

H. C. GOHRING.
SAUSAGE LINKING MACHINE.
APPLICATION FILED FEB. 23, 1909.

972,181.

Patented Oct. 11, 1910

2 SHEETS—SHEET 1.

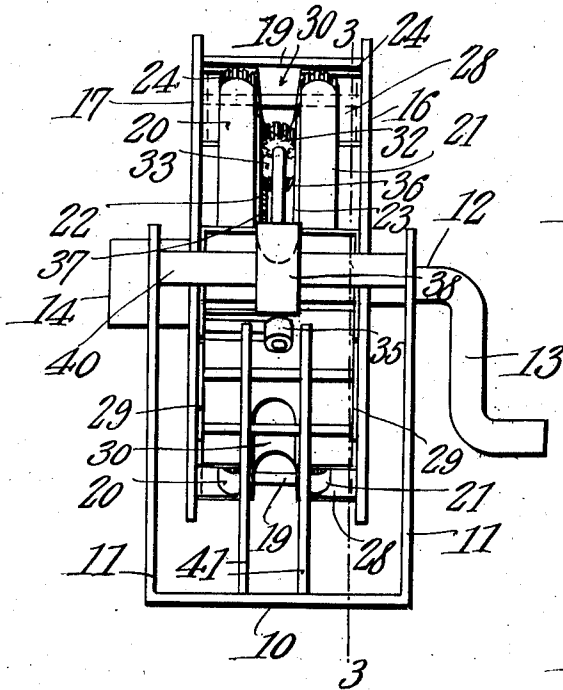


Fig. 1.

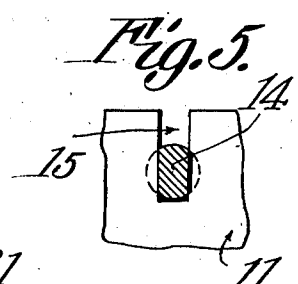


Fig. 5.

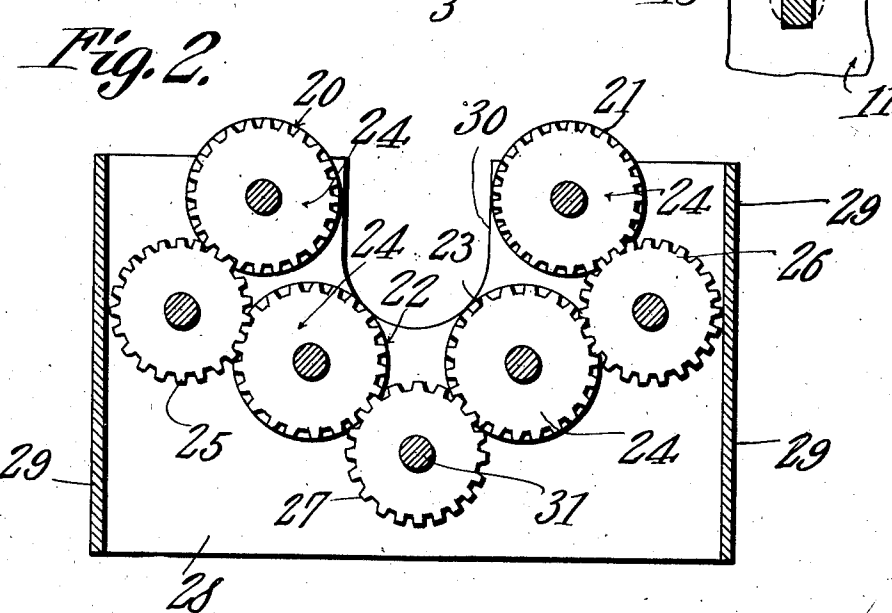


Fig. 2.

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2 SHEETS—SHEET 2.

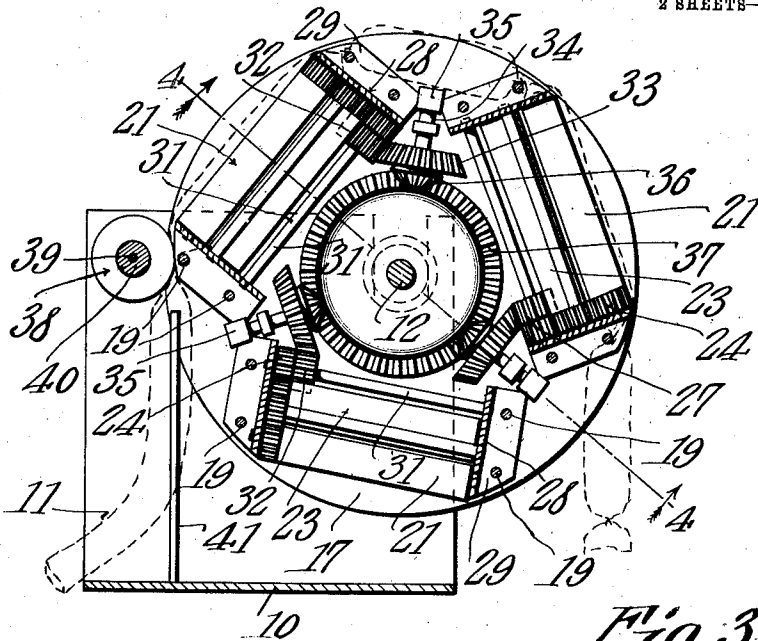


Fig. 3.

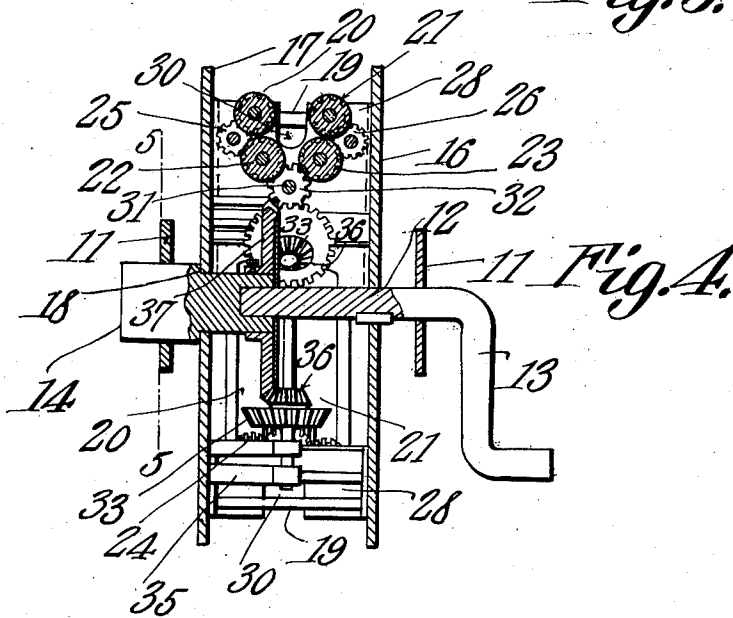


Fig. 4.

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HERMAN C. GOHRING, OF SPOKANE, WASHINGTON.

SAUSAGE-LINKING MACHINE.

972,181.

Specification of Letters Patent.

Patented Oct. 11, 1910.

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To all whom it may concern:

Be it known that I, HERMAN C. GOHRING, a subject of the Emperor of Germany, residing at Spokane, in the county of Spokane, State of Washington, have invented a new and useful Sausage-Linking Machine, of which the following is a specification.

This invention relates to improvements in machines for dividing and twisting filled sausage casings into links, and it is the object of the invention to provide a machine of this character which is simple in construction, and rapid in operation, the stuffed casings being fed into one end of the machine, and issuing from the opposite end in a continuous string divided and twisted into links of suitable lengths.

It is also the object of the invention to provide a plurality of twisting devices which are carried by a rotating support, and are successively brought into operative position when the support is set in motion, the means for rotating the support being also connected by a gearing to the twisting devices for actuating the latter.

With the herein stated objects in view, the invention consists in a novel combination and arrangement of parts to be hereinafter described and specifically pointed out in the claims.

In the accompanying drawings:—Figure 1 is a front elevation of the machine. Fig. 2 is a transverse section of the twisting mechanism. Fig. 3 is a vertical section on the line 3—3 of Fig. 1. Fig. 4 is a section on the line 4—4 of Fig. 3. Fig. 5 is a sectional detail on the line 5—5 of Fig. 4.

Referring to the drawings, the machine is supported by a stand comprising a base 10, and spaced side walls 11 rising therefrom. In one of the side walls is mounted a rotatable shaft 12 provided at one of its ends with a crank handle 13. The other end of the shaft is journaled in a bearing stud 14 carried by the other side wall of the stand, said stud being mounted in a recess 15 made in the top edge of said wall, and one end of the stud having an axial opening into which the shaft 12 extends. The stud 14 is made stationary by making the recess and that portion of the stud which is located therein angular. This can be done by slotting the stud on opposite sides to receive opposite edges of the recess as shown in Fig. 5.

Between the side walls 11 are located circular plates 16 and 17 between which the

twisting mechanism is mounted. The plate 16 has an opening through which the shaft 12 passes, and said plate is keyed or otherwise made fast to the shaft so as to rotate therewith. The plate 17 is mounted for rotation on the stud 14, the latter being formed with a shoulder 18 against which the outer side of said plate bears. The two plates are connected in spaced relation by cross bars 19, and they turn together when the shaft 12 is rotated.

The twisting mechanism comprises several sets of rollers. There are four rollers in each set, said rollers being indicated at 20, 21, 22 and 23 respectively. The rollers extend in parallelism, and are set so as to form a trough in which the stuffed casing section to be twisted is received, the rollers being arranged in pairs on opposite sides of the center of the trough, the rollers 20 and 22 comprising one pair, and the rollers 21 and 23 the other pair. The rollers are located close together, but not in contact with each other, and they are geared together so as to rotate in the same direction. On each roller is fixed a pinion 24. The pair of rollers 20 and 22 are geared together by an idler pinion 25, and the pair of rollers 21 and 23 are geared together by an idler pinion 26. The rollers 22 and 23 are also geared together by a pinion 27. These several pinions are in mesh with the respective pinions of the rollers. By thus gearing the rollers together, they are made to rotate in the same direction, so that the stuffed casing section when in contact therewith will be rolled between the same. The shafts of the twisting rollers are journaled in plates 28 extending between, and secured to the plates 16 and 17. The plates 28 have lateral flanges 29 at their ends, through which the cross bars 19 pass, said cross bars therefore also serving to secure the plates 28 in place. The shafts of the pinions 25, 26 and 27, are also journaled in the plates 28, and the outer edges of said plates are cut away to form recesses 30 coinciding with the trough-shaped space between the twisting rollers to permit the stuffed casing sections to enter the same. To the shaft 31 of the pinion 27 is fixed a pinion 32 which is in mesh with a bevel gear 33 fixed on a shaft 34 mounted in bearings 35 carried by the plate 17. On this shaft 34 is also fixed a miter gear 36 which is in mesh with a crown gear 37, the last-mentioned gear being made stationary

by fastening it on the stud 14. The center of the crown gear coincides with the axis of the shaft 12.

It will be evident from the foregoing that when the shaft 12 is rotated by the crank handle 13, the plates 16 and 17 will rotate therewith, whereby the miter gear 36 is rotated on its own axis by the crown gear 37, and also carried around the same planetarywise. The rotary motion of the miter gear is transmitted by the other gears to the gears of the rollers, and the latter are thus set in motion.

In the drawings is illustrated a hand operated machine having three sets of twisting rollers, and a corresponding set of gears for actuating the same, but if a machine of larger capacity is desired, the number of sets of rollers and actuating gears may be increased, and such machine may be power driven.

The stuffed casing is divided into sections of suitable lengths by being compressed at intervals. This action is effected by locating one of the cross bars 19 close to the edges of the plates 16 and 17, and by mounting between the side walls 11, in close proximity to the path of said cross bars, a roller 38, this roller being mounted on a shaft 39 journaled in said walls, and held in proper position on the shaft by spacing sleeves 40.

In operation, the stuffed casing is fed into the machine behind the roller 38, and when the cross bars 19 arrive at a point opposite said roller, the casing is compressed, the space between the roller and the cross bars at this point being less than the diameter of the casing. From the base 10 rise spaced standards 41 between which the stuffed casing is guided to the machine. Every other link formed by the cross bars 19 and the roller 38 as herein described, enters the trough-shaped space between the twisting rollers, and upon coming in contact with said rollers is rolled or twisted, so that the stuffed casing will permanently retain its linked form. The links are carried with a continuous movement around to the rear end of the machine, which greatly increases the speed of operation, and upon arriving at the rear end of the machine, the links drop into a suitable receptacle.

The machine herein described is simple in construction, and by providing the gearing described, it is easy to operate, the operator using one hand to turn the crank 13, leaving the other hand free to feed the stuffed casings to the machine. The movement of the casings through the machine is similar to that of a rope or belt passing over a pulley, one twisting device after the other being brought into operative position as the plates 16 and 17 rotate.

It will, of course, be understood that the machine as illustrated can be varied in con-

struction within considerable limits, without departure from the spirit of my invention, and I do not, therefore, wish to be considered as limiting myself to the specific details of construction except where they are specifically referred to in the claims.

What is claimed is:—

1. In a sausage linking machine, a rotatable support, and a plurality of twisting devices carried by the support, and brought successively into operative position by rotation of the support.

2. In a sausage linking machine, a plurality of sets of twisting rollers, means for rotating the rollers, and means for rotating the sets to bring them successively into operative position.

3. In a sausage linking machine, a support, a plurality of sets of twisting rollers, means for rotating the rollers, and means for rotating the support to bring the sets of rollers successively into operative position.

4. In a sausage linking machine, a support, a stationary gear on said support, a rotatable frame, a twisting device carried by the frame, and geared to the aforesaid gear, and means for rotating the frame.

5. In a sausage linking machine, a support, a stationary gear carried by the support, a rotatable frame, a twisting device consisting of a plurality of rollers geared together, and carried by the rotatable frame, said rollers being also geared to the aforesaid stationary gear, and means for rotating the frame.

6. In a sausage linking machine, a support, a stationary gear mounted on the support, a rotatable frame, a plurality of twisting devices carried by the frame, each of said devices consisting of a set of rollers geared together, and each set being also geared to the aforesaid stationary gear, and means for rotating the frame.

7. In a sausage linking machine, a rotatable support, a plurality of sets of twisting rollers operating in succession by rotation of the support, means for rotating the support, and a gearing between said means and the twisting rollers for rotating the latter.

8. In a sausage linking machine, a stand, spaced and connected plates carried thereby, a plurality of twisting devices carried by the plates between the same, means for actuating the twisting devices, and means for rotating the plates.

9. In a sausage linking machine, a stand, spaced and connected plates carried thereby, a plurality of twisting devices carried by the plates between the same, means for actuating the twisting devices, means for rotating the plates, a cross bar extending between the plates near their edges, and a member extending in close proximity to the path of said cross bar, and cooperating therewith to divide the stuffed casing, the casing being re-

ceived between the cross bar and the member.

10. In a sausage linking machine, a stand, a stud fixed to the stand, a shaft supported at one of its ends by the stud, spaced and connected plates, one of said plates being made fast to the shaft, and the other plate being mounted for rotation on the stud, and twisting devices carried by the plates.
11. In a sausage linking machine, a stand, a stud mounted thereon, a shaft having one of its ends supported by the stud, spaced and

connected plates, one of said plates being made fast to the shaft, and the other plate being mounted for rotation on the stud, a stationary gear on the stud, twisting devices carried by the plates, and gears for operating the twisting devices, said gears including a gear carried by the plates and in mesh with the stationary gear.

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Witnesses:

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