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W. TANNER ET AL.
SAUSAGE TYING MACHINE.
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Fig. 1

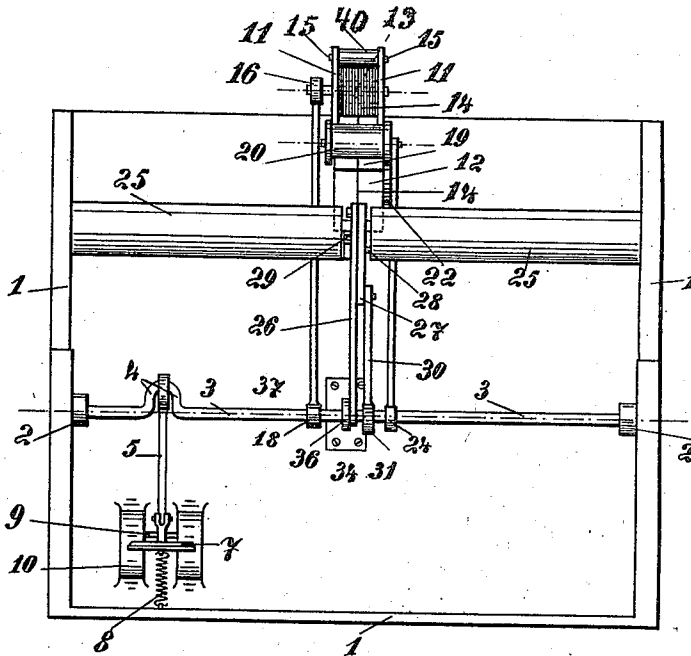
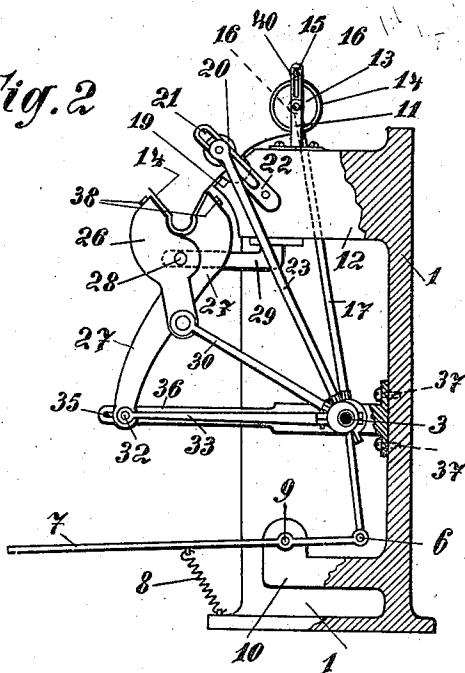


Fig. 2



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UNITED STATES PATENT OFFICE.

WALTER TANNER AND CURT HUNZIKER, OF ZURICH, SWITZERLAND.

SAUSAGE-TYING MACHINE.

Application filed June 27, 1921. Serial No. 480,846.

To all whom it may concern:

Be it known that we, WALTER TANNER and CURT HUNZIKER, citizens of the Swiss Confederation, residing at Zurich, Switzerland, have invented certain new and useful Improvements in Sausage-Tying Machines, of which the following is a specification.

This invention relates to a machine for tying sausages which permits the use of metal wire, e. g. aluminum wire whereby the tying can be done with greater speed, cheaper and with greater security than hitherto.

According to this invention a device for unwinding the wire, a device for bending the wire and pressing- and cutting means are arranged on one frame, all these parts being connected with a driving shaft. The parts are arranged and constructed in such a manner that the corresponding operations are successively effected when the driving shaft revolves.

In order that the invention may be clearly understood, we will proceed to describe the same with reference to the accompanying drawing, wherein:—

Fig. 1 is a front elevation and

Fig. 2 a side elevation partly in section.

In bearings 2 of the frame 1 the driving shaft 3 is mounted. A connecting rod 5 hingedly connected with the crank 4 of shaft 3 is hingedly connected at its lower end by means of bolt 6 with a two-armed lever 7. The lever is fulcrumed at 9 and its front end is enlarged to form a pedal. The axle 9 is mounted in brackets 10 cast in one piece with the frame 1.

Upon a bracket 12 at the upper end of the frame 1 standards 11 are arranged in which a spool 13 is mounted on which the wire is wound. The wire 14 consists of soft, not rusting metal, e. g. aluminium. A heavy roller 40 is arranged above the wire spool, the ends of the axle 15 of said roller engaging with vertical slots 16 of the standards 11. Upon one of the ends of the axle of the spool 13 an eccentric disk 16 is keyed which is connected by a rod 17 with an eccentric 18 of the driving shaft 3. When the shaft 3 rotates an intermittent revolving motion is thus communicated by the parts 16, 17, 18 to the spool 13 so that the wire 14 wound upon the same is intermittently unwound.

The inclined front face of the bracket 12 has a semi-circular indentation 19 which is designed to bend the wire 14 properly before

tying is effected. Over this indentation 19 a pulley 20 is adjustably mounted in a slot 21 of a bracket 22. The axle of said pulley 20 is connected with the upper end of the connecting rod 23 whose lower end terminates in an eccentric 24 keyed upon the driving shaft 3. When the shaft 3 rotates, a reciprocating movement in the direction of slot 21 is communicated to the pulley 20 by means of parts 23, 24.

A transverse channel 25 serves for the reception of the sausage body to be tied. This channel 25 is separated at the middle by a gap in which scissors are arranged. These scissors serve for compressing the body of the sausage. The arms 26, 27 which form the scissors are mounted on a pivot pin 28 which is located in an arm 29 of the bracket 12. A rod 30 hingedly connected with the lower end of the arm 26 of the scissors is fixed with its other end to an eccentric 31 keyed upon the driving shaft 3. To the lower end of the other shank 27 of the scissors a rod 33 is hinged by means of a bolt 32, the other end of said rod 33 being connected with an eccentric 34 keyed upon the driving shaft 3. The pivot bolt 32 engages with a guide slot 35 of the support 36 fixed by means of screws 37 to the frame 1. When the driving shaft 3 rotates the scissors formed by the arms 26, 27 are alternately closed and opened. The closing arms compress the sausage body and at the same time the wire whereby the sausage is tied.

The arms 26 and 27 carry further cutter blades 38 designed to cut the wire 14 after the tying of the sausage.

The scissors, the bending device and the wire spool work together in such a manner that a continuous working of the machine is ensured. The driving shaft 3 could be driven by a motor instead of being driven by a pedal lever as described.

We claim:—

1. An improved sausage tying machine comprising in combination with a frame a driving shaft revolubly mounted in said frame, a wire spool at the upper end of said frame, a device for bending the wire, a transverse channel for the sausage body, scissors for compressing the sausage body and the bent wire and for cutting off the tied wire and means for operating said spool and said scissors intermittently from said driving shaft.

2. An improved sausage tying machine

comprising in combination with a frame a driving shaft revolubly mounted in said frame, a standard at the upper end of the frame having vertical guide slots, a wire spool revolubly mounted in said standard, a heavy roller above said spool movably mounted with its journals in said vertical slots of the standard, a connecting rod hingedly connected with one of the ends of the wire spool, an eccentric upon said driving shaft to which the other end of the said connecting rod is fixed, a device for bending the wire, a transverse channel for the sausage body, scissors for compressing the sausage body and the bent wire and for cutting off the tied wire, and means for operating said spool and said scissors intermittently from said driving shaft.

3. An improved sausage tying machine comprising in combination with a frame a driving shaft revolubly mounted in said frame, a standard at the upper end of the frame having vertical guide slots, a wire spool revolubly mounted in said standard, a heavy roller above said spool movably mounted with its journals in said vertical slots of the standard, a connecting rod hingedly connected with one of the ends of the wire spool, an eccentric upon said driving shaft to which the other end of said connecting rod is fixed, a semi-circular indentation in the front face of the frame, slotted arms pivotally mounted with their lower ends upon said frame, a roller mounted in said slotted arms so that one end of its axle projects laterally from the corresponding arm, a connecting rod hinged to said projecting end of the axle of the roller, an eccentric keyed upon said driving shaft to which the lower end of said connecting rod is attached so that said roller is intermittently pressed into said indentation to bend the wire, a transverse channel for the sausage body, scissors composed of two arms pivotally connected with one another mounted in said channel at the said semi-circular indentation of the front face of the frame, a connecting rod hingedly connected with the lower end of the short arm of the scissors, an eccentric upon said driving shaft to which the other end of said connecting rod is attached, a guide pin at the lower end of the long arm of said scissors, a slotted horizontal arm of the frame for guiding said pin, a connecting rod hinged to said pin, an eccentric upon the driving shaft to which the other end of the said connecting rod is attached so that the scissors are alternately closed and opened to compress the sausage body and the bent wire, and cutting blades at the upper ends of the arms of the scissors for cutting the tied wire.

In testimony whereof we affix our signatures in presence of two witnesses.

WALTER TANNER.
CURT HUNZIKER.

Witnesses:

CHR. MILLER,
F. HEIM.

4. An improved sausage tying machine comprising in combination with a frame a