No. 772,230. PATENTED OCT. 11, 1904.

F. J. FARNER.

COMPRESSING AND STRAINING MACHINE.

APPLICATION FILED OCT. 3, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

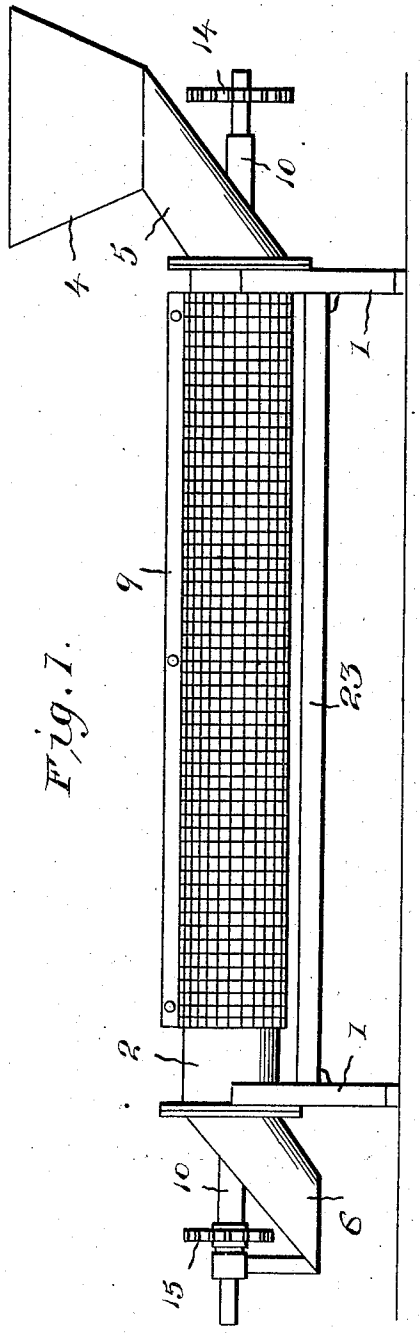


Fig. 1.

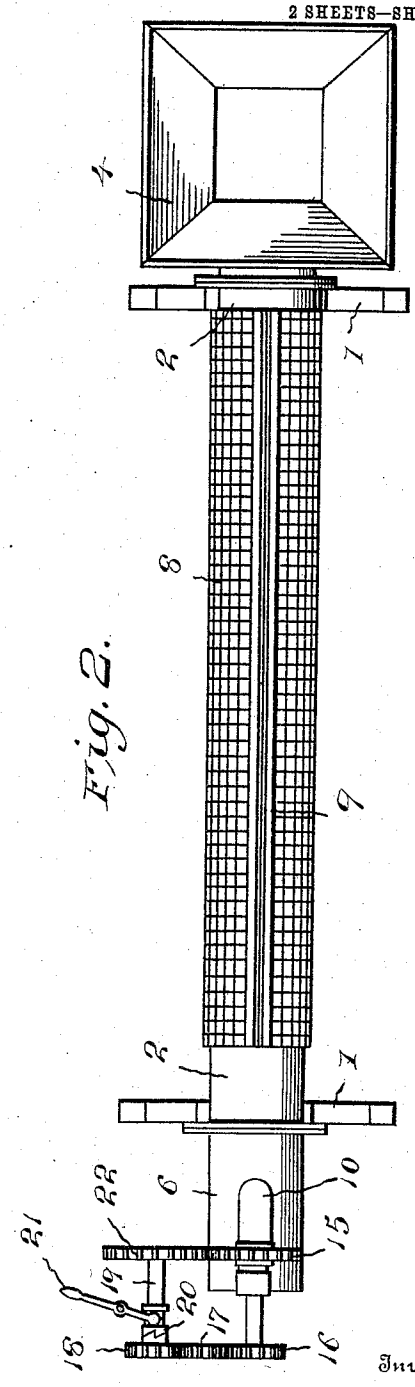


Fig. 2.

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NO MODEL. 2 SHEETS—SHEET 2.

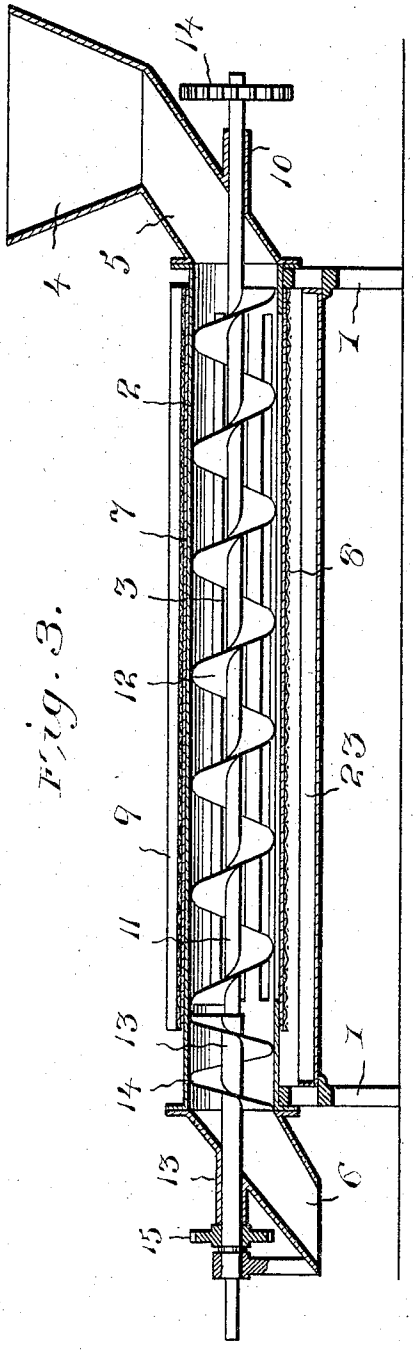


Fig. 3.

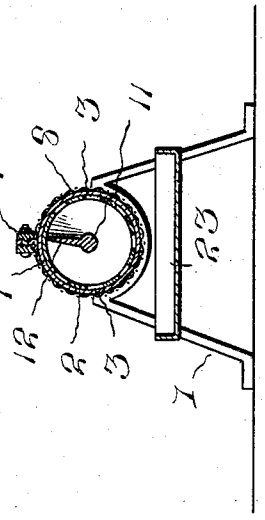


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANK J. FARNER, OF SEATTLE, WASHINGTON.

COMPRESSING AND STRAINING MACHINE.

SPECIFICATION forming part of Letters Patent No. 772,230, dated October 11, 1904.

Application filed October 3, 1903. Serial No. 175,657. (No model.)

To all whom it may concern:

Be it known that I, FRANK J. FARNER, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented new and useful Improvements in Compressing and Straining Machines, of which the following is a specification.

My invention relates to new and useful improvements in compressing and straining mechanism for use in extracting oil, water, and other fluids from fish, meats, vegetable matter, fruits, or other products. Its object is to provide a machine of simple and durable construction having novel means for feeding and compressing the material therein.

A further object is to employ means whereby the pressure upon the material can be removed and said material quickly extracted from the machine.

A further object is to employ a simple and inexpensive strainer whereby solid particles are prevented from commingling with the liquid discharged from the machine, said strainer being detachable.

With the above and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter more fully described and claimed, and illustrated in the accompanying drawings, showing the preferred form of my invention, and in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a plan view thereof, showing mechanism employed for transmitting rotary motion from the shaft of the feed-worm to the discharge-worm. Fig. 3 is a vertical longitudinal section through the machine, and Fig. 4 is a transverse section therethrough.

Referring to the figures by numerals of reference, 1 1 are standards on which is mounted a horizontally-extending cylinder 2, having slots 3 formed therein and extending longitudinally thereof. A hopper 4 is arranged at one end of the cylinder and communicates therewith through a downwardly-extending chute 5. An outlet-tube 6 is arranged at the other end of the cylinder. The cylinder is inclosed by a fabric cover 7, preferably formed of cloth of any desired mesh, and this cover is retained in position preferably by means of a wire-netting 8, which also extends around the cylinder. This cloth and wire cover can be fastened upon the cylinder in any desired manner, preferably by clamping the edges thereof between longitudinally-extending bars 9. The chute 5 and the outlet-tube 6 are provided with tubular extensions 10, which form bearings for a shaft 11, extending longitudinally through the center of the casing 2. A worm 12 is arranged on this shaft and is adapted when the shaft is rotated to force the material fed to the cylinder longitudinally in the direction of the outlet-tube 6. This worm does not extend the full length of the casing 2, but terminates at a point slightly removed therefrom, and mounted on the shaft 11 between the outlet and the worm 12 is a sleeve 13, having a worm 14 thereon, which is arranged opposite the worm 12. A gear 16 is fastened to one end of the shaft 11 and is adapted to be rotated in any suitable manner, and a gear 15 is fastened to the sleeve 13 at a point outside the tube 6. This gear is adapted to be rotated in any suitable manner from the shaft 11, and in Fig. 2 I have shown an arrangement of gears whereby this can be accomplished. By referring to said figure it will be seen that a gear 16 is arranged upon the end of shaft 11 and meshes with an idler-gear 17. This last-mentioned gear is engaged by a gear 18, loosely mounted on a shaft 19, and a clutch 20 is feathered to said shaft and is adapted to be moved, by means of a lever 21, into engagement with the gear 18. A gear 22 is secured to shaft 19 and meshes with the gear 15, hereinbefore referred to.

Material to be compressed is placed within the hopper 4 and falls by gravity therefrom into the inlet end of casing 2. It is here engaged by the end of worm 12 and conveyed inward. The worm 14 is normally stationary, and it is therefore obvious that material will be firmly compressed by the worm 12 against the worm 14, and after a desired pressure has been produced thereupon the clutch 20 is thrown into engagement with gear 18, so that rotary motion may be imparted from shaft 11 to gear 15 and the sleeve 13, to which it is secured. Worm 14 will therefore be rotated in a direction opposite to the worm 12; but

as said worm is oppositely arranged it will promptly draw the compressed material from the casing 2 and discharge it into the outlet-tube 6. By removing the clutch from engagement with gear 18 the rotation of worm 14 can be promptly stopped and the compressing operation repeated. The fluid extracted from the material fed to the machine passes through the slots 3 in casing 2 and is forced outward through the cloth covering 7 and the netting 8 into a tray 23, which is removably supported upon and between the standards 1. By detaching the bars 9 the coverings 7 and 8 can be removed and replaced. If desired, a suitable arrangement of gearing can be employed, whereby the two worms may be rotated in the same direction, if desired.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing any of the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. In a machine of the character described, the combination with a casing having longitudinally-extending slots therein, and an inlet and an outlet at opposite ends of the casing; of a detachable strainer inclosing the casing and extending over the slots, a revoluble shaft extending longitudinally through the casing, a worm thereon and movable therewith, a sleeve revolubly mounted upon the shaft adjacent the outlet, a worm upon and movable with the sleeve, the two worms being oppositely arranged, mechanism for transmitting rotary motion to the sleeve and its worm from the shaft, whereby the two worms are caused to rotate in opposite directions, and shifting mechanism for placing the two worms into or out of operative relation with each other.

2. In a machine of the character described, the combination with a longitudinally-slotted casing having an inlet and an outlet; of a revoluble shaft extending through the casing, compressing and discharging mechanism within the casing, a cloth fabric inclosing the casing and closing the slots, a metal fabric inclosing the casing, and means for securing said fabrics in position to form a strainer for material forced through the slots.

3. In a machine of the character described, the combination with standards, and a receptacle supported thereby; of a fixed casing secured upon the standards and having apertures therein, a hopper communicating with one end of the casing, an outlet-tube at the other end of the casing, compressing and discharging worms in the casing, and a strainer inclosing and detachably connected to the casing, said strainer comprising layers of cloth and metal fabrics.

4. The combination with a longitudinally-slotted casing having an inlet and an outlet; of compressing and discharging mechanism within the casing, a cloth fabric inclosing the casing and extending across the slots, a metal fabric inclosing the casing and the first-mentioned fabric, and parallel longitudinally-extending clamping-bars upon the adjoining edges of the fabrics.

5. In a machine of the character described, the combination with standards, and a receptacle detachably supported thereby; of a fixed casing secured to the standards and having longitudinally-extending slots forming outlets for liquid, said casing having an inlet and an outlet at the ends thereof, oppositely-arranged compressing-worms within the casing, a fibrous fabric inclosing the casing, a metal fabric inclosing the casing, said fabrics extending over the slots and forming a strainer for material discharged therethrough, and longitudinally-extending bars detachably connected and adapted to clamp the adjoining edges of the fabrics together.

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

FRANK J. FARNER.

Witnesses:
ERNEST B. HERALD,
LAURA A. DANAGH.