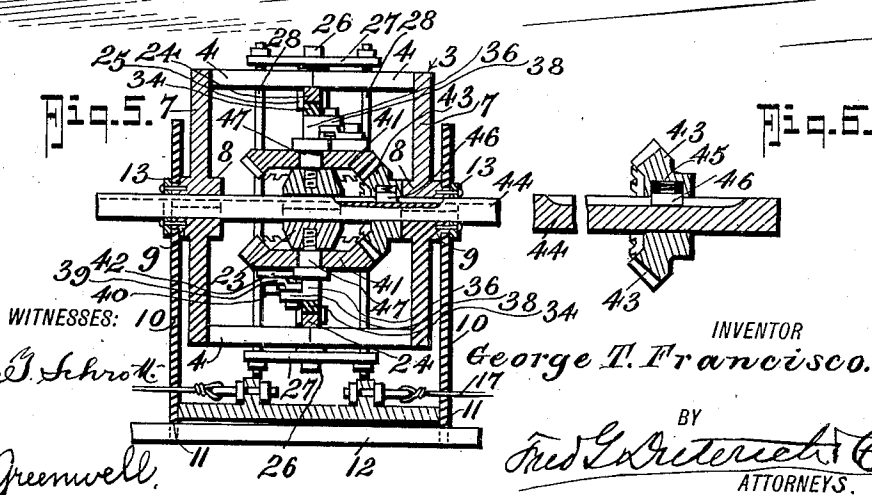
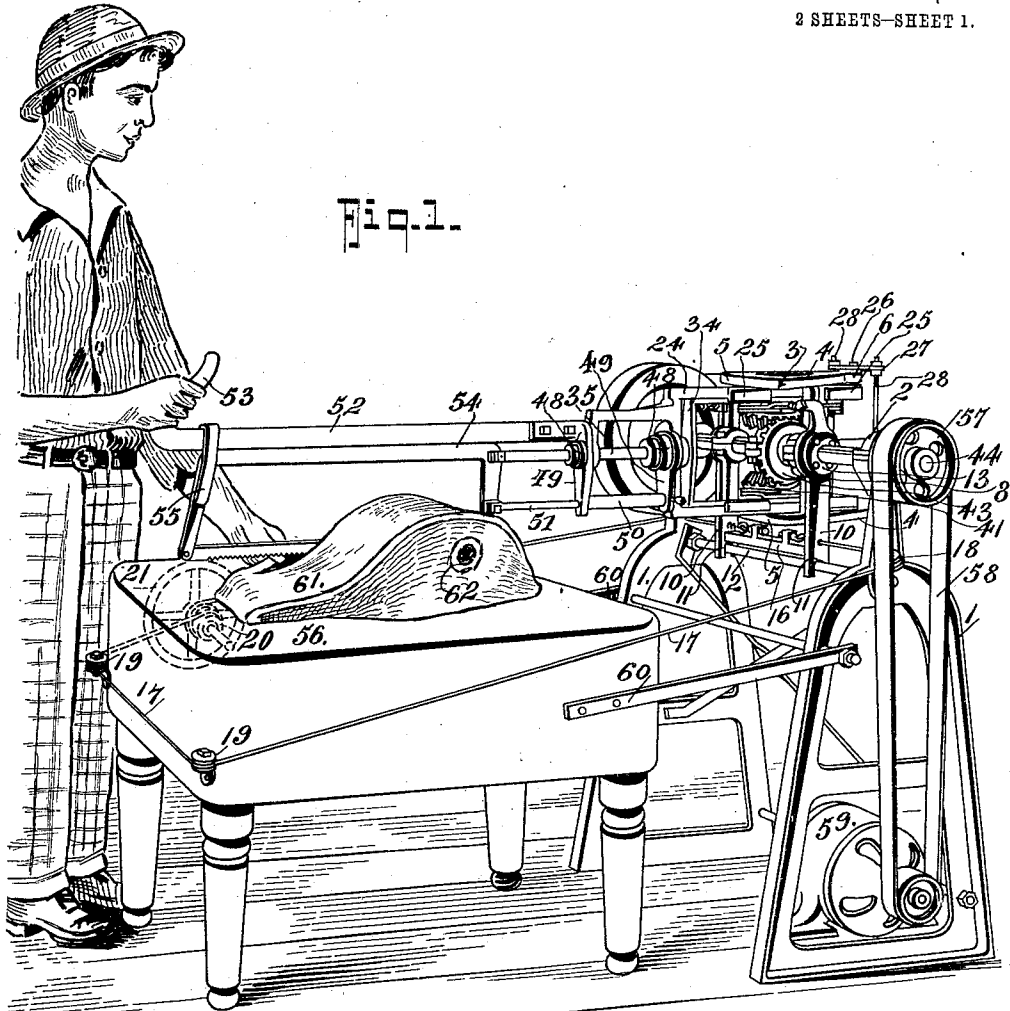


G. T. FRANCISCO.
MEAT SAWING MACHINE.
APPLICATION FILED AUG. 4, 1911.

1,062,644.

Patented May 27, 1913.

2 SHEETS—SHEET 1.



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2 SHEETS-SHEET 2.

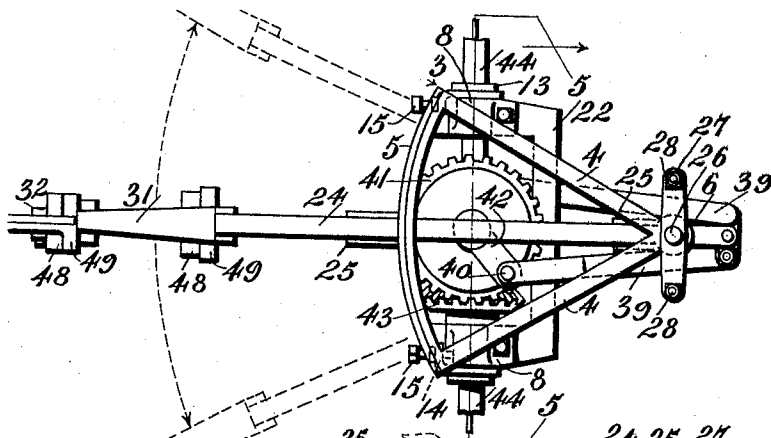


Fig. 2.

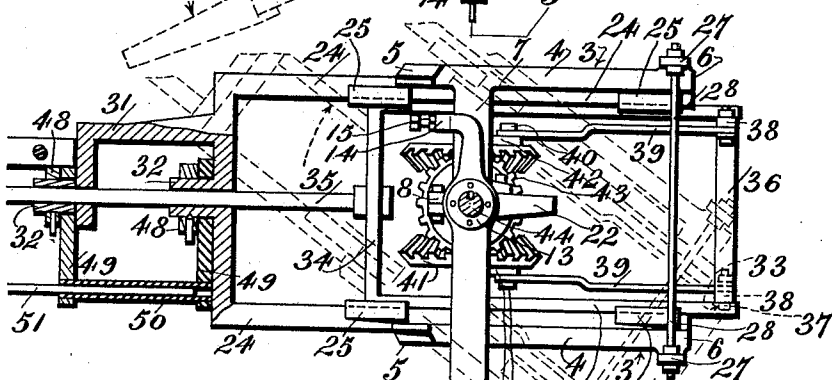


Fig. 3.

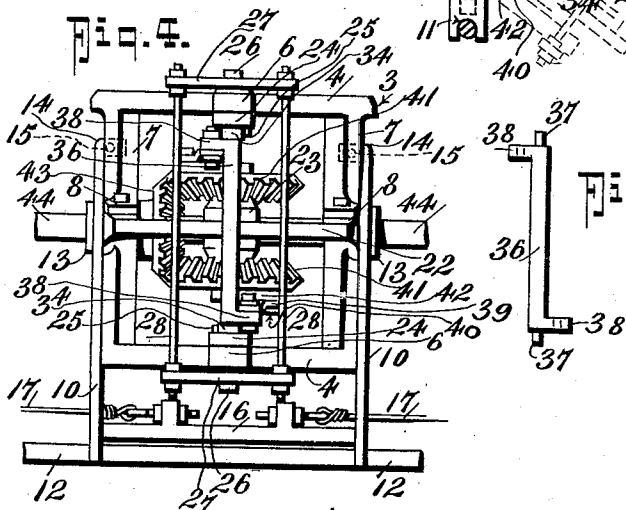


Fig. 4.

WITNESSES:

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MEAT-SAWING MACHINE.

1,062,644.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed August 4, 1911. Serial No. 642,372.

To all whom it may concern:

Be it known that I, GEORGE THOMAS FRANCISCO, residing in the city of Highland, county of San Bernardino, and State of California, have invented certain new and useful Improvements in Meat-Sawing Machines, of which the following is a specification.

My invention is an improved machine for sawing meat and in its general make-up it embodies a supporting frame, a driving shaft mounted therein, a laterally slidable non-rotatable guide frame on the driving shaft and the general supporting frame, a main operating frame horizontally pivoted on the shaft to swing vertically, a vertically pivoted supplemental operating frame pivoted to the main operating frame to move laterally, a reciprocating saw-driving frame carried by the supplemental operating frame, a connection between the saw and the reciprocating driving frame therefor, power transmitting gear connections between the driving shaft and the saw driving frame and a device for automatically operatively connecting and disconnecting the gear connections and the driving shaft when desired.

In addition to the foregoing, the invention also embodies those novel details of construction, combination and arrangement of parts, all of which will be first fully described, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:—

Figure 1 is a perspective view illustrating the invention in use. Fig. 2 is a detail top plan view of the laterally sliding frame, a portion of the driving shaft, the vertically swinging main frame, the laterally swinging horizontal frame, and the parts coöperative therewith and connecting the same to the saw. Fig. 3 is a side elevation of the parts shown in Fig. 2. Fig. 4 is a rear elevation of the parts shown in Fig. 3. Fig. 5 is a vertical cross section on the line 5—5 of Fig. 2. Fig. 6 is a detail view showing the loose key connection between the driving shaft and its pinion. Fig. 7 is a detail view of the reciprocating frame oscillating post that connects with the pitman rods.

Referring now to the drawings in which like numerals and letters of reference designate like parts in all of the figures, 1 is the main or bed frame of the machine, which is

provided with shaft bearings 2 for the driving shaft 44.

3 designates, what I term for convenience, the main operating frame, and this frame consists of the upper and lower triangular members 4, which include the front arc sections 5 and the rear bearing portions 6. The upper and lower triangular frames 4 are joined by vertical side connections 7 that have bearings 8, to receive the driving shaft 44, on which the frame 3 is horizontally pivoted to swing in a vertical plane. The bearings 8 have trunnion portions 9 to receive the standards of the laterally movable non-rotatable sliding frame 10, as best indicated in Fig. 5 of the drawings. The frame 10 is retained in place, with relation to the frame 3 by cap plates 13 that are secured to the bearings 8, and the frame 10 has the lower ends of the standards notched at 11 to set over the guide rod 12 of the bed frame 1, and the standards of the frame 10 are joined adjacent to the rod 12, by a cross piece 16 to which the shifting cable 17 is connected. The cable 17 passes over idlers 18 on the bed frame 1 and over idlers 19 on the block 56, the cable 17 passing over a drum 20 mounted on the side of the block, which drum carries a wheel 21 arranged for convenient access by the operator whereby he may shift the frame 10 and its carried parts laterally along the shaft 44 for a purpose hereinafter more fully explained. The frame 3 includes a central yoke portion 22 that parallels the planes of the triangular members 4 and carries a bearing block 23 that is penetrated by the shaft 44 (see Fig. 5) to which bearing block 23, the master driving gears 41 are attached by stub shaft screws 47.

24 designates the laterally swingable saw carrying frame which is in the nature of a U-shaped body having upper and lower arms, the rear ends of which carry trunnions 26 to pass through the bearings 6 of the frame 3 and through bars 27 which are connected together at 28 to form a yoke to prevent spreading of the pivoted end of the frame 24. The saw carrying frame 24 is provided with bearings 25 that form slide-ways in which is mounted the longitudinally reciprocating saw driving frame 34, which is also in the nature of a substantially U-shaped body, the open end of which is joined by an

oscillating post 36, having trunnions 37 to enter the bearing apertures 33 in the ends of the frame 34. The oscillating post 36 has laterally projecting lugs 38 to which the pitmen 39 are pivoted. The pitmen 39 are pivoted at 40 to levers 42 that are secured to the gears 41 to turn therewith.

43 is the driving pinion which meshes with the gears 41 and is loosely mounted on the driving shaft 44. The pinion 43 has a pocket 45 for the loose key 46 that is adapted to key the pinion 43 to the shaft 44 by entering the key way of the shaft. The key-way of the shaft 44 has beveled ends as best indicated in Fig. 6, whereby, when the pinion 43 is in alinement with the ends of the key-way, the key 46 will disengage the key-way and permit the pinion 43 to ride loosely on the shaft 44, it being understood that a weak spring may be placed in the pocket 45 as indicated in Fig. 6, to insure the key 46 entering the key-way, when in alinement therewith.

The saw carrying frame 24 has a forward projection 31 that is provided with elongated portions 32 to receive the pitman shaft 35 that is carried by the reciprocating frame 34 and connects to the saw-back 54, as indicated in Fig. 1.

49 designates a pair of arms that are pivoted on the bearings 32 and united by a tubular member 50, in which the guide rod 51, that is carried by the saw-back 54, projects. The forward member 49 joins to the bar 52 that carries the handle 53, and supports the saw-back 54 through the medium of the clip 55. The bar 52, the arms 49, and the connecting tube 50 form, what I term, the saw-carrier that is mounted on the saw carrying frame 24 for pivotal movement along the central longitudinal axial line thereof. The arms 49 are held in place on the bearings 32 by collars 48 as indicated.

The driving shaft 44 receives its motion from a motor 59 through a belt and pulley connection 58—57 indicated in Fig. 1 of the drawings.

The bed frame 1 is connected to the block 56 by braces 60 so that the bed frame 1 and block 56 form a unitary structure as it were.

The meat 61 is laid on the block 56 and is preferably held in position by a suitable holding mechanism (not shown), of any approved type, preferably that disclosed in my Patent #1,038,336 issued September 10, 1912. After fastening the meat down on the block, the operator grasps the handle 53 and moves the saw into position to cut the meat. This operation automatically brings the pinion 43 over the key-way in the shaft 44 so that the key 46 will enter the same, and key the pinion to the shaft, thereby setting the gears 41 into motion. The motion of the gears 41 is transmitted through the cranks 42, pitmen 39 and post 36 to the frame 34 which is

set into rapid reciprocation. The reciprocation of the frame 34 is imparted to the saw through the medium of the rod 35. The required lateral movement or adjustment of the saw-carrier 52 is permitted by virtue of the laterally swinging saw carrying frame 24. When it is necessary to move the operating mechanism laterally, the operator need only to turn the wheel 21 to thereby move the frame 10 laterally, and consequently the parts embraced thereby.

In order to limit the downward movement of the saw the frame 10 has lugs 14 that carry adjusting screws 15 that engage the front portion of the standards 7 of the frame 3, as best indicated in Figs. 1, 2 and 3 of the drawings.

From the foregoing description taken in connection with the accompanying drawings, it is believed the complete construction, operation and advantages of the invention will be apparent to those skilled in the art, and I desire it understood that changes in the mechanical details of construction may readily be made by those skilled in the art without departing from the spirit of the invention.

What I claim is:—

1. In a sawing machine, a bed frame, a driving shaft journaled in bearings in said frame, a sliding frame mounted on said shaft and longitudinally slidable thereon, means for moving said sliding frame along said shaft, a main operating frame pivoted on said shaft for vertical swinging movement, a saw carrying frame pivoted in said main frame for lateral swinging movement, a reciprocating saw actuating frame mounted in said saw carrying frame, transmission gears all mounted within the bounds of said main frame, crank and pitman connections between said gears and said reciprocating saw actuating frame, a saw carrier mounted on said saw carrying frame, a saw carried by said carrier and connections between said saw and said reciprocating frame, together with a pinion on said driving shaft for driving said gears.

2. In a sawing machine, a bed frame, a driving shaft journaled in bearings in said bed frame, a laterally movable non-rotative adjusting frame mounted on said shaft, a guide carried by said bed frame for engaging said laterally movable frame, a main operating frame pivotally mounted on said shaft and embraced by said adjusting frame, means carried by said adjusting frame for engaging said main operating frame to limit its pivotal movement in one direction, said main operating frame including bearing portions projecting toward the rear of said bed frame, a saw carrying frame having trunnions at one end to enter said main operating frame bearings and projecting toward the front of said bed frame, a saw carrier pivotally mounted on said saw carrying

frame to turn on a longitudinal axis, a saw mounted on said saw carrier, a reciprocating saw actuating frame carried by said saw carrying frame and connected with said saw, and power transmitting connections between said driving shaft and said reciprocating frame for reciprocating the same said power transmitting connections being located wholly within the bounds of said main frame, said main frame projecting within said adjusting frame.

3. In a sawing machine, a bed frame, a driving shaft journaled in bearings in said bed frame, a laterally movable non-rotative adjusting frame mounted on said shaft, a guide carried by said bed frame for engaging said laterally movable frame, a main operating frame pivotally mounted on said shaft and embraced by said adjusting frame, means carried by said adjusting frame for engaging said main operating frame to limit its pivotal movement in one direction, said main operating frame including bearing portions projecting toward the rear of said bed frame, a saw carrying frame having trunnions at one end to enter said main operating frame bearings and projecting toward the front of said bed frame, a saw carrier pivotally mounted on said saw carrying frame to turn on a longitudinal axis, a saw mounted on said saw carrier, a reciprocating saw actuating frame carried by said saw carrying frame and connected with said saw, and power transmitting connections between said driving shaft and said reciprocating frame for reciprocating the same, said power transmitting connections including a pinion mounted on said driving shaft, gears mounted on said main operating frame and meshing with said pinion, and crank and pitman connections between said gears and said reciprocating frame.

4. In a sawing machine, a bed frame having bearings, a driving shaft mounted in said bearings, a laterally movable adjusting frame mounted on said shaft, means preventing turning of said adjusting frame on said shaft while permitting lateral adjustments of said frame, means for laterally adjusting said adjusting frame, a main operating frame consisting of an upper and a lower triangular portion and vertical members uniting said portions, said vertical members having bearings for said driving shaft so that said main operating frame may be swung on said shaft as a pivot, said triangular portions having rearwardly projecting bearings, a saw carrying frame including arms projecting into said main operating frame, trunnions carried by said arms to enter said rearwardly projecting bearings of said main operating frame, slideways carried by said saw carrying frame, a reciprocating frame mounted on said slideways, a saw carrier pivotally

mounted on a longitudinal axis on said saw carrying frame, a saw carried by said saw carrier, connections between said saw and said reciprocating frame, an oscillating bar carried by said reciprocating frame, pitmen connection to said bar, power transmitting gears carried by said main operating frame and having crank portions to which said pitmen are connected, a pinion on said driving shaft meshing with said gears, means for operatively connecting and disconnecting said pinion to said driving shaft, substantially as shown and described.

5. In a sawing machine of the character stated a bed frame, a driving shaft journaled in bearings in said frame, a sliding frame mounted on said shaft and laterally slidable thereon, means for moving said sliding frame along said shaft, a main operating frame comprising upper and lower triangular members united by vertical slide bars, said vertical slide bars having bearings between said upper and lower triangular members to receive said driving shaft and thereby pivot said main operating frame on said driving shaft, said main operating frame having trunnions at its rear end, a saw carrying frame pivoted on said trunnions and projecting between said upper and lower triangular portions, said saw carrying frame including upper and lower guides having slideways, a rectangular sliding frame mounted in said slideways to reciprocate therein, a saw carrier mounted on said saw carrying frame, and cooperative connections between said reciprocating frame and the saw for reciprocating the same, together with power transmitting connections mounted within the bounds of said main operating frame for connecting said driving shaft with said reciprocating frame.

6. In a sawing machine of the character stated a bed frame, a driving shaft journaled in bearings in said frame, a sliding frame mounted on said shaft and laterally slidable thereon, means for moving said sliding frame along said shaft, a main operating frame comprising upper and lower triangular members united by vertical slide bars, said vertical slide bars having bearings between said upper and lower triangular members to receive said driving shaft and thereby pivot said main operating frame on said driving shaft, said main operating frame having trunnions at its rear end, a saw carrying frame operated on said trunnions and projecting between said upper and lower triangular portions, said saw carrying frame including upper and lower guides having slideways, a rectangular sliding frame mounted in said slideways to reciprocate therein, a saw carrier mounted on said saw carrying frame, and cooperative connections between said reciprocating frame and the saw for reciprocating the same, together

with power transmitting connections mounted within the bounds of said main operating frame for connecting said driving shaft with said reciprocating frame, said last
5 named power transmitting connections including a rocker bar pivoted on a vertical axis between the upper and lower bars of said reciprocating frame and having oppositely projecting lugs at its ends, crank members geared with said driving shaft and 10 pitmen connections between said crank members and said lugs.

GEORGE THOMAS FRANCISCO.

Witnesses:

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M. M. RANDALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C." ~
