Jan. 8, 1924. 1,479,898

J. N. COLLINS ET AL

CARAMEL FORMING MACHINE

Filed May 6, 1922 3 Sheets-Sheet 1

FIG. 1

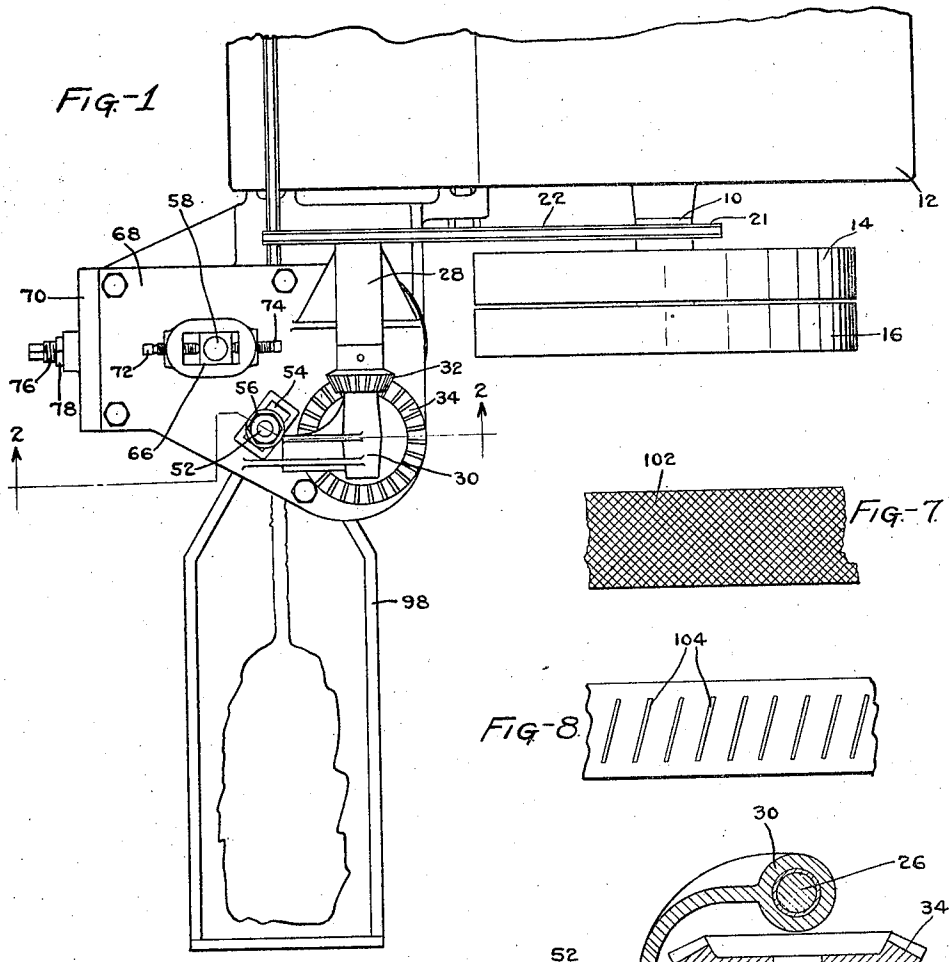
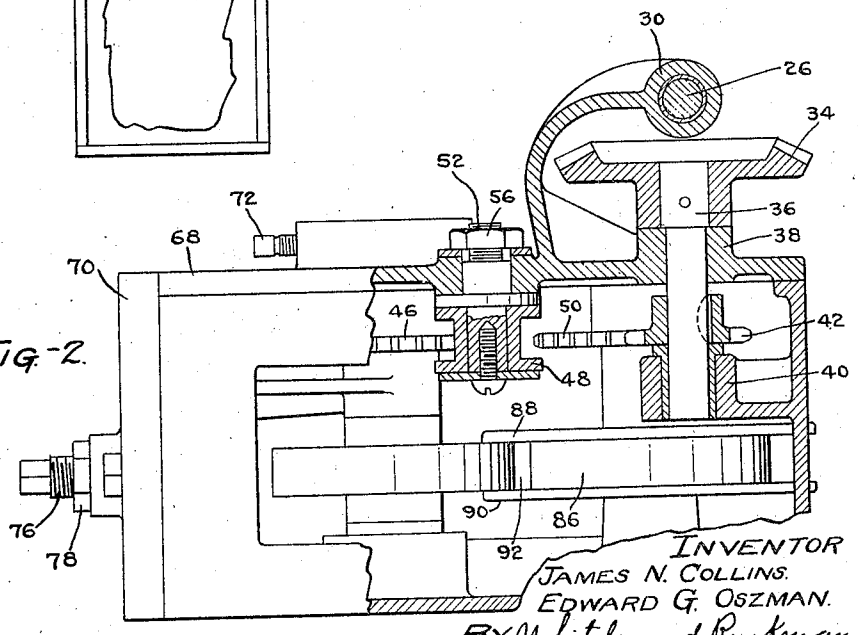


FIG. 7

FIG. 8

FIG. 2



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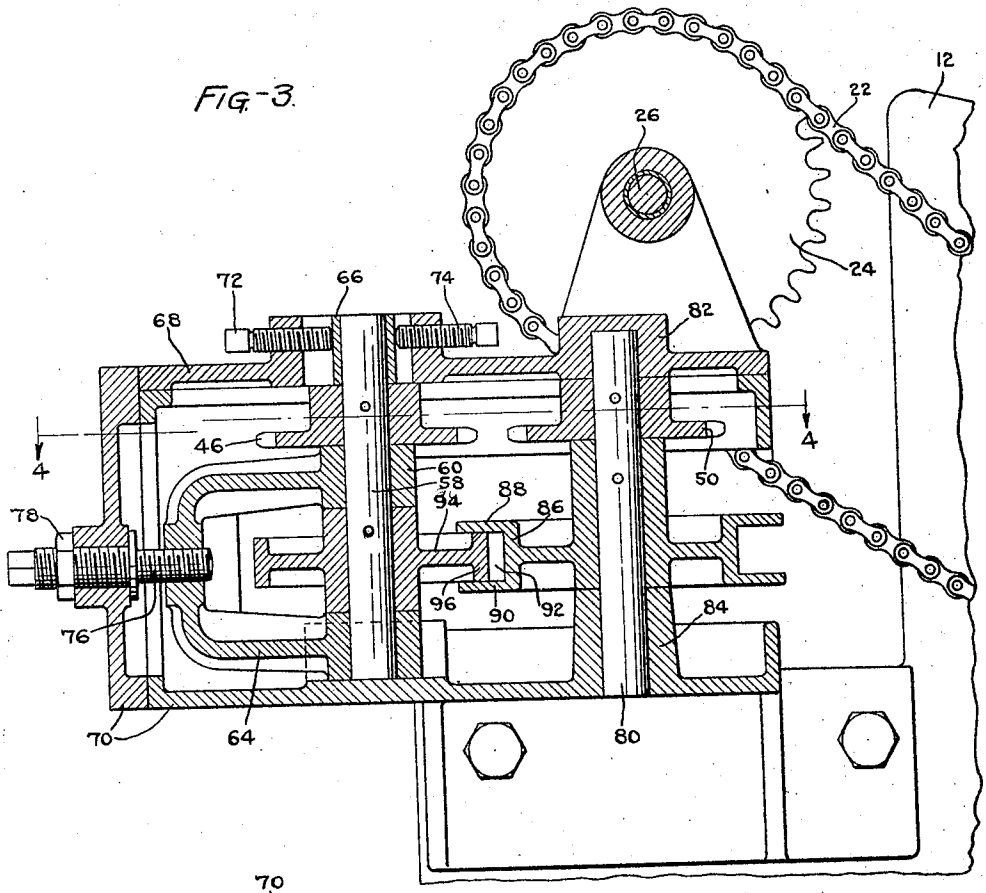
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FIG. 3.



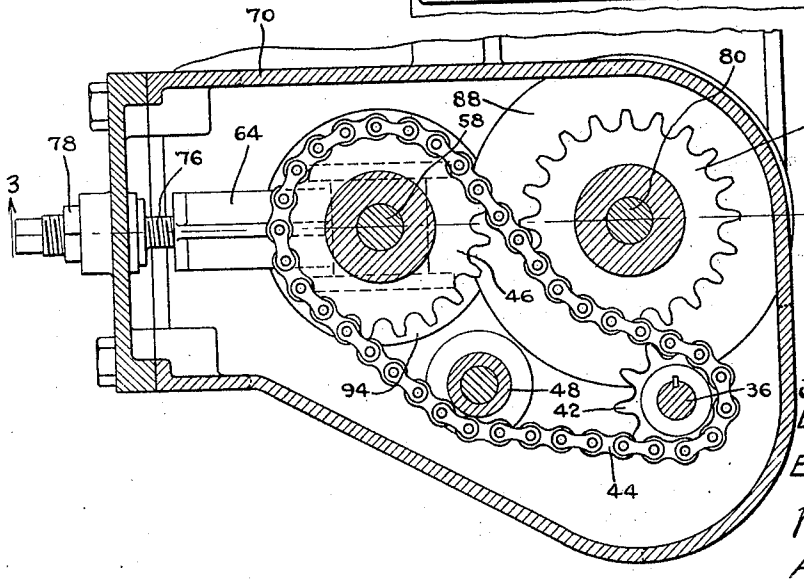


FIG. 4.

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CARAMEL FORMING MACHINE

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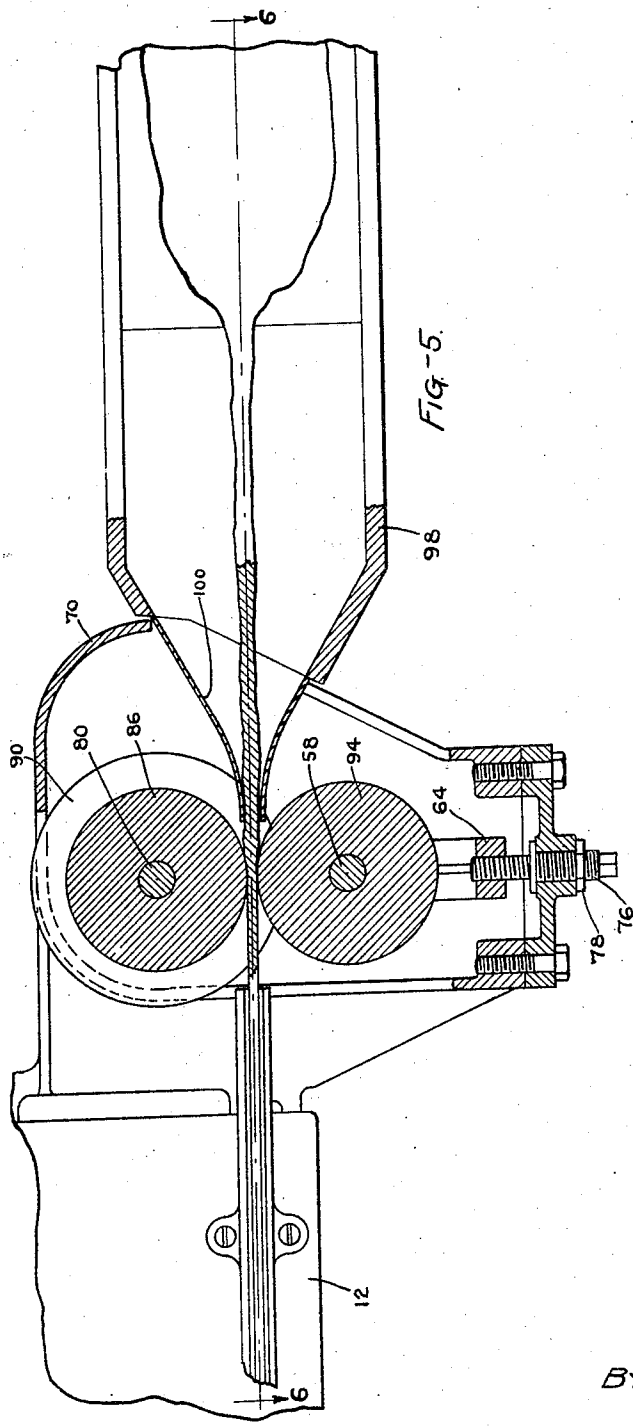


FIG-5.

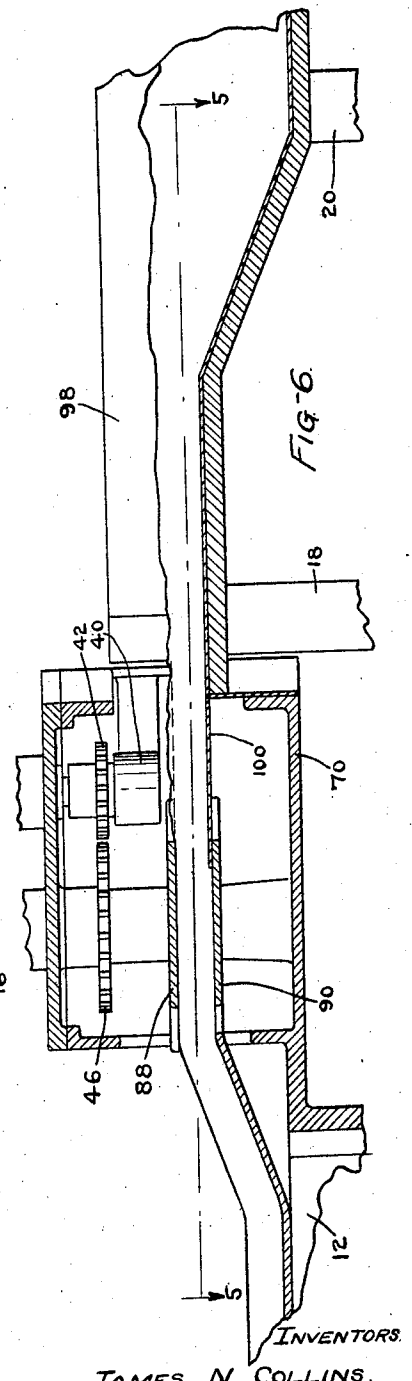


FIG-6.

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Patented Jan. 8, 1924. 1,479,898

UNITED STATES PATENT OFFICE.

JAMES N. COLLINS AND EDWARD G. OSZMAN, OF MINNEAPOLIS, MINNESOTA, ASSIGNORS TO J. N. COLLINS COMPANY, OF MINNEAPOLIS, MINNESOTA.

CARAMEL-FORMING MACHINE.

Application filed May 6, 1922. Serial No. 558,889.

To all whom it may concern:

Be it known that we, JAMES N. COLLINS and EDWARD G. OSZMAN, citizens of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Caramel-Forming Machines, of which the following is a specification.

Our invention relates to caramel forming machines. An object is to provide a machine for rolling the caramel material into a bar which, when cut crosswise, will produce pieces of the proper size for the individual caramels. Another object is to provide a machine of this character in which an adjustment may be readily made so as to vary the size of the caramels as desired. Another object is to provide forming rollers having roughened surfaces for engagement with the material which is being formed into caramels so that the material will be pulled along without the rollers slipping over the same.

The full object and advantages of our invention will appear in connection with the detailed description, and the novel features embodied in our inventive idea will be particularly pointed out in the claim.

In the drawings which illustrate a practical embodiment of our invention, Fig. 1 is a top plan view of the machine. Fig. 2 is a view in vertical section on the line 2—2 of Fig. 1. Fig. 3 is a view in vertical section on the line 3—3 of Fig. 4. Fig. 4 is a view in horizontal section on the line 4—4 of Fig. 3. Fig. 5 is a view in horizontal section on the line 5—5 of Fig. 6. Fig. 6 is a view in vertical section on the line 6—6 of Fig. 5. Fig. 7 is a fragmentary view showing one form of roughened surface for the forming rollers. Fig. 8 is a fragmentary view showing another form of roughened surface for the forming rollers.

Our caramel forming machine is driven from the shaft 10 of a caramel cutting and wrapping machine 12 which forms no part of the present invention, this shaft having fast and loose pulleys 14 and 16. Part of the framework of the machine is designated at 18 and 20 in Fig. 6. Secured to the shaft 10 is a sprocket wheel 21. A sprocket chain 22 runs over this sprocket wheel and over a sprocket wheel 24 secured to a shaft 26 mounted in bearings 28 and 30. Secured to the shaft 26 is a bevel gear 32 which meshes with a bevel gear 34 secured to a vertical shaft 36 mounted in bearings 38 and 40. Secured to the shaft 36 is a sprocket wheel 42 around which a sprocket chain 44 runs. The sprocket chain also runs around a sprocket wheel 46 while the inner surface of the chain is engaged by a tensioning idler 48 and the outer surface engages a sprocket wheel 50. The idler 48 is rotatably mounted on a stub shaft 52, the upper end of which extends through a slot in the upper member of a housing and is provided with a nut 56 upon loosening which the idler may be adjusted to take up slack in the sprocket chain. As best shown in Fig. 3, the sprocket wheel 46 is secured to a shaft 58 mounted in bearings 60 and 62 carried by a yoke 64 and also mounted in a bearing 66 which is slidable in a slot formed in the cover plate 68 of the housing 70. The bearing 66 is held in adjusted position by set screws 72 and 74 which engage opposite sides of this bearing. The yoke 64 is provided with a screw-threaded opening to receive the inner end of a screw-threaded member 76, the outer portion of which passes through an opening in the housing 70 and is provided with a nut 78 upon loosening which the member 76 may be turned to adjust the shaft 58 in or out, the set screw 72 or 74 being loosened at the same time. The sprocket wheel 50 is secured to a shaft 80 mounted in bearings 82 and 84 carried by the housing 70. Secured to the shaft 80 is a forming roll 86 which is provided with spaced peripheral flanges 88 and 90 which form a narrow annular pocket 92. Secured to the shaft 58 is a second forming roller 94 provided with a ringlike flange 96 adapted to fit down into the pocket between the flanges 88 and 90. It is obvious that by adjusting the shaft 78 in the manner previously described the flange 96 may be brought to a greater or lesser extent into the pocket 92. In order that material for the caramels may be fed to the forming rollers, we provide a trough 98 having a reducing nozzle 100 arranged to deliver the material into the pocket and between the two forming rollers. A mass of caramel material is placed in the trough and pulled out sufficiently so as to pass

through the nozzle 100 through which it is pulled out by the forming rollers 86 and 94. In order that the material may be gripped by the rollers without slipping action, the surface at the bottom of the pocket 92 and the opposed surface of the flange 96 may be knurled as indicated at 102 in Fig. 7 or may be provided with depressions 104 as shown in Fig. 8.

The operation and advantages of our invention will now be obvious. The caramel material after being mixed is placed in the trough 98 in which it is stretched out as shown in Fig. 5 and then delivered between the rollers 86 and 94. The material is squeezed in the pocket 92 between the bottom thereof and the flanges 88 and 90 by the flange 96 of the cooperating roller 94, being thereby compressed and formed into a bar which, when cut crosswise, forms caramels of rectangular shape. The size of the caramel may be readily changed by adjusting the shaft 58 of the roller 94 so that the flange 96 thereof will extend the desired distance into the pocket 92 between the flanges 88 and 90 of the roller 86.

We claim:

A caramel forming machine comprising a support, a shaft, a forming roller secured to said shaft, a second shaft, a cooperating forming roller secured to said second shaft, a housing for said rollers, a yoke having two bearings for said second shaft, a screw-threaded member received in a screw-threaded opening in said yoke and rotatably carried by said housing, means for securing said screw-threaded member against rotation, a third bearing for said second shaft mounted in a slot in said housing, set screws for securing said third bearing in adjusted position, and means for supplying caramel material to the space between said rollers.

In testimony whereof we hereunto affix our signatures.

JAMES N. COLLINS.
EDWARD G. OSZMAN.