Oct. 10, 1944. K. RAU 2,360,275

CANDLE MAKING METHOD AND MACHINE

Filed April 16, 1942 2 Sheets-Sheet 1

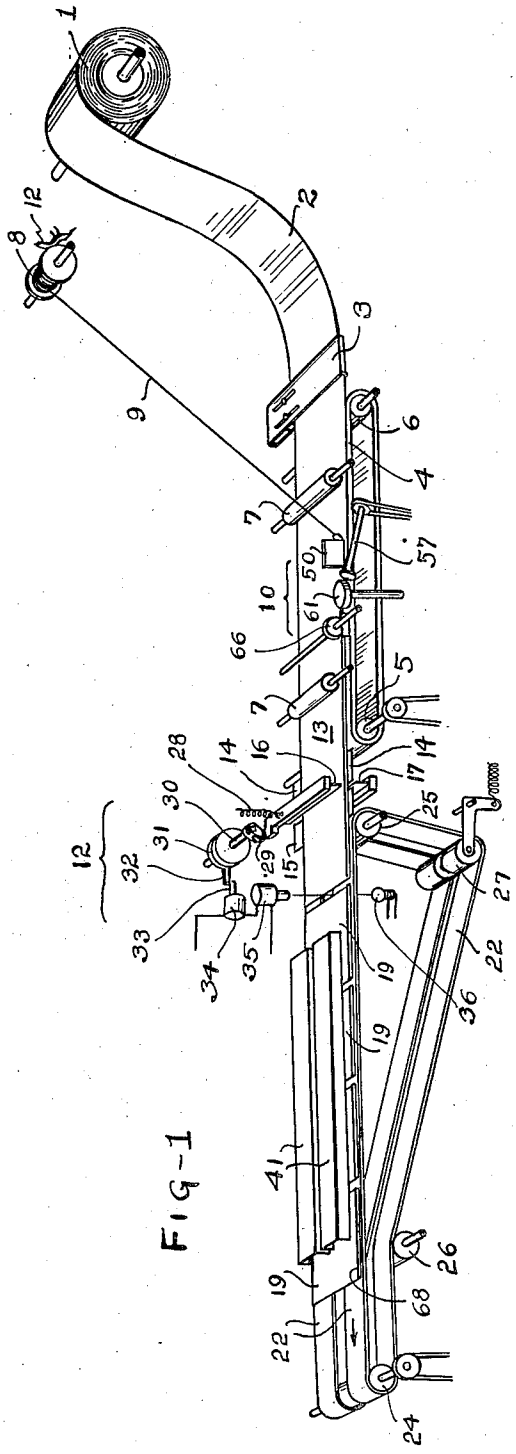


FIG-1

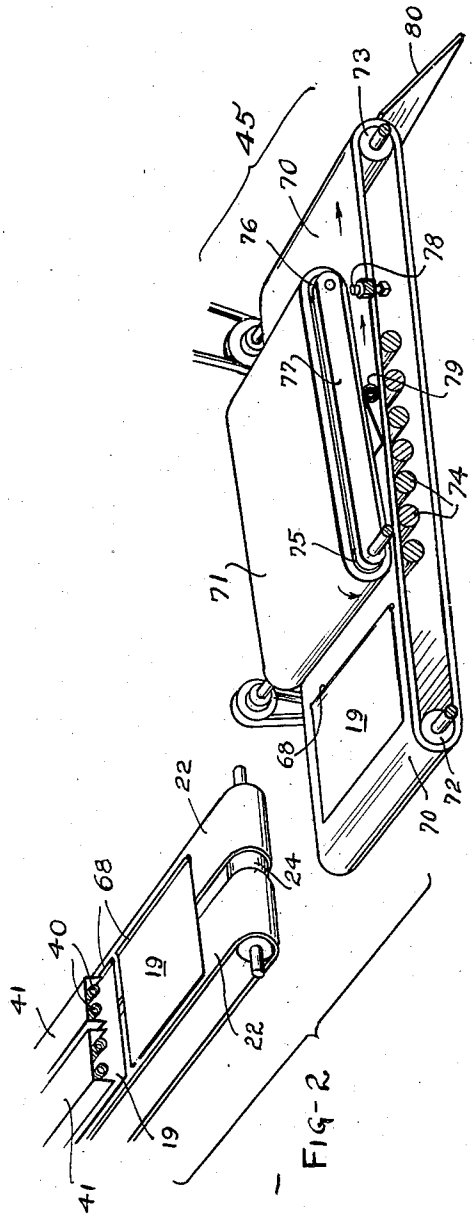


FIG-2

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Oct. 10, 1944. K. RAU 2,360,275

CANDLE MAKING METHOD AND MACHINE

Filed April 16, 1942 2 Sheets-Sheet 2

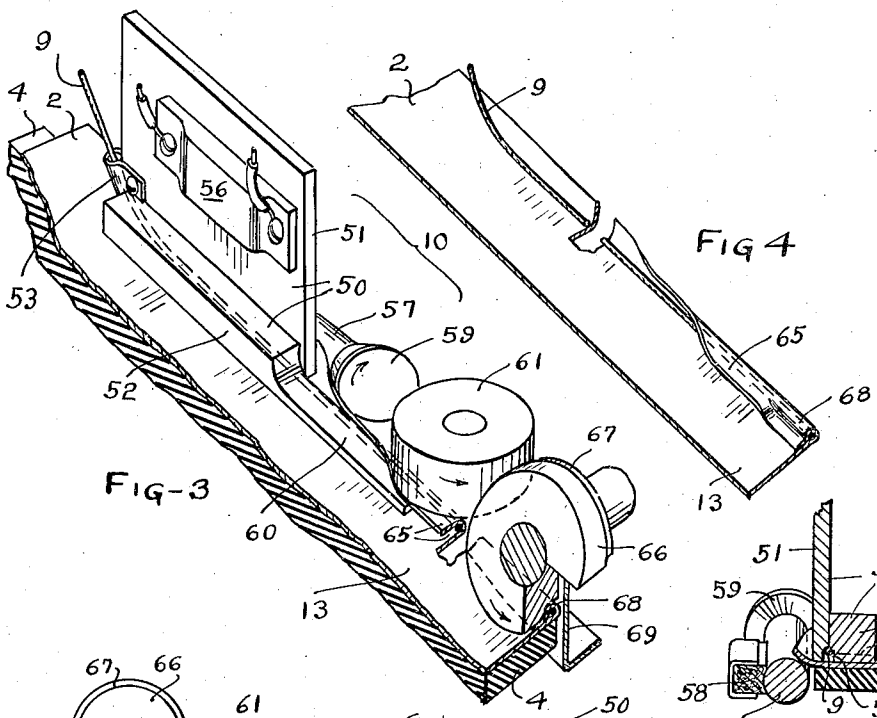


FIG-3

FIG 4

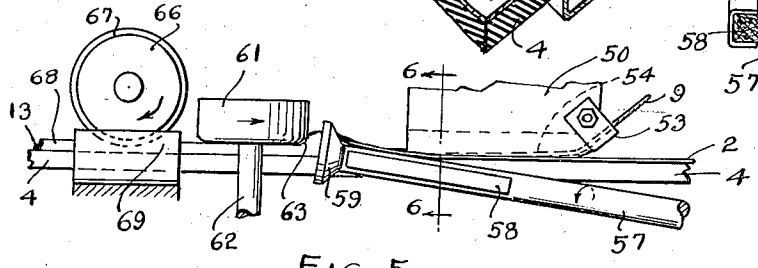


FIG-5

FIG-6

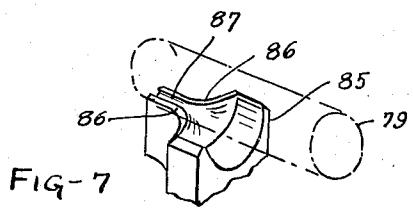


FIG-7

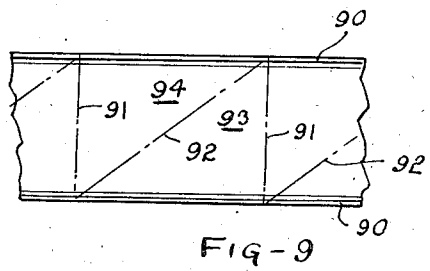


FIG-9

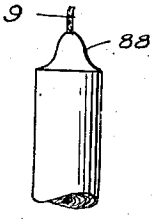


FIG-8

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Patented Oct. 10, 1944

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UNITED STATES PATENT OFFICE

2,360,275

CANDLEMAKING METHOD AND MACHINE

Karl Rau, Medina, Ohio, assignor to The A. I. Root Company, Medina, Ohio, a corporation of Ohio

Application April 16, 1942, Serial No. 439,209

17 Claims. (Cl. 18—1)

This invention relates to a method of and machine for making candles by wrapping respective sheets of fuel material on themselves, as around respective wicks, in close coils, and also relates to further treatment of candle blanks, so formed, in making the same into finished candles. The above indicates the general object.

The present method and machine is adapted for making candles of the type shown in United States Patent 1,863,416 to H. H. Root, issued June 14, 1932 (owned by the assignee hereof). In making candles according to said patent, fuel material in sheet form has, prior hereto, always been spirally wrapped on itself as by rolling up into continuous layers by hand. The customary procedure has been to lay a strip of wicking on one margin of a horizontally supported flat sheet of fuel material (e. g. beeswax) and then to roll up the sheet on itself along the support, thus embedding the wick centrally of the candle so made. Particularly in making fairly long candles by that method, great care must be exercised in placing the wick parallel to the edge of the sheet and in applying the rolling pressure, for otherwise the resulting candles are not properly shaped and may be of non-uniform density at different regions endwise thereof. Sometimes, also, the wick—which is usually stuck or tacked to the wax sheet at various places after being laid on the sheet—is of uneven tension at different parts of the candle lengthwise of it or is improperly tensioned throughout the entire length of the candle so formed. The present method and machine was developed primarily to improve the quality of candles made from sheet fuel stock.

The objects further include provision of a method and machine for making candles from fuel stock in sheet form whereby the product (candle body) will be more uniform in structure from end to end; the wick will be more uniformly combined or associated with the fuel all along the candle; the candles will be generally of higher quality, and can be made available to the public at less cost.

Specific objects include provision of a new and improved method of: (*a*) continuously associating wicking with candle fuel material in sheet form prior to performing the wrapping operation mentioned above; (*b*) cutting the wicking and sheet fuel stock with which incorporated into appropriate uniform lengths; (*c*) conveying while conditioning the sheet stock for formation into candles as by rolling; (*d*) rolling the stock into candle blank form, and (*e*) treating the rolled candle blanks to form burning tips thereon with the wicks projecting therefrom.

Other objects and features of the invention will become apparent from the following description of the method and machine shown more or less diagrammatically in the accompanying drawings. The essential characteristics are summarized in the claims.

In the drawings, Fig. 1 is a diagrammatic perspective view showing the manner in which the fuel stock and wicking are supplied, advanced and treated for assemblage of the wick with the sheet fuel stock, cutting to unit lengths and heating prior to rolling; Fig. 2 is a similar perspective, from a different point of view, showing further treatment and feeding of assembled units and rolling thereof into rough candle blanks; Fig. 3 is a perspective view showing the wick inserting process and mechanism more in detail; Fig. 4 is a perspective view showing only the manner in which the sheet stock is folded continuously onto and around the wick in the machine but omitting the mechanism for doing it; Fig. 5 is a fragmentary side elevation of the wick inserting mechanism; Fig. 6 is a sectional view thereof as indicated at 6—6 on Fig. 5; Fig. 7 is a fragmentary perspective view showing one of a pair of cutting dies for trimming the rough blanks after rolling, Fig. 8 is a fragmentary side elevation showing the upper or tip end portion of a completed candle of cylindrical form, and Fig. 9 is a plan view of a sheet of fuel stock with wicking assembled therein at opposite edges and showing how such sheet and wicking would be cut to make tapered candles by the mechanism hereof substantially as shown.

The method and machine shown are particularly adapted to make candles of cylindrical form from rectangular pieces of sheet fuel stock. The principles would apply equally well in case of making tapered candles from sheet or strip fuel stock (e. g. as in H. H. Root Patent 1,937,393 issued November 28, 1933) since, in general, the only change required is in respect to the shape in which the pieces are cut from the strip. Sheeted wax could, of course, be cut to any desired shape other than rectangular in the present machine and in accordance with the present method.

Referring to Fig. 1, a supply roll of wax in sheet or strip form is shown at 1, the free portion 2 of the sheet or strip as taken from the roll having been inserted through a guide 3 and laid onto the upper pass of a flexible conveyor belt 4 as a first operation. The belt 4 may be carried on suitable rollers 5 and 6 one of which is suitably driven as by a motor and gearing (or drive belting) on a main frame of the machine. The supports for the rollers, the driving mechanism and supporting arrangements for other moving parts of the mechanism are omitted from the drawings, being conventional in the class of machine shown. In order to assist in maintaining the upper face of the belt 4 substantially flat, the upper pass of said belt may slide over a

table or be provided with a series of supporting idler rollers (not shown).

Assuming the belt roller 5 is appropriately driven counterclockwise at uniform speed, the portion 2 of the wax sheet will be advanced to the left by the upper pass of the belt 4. A suitable number of vertically floating rollers 7 may be provided to hold the wax sheet in contact with the belt. Central shafts of the rollers 7 ride in vertical guideways not shown; and the weight of said rollers is sufficient to prevent slippage between the wax sheet stock and the supporting belt.

A supply of wicking is shown as carried on a spool 8 and a strand of wicking 9 from the spool is guided into proper contact with a top marginal portion of the wax sheet at an assembling mechanism indicated generally at 10. Said mechanism 10 will be fully described later in connection with Figs. 3, 5 and 6, but, for the present it will be borne in mind that a marginal portion of the wax sheet is folded progressively and continuously over the strand of wicking and gripped securely enough by a tubular fold of the wax so that after the wick inserting process has been started it continues until the supply of wax or of the wicking is used up.

Proper and uniform tension on the wick may be secured by any appropriate means, a spring friction detent or brake being shown in contact with the spool 8 for holding the spool against free rotation and maintaining substantially even tension (a few ounces) on the strand of wicking.

After insertion of the wick strand into the tubularly folded edge of the wax sheet, the sheet progresses to a cut-off or shearing mechanism generally indicated at 12 where the sheet and the wicking are cut into lengths corresponding to the candle blanks to be rolled therefrom. The assembled strip of wax sheet and wicking (indicated at 13) is delivered by the belt 4 over a divided fixed table having spaced sections 14 and 15 between which a pair of heated shear blades 16 and 17 operate to cut both wax and wick at a location determined by the position of the leading edge of the sheet portion to be cut. Each shear blade may be heated by an electrical resistance strip heater fastened thereto (not shown). The cut sections, 19, are further advanced to the left by power driven conveyer belting shown as paired spaced apart endless belt strips 22 carried on suitable rollers. As shown the belts 22 have a common driving roller 24, supporting rollers 25 and 26 and a tensioning idler takeup roller 27. To avoid sticking of the wax to the two belts 22, the belts are preferably made of cloth webbing. The belts run under a heater, to be described presently, (for conditioning the wax for rolling), and when subjected (as by occasional dripping) to hot wax the web material tends to stretch,—hence the rather long loops in the belts and special tension takeup roll 27.

The belts 22 are driven slightly faster than the belt 4 so that, as soon as each section of stock 19 is severed from the oncoming strip portion 13, a gap is formed between the severed edges due to the overtravel on part of the belts 22 which start to advance the severed strip sections 19 as soon as the latter are cut off. The gap cooperates with the space between the belts 22 to enable control of the cut-off mechanism by a photo-electric cell switch.

In the shear mechanism shown, only one blade requires a cutting stroke (e. g. blade 16). The cooperating blade 17 may be suitably secured in fixed position with its cutting edge slightly below the plane of the table 14—15. The blade 16 (in appropriate vertical guides, not shown) can normally be held, as by a spring 28, poised over the strip stock 13. A pair of cam rollers 29 (one shown) are arranged on a cross shaft 30, mounted above the table 14—15, so as to depress the shear blade 16 and cut the wax sheet and wick whenever a single rotation clutch 31, connected to the shaft 30, operates.

The control arm 32 of the clutch 31 is normally blocked against counterclockwise rotation by a movable abutment or latch 33 formed by a core or core extension of a solenoid 34. Elements 35 and 36 of a known type of photo-electric cell switch apparatus, including a relay (not shown), are positioned so that a beam of light is projected from one element to the other across the path of the oncoming strip 13 of fuel stock. Establishment of the light beam loads a condenser of the relay, and breaking of the beam causes discharge of the condenser load and operation of the relay to effect a single instantaneous impulse of the solenoid 34 for tripping the latch 33. The latch after release of the clutch arm is immediately returned, as by a spring, to initial position. Thus the gap which is formed between the last cut piece 19 of the strip stock and the oncoming strip 13 conditions the electrical apparatus for operation; and the leading edge of the uncut strip causes completion of the operation and actuation of the shearing mechanism to cut each piece 19 the same length.

The cut pieces 19 of wax sheet and marginally contained wicks are carried along by the upper stretches of the belts 22 with the upper faces of the wax sheets exposed to heat radiated downwardly by electric heater coils 40 in fixed box-like housings 41 which are open on their under sides. The heater coils may be mounted lengthwise in the housings; and the inner walls of the boxes direct the radiated heat downwardly onto the wax sheets sufficiently uniformly so that each sheet, as delivered from the belts 22, is sufficiently tacky and plastic so that rolling of the same into cylindrical candle blanks can be effected immediately with good results. The delivered wick and sheet assemblies can now be taken from the belts 22 and rolled up by hand with considerable advantage (as formerly done) since possibly the most critical operation (envelopment of wick in a single turn or fold of the wax sheet) has already been accomplished. Preferably, however, for reasons previously discussed, the rolling is completed by the progressively acting rolling mechanism hereof, generally indicated at 45, Fig. 1, to be described later herein.

Referring again to the mechanism 10; said mechanism folds one edge of the wax sheet into a tube around the continuously supplied wicking 9 and tacks the adjacent overlapped portions of the wax sheet to each other, as best shown by Figs. 3 to 6, snugly enveloping the wicking prior to cutting.

A fixture 50 of the mechanism 10 comprising an upright plate 51 and base rail 52 is supported by the machine frame with the lower surface of the base rail close to the wax sheet and inwardly from the near edge thereof as shown best in Fig. 6. The plate 51 carries a tubular guide device 53 for leading the wick under the fixture where it is further guided by a groove 54 (formed

partly in the rail and partly in the plate 51 as shown) into close association with the wax sheet. Optionally the wicking can be pressed against the wax in the fixture 50 as by an upper surface portion of the groove, so that the wax sheet will then draw the wicking along with it, or the wicking can be drawn along later as the folding and tacking operations proceed. As shown the upper surface of the groove 54 is inclined downwardly so that just before the wax and wicking leave the fixture the wicking is pressed into contact with the sheet as mentioned.

To avoid sticking of the wax against the adjacent surfaces of the fixture 50 with which it comes into contact, the fixture is heated as by an electric heater element 56 of conventional form secured to one side of the plate 51.

The marginal edge of the wax strip portion 2 is gradually elevated as it passes the fixture 50 preferably by a slightly inclined shaft 57 supported in suitable bearings (not shown) adjacent the fixture 50, parallel to the near edge of the belt 4, and continuously driven fairly rapidly in the direction indicated by the arrow thereon, in Fig. 3. The shaft 57 may be prevented from sticking to the wax by continuously applying oil to the shaft as by an oiling gland strip 58 bearing on the shaft along the same opposite the edge of the wax strip raised by the shaft. At the upper free end of the shaft a conically enlarged portion 59 thereof finally turns the raised edge margin of the wax strip further inwardly so that the margin overhangs a flat tongue 60 projecting from the rail 52 in the direction in which the wax and wick leave the fixture 50. The wicking passes alongside the tongue 60 and is held thereby against being pushed out of position toward the main body of the wax strip during the next ensuing operation.

As the wax strip leaves the enlarged end portion 59 of the shaft 57 its raised edge portion is inclined inwardly over the tongue 60 and the raised portion then encounters a peripheral surface of a disc wheel 61 on a vertically supported positively driven shaft 62. The wheel or disc 61 has a rounded lower "corner" surface 63 and turns in the direction of the arrow shown on the peripheral face. The under surface of the disc 61 partly overhangs the tongue 60 and is spaced upwardly therefrom a distance corresponding approximately to the thickness of the wax sheet stock. As the upwardly and inwardly inclined oncoming margin of the wax strip encounters the disc wheel 61 the peripheral surface and rounded "corner" of the latter turns said margin down over the top face of the tongue 60, forming the wax strip into an open channel 65 embracing the tongue and in which the wicking is temporarily maintained by the tongue.

The channeled portion 65 of the wax strip then passes to a presser roller 66 mounted over the channeled portion, beyond the disc wheel 61, which presser roller is peripherally stepped at 67 and otherwise so shaped as to force the free portion of the channel downwardly around the wicking and tightly against the underlying wax sheet, welding the free edge thereto. The roller 66 applies enough pressure to seal the wicking tightly into place, acting to form the wax into a closed tube or bead 68 closely embracing the wicking. The presser roller 66 is mounted for vertical floating movement over the conveyor belt 4 (on guides not shown) and the cut away portion 67 of the presser roller cooperates with a side guide plate 69 which makes contact with the side of the bead 68 lying remotely of the main portion of the wax strip.

It should be noted that in case the sheet fuel stock is beeswax or a blend of fuel material which is largely beeswax or similar tacky substance it is advisable either to use (moistened) water-absorptive material for parts that come into rolling contact with the wax under some pressure or (as in case of metal and sliding contact) to heat the contacting surfaces of such parts or oil them continuously. The rollers 7 are preferably cloth covered and moistened prior to starting the operation of the machine.

Referring again to Fig. 2, the cut sections of candle stock 19 can be delivered from the belts 22 and cooperating conveyor means directly into the bight of a pair of endless rolling belts 70 and 71 which roll up the candle blanks. Preferably, however, the cut sections are inspected on both sides prior to effecting the rolling operation. An operator, for example takes the sections from the belts 22 and turns them over and lays them, bead foremost, onto the upper stretch of the belt 70 which extends forwardly from the lower stretch of the belt 71 the necessary distance to support the sections 19 as at the left in Fig. 2.

The belts 70 and 71 are driven at different speeds, with the adjacent stretches moving in the same direction, i. e. to the right, Fig. 2. One belt, e. g., 70 is carried on fixed supporting rollers 72 and 73 at opposite ends of the belt loops and additional rollers 74, if necessary, supporting the top stretch. The belt 70 should be moved a little faster than the belts 22 so as to insure that the rolling process will not lag behind the supply of stock from the belts 22. The other belt (71) of the rolling pair is driven still faster in order to effect the rolling operation. The upper belt 71 is carried on one fixed (but vertically adjustable) roller 75 and one vertically floating roller 76. The roller 76 is supported on parallel arms 77 (one shown) pivoted on the axis of the roll 75, as about the supporting shaft of the latter. Adjustable supporting abutments are provided (as at 78, one shown) for the free ends of the arms 77 to prevent the belt 71 from scraping on the belt 70 when no candle is being rolled.

At the roll 75, the two rolling belts are separated substantially the thickness of the wick-containing bead or tube 68 of the stock so that, as soon as the bead makes contact with the belt 71, the rolling commences. Fig. 2 shows, at 79, a partially rolled candle blank. The arms 77 raise automatically as the cylinder gets larger, but maintain substantially uniform rolling pressure. The rolled blanks are delivered from between the belts 70 and 71 into a suitable container (not shown), as over an inclined chute 80 down which the blanks roll.

The sections 19, if cut with one edge slightly oblique or diagonally (as by chopping out a narrow triangular piece from the strip) could be rolled with a generally tapered tip. When the stock is not so treated the rolled cylindrical blanks are preferably cut, at one end, between a pair of dies such as suggested in Fig. 7 (showing, at 85, one die of a pair). The dies 85 have cutting edges 86 and both have (or at least one has) a central recess 87 to receive the wick and prevent it from being cut or crushed. The tip is later finished, as to the shape shown at 88 in Fig. 8, in a hot die. Also the candle is made truly cylindrical (if that is the desired shape) by

pushing the rolled blank through a tubular cylindrical heated die.

In making tapered candles, two strips of wicking can be enveloped respectively in opposite edge portions of a strip of sheet fuel stock as indicated at 90, Fig. 9, substantially in accordance with the above descriptions. The sheet fuel strip can be cut as at 91 into rectangular pieces and then later (or simultaneously with one of the cuts 91) diagonally severed as at 92. Reference is directed to the second mentioned patent of H. H. Root (1,937,393) for the manner in which the two right triangular pieces 93 and 94 would then be treated in making tapered candles, or blanks for tapered candles in case uniform (truly conical) tapers were desired. The tapered candles can also be rolled on the mechanism shown at the right in Fig. 2.

Since the rolling, as done in the rolling mechanism 45 described above, is a function of the differential motion of the two belts 70 and 71, it will be seen that a rigid supporting table could be substituted for the belt 70, at least so far as the actual rolling operation is concerned. The table (not shown) could be mounted as on wheels or rollers so that, after placing the wax sheet and wick assembly on the table, the latter would be pushed, as by hand, under the belt 71 the necessary distance to carry the wick-containing tube or bead 68 of wax into frictional contact with rolling belt 71. Instead of placing the wax sheet on the support, bead foremost, as illustrated, the sheet could be placed with the thin edge foremost in which event the rolling would commence after the flat (unbeaded) portion of the wax sheet had passed under the belt 71. In the event of supporting the sheet and wick assembly on a movable table the same can be returned (e. g. automatically) slowly to original position as soon as the rolling starts, so as to be repositioned promptly for receiving the next sheet to be rolled. The only advantage in placing the wax sheet with the bead 68 in trailing position is that then the wax sheet does not have at any time to slide on the support.

I claim:

1. A method of making candles, comprising: continuously assembling strip sheet fuel stock and strip wicking, with the wicking disposed along one longitudinal edge of the strip stock, cutting the assembled strips and wicking into approximate candle length units, serially conveying the units while applying heat to the sheet fuel stock to increase adherence and pliability thereof, and then spirally wrapping each of the fuel stock sheets on itself about the wick as a center.

2. A method of making candles, comprising: feeding and conveying sheet fuel stock and wicking in continuous strip form in the same direction, with the wicking adjacent one margin of the fuel strip inwardly from the edge of the latter, continuously folding a marginal portion of the fuel strip around the wicking, cutting the assembled fuel strip and wicking into approximate candle length units, feeding the units serially beyond the point of cutting, and then spirally wrapping the cut sheet fuel stock of said units about the cut wicks thereof as centers substantially to complete the formation of the candles.

3. A method of making candles, comprising: feeding and conveying sheet fuel stock and wicking in continuous strip form in the same direction, with the wicking adjacent one margin of the fuel strip inwardly from the edge of the latter, continuously folding a marginal portion of the fuel strip around the wicking, cutting the assembled fuel strip and wicking into approximate candle length units, conveying the units serially from the point of cutting while applying heat to the units to condition the stock for greater adherence and pliability, and then spirally wrapping the cut sheet fuel stock of said units about the cut wicks thereof as centers substantially to complete the formation of the candles.

4. The method of rolling a sheet of pliable fuel stock such as beeswax into a candle blank, comprising: laying wicking along one straight edge of the sheet and folding said edge over the wicking to form an enlarged marginal bead attached to the sheet, placing the sheet on a generally flat surface moving in a predetermined direction and in position such that the enlarged bead constitutes the leading edge of the sheet thereby moving the sheet and causing the bead thereof to be brought into frictional contact with a friction surface traveling more rapidly in the same direction and spaced above the supporting surface, whereby to roll up the sheet on the supporting surface about the wicking as a center.

5. The method of rolling a sheet of pliable fuel stock such as beeswax into a candle blank, comprising: treating the sheet so that it has a generally cylindrical bead along one straight edge of the sheet, placing the sheet on a generally flat surface, moving said surface transversely of the axis of the bead to convey the bead into frictional contact with a surface generally parallel to the supporting surface and traveling relative to the supported sheet in the direction of conveyance aforesaid whereby to roll up the sheet about the bead as a center.

6. In a machine for assembling wicking and sheet candle fuel stock of pliable nature, a conveyor belt and cooperating means adapted continuously to advance a strip of sheet fuel stock, a guide for the wicking arranged to conduct the wicking substantially into contact with the moving fuel strip near an edge thereof overhanging the belt, elevating means extending adjacent the belt generally parallel therewith and inclined upwardly into a position beyond the upper face of the belt so as continuously to raise the overhanging edge portion of the fuel strip and move it inwardly toward the wick, and folding mechanism disposed beyond the elevating means in the direction of travel of the stock for turning the raised portion of the strip over onto the wick.

7. Mechanism according to claim 6, wherein the elevating means is a continuously rotated shaft inclined as specified and the folding mechanism comprises a disc rotating in a generally horizontal plane for turning the raised edge portion of the strip inwardly over the wicking and a presser roller therebeyond shaped in a manner to force the inwardly turned portion down around the wicking.

8. Mechanism according to claim 6, wherein the guide for the wicking has a horizontal tongue projecting therefrom in the direction of travel of the fuel strip stock and along one side of which the wicking passes and is held substantially against the fuel strip, and the folding mechanism is adapted and arranged to turn the raised edge portion of the fuel strip inwardly over the tongue.

9. In a machine for preparing candle fuel stock in sheet strip form and wicking in strip form for rolling or wrapping as described, in combination: a conveyor for advancing the fuel strip, an assembling device adjacent the conveyor operative to

fold an edge portion of the fuel strip over the wicking, a cutting mechanism arranged for severing the assembled strips into separate units, another conveyor operating to advance said units in the same direction as the first conveyor moves the fuel strip stock but slightly faster in order to separate the trailing edge of a cut unit from the leading edge of oncoming fuel strip and form a gap therebetween, and photoelectrically controlled means operatively connected with the cutting mechanism and rendered operative by said gap to effect cutting.

10. In a candle making machine, a conveyor arranged to move continuous sheet strip fuel stock lengthwise, a guide for continuous wicking, mechanism adjacent the guide and operative continuously to attach the wicking to a marginal portion of the strip, a cutting mechanism beyond the folding mechanism and operative for severing the strip and wicking into candle lengths, apparatus for rendering the cutting mechanism active including a photo-electrically operated tripping device and means for projecting a control beam of light across the path of the strip so that the leading end of the strip can interrupt said beam, another conveyor having supporting means for the strip disposed out of alignment with said beam so as not to interrupt the beam, the second conveyor operating to draw the severed strip from the first conveyor and to advance the same more rapidly than the first conveyor feeds the strip whereby to cause a gap which clears the path of said light beam between each last severed piece of strip stock and the leading edge of the oncoming unsevered strip, and means acting to render the tripping device operative upon presentation of said leading edge across the path of the light beam.

11. In a candle making machine, mechanism for associating strip fuel stock in sheet form with wicking in strip form so that the wicking is enveloped in a bead at one edge of a fuel sheet, a conveyor adapted to support the fuel sheet and wick assembly and move the same along a fixed path extending transverse to the wicking, a belt having a stretch moving adjacent and generally parallel to said path, means to support a loop of the belt defining one end of said stretch thereof so that a surface of the belt adjacent said means can encounter the bead frictionally in a manner tending to roll the remainder of the sheet around the bead, and means to support another portion of said belt stretch in such manner that the stretch can separate from the conveyor surface increasing distances while maintaining substantially uniform pressure on the rolled body of fuel strip as the body grows larger.

12. In a candle making machine adapted to roll a candle body or blank from a sheet of fuel stock having a wick associated therewith in a straight tubular edge fold of the fuel stock, a member having a generally flat and generally horizontally disposed supporting surface for receiving the fuel sheet, a flexible endless belt driven lengthwise and having a stretch generally parallel to the supporting surface above the same and extending at right angles to said tubular fold as placed on the supporting surface, and means for moving said member with the sheet supported thereon into juxtaposition with said belt stretched in a manner to bring the tubular fold and said belt stretch together into frictional contact.

13. In a candle making machine adapted to form a candle body or blank from a sheet of fuel stock having a wick associated therewith in a tubular edge fold of said stock, a pair of endless belts having respective adjacent generally parallel stretches, respective means for driving said adjacent stretches at different speeds in the same direction, one of said stretches extending beyond the stretch of the other lengthwise thereof to provide a receiving support for the sheet of fuel stock and wick with the tubular edge fold crosswise of said stretches, the other stretch being the more rapidly driven and positioned frictionally to engage the tubular fold as advanced by the supporting stretch for rolling the sheet about said fold as described.

14. The improvement in a known process of making candles from pliable sheet fuel stock, adjacent spiral turns of which adhere to each other to constitute the candle fuel body, said improvement comprising associating wicking with such stock as follows: simultaneously advancing a strip of the sheet fuel stock lengthwise of itself and a strip of wicking lengthwise of itself and lying along one edge of the strip of fuel stock in uniformly spaced relation to such edge; progressively turning the outlying marginal portion of the sheet over the wicking and beyond the same; and progressively applying to thus relatively superimposed portions of the fuel stock, continuously therealong, sufficient pressure to cause said portions to adhere to each other and uniformly envelop the wicking in a tubular bead or marginal loop of fuel stock.

15. The improvement according to claim 14 further characterized in that the pressure applied to said superimposed fuel stock portions is sufficiently close to the enveloped wick so that the wick becomes uniformly and snugly embedded by the fuel stock of the tubular bead for the entire length thereof.

16. In a candle making machine adapted to roll a candle body or blank from a sheet of fuel stock having a wick associated therewith in a straight tubular edge fold of the fuel stock, a flexible endless belt, means to maintain a portion of the belt in position to constitute a generally flat supporting surface for the fuel sheet, a flexible endless belt driven lengthwise and having a stretch generally parallel to the supporting surface and extending at right angles to said tubular fold as placed in contact with the supporting surface, and means for driving the belts so that their adjacent stretches move in the same direction but with the second mentioned belt traveling faster than said supporting surface whereby to roll the blank on the latter about said tubular fold.

17. The method of forming a sheet of pliable fuel stock such as beeswax into a candle blank, comprising: folding a relatively narrow marginal edge portion of the sheet about a wick, placing the sheet on a generally flat supporting surface moving in a predetermined direction and so that the wick containing portion constitutes the leading edge of the sheet as conveyed by said surface, thereby moving said portion into frictional contact with a friction surface traveling more rapidly in the same direction and spaced above but generally parallel to the supporting surface, whereby to roll up the sheet on the supporting surface substantially about the wick as a center.

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