No. 788,226. PATENTED APR. 25, 1905.

W. SWEET.

MECHANICAL MOVEMENT.

APPLICATION FILED SEPT. 19, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

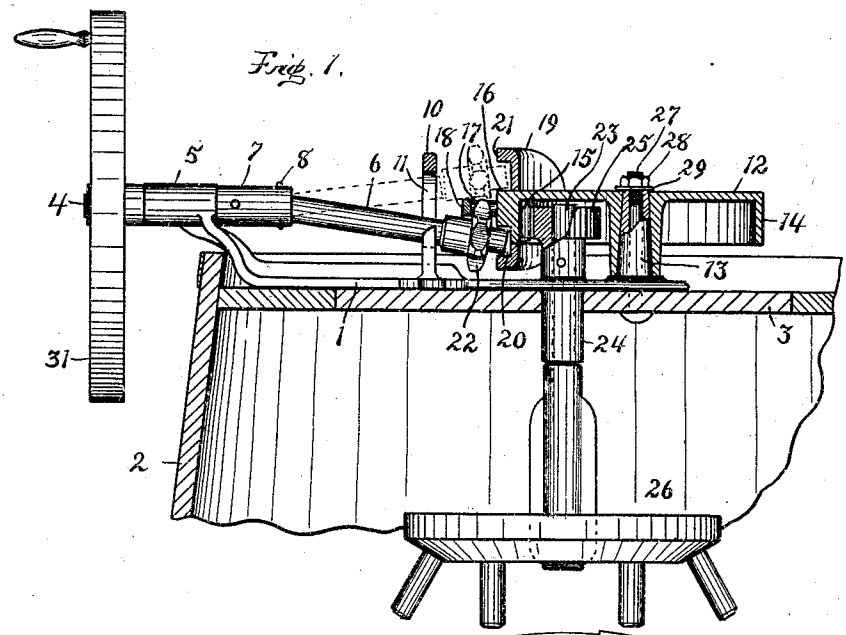
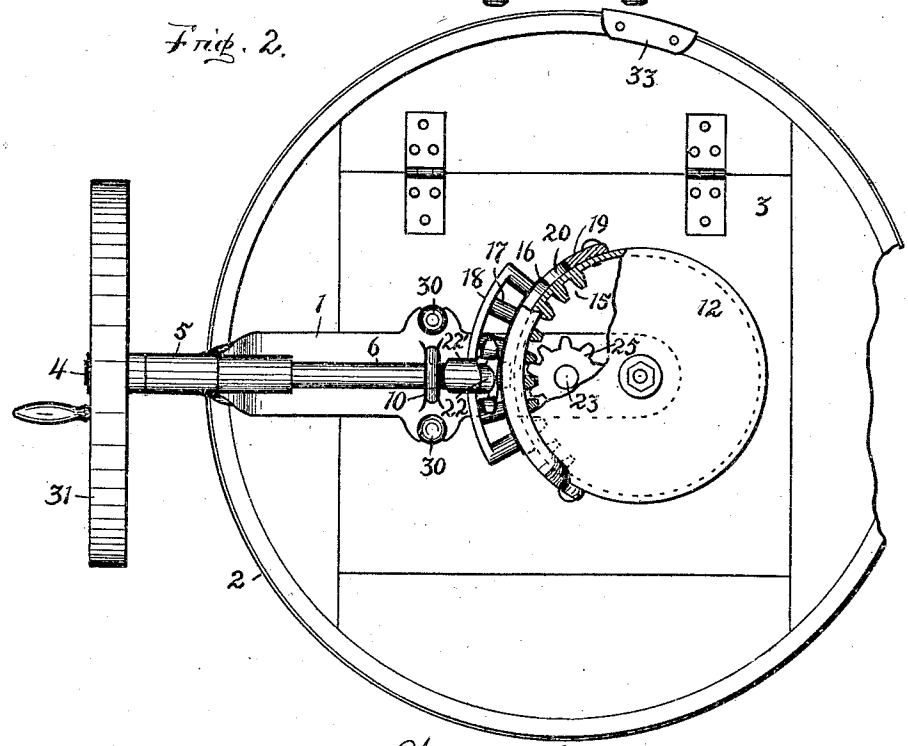


Fig. 2.



WITNESSES:
J. M. Dickens.
H. J. Lampke.

Warren Sweet INVENTOR.
BY W. G. Burns
ATTORNEY.

PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 788,226. PATENTED APR. 25, 1905.

W. SWEET.

MECHANICAL MOVEMENT.

APPLICATION FILED SEPT. 19, 1904.

2 SHEETS—SHEET 2.

Fig. 3.

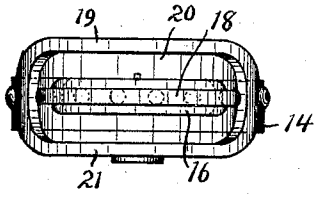


Fig. 4.

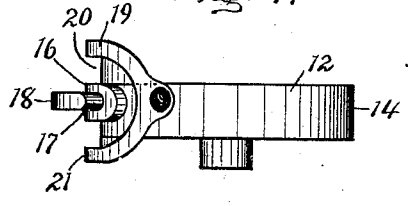
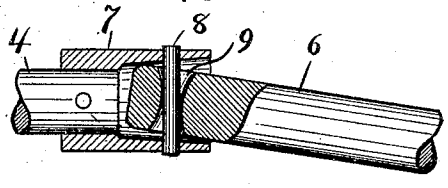


Fig. 5



WITNESSES:

J. M. Dickens.

H. J. Lamplee.

Warren Sweet INVENTOR.

BY A. G. Burns

ATTORNEY.

PHOTO-LITHOGRAPHED BY SACKETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 788,226. Patented April 25, 1905.

UNITED STATES PATENT OFFICE.

WARREN SWEET, OF FORT WAYNE, INDIANA, ASSIGNOR TO THE HORTON MANUFACTURING COMPANY, A CORPORATION OF INDIANA.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 788,226, dated April 25, 1905.

Application filed September 19, 1904. Serial No. 224,978.

To all whom it may concern:

Be it known that I, WARREN SWEET, a citizen of the United States of America, and a resident of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification.

This invention relates to improvements in mechanical movements; and the object thereof is to provide gearing for converting continuous rotary motion into oscillating motion, the oscillating member to be actuated at a lower rate of speed relative to that of the driving or continuously-rotating member. I accomplish this object by the construction illustrated in the accompanying drawings, in which—

Figure 1 is an elevation showing the mechanism of the invention partly in vertical central section. Fig. 2 is a plan of the same, partly cut away. Fig. 3 is a front elevation of the intermediate member. Fig. 4 is an elevation of the intermediate member viewed from a point at right angles to that of Fig. 3. Fig. 5 is a detail showing in partial section the construction of the driving-shaft coupling.

Similar numerals of reference indicate corresponding parts throughout the several views.

Referring now to the drawings, 1 is a supporting-casting, which is arranged upon a suds vessel 2 and is fixed upon the lid 3 thereof. 4 is a driving-shaft, mounted in a bearing 5, which is a part of said casting, and 6 is a tumbling-shaft having a connection with the shaft 4 by means of which the shaft 6 is driven and at the same time accommodated so as to be free to swing vertically. This connection consists of a sleeve 7, rigidly fixed upon the inner end of the shaft 4 and extending therefrom sufficiently to receive one end of the shaft 6, and a pin 8 is fixed in said sleeve and extends through a suitable opening 9 in said shaft 6, the opening being of a form which will admit of a swinging motion of said shaft 6.

10 is a guide having a vertical slot 11 therein through which the shaft 6 extends and in which the latter is adapted to rotate and at the same time move vertically.

12 is an intermediate driving member mounted upon a stud 13 and having upon its flange 14 an internal rack 15. An elongated lug 16 is arranged externally upon said flange and has a curvature conforming therewith, and a series of radially-arranged pins 17 extend from said lug and are connected at their outer ends by a curved bar 18. An oblong guard 19, having curvature corresponding to the member 12, is attached thereto and surrounds the lug 16, leaving an intervening space 20 entirely around said lug and within the flange 21 of said guard, suitable to receive the inner end of the shaft 6. A driving-pinion 22 is mounted upon said shaft 6 and is adapted to engage with the pins 17 and actuate the member 12.

A driven shaft 23 is mounted vertically in a suitable sleeve-bearing 24, which is a part of the casting 1 and which extends downward through the lid 3 of the vessel 2. A pinion 25 is fixed upon the upper end of the shaft 23 and meshes with the rack 15, by which the former is actuated.

26 is an agitator arranged in connection with the lower part of the shaft 23.

Another feature of this invention consists in the manner in which the casting 1 is in part secured to the lid 3. Reference is had to the bolt 27, which extends upward through the lid 3 and stud 13 and has a nut 28 driven on its upper end, which secures a washer 29, the latter being interposed between the nut and the top of the stud 13. It will be observed that the washer overhangs the member 12 and prevents it from rising, and at the same time the bolt serves to hold the casting firmly upon the lid 3. Bolts 30 are also used to assist in securing the casting 1 to the lid.

In the operation of this invention the shaft 4 is rotated by any suitable means, such as a wheel 31, and thereby the shaft 6 and pinion 22 are actuated. As the pinion 22 revolves the member 12 will be turned upon the stud 13 and the inner end of the shaft 6 will glide in the space 20 between the flange 19 and lug

16, so that the pinion 22 will operate alternately over and under the said series of pins, and thus drive the member 12 in an oscillating fashion. The hub 22′ of the pinion 22 rides on the bar 18, while the shaft 6 is in its uppermost position. It is obvious that because of the oscillating motion of the member 12 the agitator will become oscillating accordingly.

The top of the member 12 affords a convenient plane for the display of advertising matter, which may be placed or formed thereon in any suitable manner, and said member being in the form of a disk will serve as a rest for the mechanism when the lid 3 is opened by coming into contact with a suitable plate 33 on the edge of the vessel 1.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In mechanism of the class described, a casting having a stud; suitable driving mechanism mounted in said casting; an intermediate driving member mounted upon said stud and adapted to oscillate thereon; a suitable support for said casting; and a bolt connected with said support, extending through said stud, and having means in connection with its upper end to retain said casting upon said support and also prevent said intermediate member from rising.

2. In mechanism of the class described, a casting; a suitably-hinged support therefor; driving mechanism in connection with said casting and comprising in part an intermediate driving member having a circular top, the said intermediate member serving also as a rest for the mechanism when swung back.

3. In mechanism of the class described, a supporting-casting; a driven shaft mounted in said casting and a pinion mounted thereon; an intermediate driving member mounted on said casting, having an internal rack adapted to engage and drive said pinion, the said driving member having a flange and serving as a shield for said rack and pinion; and suitable driving mechanism in connection with said intermediate member to actuate the same.

4. In mechanism of the class described, a supporting-casting; a driven shaft mounted in said casting and a pinion mounted thereon; an intermediate driving member having an internal rack adapted to engage and drive said pinion and an external series of pins radially disposed, the said member having also a closed top and depending flange; a driving-shaft and tumbling-shaft loosely coupled together to permit vertical play of the latter; and the pinion mounted on the tumbling-shaft and engaged with said series of pins.

In testimony whereof I affix my signature in presence of two witnesses.

WARREN SWEET.

Witnesses:

HERMAN LAMPKE,

W. G. BURNS.