June 16, 1925. 1,542,569

A. MONDI

AUTOMATIC FEEDING TABLE

Filed Jan. 5, 1924

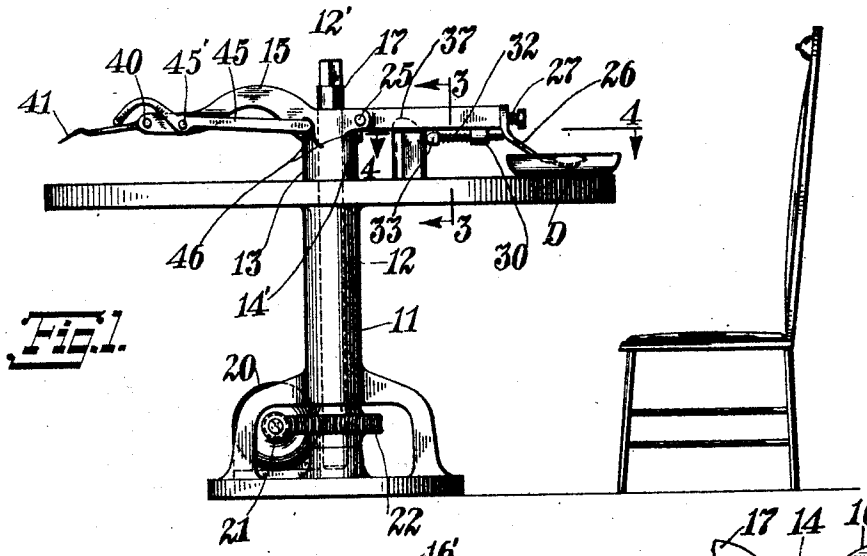


Fig. 1.

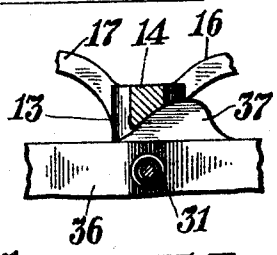


Fig. 3.

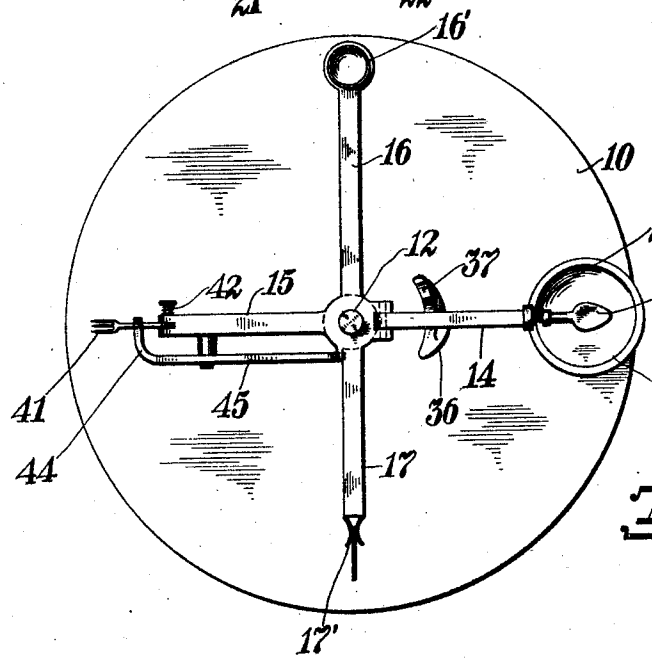


Fig. 2.

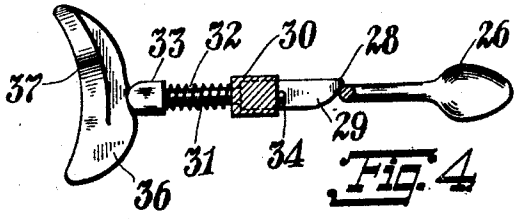


Fig. 4.

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UNITED STATES PATENT OFFICE.

ANGELO MONDI, OF SALINA, PENNSYLVANIA.

AUTOMATIC FEEDING TABLE.

Application filed January 5, 1924. Serial No. 684,471.

To all whom it may concern:

Be it known that I, ANGELO MONDI, citizen of Italy, residing at Salina, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Feeding Tables, of which the following is a specification.

This invention relates to a table intended for use in feeding persons who may be armless or may have lost the use of their arms, the invention having for an object the provision of a novel table of this sort provided with means for lifting food from dishes on the table to a position where the person feeding may grasp the food with his mouth.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Fig. 1 of the drawing is a side view of my improved table.

Fig. 2 is a plan view thereof.

Fig. 3 is a detail vertical section taken on the line 3—3 of Fig. 1.

Fig. 4 is a detail horizontal section taken on the line 4—4 of Fig. 1.

As here embodied my improved table comprises a circular top 10 mounted on a central leg or standard 11. Extending freely through this standard is a vertical shaft 12 which has a hub 13 fixed to its upper end from which four arms, 14, 15, 16 and 17 respectively radiate, these arms being equally spaced around the hub. The shaft 12 is driven from an electric motor 20 which may be mounted on the foot 11′ of the standard 11 and which has a worm pinion 21 on its rotor shaft which meshes with a worm gear 22 on the shaft. Of the four arms above mentioned the arms 14 and 15 respectively carry a spoon and a fork which are arranged to dip into different ends of an elongated dish indicated at D which is placed on the table top 10 near the edge thereof, and has the food properly separated therein.

Referring first to the arm 14, the latter is hinged at its inner end as at 25 to the hub 13 to swing vertically and has pivotally attached to its outer end, on an axis lying in the median line of the arm, the stem of a spoon element 26. A spring 27 engages this spoon element in a well known manner to hold it in a vertical plane bearing on an outwardly extended tip 28 from a cam bar 29 slidable in a bearing element 30 carried under the arm 14. This cam bar has an inwardly extended stem 31 which is surrounded by a coiled expansion spring 32 which bears between the bearing 30 and a head 33 on the inner end of the said stem, a pin 34 on the cam bar limiting inward movement of the latter by engaging the bearing 30. Carried by the table top 10 is a fixed cam 36 which is adapted to engage the head 33 at the right time and push the cam bar 29 outward causing the latter to bear on the stem of the spoon element 26 and swing the latter upwardly. A second cam 37 is fixed on the table, and may be formed integral with the cam 36, and is adapted to engage under the arm 14 so as to swing the latter upward and lift the spoon from the dish. The arm 14 is prevented from swinging downward past horizontal position by means of a tail-piece 14′ thereon which bears on the side of the hub 13.

The arm 15 has pivoted to its outer end as at 40 to swing vertically a fork 41 which is normally urged upward by means of a spring 42 engaged therewith, upward movement of the fork being limited by an offset finger 44 on one end of the lever 45 fulcrumed between its ends to the arm 15 as at 45 to swing vertically, and having its opposite end resting on a pin 46 on the hub 13. This lever is adapted to be engaged at the right time by the cam 37 to depress the fork into the dish D. The arm 16 may be provided with a suitable socket member 16′ at its outer end to receive a glass to hold water or other liquid, while I have here shown the arm 17 as provided at its outer end with spring fingers 17′ between which a napkin may be placed. To control the motor 20 which turns the shaft 11 and causes the various arms to swing, I may mount an electric switch 50 on the back of the chair 51 in which the person eating sits and which may be engaged by the head of the said person when the motor is to run.

It is believed that the manner of operation and use of my improved feed table will be readily understood from the above description. When the motor 20 is started various arms are caused to swing in a circular path. As the arm 14 approaches the cam 36 the head 33 on the stem 31 of the cam bar 29 engages said cam and moves the cam bar forward, causing the spoon element 26 to swing

upwardly, and rearwardly with respect to the direction of travel of the arm, so that the spoon clears the side of the dish. As the head 33 rides off the cam 36 the spoon element is brought downward and forward, gathering some of the food in the dish, this movement of spoon element being arrested when its stem engages the tip 28 on the cam bar. The arm 14 then engages the cam 37 and is raised, lifting the spoon element from the dish to a position within reach of the person feeding.

When the arm 15 approaches the dish, the lever 45 engages the cam 37 and the fork 41 is depressed into the dish to pick up some of the food in the dish, the fork being raised by the spring 42 as the lever rides off the cam 37.

Having thus described my invention what I claim as new and desire to protect by Letters Patent of the United States is as follows:

1. A device of the class described comprising a vertical shaft, a support in which said shaft is rotatably mounted, a pair of arms fixed to and radiating from said shaft, spoon and fork element on the respective arms, and means for imparting up and down movements to said spoon and fork elements at certain points in the travel of said arms, said means comprising cam elements fixed to said support in position to be engaged by said arms as the latter move with the said shaft.

2. A device of the class described comprising a vertical shaft, a support in which said shaft is rotatably mounted, a pair of arms fixed to and radiating from said shaft, spoon and fork element on the respective arms, and means for imparting up and down movements to said spoon and fork elements at certain points in the travel of said arms, said means comprising cam elements fixed to said support in position to be engaged by said arms as the latter move with the said shaft, said spoon and fork elements being hinged to the outer ends of said arms.

3. A device of the class described comprising a vertical shaft, a support in which said shaft is rotatably mounted, a pair of arms fixed to and radiating from said shaft, spoon and fork elements on the respective arms, and means for imparting up and down movements to said spoon and fork elements at certain points in the travel of said arms, said means comprising cam elements fixed to said support in position to be engaged by said arms as the latter move with the said shaft, said spoon and fork elements being hinged to the outer ends of said arms, on axes respectively parallel and transverse to said arms.

4. In a device of the class described, a frame element including a table, a vertical shaft rotatably mounted in said frame element, an arm fixed to and radiating from said frame element, and hinged at its inner end thereto to swing vertically, a spoon element pivoted to the outer end of said arm on an axis parallel to the arm, a cam bar slidably mounted on said arm and adapted to engage and lift the spoon element upwardly and rearwardly, and cam elements fixed on said table and adapted to move said cam bar and swing said bar.

5. In a device of the class described, a frame element including a table, a vertical shaft rotatably mounted in said frame element, an arm fixed to said shaft and extending over said table, a fork hinged to the outer end of said arm to swing vertically, a lever fulcrumed to said arm for operating said fork, and a cam fixed on said table and adapted to be engaged by said lever to operate the latter as the lever moves with the said arm over the table.

In testimony whereof I have affixed my signature.

ANGELO MONDI.