

Aug. 9, 1932.

E. F. GAINES

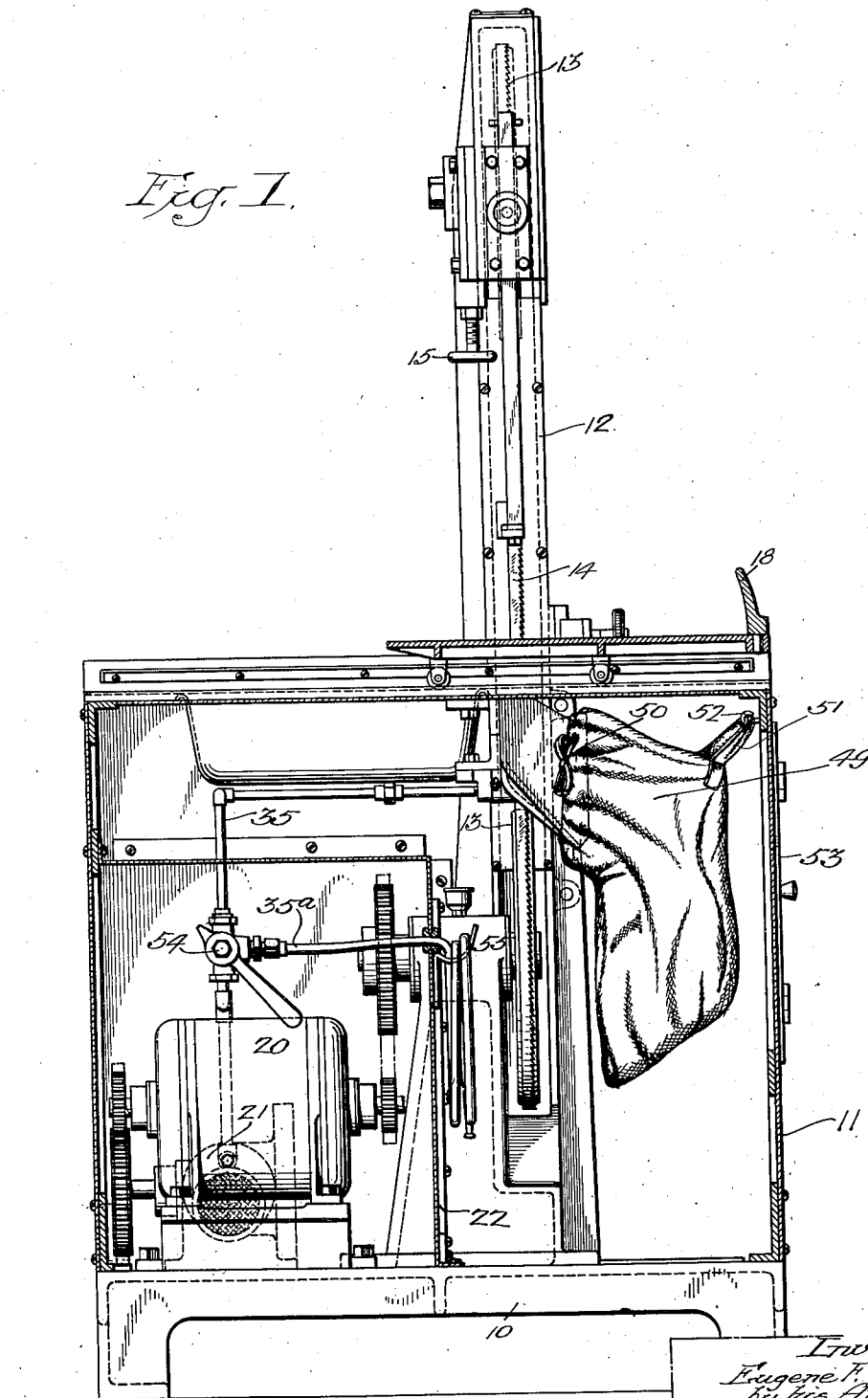
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POWER MEAT SAW

Filed Oct. 22, 1930

6 Sheets-Sheet. 1

Fig. 1.



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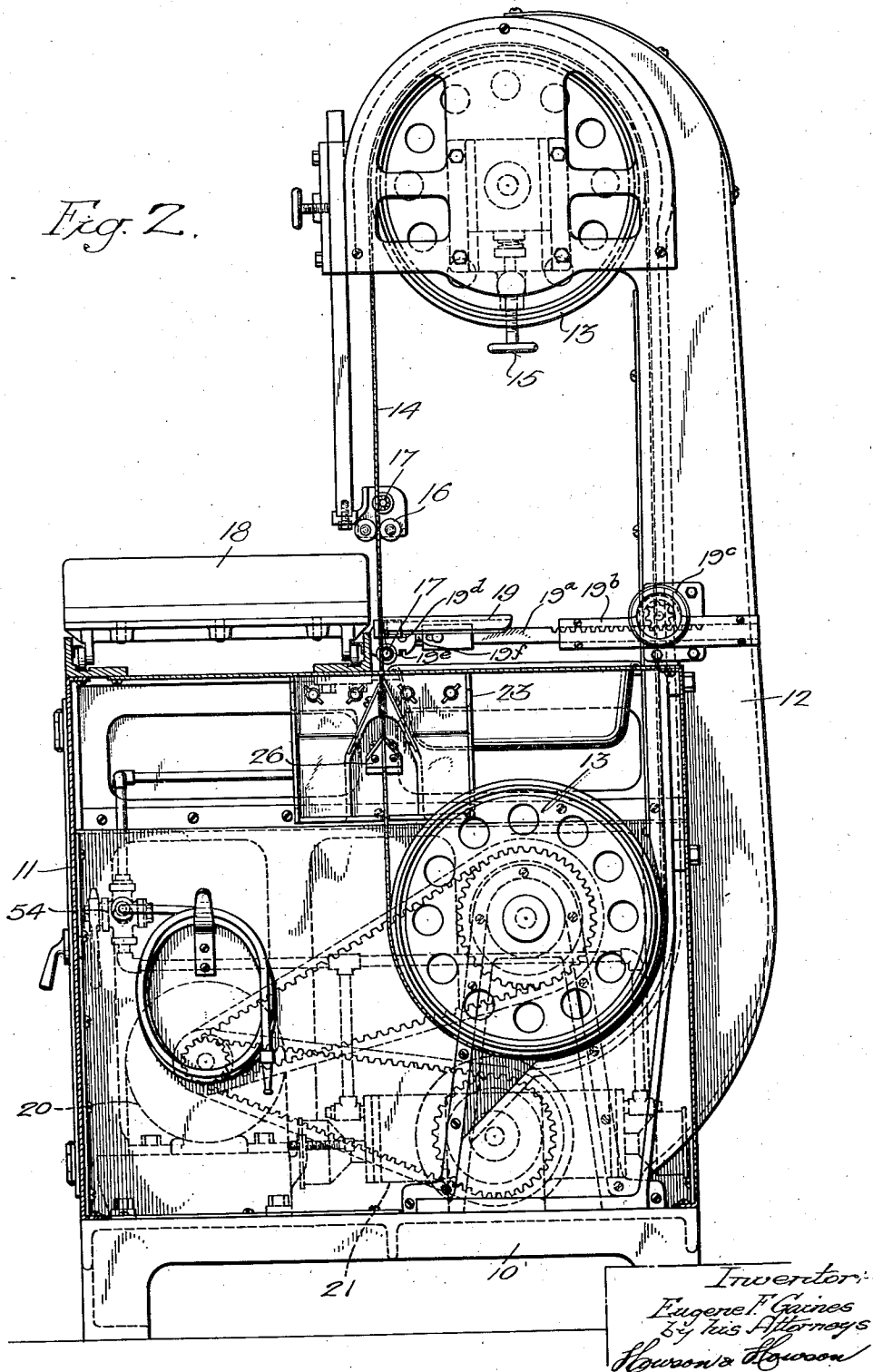
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POWER MEAT SAW

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Fig. 2.



Aug. 9, 1932.

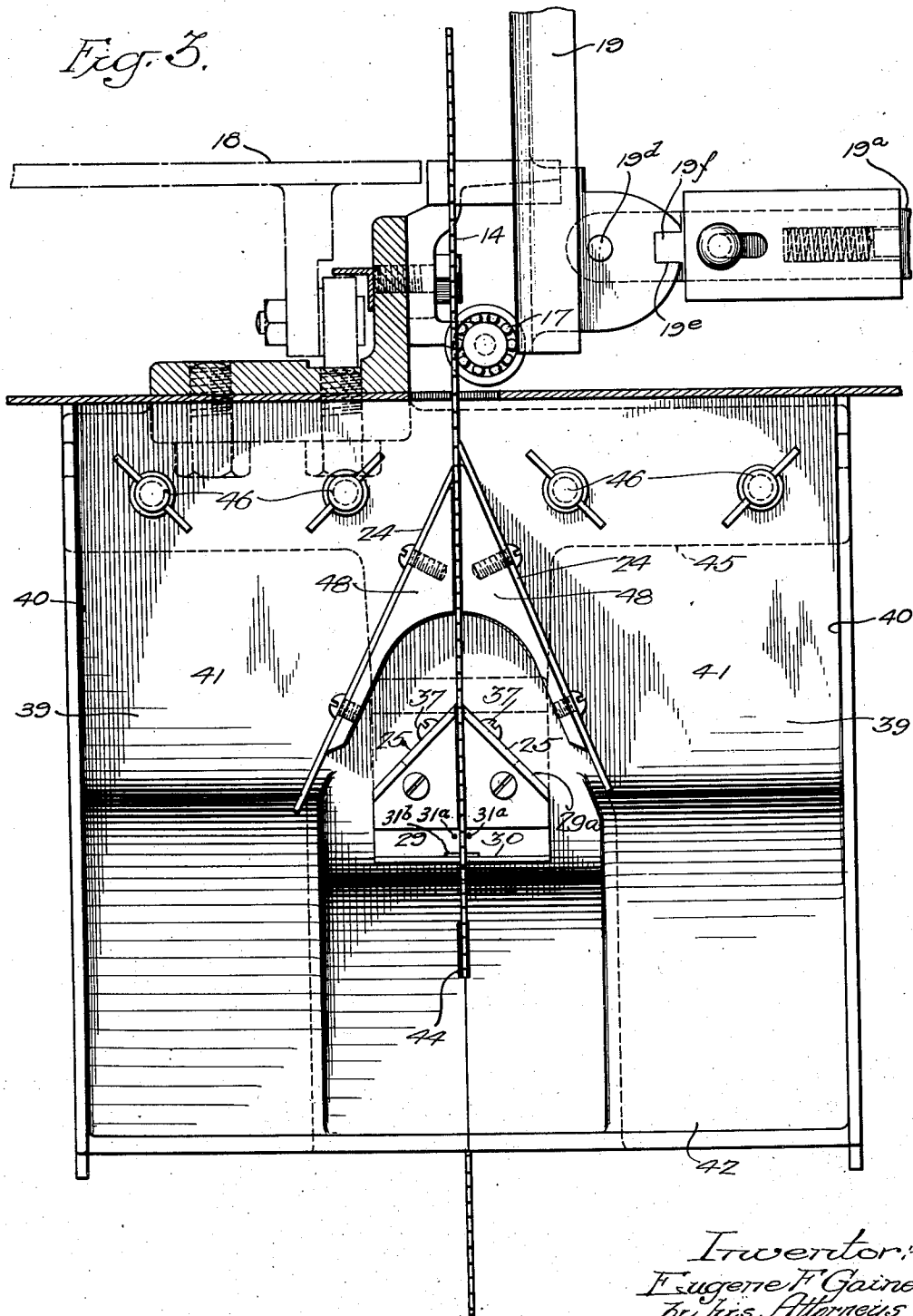
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POWER MEAT SAW

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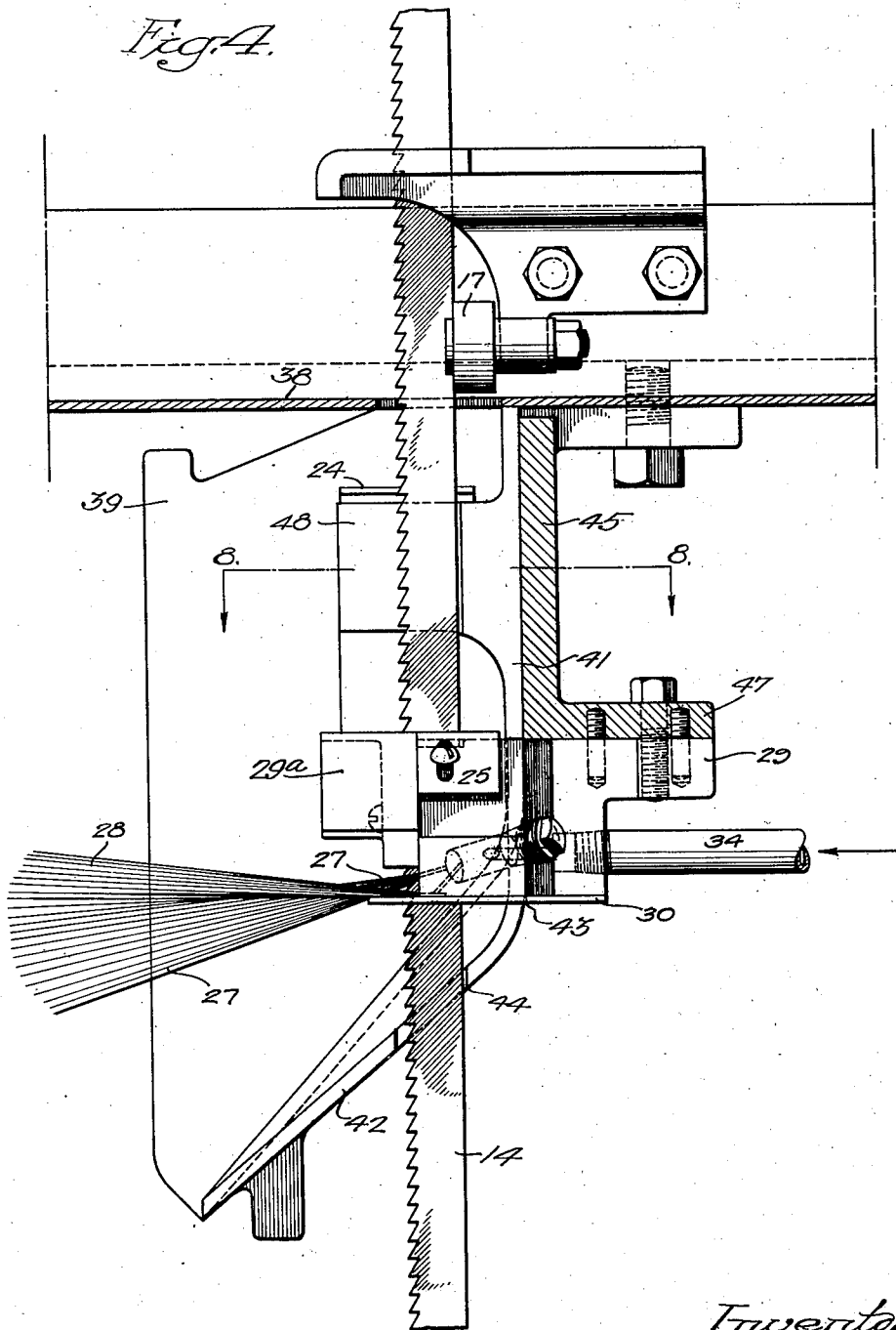
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POWER MEAT SAW

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6 Sheets-Sheet 4



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POWER MEAT SAW

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6 Sheets-Sheet 5

Fig. 5.

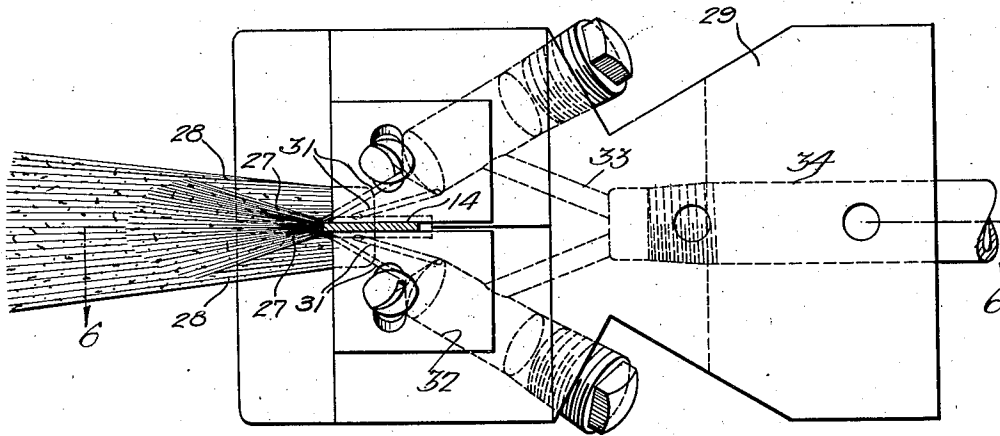


Fig. 6.

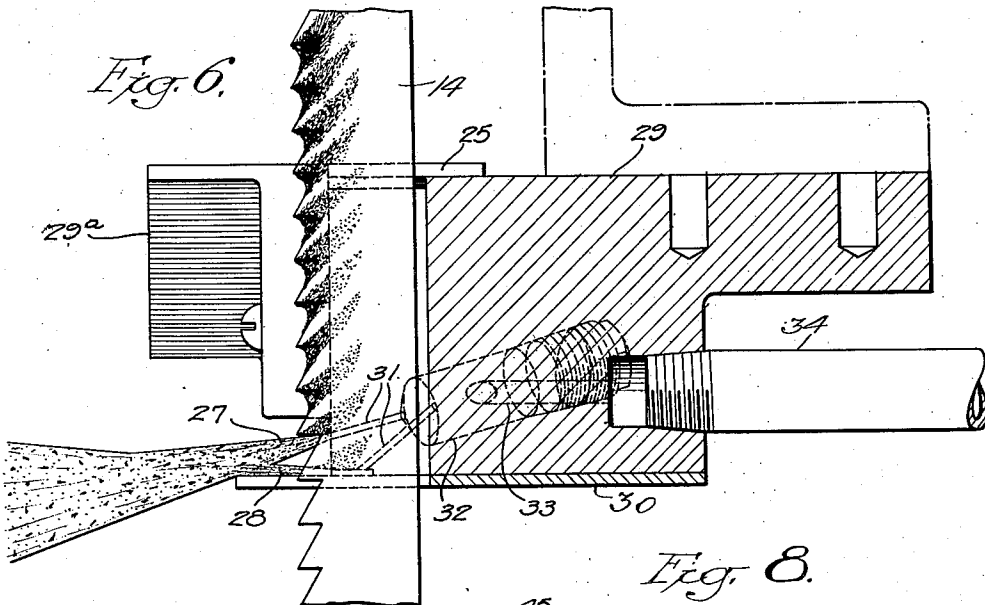
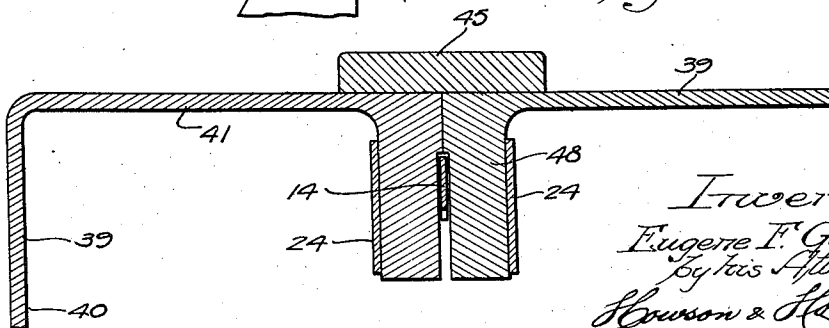


Fig. 8.



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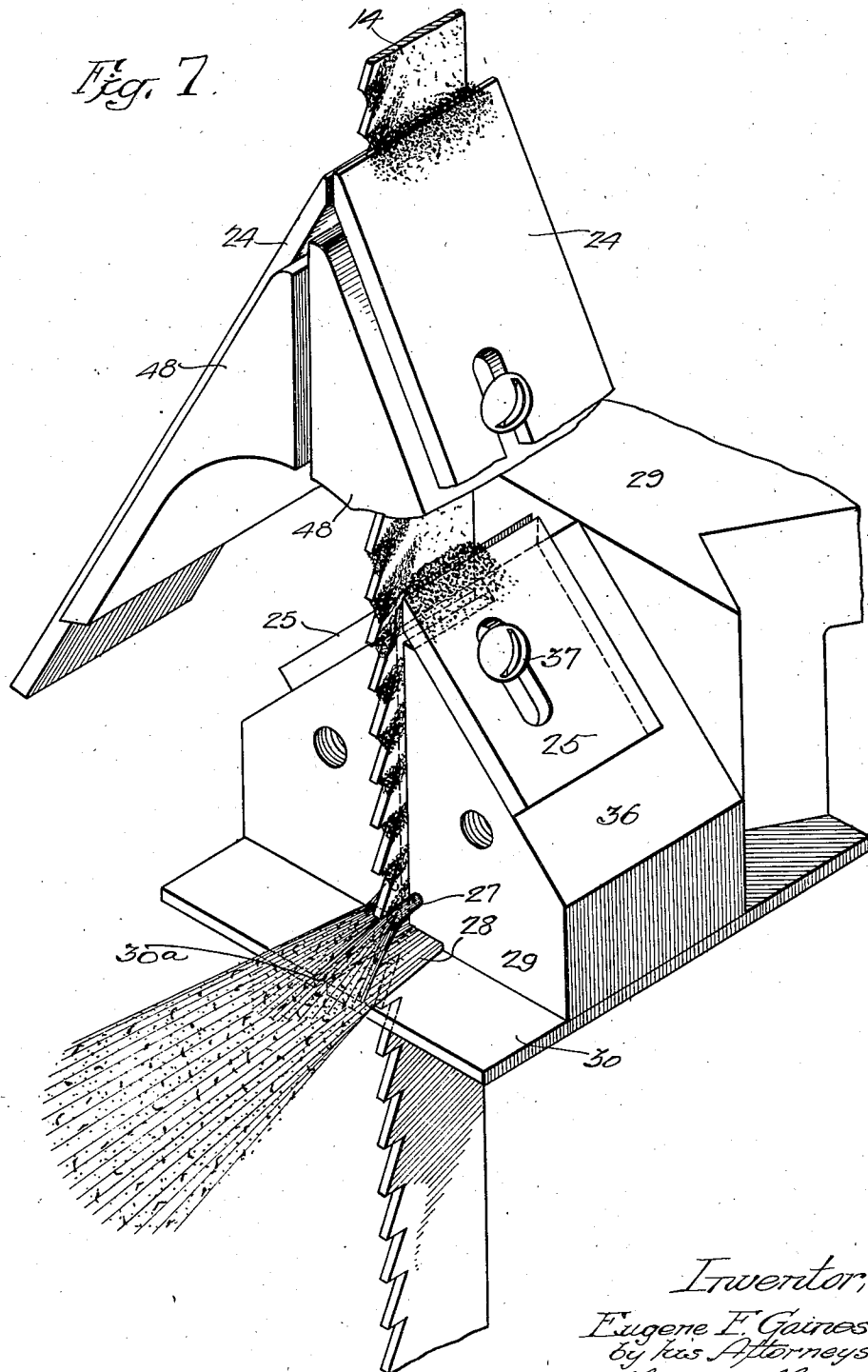
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POWER MEAT SAW

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6 Sheets-Sheet 6

Fig. 7.



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UNITED STATES PATENT OFFICE

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POWER MEAT SAW

Application filed October 22, 1930. Serial No. 490,500.

This invention relates to a meat sawing apparatus, and more particularly to an apparatus employing a band saw as a means for cutting meat.

5 This application is in part a continuation of my application Serial No. 338,848, filed February 9, 1929.

Such sawing apparatus is employed both in large establishments where meat is cut in large quantities and likewise in the smaller wholesale and in retail stores. In the latter situation particularly, it is advisable that the meat-cutting take place within the view of the purchaser for many persons do not care to buy meats which they are not sure have been cut from a fresh section. Obviously, any machine operated in the view of the customer must be compact in its construction in order that it may not occupy too much floor space, neat in appearance, and must be sanitary in its operation and cut the meat without leaving any residue or collection from the saw thereon so that the meat will not require wiping or cleaning before being turned over to the purchaser. In the smaller stores, obviously, the construction must likewise be such that the power employed is reduced to a minimum.

Many attempts have been made heretofore to produce a practical meat-cutting machine employing a saw as the cutting medium, but such devices have proved impractical in use, due to the fact that no means were provided for properly cleaning the blade after contact with the meat. The cleaning of such blades is extremely difficult, due to the fact that small ligaments or stringy bits of meat and the fats met with in the meat all have a tendency to cling to the saw blade, the former gathering in the throats of the saw teeth, and the latter collecting upon the side faces of the blade. Obviously, if this accumulation is not continuously removed from the blade during operation, not only will the portions clinging in the teeth of the blade interfere with the actual cutting operation, but the meat cut by the blade will be smeared across its face with the fatty accumulations at the side of the blade and will be unattractive in appearance, and, therefore, unsaleable until

after a time-consuming cleaning operation. Removal of the accumulation from the sides of the blade and from the throats or gullets of the saw teeth is a difficult operation and it is quite as difficult to make some disposition of the removed material which will prevent this material from being thrown about the interior of the base of the machine in which the removal necessarily takes place and thus causing the base of the machine to become unsanitary.

Accordingly, an important object of the present invention is the provision of a cleaning means embodying means for removing material both from the sides of the blade and the gullets of the teeth and disposing of this material in such manner that it cannot again come in contact with the saw and is collected in a manner preventing its contact with other elements within the base.

A further object of the invention is to provide an apparatus of this character, the construction of such machine being that the various elements may be readily removed for the periodical cleaning which is necessary.

A still further object of the invention is the production of an apparatus of this character which may be readily and cheaply manufactured, which will be durable and efficient in service, and a general improvement in the art.

These and other objects I attain by the construction shown in the accompanying drawings, wherein for illustration I have shown a preferred embodiment of my invention, and wherein:

Fig. 1 is a view partially in section through a meat cutting machine constructed in accordance with my invention;

Fig. 2 is a section at right angles to that of Fig. 1, the collection receptacle being removed;

Fig. 3 is an enlarged front elevation of the cleaning apparatus;

Fig. 4 is a side elevation of the cleaning apparatus with one of the housing sections removed;

Fig. 5 is a plan view of the gullet cleaning section of the blade cleaning apparatus;

Fig. 6 is a section on the line 6—6 of Fig. 5;

Fig. 7 is a perspective view, partially broken away, of the cleaning apparatus;

Fig. 8 is a sectional view on the line 8—8 of Fig. 4.

Referring now more particularly to the drawings, the numeral 10 generally designates a base supporting directly a compartment 11 and a standard 12 from which is supported a pair of wheels 13, about which operates a saw 14. One of the wheels is made adjustable, as indicated at 15, so that the saw may be maintained under proper tension, and the saw is equipped with the usual side and back tension thrusts, as indicated at 16 and 17 respectively. Upon the upper surface of the compartment 11 a carriage 18 is mounted and a suitably adjustable stop or gage 19 is provided to regulate the thickness of cuts. This stop may be shifted from the horizontal position in which it is shown in Fig. 2, and in which position it is employed more as a support when cutting larger sections of meat such as roasts, to a vertical position such as illustrated in Fig. 3 wherein it acts in its gaging capacity to determine the thickness of slabs of meat such as steaks, chops or cutlets. The mounting for this gage comprises a rack bar 19—*a* mounted to move transversely of the saw table in a guide 19—*b* carried by the standard 12, a rotatable adjusting member 19—*c* being provided for engagement with the rack. The end of this rack bar supports the guide 19 through a pivot 19—*d* the guide about the pivot being formed with a notch 19—*e* adapted to engage the spring-pressed latch 19—*f* carried by the rack bar when the guide is in vertical position. Within the compartment 11 is disposed a motor 20 for operating the saw and likewise for operating a compressor 21, the purpose of which will presently appear. Likewise, disposed in this compartment but preferably segregated from the driving mechanism and compressor by partitioning 22, is a saw cleaning apparatus generally designated at 23, and more clearly illustrated in Figs. 4 to 9 inclusive.

This saw cleaning apparatus comprises an upper pair of primary scrapers 24, secondary scrapers 25 and an air blast mechanism generally designated at 26. The primary scrapers 24 are first to come into active engagement with the saw blade 14 and engage this blade rearwardly of the set thereof to remove substantially all of the foreign matter clinging to the side faces thereof. The secondary blades 25 engage the same surface of the saw blade as the scrapers 24 but engage more tightly against the saw blade so that they finally clean from the blade all foreign matter inwardly of the set. The forward edges of the blades 25, in addition to performing the cleaning function just set forth, likewise serve to disturb the inner ends of ligaments or stringy bits of meat which have hung in the gullets of the teeth and cause these liga-

ments to stand out so that they may be the more effectively engaged by the air jet mechanism.

The air jet mechanism includes means for directing two converging blasts 27 adapted to engage the face of the saw at the gullets of the teeth and act upon the strands disturbed by the scraper blades 25 to force them from these gullets and carry them away from the saw so that they may not engage thereagainst subsequently. The jets or blasts 27 operate with considerable force, being preferably produced through narrow orifices 31*a* as indicated with a pressure of approximately fifty pounds to the square inch. These jets combine after engaging the material in the gullets of the saws to produce a single jet moving in the general direction of the plane of the saw blade.

Two secondary blasts 28 are provided, these blasts being in the form of flat streams, the inner edges of which are defined by the saw and the outer and upper edges of which are defined by a slot 31*b* formed in the face of a metallic block 29. The bottoms of the blasts are defined by a plate 30 secured to the under surface of the block 29, this plate preferably projecting outwardly to prevent downwardly converging blasts 27 from moving downwardly at an angle such that some of the material removed thereby, met by the current of air naturally produced by the saw in its movement, be caused to join with the saw and again cling thereto. Blasts 28 serve to assist the plate in this function and to effectually block the unoccupied portions of the slot 30—*a* produced in the plate to permit passage of the saw blade. As will be noted from Figs. 5 and 6, these blasts 28 engage the saw blade well back of the gullets so that they remove any clinging material not completely removed by the scrapers 25 and more particularly deposits left by clinging ligaments caught in the saw gullets and which have been disturbed by the scrapers 25. The blasts 28 combine with the blasts or jets 27 in the formation of the single stream hereinbefore referred to. It is pointed out that the speed of the blasts issuing from jets 27 and 28 must be many times that of the speed of the saw. As a matter of fact, with the saw blade moving 30 to 40 feet a second, the speed of the air blasts must be several thousand feet per second. To attain such a speed the jet openings must obviously be very small or the compressor apparatus extremely large.

The converging angle of the jets 27, as more clearly shown in Fig. 5 is such that these jets meet at the rear edges of the gullets, while the angle to the horizontal of such jets is such that it lies between the angles of the bottom and front faces of the teeth. Jets 27 and 28 are both produced by ports 31 formed in the metallic body 29 and communicating with bores 32. These bores

32 in turn communicate through ports 33 with a single bore 34 which is in turn in communication with a compressor exhaust through a conduit 35.

5 Scraper blades 25 are preferably mounted upon upwardly converging faces 36 formed on the metallic block 29 and are adjustable on these faces as at 37 so that the extent of their engagement with the saw blade may be readily regulated. The blade contacting mechanisms just described are preferably enclosed in a deflector housing at present shown as having its upper surface partially open and partially closed by the upper plate or wall 15 38 of the compartment 11. It will be obvious that heavier particles moving downwardly in the general plane of the saw and at the front faces of the saw will tend to pass between the supports of scrapers 24 and between these scrapers. Furthermore, of the material 20 piling up on the scraper edges, a certain percentage will tend to pass downwardly between these supports. This material, if permitted to fall upon the plate 30 which projects to act as a guard plate preventing materials from falling near the saw where they might join the saw through the natural air current produced thereby, would be distributed along the width of this plate and 30 some of it would not be positioned so that it would be affected by the air blasts. Since the plate is horizontal, this material would continue to accumulate, with the result that the plate would have to be cleaned from time to time. In order to avoid this, I provide 35 upon the front face of the metallic block 29 downwardly diverging deflectors 29—a, the outer edges of which extend at least to the side edges of the plate and the inner edges of which define a slot in alignment with the 40 the saw blade. The upper surface of these deflectors is preferably coplanar with scrapers 25. Any material which passes through the slot between the deflectors 29—a will be 45 in direct alignment with the blast of air produced by the combination of jets 27, with the result that it will be engaged with sufficient force to be blown outwardly with those particles already picked up by this blast and 50 finally into a suitable receptacle hereinafter described.

The side, bottom and rear walls of the compartment are formed by a pair of castings 39 each forming one side wall 40 and one-half 55 of each of the rear and bottom walls 41 and 42. The rear wall is notched at 43 for the passage of the block 29, while the bottom wall is notched at 44 for the passage of the saw, these notches being each formed one-half 60 in each of the meeting edges of the sections 39 so that by separation of the sections the saw is left exposed except for the block 29. The sections 39 are secured to a bracket 45 by means of thumb screws 46 or some other 65 means permitting ready detachment thereof.

The bracket 45, which is vertically extending and has its upper end secured to the upper wall 38 of the compartment 11, has at its lower end an angular foot 47 to which block 29 is secured. Each section 39 has cast 70 thereon a lug 48 providing a mounting for one of the upper scrapers 24. It will be noted that these scrapers are set so that they engage the saw at different levels. This arrangement of the scrapers prevents piling 75 of the material which would otherwise occur due to joining of the mass of scrapings accumulating on each blade. Scrapers 24 and 25 each incline outwardly and downwardly from the saw and direct the scrapings there- 80 from against the bottom wall 42. Bottom wall 42 inclines downwardly and forwardly, as more clearly shown in Fig. 4, so that these scrapings move downwardly therealong and out through the front opening of the deflec- 85 tor housing.

The upper and lower walls are constructed to receive and hold against movement a screen bag 49 which bag is secured in position with its mouth receiving the forward edges of 90 the side and bottom walls of the deflector housing by means of a draw string 50, the bag itself being preferably supported through an attached tape loop 51 engaging a hook 52 or other suitable support on the 95 casing wall. Opposite the deflector housing the base compartment 11 is preferably provided with a door 53 affording access to the compartment and through which the bag 49 and its contents may be removed. The blast 100 of air from the jets 27, 28 forces the removed materials from the deflector housing into the bag and the bag acts as a sieve permitting the escape of air while collecting the particles. This prevents the particles from being blown 105 about in the base compartment and thus their adherence to the mechanisms contained therein.

In order to facilitate cleansing of the lower compartment, it is preferred that the ex- 110 haust pipe 35 of the compressor 21 be provided with a three-way valve 54 permitting direction of the air blast either through the conduit 35 or through a branch 35—a thereof. Branch 35—a preferably constitutes a flex- 115 ible hose, at present shown as coiled upon a hook 55 at the outer face of the partition 22, so that it is accessible through door 53.

While I have hereinbefore described the use of scrapers in conjunction with the blast 120 or jet-forming mechanism, it will be obvious that by increasing the air pressure all of the refuse carried by the saw could be removed therefrom. Since, however, this would require a considerable quantity of air in ad- 125 dition to that now employed and thus necessitate enlargement of the compressor employed and the use of more power with the consequent necessity for enlargement of the base 130 of the machine, the construction illustrated

is preferred. Likewise, where two sets of scrapers are illustrated the use of two sets would be unnecessary provided the set retained were kept in proper adjustment. With the use of two sets of scrapers, obviously, one set may be out of adjustment and the other set will perform the necessary cleaning function. Furthermore, while I at present employ the porous bag as a receptacle, it will be obvious that a receptacle of other construction can be employed if so desired. Likewise, the substitution of other fluid mediums for air may be had if so desired.

The construction illustrated being capable of a considerable modification without in any manner departing from the spirit of my invention, I do not wish to be understood as limiting myself thereto except as herein-after claimed.

I claim:

1. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, scrapers co-operating with the saw blade for removing collected material from the side faces thereof and having engagement with the blade from a point immediately rearwardly of the gullets of the teeth thereof to the rear of the blade, whereby said scrapers in addition to removing adhering material from the side faces of the saw engage the ends of fibres straddling the forward edge of the blade in the gullets of the teeth to separate the overhanging ends from the side faces, and means for producing converging air blasts directed against opposite sides of the saw at the apices of the gullets for engaging said overhanging ends and removing the fibres and collected matter from the gullets.

2. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, scrapers co-operating with the saw blade for removing collected material from the side faces thereof and having engagement with the blade from a point immediately rearwardly of the gullets of the teeth thereof to the rear of the blade, whereby said scrapers in addition to removing adhering material from the side faces of the saw engage the ends of fibres straddling the forward edge of the blade in the gullets of the teeth to separate the overhanging ends from the side faces, and means for producing converging air blasts directed against opposite sides of the saw at the apices of the gullets for engaging said overhanging ends and removing the fibres and collected matter from the gullets, said air blast producing means including a shelf projecting beyond the front edge of the saw and to opposite sides thereof to prevent material moving in the general direction of movement of the saw from passing sufficiently close to the saw to rejoin the same through saw-induced air currents.

3. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, scrapers co-operating with the saw blade for removing collected material from the side faces thereof and having engagement with the blade from a point immediately rearwardly of the gullets of the teeth thereof to the rear of the blade, whereby said scrapers in addition to removing adhering material from the side faces of the saw engage the ends of fibres straddling the forward edge of the blade in the gullets of the teeth to separate the overhanging ends from the side faces, means for producing converging air blasts directed against opposite sides of the saw at the apices of the gullets for engaging said overhanging ends and removing the fibres and collected matter from the gullets, the blasts of said means joining after co-action with the saw to produce a blast moving forwardly from the saw and in the general plane thereof, and means above and adjacent said blast preventing movement of materials in the general direction of the saw with the exception of those materials moving in the general plane of the saw.

4. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, scrapers co-operating with the saw blade for removing collected material from the side faces thereof and having engagement with the blade from a point immediately rearwardly of the gullets of the teeth thereof to the rear of the blade, whereby said scrapers in addition to removing adhering material from the side faces of the saw engage the ends of fibres straddling the forward edge of the blade in the gullets of the teeth to separate the overhanging ends from the side faces, means for producing converging air blasts directed against opposite sides of the saw at the apices of the gullets for engaging said overhanging ends and removing the fibres and collected matter from the gullets, and a porous receptacle into which said blast is directed and through which the air of the blast passes leaving removed materials within the receptacle.

5. In meat sawing apparatus, and in combination with a saw blade and means for supporting and driving the same, means co-operating with the blade and engaging the same immediately rearwardly of the gullets of the teeth thereof for freeing the ends of fibres caught in the teeth from the side faces of the blade and converging jets engaging the blade immediately after engagement by said means with the blade for engaging said ends and blowing the fibres from the teeth.

6. In meat sawing apparatus, and in combination with a saw blade and means for supporting and driving the same, means co-operating with the blade and engaging the same immediately rearwardly of the gullets

of the teeth thereof for freeing the ends of fibres caught in the teeth from the side faces of the blade and converging jets engaging the blade immediately after engagement by said means with the blade for engaging said ends and blowing the fibres from the teeth, said jets converging on the gullets of the teeth.

7. In meat sawing apparatus, and in combination with a saw blade and means for supporting and driving the same, means cooperating with the blade and engaging the same immediately rearwardly of the gullets of the teeth thereof for freeing the ends of fibres caught in the teeth from the side faces of the blade and converging jets engaging the blade immediately after engagement by said means with the blade for engaging said ends and blowing the fibres from the teeth, said jets converging on the gullets of the teeth and combining to produce a single blast moving forwardly from the saw in the direction of the general plane thereof.

8. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, a body having a slot through which the saw passes with the set thereof projecting from the slot, ports in said body converging upon the gullet line of the saw formed in the body, means for introducing fluid under pressure to said jets and means upon the upper surface of the body to engage the saw in advance of said jets and free the ends of fibres caught in the gullets of the saw from the side faces of the blade.

9. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, a body having a slot through which the saw passes with the set thereof projecting from the slot, ports in said body converging upon the gullet line of the saw formed in the body, means for introducing fluid under pressure to said jets, means upon the upper surface of the body to engage the saw in advance of said jets and free the ends of fibres caught in the gullets of the saw from the side faces of the blade, and means for directing blasts of fluid against the sides of the saw inwardly of the set thereof, said blasts moving outwardly along the sides of the saw.

10. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, a body having a slot through which the saw passes with the set thereof projecting from the slot, ports in said body converging upon the gullet line of the saw formed in the body, means for introducing fluid under pressure to said jets, means upon the upper surface of the body to engage the saw in advance of said jets and free the ends of fibres caught in the gullets of the saw from the side faces of the blade, and means for directing blasts of fluid against the sides of the saw inwardly of the set there-

of, said blasts moving outwardly along the sides of the saw, all of said blasts combining to form a single stream.

11. In meat sawing apparatus and in combination with the endless saw blade and means for supporting and driving the same, a body having a slot through which the saw passes with the set thereof projecting from the slot, ports in said body converging upon the gullet line of the saw formed in the body, means for introducing fluid under pressure to said ports, means upon the upper surface of the body to engage the saw in advance of said jets and free the ends of fibres caught in the gullets of the saw from the side faces of the blade, means for directing fluid blasts against the sides of the saw inwardly of the set thereof, said blasts moving outwardly along the sides of the saw, all of said blasts combining to form a single stream, and a porous receptacle into which said stream is directed and through which the fluid of the stream passes leaving removed materials within the receptacle.

12. In meat sawing apparatus, and in combination with a saw blade and means for supporting and driving the same, means cooperating with the blade and engaging the same immediately rearwardly of the set of the teeth thereof for freeing the ends of fibres caught in the teeth from the face of the blade, converging jets engaging the blade immediately after engagement by said means with the blade for blowing the fibres from the teeth, and means in the path of said jets receiving the removed material, said means having a porous wall permitting passage of the fluid from the jets while retaining the removed materials.

13. In meat sawing apparatus, and in combination with a saw blade and means for supporting and driving the same, means cooperating with the blade and engaging the same immediately rearwardly of the set of the teeth thereof for freeing the ends of fibres caught in the teeth from the face of the blade, converging jets engaging the blade immediately after engagement by said means with the blade for blowing the fibres from the teeth, said jets converging on the gullets of the teeth and combining to produce a single blast moving forwardly from the saw in the direction of the general plane thereof, and means in the path of said jets receiving the removed material, said means having a porous wall permitting passage of the fluid from the jets while retaining the removed materials.

14. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, a body having a slot through which the saw passes with the set thereof projecting from the slot, ports in said body converging upon the gullet line of the saw formed in the body, means for introducing fluid under pressure to said jets,

means upon the upper surface of the body to engage the saw in advance of said jets and free the ends of fibres caught in the gullets of the saw, and means in the path of said jets receiving the removed material, said means having a porous wall permitting passage of the fluid from the jets while retaining the removed materials.

15. Cleaning apparatus for band meat saws comprising in combination with a saw an open front casing through which the saw passes, a porous bag secured to said casing with its mouth in surrounding relation to the open front thereof and air blast means within the casing for directing a cleaning blast against the saw in a direction with respect to the gullets of the teeth such that removed materials are blown through said open front.

16. Cleaning apparatus for band meat saws comprising in combination with a saw an open front casing through which the saw passes, a porous bag secured to said casing with its mouth in surrounding relation to the open front thereof and air blast means within the casing for directing a cleaning blast against the saw in a direction with respect to the gullets of the teeth such that removed materials are blown through said open front, said casing having an inclined bottom along which collected materials may move into the mouth of the bag.

17. Cleaning apparatus for band meat saws comprising in combination with a saw an open front casing through which the saw passes, a porous bag secured to said casing with its mouth in surrounding relation to the open front thereof, air blast means within the casing for directing a cleaning blast against the saw in a direction such that removed materials are blown from the gullets of the teeth through said open front, said casing having an inclined bottom along which collected materials may move into the mouth of the bag, and scrapers engaging the saw within the casing and directing material removed from the saw against said inclined bottom.

18. The method of cleaning the blades of band meat saws while the saw is in motion consisting in initially disturbing the ends of fibres clinging in the gullets of the saw to free them from the side faces of the saw and then directing a blast of air against the saw in a direction to engage said fibres and blow them from the gullets.

19. The method of cleaning the blades of band meat saws while the saw is in motion, consisting in initially disturbing the ends of fibres clinging in the gullets of the saw to free them from the side faces of the saw and then directing converging blasts of fluid against the saw at an angle such that said blasts converge on the gullets of the saw in a direction generally toward the mouths of the gullets.

20. In meat sawing apparatus, and in combination with a saw blade and means for supporting and driving the same, means co-operating with the blade and engaging the same immediately rearwardly of the set of the teeth thereof for freeing the ends of fibres caught in the teeth from the face of the blade, means for causing converging jets to engage the blade immediately after engagement by said means with the blade for blowing the fibres from the teeth, and means in the path of said jets receiving the removed material.

21. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, means for causing jets to converge against the blade at a point outside of the body through which the saw is cutting for forcing material from the faces of the blade and from the teeth thereof, and means in the path of said jets receiving the removed material.

22. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, means for causing jets to engage the blades at the gullets thereof at a point outside of the body through which the saw is cutting to remove adhering fibres from said gullets and blow them from the teeth of the saw, and means in the path of said jets receiving the removed material.

23. In meat sawing apparatus and in combination with a saw blade and means for supporting and driving the same, means for producing converging jets engaging the blades at the gullets thereof in a direction with respect to the gullets to remove adhering fibres therefrom and blow them from the teeth of the saw, means for producing jets engaging the sides of the blades for blowing adhering material therefrom and means in the path of said jets receiving the removed material.

24. The combination with a moving meat sawing blade of high pressure jets engaging the blade at a point outside of the body through which the saw is cutting to remove material therefrom, said jets combining to produce a single blast directed outwardly from the saw and a receptacle into which the blast is directed.

25. Means for cleaning a moving meat saw comprising means for producing high pressure jets converging upon the gullets of the saw at a point outside of the body through which the saw is cutting, and moving from the back to the front of the saw, said jets being in alignment whereby they combine to produce a single blast moving forwardly from the saw.

26. Means for cleaning moving meat saws comprising in combination with the saw means for producing high pressure jets of air engaging the side of the saw at a point outside of the body through which the saw is cutting, and moving from the back to the

toothed edge of the saw, said jets combining to produce a single blast moving forwardly from the saw and a receptacle in the path of said blast.

5 27. Meat sawing apparatus comprising a saw blade, and means for projecting from said blade material adhering thereto after passage through the meat comprising means for producing a free jet of fluid, means for
10 supporting said jet-producing means with respect to said blade for causing the jet forcibly to impinge upon the blade at and adjacent the bottoms of the gullets of the teeth and to move in a direction having a component normal to the face of the saw, and a component
15 parallel to the face of the saw from the rear toward and continuing beyond its cutting edge, and means engaging said saw blade in advance of said jet for preliminarily disturbing
20 said material adhering to said blade.

28. Meat sawing apparatus comprising a saw blade, and means for removing fibres lodged in the gullets of the teeth of said blade and clinging to the faces thereof after
25 passage through the meat comprising means for producing a free jet of fluid, means for supporting said jet-producing means with respect to said blade for directing the jet against the face of the saw at an angle other
30 than normal thereto, the direction of movement of the jet having a component substantially parallel to the face of the saw and moving from the rear toward the toothed edge, said jet forcibly impinging at and adjacent
35 the bottoms of the gullets and continuing beyond said toothed edge, and means engaging said saw blade in advance of said jet for preliminarily disturbing said material adhering to said blade.

40 29. Meat sawing apparatus comprising a saw blade having teeth inclined generally in the direction of movement of said blade, and means for projecting from said blade after passage through the meat material adhering
45 to the blade comprising means for producing a free jet of fluid, means for supporting said jet producing means with respect to said blade for causing the jet forcibly to impinge at and adjacent the bottoms of the gullets
50 and continuing outwardly beyond the toothed edge of the blade, the direction of movement of said jet having a component normal to the face of the saw, a component parallel to the face of the saw from the rear towards its
55 cutting edge, and a component generally parallel to the inclination of the saw teeth as they pass said jet, and means engaging said saw blade in advance of said jet for preliminarily disturbing said material adhering to
60 said blade.

30. Meat sawing apparatus comprising a saw blade, a housing through which said blade passes, and means within said housing delivering fluid in a jet applied to said blade
65 adjacent the gullets for removing adherent

material and transporting it away from said saw blade to another region within said housing.

31. Meat sawing apparatus comprising a saw blade, a housing through which said
70 blade passes, means within said housing delivering fluid in a jet applied to said blade adjacent the gullets for removing adherent material and transporting it away from said
75 saw blade to another region within said housing, and means disposed in said housing engaging said saw blade in advance of said fluid delivering means for preliminarily disturbing said material adhering to said blade.

32. Meat sawing apparatus comprising a
80 saw blade, a housing through which said blade passes, and means within said housing delivering fluid in a jet applied to said blade adjacent the gullets for removing adherent material and transporting it away from said
85 saw blade to another region within said housing, a portion of said housing comprising a porous and detachable receptacle for the material removed by said fluid.

33. Meat sawing apparatus comprising a
90 saw blade, means delivering fluid in a jet applied to said blade adjacent the teeth thereof for removing adherent material, and means engaging said saw blade in advance of said fluid jet for preliminarily disturbing said
95 material adhering to said blade.

34. Meat sawing apparatus comprising a saw blade, a housing through which said blade passes, means within said housing delivering fluid in a jet applied to said blade
100 adjacent the teeth thereof for removing adherent material and transporting it to another region within said housing, and means engaging said saw blade in advance of said fluid jet for preliminarily disturbing said
105 material adhering to said blade.

35. Meat sawing apparatus comprising a saw blade, and means for removing from said blade material adhering thereto after passage through the meat comprising means delivering fluid in a jet applied to said blade
110 adjacent the teeth thereof for removing adherent material, scraper means engaging the saw blade rearwardly of the teeth, and scraper means overhanging the teeth of said blade
115 and engaging the blade in advance of said fluid jet and said first-named scraper means.

36. Meat sawing apparatus comprising a saw blade, a housing through which said
120 blade passes, means within said housing delivering fluid in a jet applied to said blade adjacent the teeth thereof for removing adherent material and transporting it away from said saw blade to another region within
125 said housing, primary scraper structure engaging the blade and overhanging the teeth, and secondary scraper structure engaging the blade rearwardly of the teeth thereof, said primary scraper structure engaging
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the blade in advance of said fluid jet and said secondary scraper structure.

37. Meat sawing apparatus comprising a saw blade, a housing through which said blade passes, means within said housing delivering fluid in a jet applied to said blade adjacent the teeth thereof for removing adherent material and transporting it to another region within said housing, and means within said housing engaging said saw blade in advance of said fluid jet for preliminarily disturbing said material adhering to said blade.

38. Meat sawing apparatus comprising a saw blade, a housing through which said blade passes, means within said housing delivering fluid in a jet applied to said blade adjacent the teeth for removing adherent material and transporting it away from said saw blade to another region within said housing, and a casing through which said saw blade passes surrounding and enclosing said housing.

39. Meat sawing apparatus comprising a saw blade and means for driving the same, a housing through which said blade passes, means within said housing delivering fluid in a jet applied to said blade adjacent the teeth for removing adherent material and transporting it away from said saw blade to another region within said housing, and a casing through which the saw blade passes surrounding and enclosing said housing and driving means.

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