

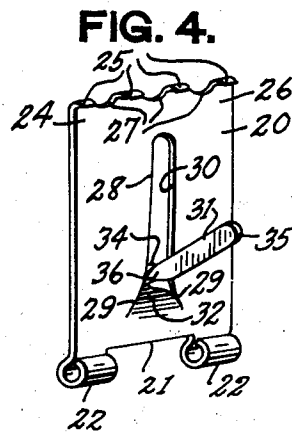
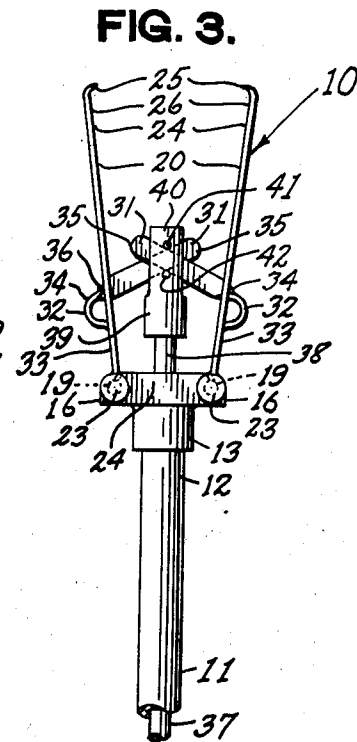
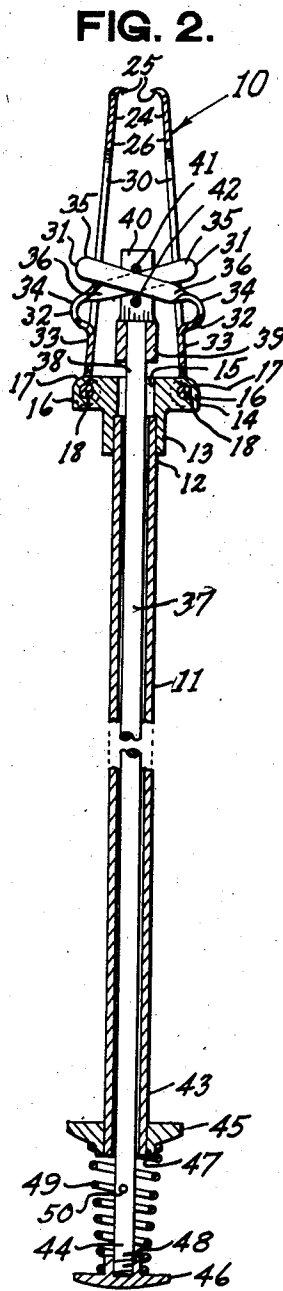
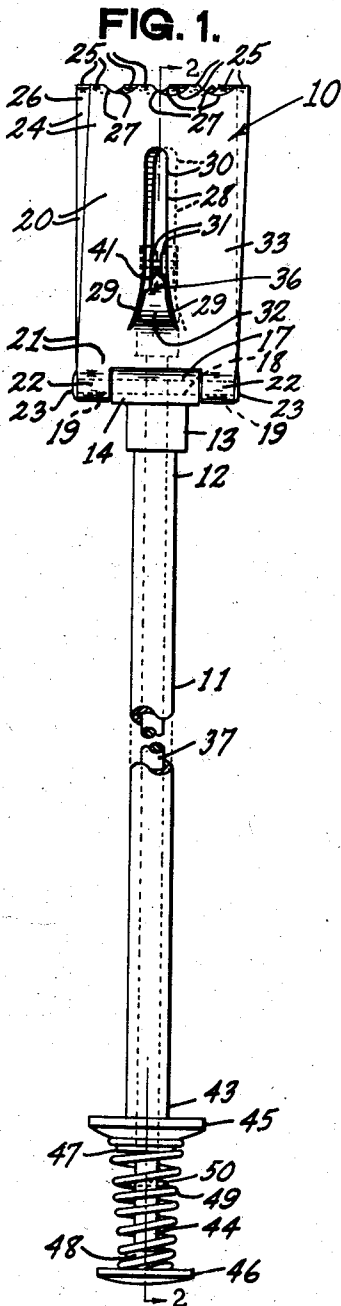
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PICK-UP DEVICE

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PICK-UP DEVICE

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5 Claims. (Cl. 294—115)

The present invention relates to improvements in handling implements and the primary object of the invention is to provide a pick-up device including pivoted jaws of improved construction and arrangement.

Another object of the invention is to provide a pick-up device including interchangeable pivoted jaws having an improved arrangement of article gripping teeth.

10 A further object of the invention is to provide a jaw having an improved integral operating or controlling arm.

A still further object is to provide a pick-up device including jaws having crossed control arms operated through an improved stirrup connection.

Another important object is to provide a pick-up device which will not tend to injure relatively soft or delicate articles such as candy bars, or

20 their wrappers.

Still another object is to provide a pick-up device for use in dispensing articles or products such as candy bars, and having predetermined jaw opening and closing positions tending to prevent picking up articles or products of a size, shape or numerical quantity other than that intended to be handled by such pick-up device.

Other objects are to provide a pick-up device which may be economically produced, easily cleaned and not liable to become clogged upon handling of soft articles.

Other objects and advantages of the invention will be apparent from the following detailed description, taken in connection with the accompanying drawing, forming a part of this specification and in which:—

Figure 1 is a view in side elevation of the improved pick-up device, the jaws thereof being closed.

40 Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a fragmentary view in end elevation showing the jaws in their open positions.

Figure 4 is a perspective detail view of one of the jaws.

In the drawing, wherein for the purpose of illustration is shown a preferred embodiment of the invention, and wherein similar reference characters designate corresponding parts throughout the several views, the improved pick-up device 10 may include an elongate tubular housing 11 over one end portion 12 of which is secured a sleeve 13 terminating in a thick rectangular flange 14 and provided with an axial cylindrical opening 15. Extending transversely through opposite

end portions 16 of the rectangular flange in co-axial relation to rounded edges 17 of said end portions are rotatable pins 18 whose end portions 19 project from opposite sides of the flange.

A pair of interchangeable parallelogrammatic sheet metal pivoted jaws 20 is provided, each including a bifurcated end portion 21 terminating in curled sleeves 22 secured to the pins 18 at their opposite end portions 19 as by solder 23; and a free end portion 24 terminating in a series of relatively short teeth 25 arcuately projecting from the inner jaw face 26; and arcuate notches forming tooth spaces 27 between the teeth 25. As shown in Figure 1, the jaws may extend somewhat obliquely from their pivot end portions 21 15 to their free end portions 24, so that the teeth 25 of one jaw will be arranged in staggered relation with the teeth of the other jaw, and in alignment with the tooth spaces 27. Intermediate its ends, each jaw is cut or pressed along a substantially U-shaped line 28 preferably arcuately divergent toward its opposite ends 29 forming an elongate slot 30 and an elongate arm 31 having a widened end 32 integral with the jaw adjacent its pivot end portion 21. This widened end 32 may project from the outer jaw face 33 and be provided with an arcuate return bend 34 so that the free end 35 may extend through the slot and project obliquely beyond the inner jaw face 26. The arm may be provided with a substantially 90° twist 36 as it passes through the slot, as shown in the drawing, so that with the jaws pivotally mounted on the pins 18 with their inner faces 26 in confronting relation, each arm 31 may cross the other with its free end 35 accommodated in the slot 30 out of which the other arm was cut or pressed. As shown in Figures 1 and 4, the longitudinal axes of the slots 30 may be laterally offset from the longitudinal axes of the jaws 20, to facilitate crossing of the arms. 40

Extending through the housing is an operating shaft 37 having one end portion 38 projecting from the opening 15 of the sleeve 13 and rigidly carrying a sleeve 39 terminating in bifurcated extensions 40 embracing the arms 31 and provided with spaced apart rung-like cross pins 41—42 forming a stirrup connection through which the crossed portions of the arms 31 extend. By this construction jaws 20 may be quickly assembled into place or detached from the frame, since the arms 31 extend loosely thru the stirrup connection between the pins 41—42. These pins are spaced apart a sufficient distance when the jaws 20 are open to the extent desired, as shown by way of example in Figure 3, the arms 31 will bind on 55

pins 41—42 and limit the spreading movement of the jaws 20.

Secured over the other end 43 of the housing and over the opposite projecting end portion 44 of the operating shaft are spaced apart annular finger pieces 45—46 respectively, provided with reduced sleeves 47—48 around which are seated the opposite ends of an expansion coil spring 49 encircling the end portion of the operating shaft. If desired, a transverse stop pin 50 may be fixed to the shaft.

The expansion spring 49 normally urges the jaws to their closed position as shown in Figure 2 wherein only the outer cross pin 41 bears against the crossed arms and wherein the free ends of the arms are retained in the slots adjacent the twisted portions 36. By pressing the finger pieces 45—46 toward each other, the stirrup connection may be moved away from the pivot flange 14 whereupon the inner cross pin 42 will contact and impart opening movement to the jaws and will increase the inclination of the crossed arms until a position is reached as shown in Figure 3 wherein the arms are so inclined as to contact both pins 41—42, and prevent further opening movement of the jaws.

Upon positioning the opened jaws in straddling relation about an article, and releasing the pressure on the finger pieces, the spring 49 will urge the jaws into engagement with the article, which may, of course, be released when desired by merely re-exerting the pressure on the finger pieces.

It will thus be seen that an improved pick-up device has been provided including jaws pivotally movable within predetermined limits tending to prevent handling of articles of a size, shape or quantity other than those intended. By providing the wide jaws with relatively short teeth, soft articles such as candy bars and their wrappers may be handled without injury.

Various changes in the shape, size and arrangement of parts may be made to the form of invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. In a handling implement, a frame, a pair of

jaws, means pivoting said jaws to the frame in opposed interchangeable relation, said jaws being provided at their free ends each with a similar series of alternate teeth and tooth spaces, said jaws extending obliquely from the pivot means toward their free ends so that the teeth of one jaw align with the tooth spaces of the other jaw, and means carried by the frame for operating said jaws.

2. A handling implement including a frame, a pair of jaws pivoted each at one end to the frame, said jaws each including an obliquely projecting arm and an elongate slot, said arms being crossed intermediate said jaws, and said slots each accommodating the free end of the arm of the opposite jaw.

3. A jaw of sheet material provided with an operating arm having a fixed end integral with the jaw and a free end portion pressed from said sheet material forming a slot in said jaw, said free end portion projecting from one side of the jaw and being bent upon itself so as to extend through the slot to and beyond the opposite side of the jaw.

4. A jaw of sheet material provided with an operating arm having a fixed end integral with the jaw and a free end portion pressed from said sheet material forming a slot in said jaw, said free end portion projecting from one side of the jaw and being bent upon itself so as to extend through the slot to and beyond the opposite side of the jaw, and twisted in passing through the slot.

5. A handling implement comprising an elongate frame, a pair of jaws in spaced apart relation and pivoted adjacent one end of the frame, an arm for each of said jaws, said arms extending in crossed diagonal relation between the jaws, a reciprocable control rod carried by the frame and extending into the space between said jaws, a bifurcated member on said rod embracing said arms at their crossed portions, and spaced cross pins carried by said bifurcated member for engagement with the longitudinal edges of said arms.

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