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PORTABLE BED VIBRATOR

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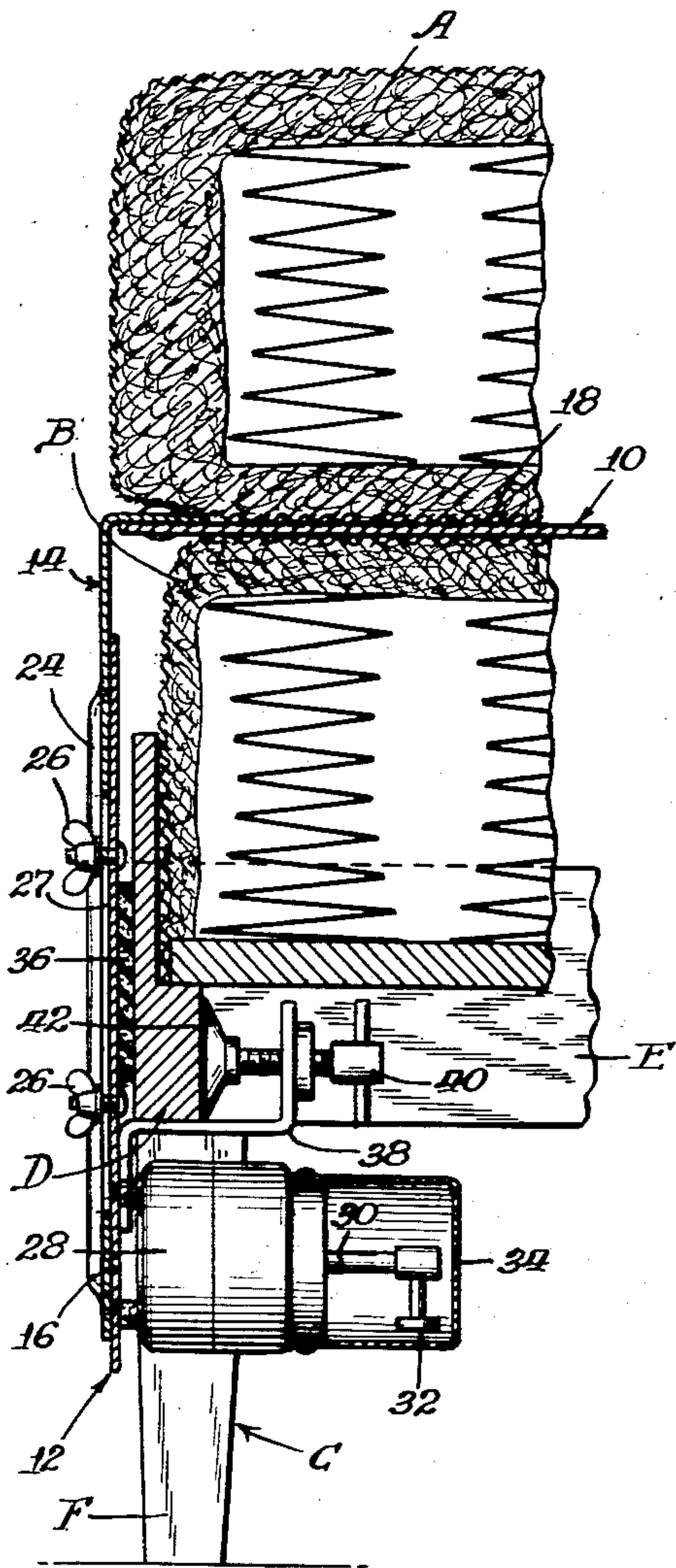


Fig. 1.

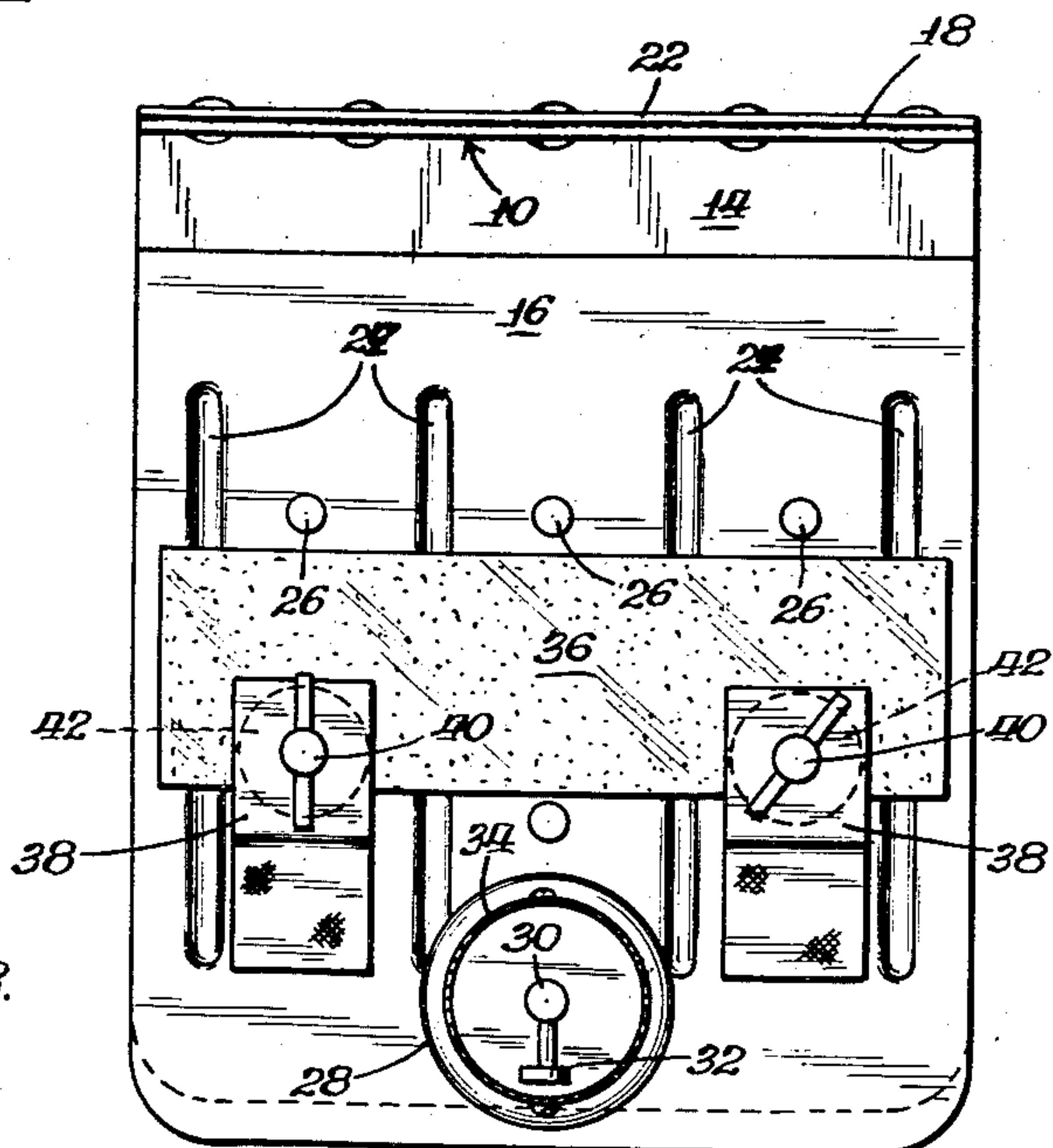
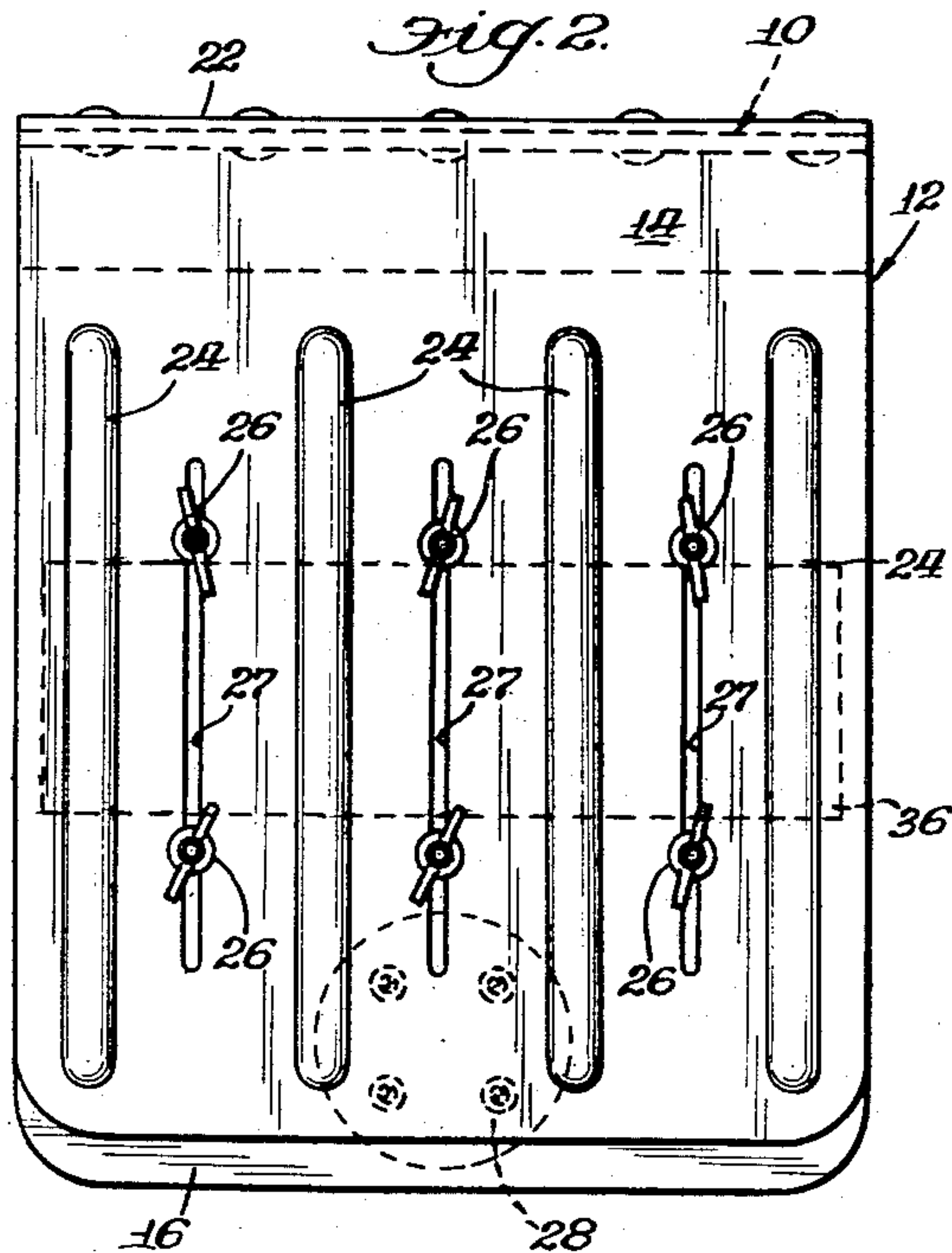


Fig. 3.

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## PORTABLE BED VIBRATOR

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9 Claims. (Cl. 128—33)

This invention relates to vibrating devices and more particularly to an improved portable vibrating device adapted to be readily and easily attached to or detached from a bed.

The invention comprehends a device including a relatively thin flat flexible horizontal member, adapted for insertion between the mattress and spring of a bed, and a vertical member connected to one end of the horizontal member and adapted to be detachably clamped to a side or end rail element of the bed frame.

Although the basic concept of providing a portable attachment for creating vibrations in a bed or other related article of furniture is not new, my invention embodies several novel features which, to my knowledge, have never heretofore been employed in prior art devices of this type.

In some of the known bed vibrating devices, vibrating mechanisms are designed to be mounted on some portion of a bed frame and are operable to set up primary vibrations directly in the bed frame itself, with secondary vibrations being transmitted to the bed spring or mattress only indirectly through the frame. In other devices the vibrating mechanisms are attached directly to the bed spring or mattress of a bed.

There are obvious disadvantages to both types of arrangements. In the first type of arrangement, the vibrations in the bed frame are of far greater magnitude than is either necessary or desirable. Naturally, when a bed frame vibrates appreciably, a considerable amount of vibration will be transmitted to the floor of the room in which the bed is located and also to the ceiling and/or walls of adjoining rooms of the building.

In the second type of arrangement, there are at least three important disadvantages: one is that in the absence of a positive means to anchor the device to the bed frame, there is a tendency for the device to shift about relative to the mattress or spring, which of course can cause damage to the mattress or spring and to the bedding on the mattress. Also, appreciable damage to furniture in the room or injury to an occupant of the room or bed could result if the movement of the device becomes so great as to cause the device to become detached from the spring or mattress; a second disadvantage is the amount of undesirable noise which can be caused by a device which protrudes from a bed without any positive anchoring means other than the weight of the mattress and the person on the mattress; and a third disadvantage is the fact that a device which has a portion projecting outwardly from the bed to which it is applied constitutes a definite hazard or obstacle capable of causing injury to a person coming into contact with the device or damage to clothing of the person.

It is therefore a primary object of this invention to provide an improved portable bed vibrating device comprising one member abutably engaging the spring and/or mattress and another member attached to the bed frame.

Another object of the invention is the provision of a

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vibrating device including resilient means interposed between one portion of the device and the bed frame.

Yet another object of the invention is the provision of a vibrating device wherein the portion thereof which is connected to the bed frame is vertically adjustable to permit its use with beds of various types and sizes.

Still another object of the invention is to provide a vibrating device wherein the mechanical vibrating means is entirely disposed under the mattress with no portions protruding outwardly from the bed any substantial distance.

These and other objects of the invention will be apparent from an examination of the following description and drawings, wherein:

Figure 1 is a fragmentary end view of a bed to which has been applied a vibrating device embodying features of my invention with certain portions of the device being shown in vertical section, and

Figures 2 and 3 are fragmentary side elevational views of the device illustrated in Figure 1, as seen from the outboard and inboard sides, respectively.

It will be understood that certain elements have been intentionally omitted from certain views where they are better illustrated in other views.

Referring now to the drawings for a better understanding of the invention, it will be seen that the vibrating device embodying features of my invention is shown as applied to a bed having a mattress A and spring B supported on a frame C which comprises side rails D, end rails E, and legs F. Only one side rail, end rail, and leg are shown in the drawings as the bed may be of conventional construction.

As best seen in Figure 1, the device comprises a relatively thin flat slightly resilient horizontal member or plate 10, adapted for insertion between mattress A and spring B of the bed, and a vertical member 12 secured to one end of horizontal member 10 and adapted to be detachably mounted on either side rail D, as shown in Figure 1, or on end rail E, not shown, of the bed in a manner hereinafter described.

Vertical member 12 preferably comprises a pair of adjustably interconnected parallel upper and lower elements 14 and 16, respectively.

Horizontal member 10 is preferably of a sufficient length to extend a substantial portion of the distance across or lengthwise of the bed; however, inasmuch as members 10 and 12 may be detachably interconnected, the device may be provided with separate horizontal members of different lengths to accommodate the use of the device with beds of different sizes. Member 10 may be constructed of various materials, although a preferred material is fiberboard, which has the desired resilient characteristics and which presents on one side thereof a rough surface 18 operable to prevent slippage or relative sliding movement between the horizontal member and the mattress and/or spring.

At one end thereof, horizontal member 10 may be detachably secured, in any desired manner, to a horizontal flange 22 formed integrally with and extending inwardly from the upper edge of vertical member upper element 14.

Both the upper 14 and lower 16 elements of vertical member 12 are relatively thin flat semi-resilient plates, preferably formed of sheet metal. The elements are disposed closely adjacent each other with the lower element being positioned inwardly of the upper element between the upper element and the side rail D of the bed. Both elements 14 and 16 may be provided with a plurality of complementary formed transversely spaced vertically extending ribs 24 to add rigidity to the structure. The ribs may be formed integrally with the elements or they may be permanently affixed to the outer side of ele-



ment 14 in any desired manner, such as spot welds or rivets (not shown).

In order to facilitate adjustable positioning of elements 14 and 16 relative to each other, they may be interconnected by a plurality of wing nut and bolt assemblies 26 secured to lower element 16 and disposed to extend through related transversely spaced vertically extending elongated slots 27 presented by the upper element. By loosening the wing nuts, the lower element can be slidably moved upwardly or downwardly relative to the upper element a distance sufficient to locate the lower element in horizontal alignment with the said rail D of the bed. Thus, it will be apparent that this adjustable feature permits the use of the device with beds of various types having different distances between the upper surface of the spring and the side rail.

Mounted on the inner side of element 16 adjacent the lower end thereof is a small preferably electric motor 28 with a shaft 30 having a weight 32 eccentrically disposed thereon and rigidly secured to the end thereof. For purposes of safety, the end of the shaft and the eccentric weight may be enclosed by a housing or cover 34.

On its inner side, element 16 may be provided with one or more relatively thin flat resilient pads or cushions 36 permanently affixed thereto in any desired manner as by bonding.

Additionally, element 16 may be provided with a pair of clamp brackets 38 to facilitate clamping of the device to a side rail of the bed. The clamps may be permanently attached to element 16 in any desired manner, by welding, not shown. Threadably received within each bracket 38 is a clamp screw 40 having on one end thereof a swivel pad 42 engageable with side rail D.

In order to assemble the device, after member 10 has been secured to flange 22 of element 14 of member 12, member 10 is inserted between the upper surface of spring B and the lower surface of mattress A and the wing nuts of assemblies 26 are loosened to permit the adjustment of element 16 to the proper height. The wing nuts are then secured and the entire device is pushed toward the center of the bed until resilient pad 36 is in contact with the outer surface of bed side rail D. Clamp screws 40 are then tightened to secure the vertical member of the device to the bed.

The motor is then energized and its vibration, caused by the eccentric weight 32 on shaft 30, causes elements 14 and 16 of vertical member 12 to vibrate and in turn vibrate horizontal member 10 which transmits the vibratory motion to the springs and/or mattress.

If desired, the outwardly facing side of clamp screw pad 42 may be provided with a small resilient cushion (not shown) for interposition between the pad and the inner side of rail D to absolutely minimize the amount of vibratory motion which is transmitted to bed frame C from element 16 of member 12 of the device.

I claim:

1. A portable vibrating device for detachable connection to a bed having a mattress, a spring, and a longitudinally extending side rail, comprising in combination: a relatively thin flat flexible horizontally disposed member adapted for insertion between the spring and mattress; a vertically disposed member including a pair of relatively thin flat parallel upper and lower plates interconnected to permit adjustable relative vertical sliding movement therebetween, the upper plate being disposed adjacent the lower plate and being connected to one end of the horizontal member, the lower plate being disposed adjacent and parallel to the side rail of the bed, said lower plate presenting a resilient pad on the inboard side thereof abutably engageable with an outboard surface of the side rail; means to clamp said lower plate to said side wall; and mechanical vibrating means carried by said lower plate operable to vibrate the entire device and thereby cause said mattress to vibrate.

2. A portable vibrating device for detachable connec-

tion to a bed having a frame with end and side rails and a mattress and spring supported on the frame, comprising in combination: a horizontally disposed relatively thin flat flexible member adapted to be interposed between the spring and mattress; a vertical member connected at its upper end to the horizontal member and adapted to be detachably connected to one of the rails of the frame; means to detachably connect the vertical member to said one rail; resilient means interposed between the vertical member and said one rail; and means carried by the vertical member operable to vibrate said device and thereby cause said mattress to vibrate.

3. A portable vibrating device for detachable connection to a bed having a frame with end and side rails and a mattress and spring supported on the frame, comprising in combination: a horizontally disposed relatively thin flat flexible member adapted to be interposed between the spring and mattress; a vertical member comprising a pair of parallel upper and lower plate elements interconnected to permit adjustable vertical movement therebetween, the upper element being disposed adjacent the lower element and being connected to the horizontal member, the lower element including means to detachably connect said vertical member to one of the rails of the frame; and means carried by said lower element operable to vibrate said device and thereby cause said mattress to vibrate.

4. A portable vibrating device according to claim 2, wherein said vibrating means is disposed entirely on the inboard side of the vertical member and entirely under the horizontal member.

5. A portable vibrating device according to claim 2, wherein the means to connect said vertical member to said one rail includes clamp means permanently attached to the vertical member for detachable connection to said one rail.

6. A portable vibrating device for a bed having a frame with end and side rails and a spring and mattress supported on the frame, comprising in combination: a relatively thin flat flexible horizontal member adapted for interposition between the mattress and spring of the bed; a vertically disposed member connected at its upper end to the horizontal member; and means carried by said vertical member for vibrating said device and thereby causing said mattress to vibrate; said vertical member including a pair of upper and lower parallel plate elements interconnected for adjustable vertical movement therebetween, the upper element being disposed adjacent the lower element and being connected to an outboard end of the horizontal member.

7. A portable vibrating device for a bed having a spring and a mattress supported by the frame, comprising in combination: a relatively thin flat flexible horizontal member adapted for interposition between the mattress and spring; a vertically disposed member connected to said horizontal member; and means carried by the vertical member for vibrating said device and thereby causing said mattress to vibrate; said vertical member including a pair of adjustably interconnected upper and lower elements, the upper element being connected to the horizontal member, the lower element being adapted for detachable connection to the frame of the bed and carrying the vibrating means.

8. A portable vibrating device according to claim 7, wherein the upper element is disposed adjacent the lower element, and wherein said elements are interconnected by at least one pin and slot connection to permit adjustment of the positions of the vertical elements relative to each other.

9. A portable vibrating device for a bed having a spring and a mattress supported by a frame, with end and side rails, comprising in combination: a relatively thin flat flexible horizontal member adapted for interposition between the mattress and spring; a vertically disposed member connected to said horizontal member; means for detach-



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ably connecting the vertical member to the bed frame including clamping means permanently connected to the vertical member and detachably connected to the bed frame; and means carried by the vertical member for vibrating said device and thereby causing said mattress to vibrate; said clamping means including a rigid bracket carried by the vertical member, said bracket having an arm spaced from said vertical member to define with the vertical member a slot for receiving a side rail and a screw mechanism carried by the arm for engagement with the inboard side of the side rail to snugly retain the side rail

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in the slot between an inboardly facing surface of the vertical member and an outboardly facing surface of the screw mechanism.

References Cited in the file of this patent

UNITED STATES PATENTS

761,862	Wallman	June 7, 1904
1,615,615	Cannon	Jan. 25, 1927
2,512,621	Emerson	June 27, 1950
2,717,593	Murphy	Sept. 13, 1955