

Dec. 2, 1941.

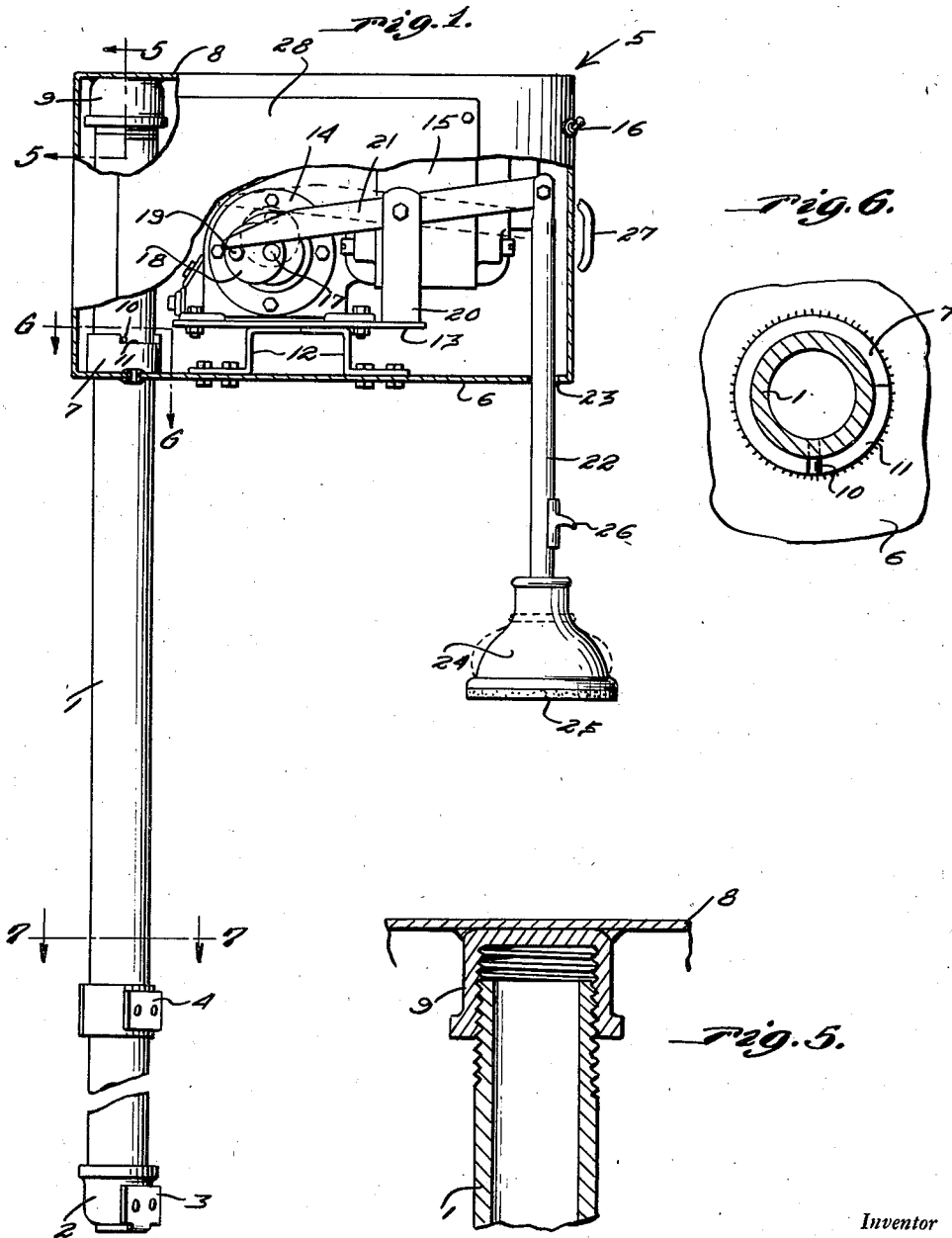
G. R. WELLS

2,264,422

EAR MASSAGE TREATING MACHINE

Filed Jan. 13, 1941

3 Sheets-Sheet 1



Inventor

Gilbert Roscoe Wells

By *Clarence A. O'Brien*

Attorney

Dec. 2, 1941.

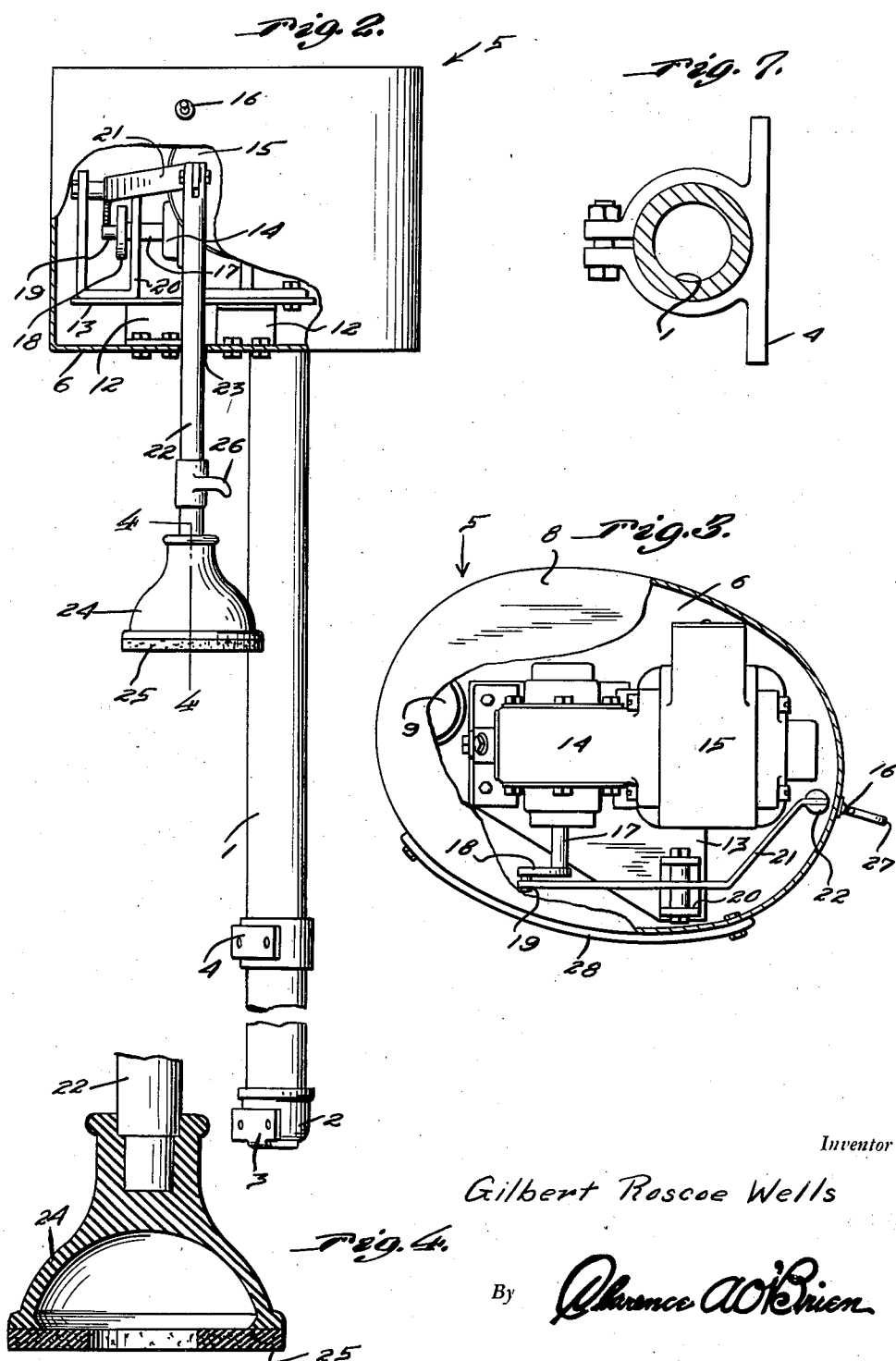
G. R. WELLS

2,264,422

EAR MESSAGE TREATING MACHINE

Filed Jan. 13, 1941

3 Sheets-Sheet 2



Inventor

Gilbert Roscoe Wells

By

Charles A. O'Brien

Attorney

Dec. 2, 1941.

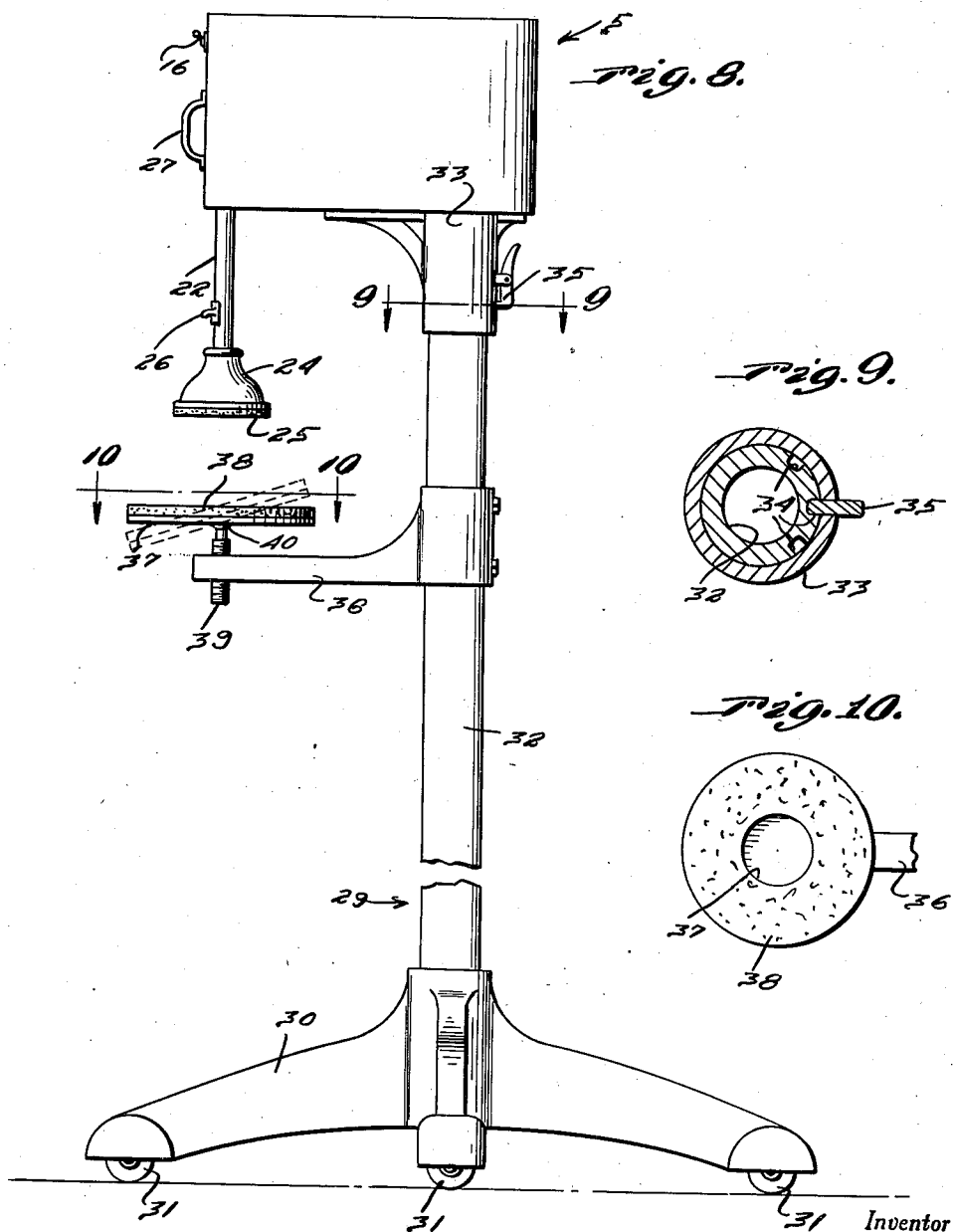
G. R. WELLS

2,264,422

EAR MASSAGE TREATING MACHINE

Filed Jan. 13, 1941

3 Sheets-Sheet 3



Gilbert Roscoe Wells

By *Clarence A. O'Brien*

Attorney

UNITED STATES PATENT OFFICE

2,264,422

EAR MASSAGE TREATING MACHINE

Gilbert Roscoe Wells, Connorsville, Ind.

Application January 13, 1941, Serial No. 374,289

4 Claims. (Cl. 128—38)

The present invention relates to new and useful improvements in ear massage-treating machines and has for its primary object to provide, in a manner as hereinafter set forth, a device of this character which embodies power operated means for alternately and at regular predetermined intervals subjecting the ear, and surrounding area, to air pressure and suction, thereby massaging and stimulating circulation of the nerves and blood vessels in this area in addition to compressing air currents in the inner passages of the human ear.

Another important object of the invention is to provide an ear massage-treating machine of the aforementioned character comprising novel supporting means.

Other objects of the invention are to provide an ear massage-treating machine of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of an embodiment of the device, portions of the housing being broken away in section to reveal the mechanism therein.

Figure 2 is a view in front elevation of the machine with a portion of the housing broken away in section.

Figure 3 is a top plan view of the device with most of the housing broken away in horizontal section.

Figure 4 is a detail view in vertical section through the vacuum cup, taken substantially on the line 4—4 of Figure 2.

Figure 5 is a detail view in vertical section, taken substantially on the line 5—5 of Figure 1.

Figure 6 is a detail view in horizontal section, taken substantially on the line 6—6 of Figure 1.

Figure 7 is a view in horizontal section, taken substantially on the line 7—7 of Figure 1.

Figure 8 is a view in side elevation of a portable embodiment of the invention.

Figure 9 is a view in horizontal section, taken substantially on the line 9—9 of Figure 8.

Figure 10 is a plan view looking at the head rest of the portable embodiment from the line 10—10 of Figure 8.

Referring now to the drawings in detail, the reference numeral 1 designates a tubular post of suitable metal. Threaded on the lower end portion of the post 1 is a removable cap 2. Welded or otherwise suitably secured on the cap 2 is a metallic bracket 3. Adjustably mounted on the post 1 is a bracket 4. The brackets 3 and 4 provide means for firmly securing the post 1 in position on a table or other suitable support.

Mounted for swinging movement in a horizontal plane on the upper end portion of the post 1 is a housing which is designated generally by the reference numeral 5, said housing being substantially oval in plan as seen in Figure 3 of the drawings. Mounted on the bottom 6 of the housing 5, in one end portion of said housing, is a bearing 7 through which the post 1 passes. Fixed to the top 8 of the housing 5, above the bearing 7, is a cap 9 in which the upper end portion of the post 1 is threadedly engaged. Thus, the housing 5 is adapted to swing on the post 1. This swinging movement of the housing 5 is definitely limited by a pin 10 on the post 1 which is operable in a recess 11 in the upper portion of the bearing 7. The length of the recess 11 is approximately one-quarter of the circumference of the bearing 7.

Mounted on the bottom 6 of the housing 5 are brackets 12 which support a platform 13 in the form of a metallic plate. Mounted on the platform 13 is a suitable gear reduction unit 14 which is driven by a suitable electric motor 15. A conventional switch 16 on the housing 5 controls the electric motor 15. Fixed on the driven shaft 17 of the gear reduction unit 14 is an eccentric 18. A pin 19 projects from the eccentric 18.

Also mounted on the platform 13 is a substantially U-shaped bracket 20. Journaled in the bracket 20 is an angular rocker arm or lever 21. The pin 19 is engageable beneath one end portion of the rocker arm 21 for periodically actuating said rocker arm in one direction. Pivotaly suspended from the other end portion of the rocker arm 21 is a rod 22 which passes slidably through an opening 23 provided therefor in the bottom 6 of the forward end portion of the housing 5.

Mounted on the lower end portion of the vertically slidable rod 22 is a collapsible cup 24 of resilient rubber or other suitable material. The rim of the cup 24 has vulcanized thereon a sponge rubber pad 25 in the form of a substantially flat ring. Fixed on the rod 22 is a finger lift 26 for manually elevating the cup 24 when desired. A suitable handle 27 is provided on the free or forward end of the housing 5 for swinging said housing on the post 1.

It is thought that the operation of the machine will be readily apparent from a consideration of the foregoing. Briefly, the head of the patient is placed on one side on the table or other support and the housing 5 is swung on the post 1 for positioning the cup 24 over the ear to be treated. The sponge rubber pad 25 is adapted to contact the head around the ear being treated and functions as a partial seal for the cup 24. In ailments other than of the ear, such as primary mastoiditis, optical nerve strain, tonsillitis, dental nerve infection etc., the ear on the side of the face affected is placed under the cup 24 as in treating an ailment of that ear. When the switch 16 is closed the electric motor 15 is energized and drives the eccentric 18 through the gear reduction unit 14. Thus, the pin 19 actuates the rocker arm 21 in a direction to move the rod 22 downwardly. In this manner the cup 24 is collapsed and the air expelled therefrom is forced into ear. When the pin 19 moves away from the rocker arm 21 the rod 22 is freed and the cup 24 slowly returns to its natural shape thereby creating a vacuum or suction in the ear. When the pin 19 again picks up the rocker arm 21 the foregoing operation is repeated. The motor 15 may be connected to any suitable source of electric current. Access to the mechanism in the housing 5 may be conveniently had through the medium of a removable plate 28 on one side of said housing.

The synchronized vibration of the power motor is transmitted by the perpendicular shaft through the rubber pressure-suction cup to the area of the ear, thereby sensitizing the nerves of that area, causing an enhancement and graduation of the bone conduction of sound vibration and usually a resultant improvement in those suffering from a progressive deafness.

Although, the ear-massage-treating machine was primarily built for treating defective ears, by tests, it has been found to be very beneficial as treatment for other ailments which occur in the area around the ear.

In the embodiment illustrated in Figures 8 to 10, inclusive, of the drawings, the reference numeral 29 designates a stand for the housing 5. The stand 29 includes a base 30 which is provided with suitable casters 31 or the like. Rising from the base 30 is a tubular post 32. Mounted on the bottom 6 of the housing 5 and depending therefrom is a sleeve 33 which is journaled on the post 32. Referring to Figure 9 of the drawings, it will be observed that the post 32 has formed therein three circumferentially spaced notches 34. A latch 35 is pivotally mounted on the sleeve 33 and engageable selectively in the notches 34 for releasably securing the housing 5 in the desired position on the post 32.

Mounted at an intermediate point on the post 32 and projecting horizontally therefrom is a metallic arm 36. Threadedly mounted for vertical adjustment on the outer end portion of the arm 36 is a short post 39. Mounted for universal tilting adjustment on the upper end of the post 39, through the medium of a ball and socket joint 40, is a head rest 37. The head rest 37 comprises an annular sponge rubber pad 38 which serves as a cushion for the head and which accommodates the ear which is not being treated. The operation of this form of the invention is sub-

stantially similar to that of the embodiment illustrated in Figures 1 to 7, inclusive, of the drawings. When the latch 35 is engaged in the intermediate notch 34, the cup 24 is directly over the head rest 37.

It is believed that the many advantages of an ear massage-treating machine constructed in accordance with the present invention will be readily understood, particularly by those skilled in the art to which the device pertains, and although preferred embodiments are as illustrated and described, it is to be understood that further modifications and changes in the details of construction may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. An ear massage-treating machine comprising a housing including a top and bottom, a cap fixed to the top in the housing, a bearing mounted in the housing on the bottom thereof in vertical alignment with said cap, a supporting post for the housing journaled in the bearing and having its upper end portion threadedly engaged in the cap, the housing being swingable in a horizontal plane on the post, coacting means on said post and the bearing for limiting the swinging movement of the housing in opposite directions, a rod extending slidably into the housing through the bottom, a motor mounted in the housing, a collapsible cup mounted on the lower end of the rod, and means operatively connecting the rod to the motor for actuation thereby for collapsing and releasing the cup.

2. An ear massage-treating machine comprising, in combination, a stand including a base and a post rising from said base, a head rest mounted on the post at an intermediate point, a housing mounted for swinging movement in a horizontal plane on the upper end portion of the post, a rod extending slidably into the housing through the bottom thereof, a collapsible cup on one end portion of said rod, means in the housing operatively connected to the rod for actuating said rod for periodically collapsing and releasing the cup, and means limiting the swinging movement of the housing in one direction for positioning the collapsible cup over the head rest.

3. In an ear massage-treating machine, a post, a housing for a massaging mechanism journaled on the upper portion of said post for swinging movement in a horizontal plane, and a cap fixed in the upper portion of said housing and threaded on the post for pivotally securing said housing thereto.

4. In an ear massage-treating machine comprising, in combination, a vertical post provided with bracket elements for detachably securing the post to a support, a housing journaled on the post for swinging movement in a horizontal plane, coacting elements on the post and on the housing for limiting swinging movement of the housing in two directions, a rod suspended through an opening in the bottom of the housing for vertical movement and equipped at its lower end with a collapsible cup, and a driving mechanism arranged within said housing and operatively connected with said rod for periodically forcing said rod downwardly to effect a collapsing of said cup.

GILBERT ROSCOE WELLS.