Aug. 4, 1931. O. LAUENSTEIN 1,817,695

GRIPPING DEVICE FOR PRALINE AND LIKE WRAPPING MACHINES

Filed March 14, 1928

Fig. 2

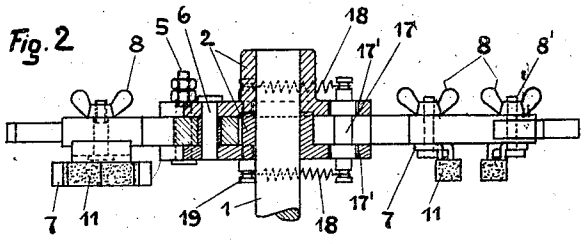


Fig. 1

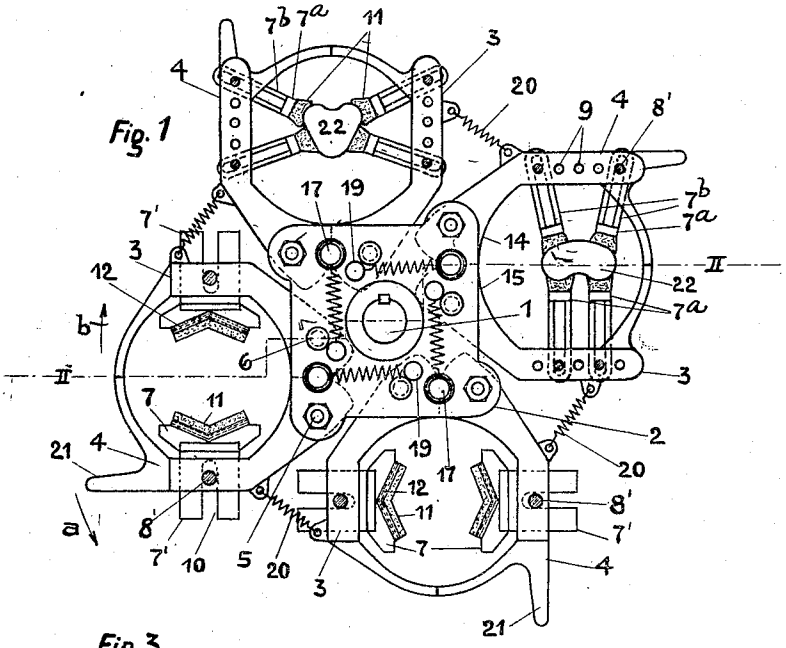


Fig. 3

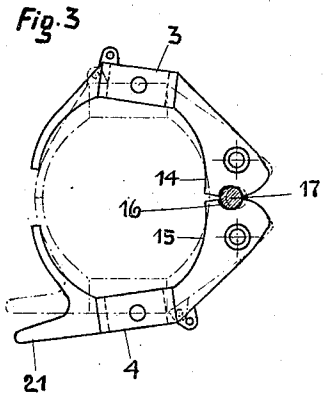


Fig. 4

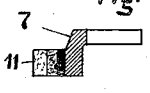
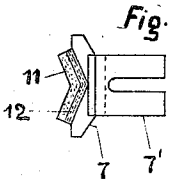


Fig. 5



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UNITED STATES PATENT OFFICE

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GRIPPING DEVICE FOR PRALINE AND LIKE WRAPPING MACHINES

Application filed March 14, 1928, Serial No. 261,634, and in Germany March 19, 1927.

The invention relates to a gripping device for feeding pralines or other candies or like variously shaped articles to wrapping machines.

The objects of the invention are to enable rapid feeding of the pralines and other articles by means which will not require alteration in the shape of the tongs to suit pralines or the like of different shape and will also effect the rapid feeding without damaging the pralines or other articles.

With these objects in view the invention comprises the combination of parts constructed and adapted for operation substantially as hereinafter described and claimed in the appended claims.

In the accompanying drawings:

Figure 1 is a plan of one form of gripping device according to the invention comprising a plurality of pairs of gripping tongs fitted with two different forms of gripping jaws.

Figure 2 is a sectional elevation, the section being taken on II—II, Figure 1.

Figure 3 is a plan of a pair of tongs detached, the full lines representing the tongs with their arms open and the dotted lines indicating the position assumed by the arms when closed.

Figures 4 and 5 are respectively a sectional elevation and a plan of one form of gripping jaw.

In the form illustrated a rotary shaft 1 has a rotary carrier 2 keyed thereon for carrying the pairs of gripping tongs, each of which comprises two arms 3 and 4 pivotally mounted on the carrier 2 on pins 5 and 6 respectively, which pins are spaced apart.

Each arm of each pair of tongs is provided with one or more gripping jaws adjustably mounted thereon, for instance, two of the pairs of tongs in Figure 1 are shown provided with a single jaw 7 on each arm 3 and 4, while the other pairs of tongs are shown provided with two jaws 7*a*, 7*a* on each arm 3 and 4.

Each jaw 7 or 7*a* has a slotted stem 7′ or 7*b* by which it can be adjustably secured to its corresponding arm 3 or 4 by means of a clamping bolt 8′ preferably having a fly-nut 8.

When a plurality of jaws are fitted to each arm 3 or 4, the latter is preferably provided with a series of holes 9 for the clamping bolts 8′ so as to permit of adjustment in the relative position of the jaws, although it will be understood that other means for adjustably mounting the jaws may be adopted.

The gripping jaws 7 and 7*a* are provided with gripping pads 11, preferably of resilient material such as rubber sponge. The pads 11 are preferably secured to the jaws 7 and 7*a* by means of intermediate supports 12 consisting of thin metal plates encased in a thin covering of resilient material such as rubber sponge or very porous rubber, one side of each support 12 being attached to the metal or other face of the corresponding jaw 7 or 7*a* and on the other receiving the pad 11 which is fixed to it by any suitable adhesive. The pads 11, however, may be directly affixed to the jaws 7 and 7*a*, the metal faces of the latter being preferably coated with rubber before the pads are applied.

The arms 3 and 4 of each pair of tongs have opposed extensions 14, 15, having opposed recesses 16 therein to receive a pin 17 which forms a coupling member between the two and ensures simultaneous movement of the two arms when one is moved. Each pin 17 is mounted somewhat freely in holes 17′, Figure 2, in the rotary carrier 2, so that it shifts slightly therein. It is connected at each end by a spring 18 to a pin 19 fixed on the carrier 2, the springs 18 tending to shift the pins laterally so that they act on the extensions 14, 15, and tend to close the arms 3 and 4 of the tongs and thereby close the gripping jaws 7, 7*a* onto the pralines 22.

Other springs 20 connect the adjacent arms 3 and 4 of adjacent pairs of tongs. The springs 20 are weaker than the springs 18 and they tend to open the arms, the springs 18 being relatively strong enough to keep the arms closed against the action of the springs 20.

Each arm 4 has a projection 21 for engagement with a stop when the carrier 2 makes an intermittent or other rotary movement whereby the particular pair of arms 3 and 4 are opened. No stops or means for rotating

the carrier 2 are shown as they will be obvious to those skilled in the art of wrapping machinery.

When the projection 21 passes a stop the springs 18 of the particular pair of arms 3 and 4 will close them rapidly, but the corresponding springs 20 will cushion this action. By connecting adjacent arms 3 and 4 of adjacent pairs of tongs by means of the springs 18 a less number of these springs are required as there is no necessity to provide a separate one for each arm.

I claim:

1. A gripping device for a praline or like wrapping machine comprising gripper tongs, a plurality of gripping jaws on one of said tongs adjustable relatively to each other and to said tongs, and means for securing said jaws to said tongs in any position of adjustment thereon.

2. A gripping device for a praline or like wrapping machine comprising a plurality of pairs of gripper tongs having arms, spring closing means associated with each pair of tongs, and weaker spring means acting on the tongs in opposition to the spring closing means.

3. A gripping device for a praline or like wrapping machine comprising gripper tongs having arms, a plurality of gripping jaws on each arm, each of said jaws being independently adjustable relatively to its corresponding arm and means for securing each jaw in any position of adjustment on its arm.

4. A gripping device for a praline or like wrapping machine comprising a plurality of gripper tongs having arms and gripping jaws, spring closing means associated with each pair of tongs, and a weaker spring means acting on the tongs in opposition to the spring closing means, said weaker spring means connecting certain of the arms of the pairs of tongs.

5. A gripping device for a praline or like wrapping machine comprising gripper tongs having gripping jaws adjustable relatively to said tongs, and means for securing said jaws to said tongs in any position of adjustment thereon, said jaws having metal faces, thin layers of rubber on said faces and rubber pads on said layers.

6. A gripping device for a praline or like wrapping machine comprising gripper tongs having gripping jaws adjustable relatively to said tongs, and means for securing said jaws to said tongs in any position of adjustment thereon, said jaws having rubber pads, an intermediate support between each of said pads and its corresponding jaw, each of said supports comprising a plate covered with rubber by which rubber covering said support is attached to the jaw and to which rubber covering the pad is pasted.

7. A gripping device for a praline or like wrapping machine comprising a pair of tongs having two arms, each arm provided with gripping jaws adjustably mounted thereon, fulcrums for said arms, opposed extensions on said arms, and a coupling member between said extensions, substantially as and for the purpose hereinbefore set forth.

8. A gripping device for a praline or like wrapping machine comprising a pair of tongs having two arms, each arm provided with relatively adustable gripping jaws adjustably mounted thereon, fulcrums for said arms, opposed extensions on said arms, said extensions having recesses, a coupling member engaging within said recesses and a spring connected to said coupling member for closing said tongs.

9. Gripping mechanism for a praline or like wrapping machine comprising a plurality of pairs of tongs, a rotary carrier therefor, each pair of tongs having two arms, the fulcrums of the arms of each pair of tongs being spaced apart and carried by said carrier, each pair of arms having opposed extensions provided with recesses, a coupling member engaging therein, a closing spring connected to said coupling member and a weaker spring adapted to act in opposition to said closing spring, each weaker spring being connected to the adjacent arms of adjacent pairs of tongs, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature.

OTTO LAUENSTEIN.