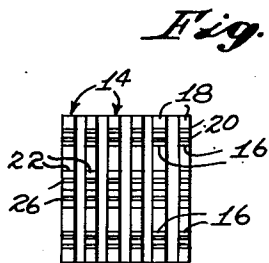


Fig. 5.

Fig. 2.

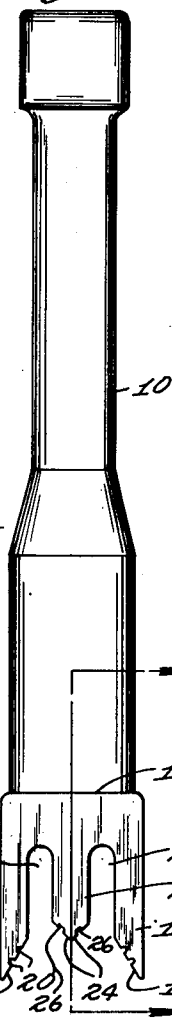


Fig. 3.

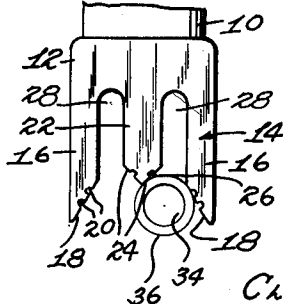
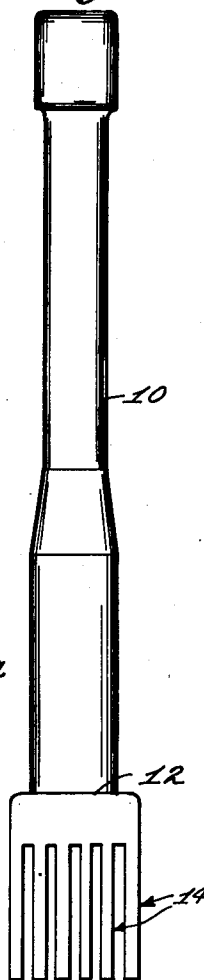


Fig. 6.

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CLEANING TOOL FOR MEAT TENDERIZING MACHINES

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4 Claims. (Cl. 15—236)

1

This invention relates to a tool for cleaning meat tenderizing machines, and more particularly, has reference to a hand tool used for cleaning machines of the type including a cutting roll and a plurality of cutting disks spaced longitudinally of said roll.

Machines of the character stated are exceedingly difficult to clean, due to the closely spaced relation of the several disks, and the formation of food deposits upon the spacing washers interposed between said disks. Heretofore, it has been common practice to remove the cutting disks, and as will be appreciated, this has proved to be a time consuming operation which the users of the machines dislike performing, despite the fact that the machines require almost constant cleaning if they are to be kept in completely sanitary condition.

Heretofore, to my knowledge there has not been devised a tool adapted specifically for cleaning machines of the character stated, and it is therefore the main object of the present invention to provide an inexpensive hand tool novelly designed to meet this particular need.

It is another important object to provide a tool of the type stated which is applicable to a machine used for tenderizing meat without requiring the removal of the cutter rolls.

Yet another important object is to provide a tool as described which is applicable with ease and facility to the cutter rolls, so as to accomplish the cleaning of the rolls in a minimum of time and with little difficulty, thus to permit the user of the machine to clean the rolls as often as he may desire without putting the machine out of operation.

Still another important object is to provide a tool as stated which will have no moving parts, and will be adapted for manufacture at relatively low cost, considering the benefit to be obtained from the use thereof.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a front elevational view of a meat tenderizing machine of conventional construction, and of a hand tool formed in accordance with the present invention, as it appears when in use;

Figure 2 is an enlarged side elevational view of the hand tool;

Figure 3 is a front elevational view;

Figure 4 is a sectional view through the head

2

portion of the tool, taken substantially on line 4—4 of Figure 2;

Figure 5 is a bottom plan view; and

Figure 6 is a side elevational view of the head portion of the tool, as it appears when applied to a cutter roll and washer of small diameter.

Referring to the drawings in detail, the tool formed in accordance with the present invention includes a handle 10 which may be of any desired configuration.

Integral or otherwise made rigid with the handle 10 at one end thereof is a head 12, formed integrally with a plurality of spaced cleaning blades 14. The cleaning blades 14 are extended away from the head 12 in spaced, parallel planes, as may be readily noted by reference to Figure 3.

The construction of each blade 14 is particularly well illustrated in Figure 2, each blade being of relatively wide formation, and comprising a pair of elongated, parallel outer fingers 16. The outer fingers 16 are formed with end edges 18 which are extended in outwardly diverging relation relative to the head 12. A plurality of transverse notches 20 is formed in each of the end edges 18, for a purpose to be made presently apparent.

The outer fingers 16 are spaced from and are parallel to a centrally disposed inner finger 22. The inner finger 22 is substantially shorter in length than the outer fingers, though of approximately the same width as said outer fingers.

The free end of the inner finger 22 is formed with end edge portions 24 that are extended in converging relation relative to the head 12, said end edge portions being extended into convergence along the longitudinal center line of the tool. Notches 26 are formed in the end edge portions 24.

Defined between the inner finger 22 and the respective outer fingers 16 are elongated, slot-like recesses 28, that open inwardly from the outer end of the cleaning head.

In Figure 1, the tool is illustrated as it appears when applied to a steak tenderizing machine 30 of conventional formation. In the illustrated example of a tenderizing machine, only one cutter roll is illustrated, but it will be understood that such machines are conventionally constructed with a plurality of such rolls.

In any event, the machine 30 is of a type that includes a plurality of cutting disks or knives 32, mounted upon and spaced longitudinally of a cutter roll 34. The cutter roll 34 is generally provided (Figure 6) with a number of spacing washers 36, corresponding in number to the

cuttings disks 32, and interposed between said disks, so as to space the disks closely apart.

It will be readily appreciated that meat will tend to become deposited in the spaces between the disks 32, and in the crevices defined between said disks and washers 36.

Heretofore this has been a serious problem in the art, in view of the fact that not only has it been difficult to keep the machines in a sanitary condition, but also the formation of the food deposits tends to react chemically upon the materials of which the cutting disks and rolls are formed.

In any event, the several blades 14 are formed to a thickness approximating the width of the spaces between the cutting disks 32, as may be observed by referring to Figure 1. When the blades are inserted in the spaces between the disks 32, the fingers will engage the washers 36, in the manner illustrated in Figure 6. In this connection, the particular formation of the several fingers is such as to permit the application of the tool to cutter rolls and washers of different diameters, without sacrificing the efficiency of the cleaning action upon said rolls. In other words, in Figure 6 there is illustrated a cutter roll 34 and an associated washer 36 of small diameter, and in cleaning such a roll, one of the outer fingers 16 has its end edge 18 disposed tangentially to the washer at one location upon the periphery of the washer, while the contiguous end edge portion 24 of the center finger 22 is arranged tangentially to the washer at another location upon the periphery of the washer. The notches 20, 26, in this connection, set up a scraping action upon the washer, and have been found to be considerably more efficient in cleaning food deposits from the washer than a smooth surface.

If a cutter roll is of large diameter, it might be engaged by the end edges 18 of the two outer fingers, and may or may not also be engaged by the point of the inner finger 22. Or, a cutter roll of medium diameter might be engaged by one end edge 18 and by the point of the center or inner finger 22.

These desirable results are achieved by the formation of each blade 14 with a plurality of spaced, parallel fingers, the outer fingers being of substantially greater length than the center finger, and all of said fingers being formed with angularly related end edges in the manner illustrated in the drawings.

The provision of the elongated recesses 28 between the several fingers of each blade is also of importance, since these recesses provide cavities receiving the food particles wiped from the faces of the disks 32, and from the surface of the cutter roll. In other words, when the cutter roll and disks are engaged by the blades of the tool, the side faces of the respective blades will wipe over the confronting faces of adjacent disks to be deposited in the elongated recesses 28. Simultaneously with the wiping action referred to, the end edges of the fingers will be wiping particles from the cutter roll, and these particles also will move into the recesses 28.

I believe it will be apparent that the tool formed as illustrated and described is applicable to conventional meat tenderizing machines, and can be manufactured at relatively low cost, while still being wholly efficient in cleaning the machines. Obviously, particular dimensions can be varied, to adapt the tool for particular machines, as for example, where a machine may have the cutting disks 32 spaced for closely together, or for that

matter further apart, than the cutting disks illustrated in the machine 30.

It is believed clear that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor changes in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. In a cleaning tool for a meat tenderizing machine of the type including a cutter roll and a plurality of cutting disks spaced longitudinally of said roll, a handle; a head thereon; and a plurality of flat cleaning blades extending from and rigid with the head and proportioned to extend into the spaces between the disks, said blades individually corresponding in thickness to the width of the spaces between the disks so as to cause the opposite faces of each blade to engage and clean the confronting faces of adjacent disks, each blade being integrally formed with a plurality of coplanar fingers spaced apart to define food-receiving recesses, the free ends of the fingers being pointed for engagement with said roll to clean food deposits therefrom simultaneously with cleaning of said confronting faces of the disks.

2. In a cleaning tool for a meat tenderizing machine of the type including a cutter roll and a plurality of cutting disks spaced longitudinally of said roll, a handle; a head rigid therewith; and a plurality of flat, wide cleaning blades rigid with and extending in parallel planes from said head and formed to a thickness approximating the width of the spaces between the several cutting disks, so as to wipe over the confronting faces of adjacent disks, each blade being formed as a plurality of parallel fingers integrally joined at one end and pointed at their other ends for engagement with a cutting roll to clean said roll simultaneously with wiping of the blades over said confronting faces of the disks, said fingers being spaced apart to define a plurality of recesses in each blade opening inwardly from the roll-engaging ends of the fingers to receive material cleaned from the roll and from said confronting faces of the disks.

3. In a cleaning tool for a meat tenderizing machine of the type including a cutter roll and a plurality of cutting disks spaced longitudinally of said roll, a handle; a head rigid therewith; and a plurality of flat, wide cleaning blades rigid with and extending in parallel planes from the head and formed to a thickness approximating the width of the spaces between the several cutting disks, so as to wipe over the confronting faces of adjacent disks, each blade being formed as a plurality of elongated, wide, parallel fingers, said fingers including a pair of identical though opposite outer fingers having end edges extending in diverging relation from the head and an inner finger arranged centrally between the outer fingers and substantially shorter in length than the outer fingers, said inner finger being formed with an end edge having end edge portions converging in a direction away from the head to cooperate with the respective end edges of the outer fingers to engage and

5

clean cutter rolls of different diameters, said inner and outer fingers defining deep, parallel, slot-like recesses at opposite sides of the inner finger opening inwardly from the roll-engaging ends of the fingers to receive material cleaned from the roll and from said confronting faces of the disks.

4. In a cleaning tool for a meat tenderizing machine of the type including a cutter roll and a plurality of cutting disks spaced longitudinally of said roll, a handle; a head rigid therewith; and a plurality of flat, wide cleaning blades rigid with and extending in parallel planes from the head and formed to a thickness approximating the width of the spaces between the several cutting disks, so as to wipe over the confronting faces of adjacent disks, each blade being formed as a plurality of elongated, wide, parallel fingers, said fingers including a pair of identical though opposite outer fingers having end edges extending in diverging relation from the head and an inner finger arranged centrally between the outer fingers and substantially shorter in length than the outer fingers, said inner finger being

6

formed with an end edge having end edge portions converging in a direction away from the head to cooperate with the respective end edges of the outer fingers to engage and clean cutter rolls of different diameters, said inner and outer fingers defining deep, parallel, slot-like recesses at opposite sides of the inner finger opening inwardly from the roll-engaging ends of the fingers to receive material cleaned from the roll and from said confronting faces of the disks, the end edges of the several fingers having a plurality of small notches formed therein adapted to effect a scraping action upon said cutting roll.

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