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PERCUSSION DEVICE IN MASSAGER

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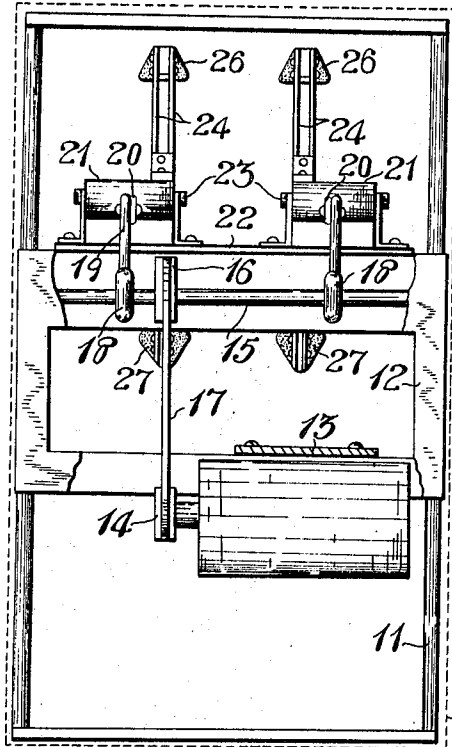


Fig. 1

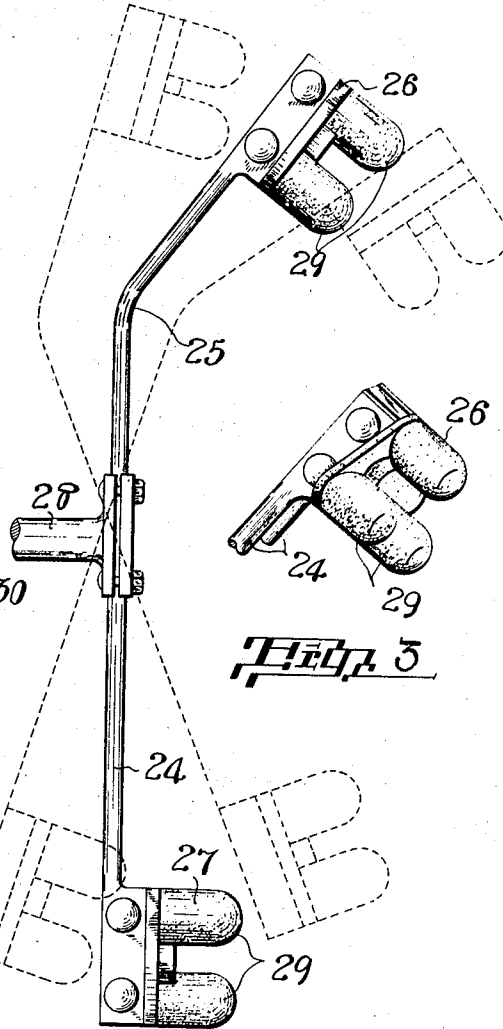


Fig. 3

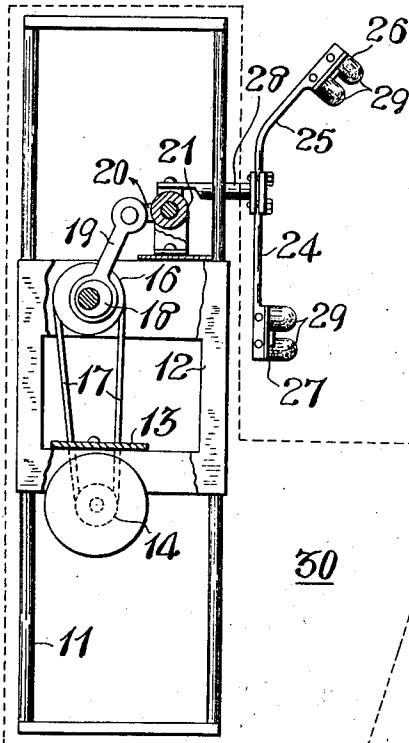


Fig. 2

Fig. 2

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PERCUSSION DEVICE IN MASSAGER

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1 Claim

ABSTRACT OF THE DISCLOSURE

A percussion imparting device for the human body wherein percussions are imparted to the shoulders of the patient and to the waist of the patient. The device includes a motor driven shaft supported in a frame, the drive including a belt pulley on the shaft and a belt entrained around the belt pulley and motor shaft. Eccentric wheels are fixed on opposite sides of the belt pulley, and cylindrical shafts are operatively connected to the eccentric wheels. Elongated rod shaped arms are connected midway their ends to the cylindrical shafts and are movable thereby. The ends of the arms above the connection are bent, and percussion imparters are fixed at the top and bottom ends of the arms and adapted to contact the body of the user of the device.

This invention relates to a percussion-imparting device in a massager, according to which the rotation of a driving pulley is transmitted through a belt to an eccentric to rotate it, said eccentric in turn acting to rotate a pair of cylinder shafts provided at both sides on the top of an ascending-and-descending frame, and the elastic rubber-made percussion imparters having columnar projections are mounted at both upper and lower ends of two strips of elastic metal-made working arm rods of which the upper sections is bent inwardly, thereby forming the percussion imparting sections. Said arm rods are coupled securely through the connecting rods to the upper periphery of said rotating cylinder shafts, so that said percussion imparters at both ends repeat the alternate forward and backward movements in accordance with the rotation of the eccentric, wherein the right and left percussion imparters at the upper ends of the arm means give percussion to both shoulders of a patient while the right and left percussion imparters at the lower ends hit the waist of the patient, thus giving moderate percussion to said parts of the patient's body to thereby facilitate the circulation of the blood and thus to promote health of the patient.

The conventional massaging apparatus is mainly intended to apply muscular treatments, whereby the shoulders or the loin of a patient are massaged through horizontal or arc-wise motion of the acting rods. The present device has improved these conventional apparatus so as to impart moderate continuous percussions to the human body, thereby giving an incentive to the stagnant blood to let it circulate evenly throughout the body.

An embodiment of the present device will be herein below illustrated with reference to the accompanying drawings. In the drawings:

FIGURE 1 is a rear view of the device according to the present invention, with a part cut away; FIGURE 2 is a side elevational view thereof, with a part cut away; and FIGURE 3 gives a perspective view of the percussing

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section of the device and a sketch in dash lines illustrating the manner of movements thereof.

There are provided four pieces of guide posts 11 to which is vertically movably fitted an ascending-and-descending frame 12. On the lower block of said frame 12 is horizontally laid a stringer 13 from the bottom face of which is suspended a miniature motor. On the upper block of said frame 12 is mounted a rotating shaft 15 to which are mounted a belt pulley 16 and a pair of eccentrics at both sides thereof. A belt 17 is laid on a driving pulley 14 and the belt pulley 16. The eccentric 18 each has its eccentric rod 19 pivotally secured at its end to a connecting rod 20 of which one end is secured to a cylinder shaft 21. Said cylinder shaft is rotatably journaled on a shaft 23 mounted on the upper surface of a cross girder 22 laid horizontally on the upper block of said frame 12. Two strips of elastic metal-made working arm rods 24 have their upper sections bent inwardly at 25 and securely hold therebetween the percussion imparters 26 and 27 at their upper and lower ends respectively. The working arm rods are coupled to the rotating cylinder shafts through the connecting rods 28, and the percussion imparters 26 and 27 are provided with a proper number (three in this embodiment) of elastic rubber-made columnar projections 29. In the figures, numeral 30 denotes the exterior frame.

The structure of the present device being as described above, it will be seen that the rotation of the driving pulley is transmitted through the belt 17 to the belt pulley 16 to rotate it, which also causes to rotate therewith the eccentrics which are coaxially mounted thereon. The rotation of the eccentrics 18 is in turn transmitted through the eccentric rods 19 and the connecting rods 20 to urge the cylinder shafts 21 to rotate by the throw of eccentric, thus allowing the working arm rods 24, which are coupled at its center to the periphery of said cylinder shafts 21, to make the alternate forward and backward movements at their upper and lower ends, so that the percussion imparters 26 and 27 secured to said upper and lower ends respectively give percussions alternately to the human body. Since the working rods are made of elastic metal and the percussion imparters of elastic rubber, the impact actually afforded is of such moderate strength that even a convalescent patient can safely receive this treatment.

Since such parts of the body as both shoulders or waist, where the blood tends to stagnate, are struck alternately and repeatedly, the systemic circulation of the blood is promoted. The massager of the present device is not intended to simply better the local blood circulation which may be attained by local bodily exercise such as limb movements, but to promote systemic circulation of the blood, so that if it is used after muscular labor or brain work, it proves effective to circulate the blood systemically and to suit the object of maintaining good health.

I claim:

1. In a massager, a percussion imparting device including vertical corner guide posts, a frame vertically movable on the guide posts, a stringer supported on the frame, a miniature motor suspended from the stringer, a driving pulley operatively connected to the motor, a horizontal shaft rotatably mounted on the frame spaced above the motor, a belt pulley fixed on said horizontal shaft, a belt trained around the driving pulley and belt pulley on the shaft, eccentric wheels fixed on the horizontal shaft on opposite sides of the belt pulley thereon, a

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pair of spaced shafts fixed on the frame above the eccentric wheels, cylindrical shafts rotatably mounted on the pair of spaced shafts, radial rods having one end connected to the eccentric wheels, the other end of the rods being connected to the eccentric shafts, a pair of elongated elastic metal-made working arm rods connected 5 midway their ends to the eccentric shafts, said connection constituted by rods, said arm rods being bent above the connection with the eccentric shafts, percussion imparters fixed on and radiating from the ends of the elongated arm 10

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rods, and a plurality of elastic rubber columnar projections radiating from the percussion imparters.

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