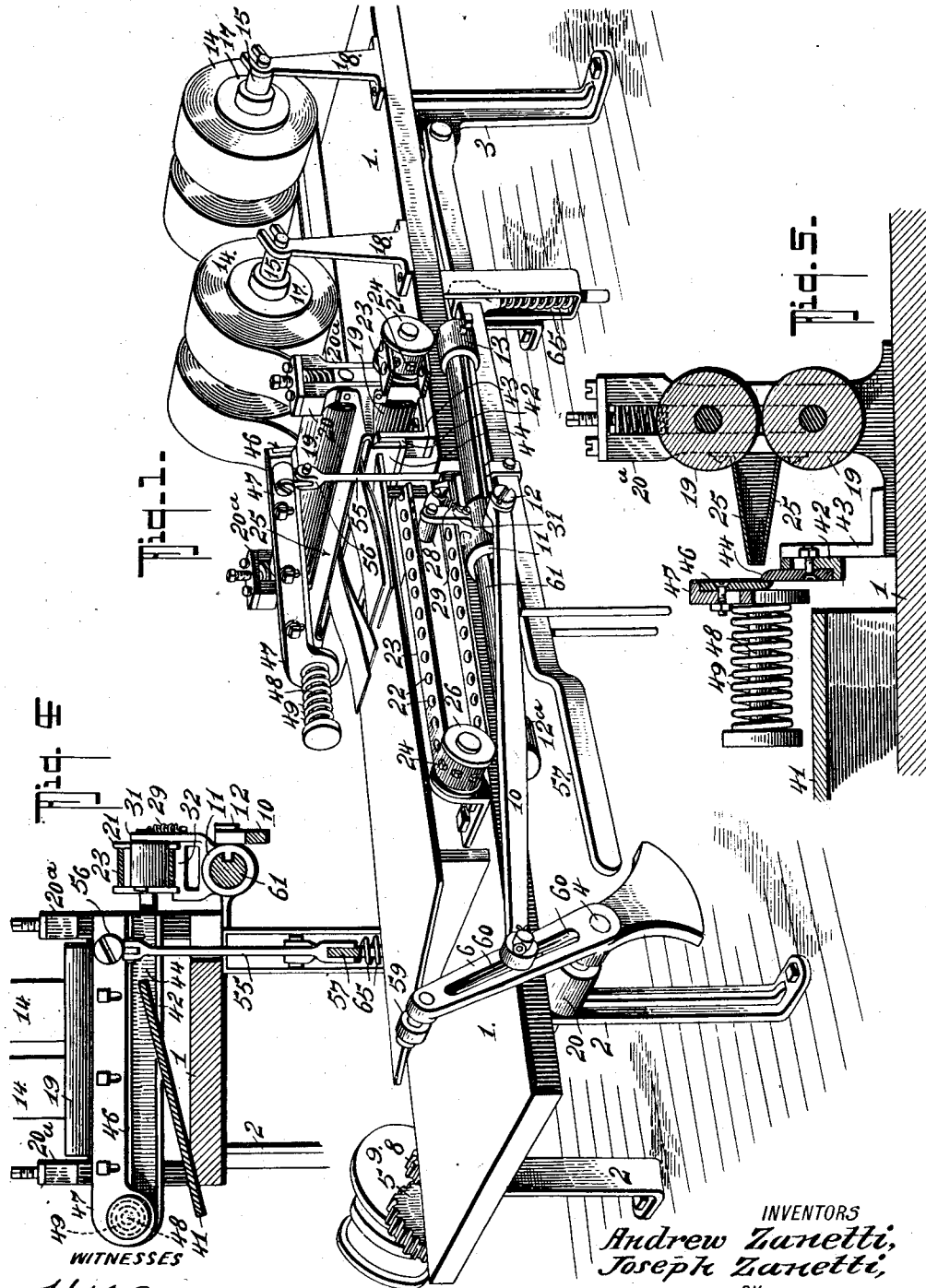


A. & J. ZANETTI.
PAPER CUTTING MACHINE.
APPLICATION FILED DEC. 11, 1912.

1,062,427.

Patented May 20, 1913.

2 SHEETS-SHEET 1.

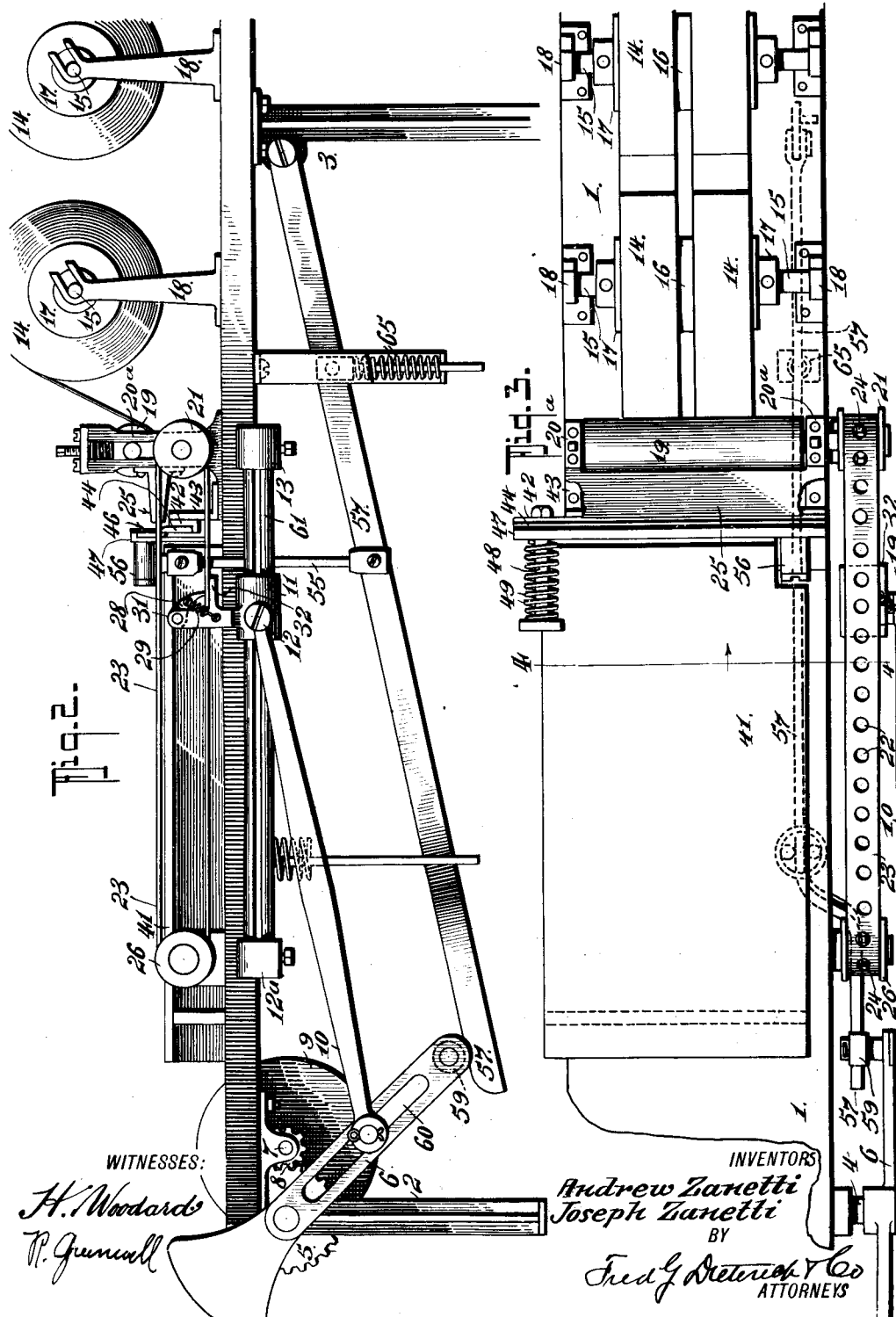


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1,062,427.

2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

ANDREW ZANETTI AND JOSEPH ZANETTI, OF SAN FRANCISCO, CALIFORNIA.

PAPER-CUTTING MACHINE.

1,062,427.

Specification of Letters Patent.

Patented May 20, 1913.

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To all whom it may concern:

Be it known that we, ANDREW ZANETTI and JOSEPH ZANETTI, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Paper-Cutting Machine, of which the following is a specification.

Our invention relates to that class of paper cutting machines in which ribbons of paper fed from rolls are cut into predetermined lengths, and it primarily has for its object to provide a machine of the general character stated of a simple and inexpensive construction, in which the parts are especially designed for convenient adjustment, to adapt them for cutting up rolls of paper of different sizes, both as to diameter and widths, in which a plurality of paper rolls may be worked up at the same time, and the cutting operations effected in a positive and uniform manner; efficient means being also provided for readily setting the ribbon feeding devices for cutting the paper roll up into lengths of desired sizes.

With other objects in view, all of which will hereinafter be pointed out, our invention consists in the peculiar and novel arrangement of parts, all of which will be hereinafter described, specifically pointed out in the appended claims and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of our invention, the parts being shown in an operative position. Fig. 2 is a side elevation thereof, the pitman or rod actuating crank being shown at the position in which it actuates the cutting mechanism. Fig. 3 is a top plan thereof. Fig. 4 is a transverse section taken practically on the line 4—4 on Fig. 3, the cutting or shearing devices being shown in front elevation. Fig. 5 is an enlarged longitudinal section of the feed rolls, the ribbon delivery means and the cutting devices.

In carrying out our invention a suitable framing is provided which includes a long table or bed 1, preferably an oak wood board mounted on four legs 2—2 and 3—3, the delivery end ones 2—2 of which have bearings 20—20 for a driven shaft 4, one end of which carries a gear 5, and the other a crank member 6 of a special construction presently again referred to. Adjacent the gear 5 is journaled a stub shaft 7 in parallelism with the shaft 4 and provided with a pinion 8 that meshes with and drives the gear 5;

and a cone pulley 9 for receiving a driving belt driven by any suitable power. Crank 6 includes a weighted end, and it has a long slot 60 in the crank portion proper on which is adjustably mounted the outer end of a connecting rod 10, the other end of which is pivotally joined by a screw pin 12 with a slide head 11. Slide head 11 travels in a runway 61 secured to and propelled from the lower edge of the table, and on the said runway, at the opposite ends, are stops 12^a and 13.

14—14 designate two sets of paper ribbon rolls, loosely mounted upon the transversely disposed shafts 15—15, on which the said rolls are held in the desired alinement by the spacing collars 16 and the end or set collars 17. The shafts 15 are removably mounted on the standards 18—18 screwed on the table board 1 as shown.

19—19 designate a pair of feed rolls located in advance of the paper rolls 14—14, through which the paper ribbons pass and by which the said ribbons are fed to the cutting mechanism presently fully explained. The rolls 19 extend the full width of the table to provide for a uniform feed of both sets of ribbons that pass from the rolls 14—14. The feed rolls 19 are journaled in the uprights 20^a, and for regulating the wiping pressure of such rolls, the upper one of the said rolls is adjustably mounted as shown. The lower roll 19 carries a sprocket pulley 21, the teeth of which engage the holes 22 in a wide endless belt 23, the teeth 24 on the pulley 21 being so formed that they snugly engage the belt to prevent slipping when the said belt is fed forward by the slide head 11. Cooperatively connected with the feed rolls 14 is a nozzle-like chute that extends the full width of the discharge point of the said rolls 14, and the said chute consists of the upper and lower sheet metal plates 25, whose outer edges are closely fitted to form a restricted passage for the ribbons, and thereby prevent the back lash or recoil that is in the paper, from going around the front of the rolls 14.

The endless belt has its upper section held to travel along one edge of and in the plane of the top of the table, and it also passes over a guide roller 26 at the front end of the said table.

28 designates a pinch pawl that has the width of the belt 23 and against which it

is constantly held under tension of the spring 29. Pawl 28 is pivotally hung on a vertical extension 31 on the slide head.

By reason of the peculiar construction of the parts so far as described, it is obvious that the stroke of the slide head 11 is governed by the set of the connecting rod with the slotted crank and that a reciprocal stroke of the head 11 is made under each revolution of the crank, the pinch pawl firmly gripping the belt against an anvil portion 32 of the slide head extension to cause the belt to travel with the slide head on the forward thrust, thereof. On the back pull of the slide head pawl 28 slips over the belt.

41 designates a supplemental table located on front of the cutting mechanism, on to which the cut ribbons are fed, and the said table 41 inclines toward the rear side of the machine to facilitate the removal of the said cut ribbons.

The cutting mechanism is located directly in front of the horizontal chute or guide through which the ribbons are fed, and the said mechanism comprises a cast metal cross bar 42 located just below the mouth of the chute and mounted on legs 43—43 secured at the opposite edges of the table, on which is held the bottom or stationary cutter blade 44, the said blade having restricted adjustment through the slot and screw connections shown.

46 designates the upper blade of the cutting mechanism, and it has vertical adjustment of an upper or hinged bar 47, one end of which is pivoted on a horizontal stud bolt 48 projected from the adjacent end of the lower cross bar 42.

49 designates a stout coiled spring mounted on the bolt 48, whose purpose is to hold the hinged arm close up against the shoulder bearing of the bar 42, to cause the blades to shear off the paper neatly.

55 designates a connecting rod pendently held from the free end of the upper cutter blade bar, with which it is joined by a swivel joint 56. The lower end of the bar 55 is pivotally joined with an actuating bar 57, one end of which is pivoted to the table supporting leg 3, while its forward end projects in the path of the sweep of the upper end of the slotted crank which carries a roller lug 59 that engages the said bar and swings it down at the predetermined times for effecting the cutting operation, since the hinged cutter blade is pulled down at each down movement of the said bar 57.

65 designates a stout coil spring that acts as a cushion for the bar 57, and serves to return it and the hinged cutter arm to their upper or normal positions.

From the foregoing taken in connection with the accompanying drawings, the complete construction, the operation and the ad-

vantages thereof will be apparent to those skilled in the art to which our invention relates.

What we claim is:

1. A machine for dividing ribbon into pieces of uniform lengths, in which is included a plurality of feeding rolls, a ribbon severing mechanism, said mechanism including a movable cutter, a feeding means including a reciprocable constantly movable slide head, a device for raising and lowering the movable cutter, a driven shaft, a crank thereon, a connection that joins the crank and the slide head, and means on the crank for intermittently engaging the device that shifts the movable cutter whereby to move the said cutter to sever the ribbon.

2. A machine for dividing ribbon into lengths, having in combination: means for cutting the ribbon, means for supporting a roll of ribbon, means for feeding the ribbon from the roll to the cutting means, said feeding means including an endless belt, a reciprocable and constantly movable slide head, means on the head for gripping the belt to cause it to move forwardly with the slide head on the forward thrust of the said belt, means for imparting motion to the slide head, and other means that coöperates with the slide head moving means, for actuating the cutting means at predetermined times.

3. A machine for dividing ribbon into pieces of uniform lengths, having in combination the following elements: ribbon rolls, supports therefor, a cutting means, feeding rolls that receive the ribbons from the ribbon rolls and discharge the ribbon to the cutting means, said cutting means including a swingable cutter blade, a pull rod pendent from the front end to the swingable cutter, an endless belt drive for the feed rolls, a power shaft, and means connecting the shaft, the endless belt and the pendent rod, said means including a reciprocable slide, a crank member on the shaft, and means connecting the said crank member and the slide and for engaging the pull rod for the swinging cutter and for transmitting continuous movement to the slide and intermittent movement to the cutter.

4. In a machine of the character described, the combination with the ribbon feeder rolls, cutter mechanism and an endless belt drive for the rolls; of a power shaft, a crank thereon, a slide head, a rod connection between the head and the crank, said head including an anvil portion and a pinch pawl opposing said anvil portion, said pawl operating to grip the belt and move it on one movement of the slide head and slip back over the belt on the reverse movement of the said head.

5. In a machine for cutting paper ribbon into uniform lengths, the combination with ribbon feeding rolls, the cutting mechanism disposed in parallelism with the feeding

rolls and serving to shear the ribbon; of a flattened funnel shaped tubular body located at the delivery end of the feeding rolls for holding the ribbon in the horizontal
5 plane as it passes from the rolls and guiding it to the cutting means.

6. A machine for dividing paper ribbon into pieces of uniform lengths, having in combination; a frame, a cutting means, a plurality
10 of feeding rolls, one of the rolls having a drive sprocket, an endless belt drive for the said rolls, said belt being of pliable material and provided with equi-distantly spaced holes for engaging the driven sprocket, a

reciprocable slide head, means for reciprocating the said head, a pinch pawl carried on the head to extend across and engage with the endless belt, an anvil on the said belt against which the pawl grips the belt, a spring for holding the pawl to the gripping position on the drive thrust of the slide head. 15 20

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