

[54] **VIBRATOR BELT**
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761,029 5/1904 Brown..... 128/63 X
 2,174,452 9/1939 Torrison 128/36
 2,422,639 6/1947 Wenander..... 128/36 X

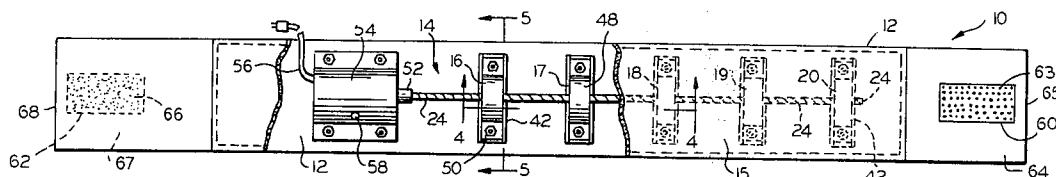
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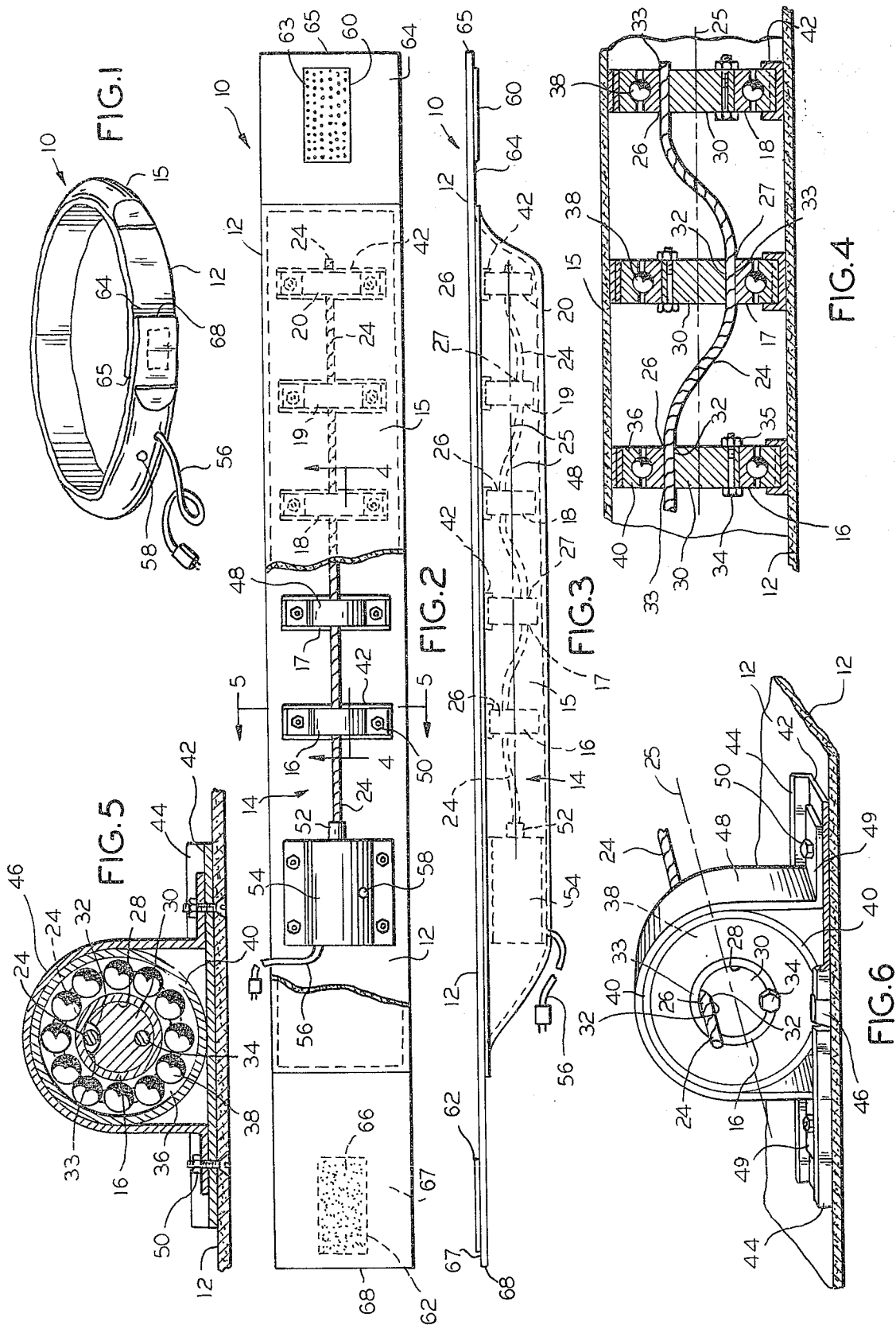
[52] **U.S. Cl.**..... **128/32; 128/36**
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[56] **References Cited**
UNITED STATES PATENTS
 750,735 1/1904 Turck 128/36

[57] **ABSTRACT**
 A vibrator belt including means for providing a pulsating or vibratory motion against the body. In one embodiment, the vibrator belt includes a plurality of rotatable members linked together by a flexible rod. A drive means rotates the rod which in turn revolves the rotatable members, causing the pulsating motion to be generated forward and back from the body.

15 Claims, 6 Drawing Figures





VIBRATOR BELT

BACKGROUND OF THE INVENTION

The subject invention relates generally to a vibrator belt, and more particularly relates to a vibrator belt providing pulsating motion at a plurality of spaced apart locations on the belt.

Various mechanical vibrating devices have been used in the past for purposes of stimulating and relieving pain or stiffness in specific areas of the body. One of such devices included an elongated flexible rod bent or kinked into an irregular or zig-zag shape. In an alternate form of such device, a plurality of lugs or strikers were spaced apart and secured to a straight non-bent flexible rod. The rod in either configuration was enclosed in a flexible sheath, and connected on one end to a motor means and on the opposite end to a bearing means. Upon operation of the motor, the rod would rotate, and the strikers on the straight rod or the kinks in the bent rod, would move laterally to and from the body area, generating a random pulsating motion throughout the length of the belt.

Another type of prior used vibrator belt comprised a plurality of suction cups, which would alternately grip and release a body area. The suction cups are required to act against the body skin.

The subject invention on the other hand, generates controlled pulsating motion against the body, from a plurality of fixed vibrating sources, and is effectively used in the home, office and even in the automobile, and removal of clothes is not a requirement.

It is a primary object of this invention to provide a vibrator belt having a plurality of vibrating or pulsating sources to act against a particular body area.

Another object is to provide a vibrator belt which is suitable for use at home, in the office, or automobile.

Another object is to provide a vibrator belt including a flexible rod connected to a plurality of revolving members, whereby the rotation of the rod in turn, causes each member to revolve. A related object is to connect the rod to the revolving members in a zig-zag manner.

Another object is to provide a vibrator belt for stimulating, relieving stiffness and strain in the body, and affording means for strengthening and toning the muscles, particularly in the abdominal region.

Still another object is to provide a pulsating motion to act against a particular area of the body, for breaking down fatty tissue.

BRIEF DESCRIPTION OF THE DRAWINGS

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings.

FIG. 1 is a perspective view of a vibrator belt, embodying the principles of the invention;

FIG. 2 is a side front view of the belt of FIG. 1 with portions of the covering sheath cut away;

FIG. 3 is a top view of the belt in FIG. 2;

FIG. 4 is a fragmentary enlarged view taken on the plane of the line 4—4 in FIG. 2, to illustrate the linkage between the circular members;

FIG. 5 is a sectional view taken on the plane of the line 5—5 in FIG. 2, and viewed in the direction indicated; and

FIG. 6 is a perspective view of a circular member secured to the belt.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to FIGS. 1, 2 and 3 of the drawing, the reference numeral 10 indicates generally a belt vibrator, embodying the principles of the invention. The belt vibrator 10 includes a flexible belt 12 and a vibrating means indicated generally by reference numeral 14. A sheath 15, which may be flexible, encloses the vibrating means 14 and is attached to belt 12.

The vibrating means 14 includes spaced apart revolving circular members 16 through 20 (FIGS. 2, 3 and 4) linked together by a flexible rod or cable 24. The rod 24 is attached to the circular members 16—20 off-center from their central axis 25 (FIGS. 3, 4 and 6) in an irregular or zig-zag pattern. Thus, the rod 24 is secured to circular members 16, 18 and 20 at point 26, and secured to circular members 17 and 19 at point 27. In the illustrative embodiment, point 26 is approximately spaced 180° from point 27.

A central opening 28 is formed in each circular member 16 to 20, through which a stub shaft or plug 30 is received. A groove 32 is formed in the shaft 30, and the rod 24 is tightly received between the groove 32 and the defining wall 33 of the opening 28, at either point 26 or 27. Although other securing means is suitable, a screw 34 and nut 35 are used to fixidly attach the stub shaft 30 to the revolving member 16—20, and such attachment further functions to immovably secure the rod 24 in place.

Each revolving member 16—20 also contains a ring 36 of ball bearings 38 (FIG. 5), to afford ease of rotation. The outer annular wall 40 is stationary.

The circular members 16 to 20 are secured to the belt 12 by channeled plates 42 (FIGS. 5 and 6), which may be constructed of metal or a suitable plastic. Plates 42 include edges 44 bent outward at a right angle and a pair of opposed fingers 46 (FIG. 6) to tightly abutt the circular members 16—20. A U-shaped clamp 48 extends over the outer annular wall 40, and the ends 49 thereof are secured to the plate 42 and the belt 12 by a screw-nut arrangement 50, although a rivot may also be used. Clamp 48 provides a further safeguard for maintaining the circular members 16—20 in place, when the vibrator belt 10 is operating.

The rod 24 is connected to a shaft 52 of a motor means 54 (FIGS. 2 and 3). Cable 56 connects electrical power from a source to the motor 54. It is contemplated that the electrical source could be conventional alternating current (AC) power or direct current (DC) battery power for driving an AC or DC motor. The motor 54 is enclosed within the sheath 15, but a separate pouch (not shown) may also be used.

Removable fastening means such as cooperative velcro strips 60, 62 may be used for attaching the belt 12 to the desired part of the body. Strip 60 having the multitude of tiny flexible prongs 63 is attached to the outer side 64 of end 65 of the belt 12, and the strip 62 having the felt 66 is attached to the inner side 67 of belt end 68.

The motor means 54 may include a frequency varying means 58 (FIGS. 1 and 2) for varying the revolutions per minute (RPM) of the motor 54. Since the frequency of rotation of the motor means 54 controls the frequency of the mechanical pulsations, adjusting the

frequency varying means 58 enables the use of the belt vibrator 10 to preset the pulsation at his or her comfortable or desired rate.

As may be seen in FIG. 2, rod 24 is secured on one end to shaft 52 of the motor 54 and on the opposite end to the circular member 20, and secured between the ends to the other circular members 16-19. The connection with each circular member is made off-center from their central axis of rotation. Rod 24 is attached to each circular member at a point 180° away from an attaching point made with any adjacent circular member 16-20, with respect to the rotating circumferences of the circular members. When the motor 54 is turned on, shaft 52 rotates causing the rod 24 to rotate, which, in turn, revolves each of the circular members 16-20.

When the rod 24 is at the furthest outward point away from the belt 12 as it rotates with circular members 16, 18 and 20, rod 24 is simultaneously at the most inward point toward the belt as it rotates with circular members 17 and 19; and conversely, when the rod 24 is at the furthest outward point away from the belt 12 as it rotates with circular members 17 and 19, rod 24 is simultaneously at the most inward point toward the belt as it rotates with circular members 16, 18 and 20. The effect of the zig-zag rotational pattern of rod 24 is to generate a plurality of fixed pulsating vibratory sources, acting toward and away from the body area encompassed by the flexible belt 12.

Thus, the vibrator belt 10 is positioned around the desired part of the body. Probably, the belt would be used mostly in the abdominal region to have the pulsating motion act upon the body flab. However, it may find frequent utility for providing relief of pains and aches in the back, as well as other body areas.

The vibrator belt 10 may be used at home, with or without clothes, or even in the office. It is also contemplated that the subject vibrator belt may be used while driving, which would require a 12 volt direct current motor.

It will be appreciated that numerous changes and modifications can be made to the embodiment described herein without departing from the spirit and scope of the invention.

I claim:

1. A vibrator belt comprising:
a belt for positioning around a part of the body;
a plurality of spaced apart movable means secured to the belt;
means for securing each of the movable means at a fixed location on the belt; and
a shaft associated with said movable means whereby the revolving of said shaft causes movement of said movable means.
2. A vibrator belt comprising:
a belt;
a plurality of spaced apart revolving members, each of said members being secured to the belt at a fixed location; and
drive means associated with said members to cause movement thereof.
3. The belt of claim 2, wherein said drive means includes a rod connected to each of said revolving means,

said drive means causing said rod to revolve, which in turn rotates the revolving members.

4. The belt of claim 3, wherein said rod is connected to said revolving members off-center with respect to the central axis of the revolving means.

5. The belt of claim 3, wherein said rod is flexible.

6. The belt of claim 2, includes:

a plurality of brackets secured to said belt, each of said revolving members being connected to one of said brackets.

7. The belt of claim 4, wherein said rod is connected at one position to one of said revolving members and connected at a second position to an adjacent revolving member with respect to the central axis of the revolving members.

8. The belt of claim 7, wherein said positions are substantially 180° apart.

9. The belt of claim 3, wherein each of said revolving members includes a ring rotating on ball bearings.

10. A vibrator belt comprising:

a belt for positioning around a part of the body;

a plurality of spaced apart revolving members secured to said belt, each of said members including a central opening;

a plug positioned in said opening and including a groove;

a rod secured in said groove between said plug and the defining wall of said opening; and

drive means for causing said rod to revolve which in turn rotates the revolving members.

11. A vibrator belt for positioning around a part of the body comprising:

a plurality of spaced apart revolving members secured to said belt;

drive means associated with the revolving members to cause movement thereof;

a plurality of brackets secured to said belt, each of said brackets including a securing lug for tightly contacting the corresponding revolving member; and

a substantially U-shaped clamp extending around the revolving members in contact therewith and having a pair of opposed feet for attaching to the bracket.

12. The belt of claim 2, wherein each of said revolving members is circular and revolves around its own axis.

13. The belt of claim 3, wherein said rod is connected to said revolving members in a zig-zag pattern.

14. The belt of claim 2, wherein said drive means is a motor means including:

a rotating shaft connected to one end of the rod; and
variable means for varying the revolutions per minute of the shaft, to cause said rod rotational speed to vary and, in turn, to cause the speed of rotation of the revolving members to vary.

15. The belt of claim 2 includes a mounting strip having an inner side for positioning adjacent the body of the wearer, and an outer side on which said revolving means are mounted, said revolving means extending outward from the outer side.

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