Dec. 22, 1925. 1,566,731

C. CARROL

DEVICE FOR AIDING THE HEARING

Filed April 21, 1923

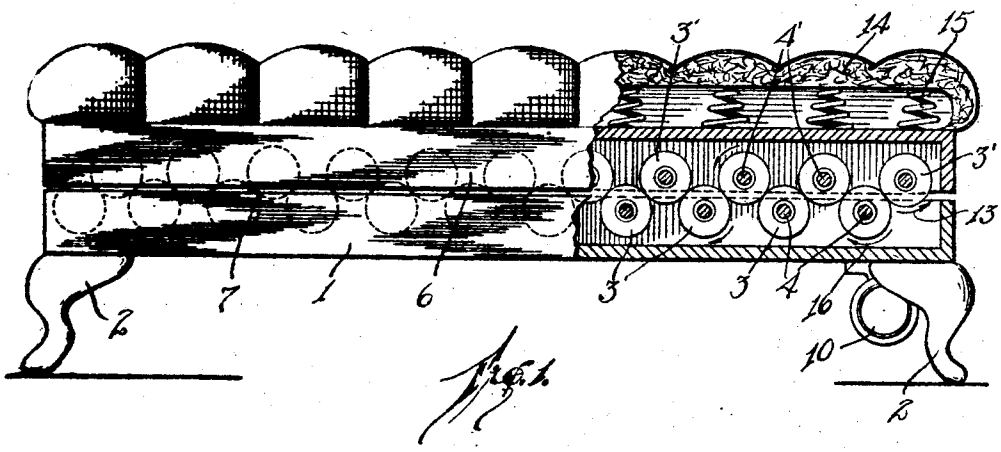


Fig. 1.

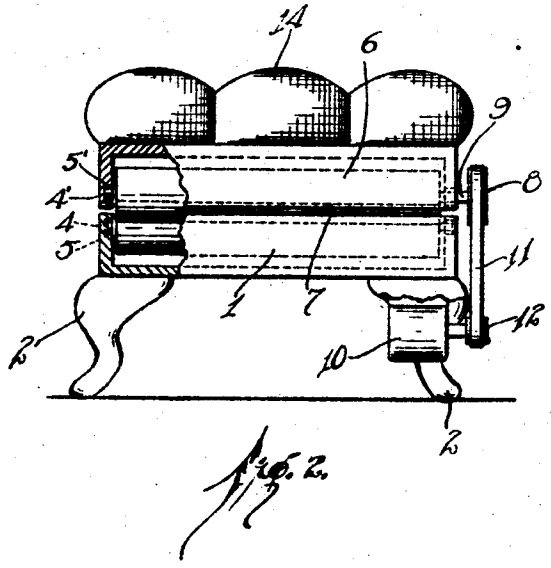


Fig. 2.

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Patented Dec. 22, 1925. 1,566,731

UNITED STATES PATENT OFFICE.

CHARLES CARROLL, OF CHICAGO, ILLINOIS.

DEVICE FOR AIDING THE HEARING.

Application filed April 21, 1923. Serial No. 633,770.

To all whom it may concern:

Be it known that I, CHARLES CARROLL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Devices for Aiding the Hearing, of which the following is a full, clear, and exact description.

My invention relates to improvements in devices for aiding the hearing, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide a device of the character described by means of which a person normally deaf, may be treated so that that person may hear for the duration of the treatment.

A further object of my invention is to provide a device of the character described in which the patient may entirely relax during the treatment, and thereby assist materially in the functioning of the device. It is well known that when a person is lying in a prostrate position on a couch or bed, a relaxation may be complete.

A further object of my invention is to provide a device of the character described which is simple in construction, is durable, and which is thoroughly practical for the purpose intended.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, forming part of this application, in which—

Figure 1 is a side elevation of an embodiment of my invention, partly in section, and

Figure 2 is an end elevation of the mechanism illustrated in Figure 1, partly in section.

In carrying out my invention, I make use of a rectangular frame 1 supported upon suitable ornamental legs 2. A plurality of rollers 3, parallel with one another and transverse to the length of the frame 1, is rotatably supported upon a frame in the manner shown in Figure 2. This is accomplished by projecting stub shafts 4 disposed at each end of the rollers 3 into sockets 5 provided in the frame 1.

A second frame 6 substantially the same size as the frame 1 and arranged to overlie the frame 1, is also provided with a plurality of rollers 3′, one for each of the rollers 3 on the frame 1. These rollers 3′ are arranged to lie substantially between the rollers 3 in the manner shown in Figure 1. The rollers 3′ are rotatably supported upon the frame 6 by means of stub shafts 4′ inserted in sockets 5′ of the frame 6.

The frame 6 is therefore supported upon the frame 1 through the rollers 3 and 3′, there being a space indicated at 7 between the two frames.

The outermost of the rollers 3′ (see Figure 2) is provided with a pulley wheel 8 mounted upon an extended portion 9 of its adjacent stub shaft 4′. A fractional horse power electric motor 10 is supported beneath the frame 1, and a belt 11 is employed to operatively connect the pulley 12 with the motor 10 and with the pulley 8 so that when the motor is operated, the roller 3′, with which the pulley 8 is associated, will rotate in the direction of the arrow 13.

Suitable upholstery 14 is carried upon the upper edge of the frame 6 and springs 15 are employed to render the upholstery more comfortable to a person lying thereupon. It should be noted at this time, however, that an ordinary mattress could be placed directly upon the frame 6 if it is not the desire of the user to have the device constructed after the fashion of a couch.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. In using my device, the person afflicted will lie upon the upholstered portion 15 and the electric motor 10 will be placed in operation by a suitable switch connected to a source of current (not shown). As the motor 10 operates, the belt 11 will be driven, causing the pulley 8 to turn and with it, the roller 3′, with which the pulley is associated. The roller 3′ will turn in the direction of the arrow 13, and since it is in frictional contact with the adjacent roller 3, the roller 3 will be driven also in the direction of the arrow 16. This roller 3 is in frictional contact with another of the rollers 3′ (see Figure 1), which roller will be driven in the direction of the arrow 13 and cause the adjacent and next roller 3 to rotate.

This driving operation will be repeated and all of the rollers 3 and the rollers 3′ will rotate in the direction of the arrows 16 and 13, respectively.

As the rollers 3 and 3′ rotate upon their respective frames 1 and 6, a vibratory move-

ment of the frame 6 will occur to such an extent as to cause the person lying upon the upholstered portion 14 to be affected in such a manner as to cause the bones and tympanum of the ear to move and to permit these organs to function in the reception of sound waves so that the person who normally may not hear sounds, may hear.

It is well known that in cases of deafness due to a loose tympanum or to the improper lodgment of the bones of the ear, that vibration of these parts will restore the hearing for the duration of such vibration. I shall not attempt to expound in detail the principles of this phenomenon except to say that experiment has proven that extraneous force which serves to cause vibration of the parts named, tends to restore for the time the hearing of the person normally deaf, in cases where deafness is due to affliction, such as loosening of the tympanum or the dislodgment of the bones in the ear.

I claim:

1. A device for aiding the hearing comprising a plurality of normally contacting rollers having their axes parallel and arranged in staggered relation to one another, one of said rollers being driven, said driven roller being arranged to drive the adjacent roller, and that roller in turn its adjacent roller, until movement is imparted to the furthermost roller, a stationary supporting frame for rotatably supporting every second of said rollers thereon, and a second frame rotatably supporting the remaining rollers, including the driven roller, said second named frame having upholstery thereon so that a person may lie on the frame.

2. A device for aiding the hearing comprising a plurality of normally contacting rollers having their axes parallel and arranged in staggered relation to one another, one of said roller being driven, said driven roller being arranged to drive the adjacent roller, and that roller in turn its adjacent roller, until movement is imparted to the furthermost roller, a stationary supporting frame for rotatably supporting every second of said rollers thereon, and a second frame rotatably supporting the remaining rollers, said second named frame having upholstery thereon so that a person may lie on the frame.

CHARLES CARROLL.