Sept. 11, 1945. M. ANDIS 2,384,427

MASSAGE APPARATUS

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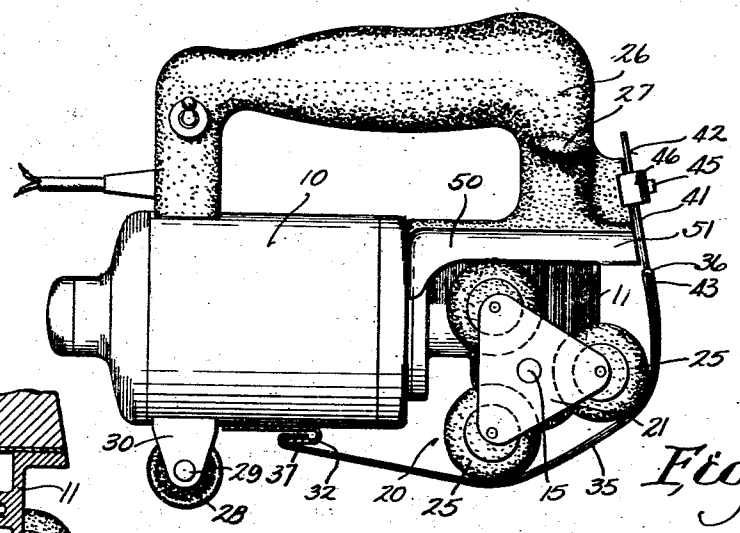


Fig. 1.

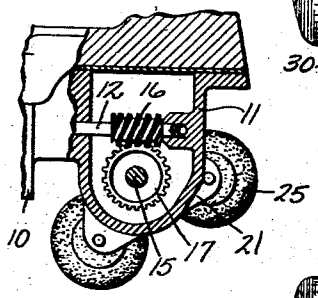


Fig. 3.

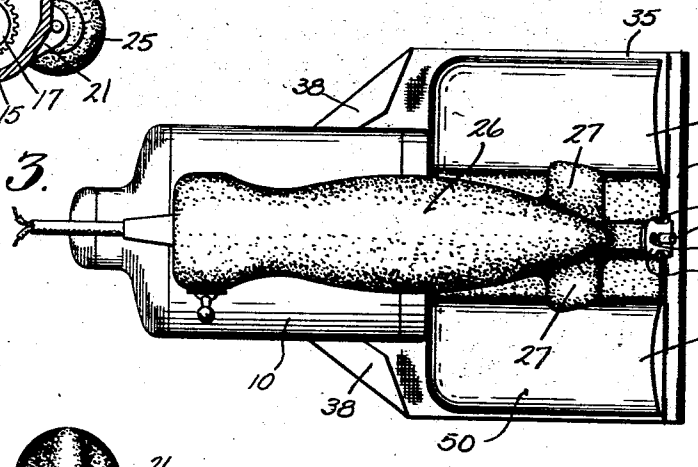


Fig. 2.

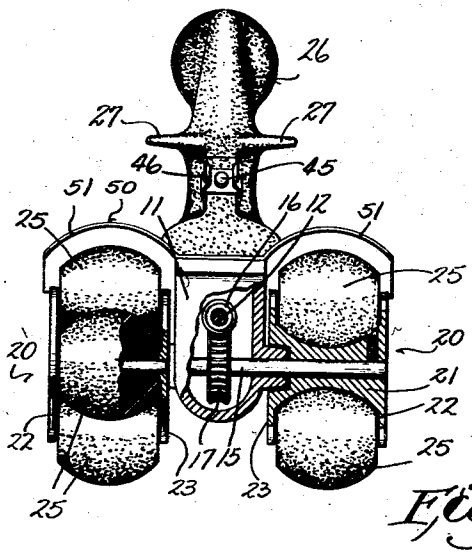


Fig. 4.

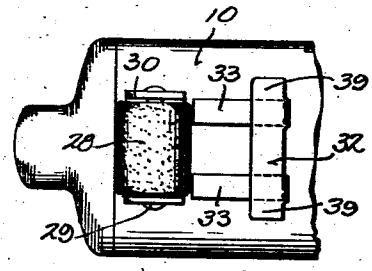


Fig. 5.

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MASSAGE APPARATUS

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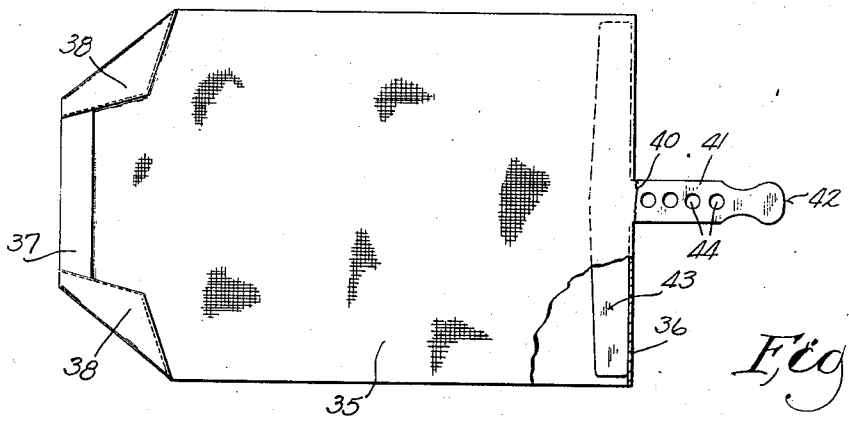


Fig. 6.

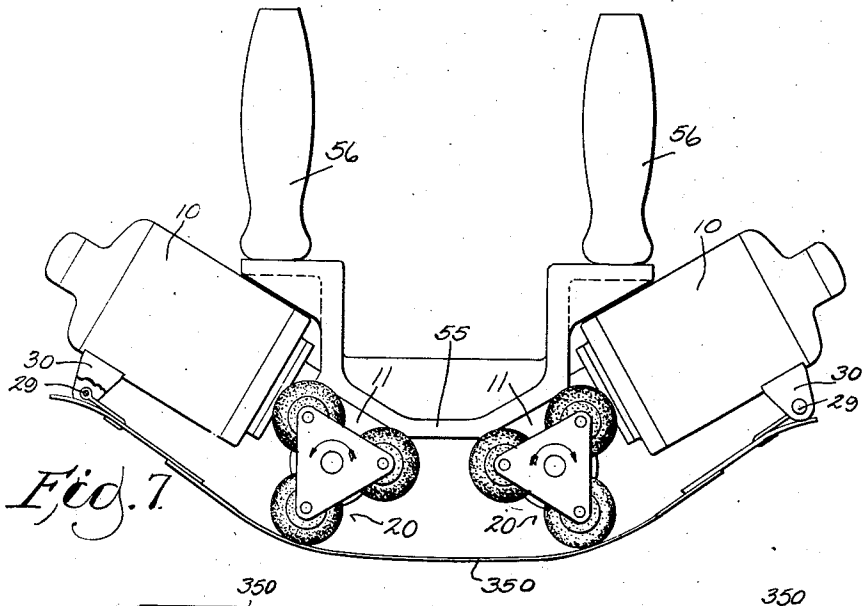


Fig. 7.

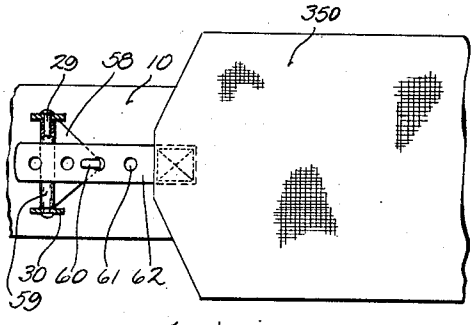


Fig. 8.

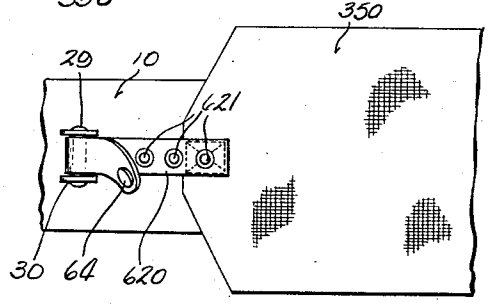


Fig. 9.

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2,384,427

MASSAGE APPARATUS

Mathew Andis, Racine, Wis., assignor to Andis Clipper Company, Racine, Wis., a corporation of Wisconsin

Application January 19, 1942, Serial No. 427,303

6 Claims. (Cl. 128—57)

This invention relates to improvements in massage apparatus.

The invention has two primary objects. First, the provision of means, preferably detachable, at least in part, for the protection of the patient and the operator from direct contact with the massage applicators and, secondly, the provision of a construction in which the massage applicators are dual, turning toward each other in opposite directions so as to combine a pinching or squeezing motion with the massaging and slapping operations which are the natural effect of the apparatus where a single set of applicators is employed.

The manner in which these and other objectives of the invention are achieved will appear more fully from the following disclosure of the invention.

In the drawings:

Fig. 1 is a view in side elevation of one embodiment of the invention.

Fig. 2 is a plan view of the device shown in Fig. 1.

Fig. 3 is a fragmentary detail largely in longitudinal section through the gear casing of the device shown in Fig. 1 and Fig. 2.

Fig. 4 is a view partially in end elevation and partially in transverse section through the gear casing and portions of the applicator assemblies.

Fig. 5 is a detail bottom plan view of the device for connecting a detachable apron through which the applicators normally operate.

Fig. 6 is a detailed view in plan of the apron partially broken away in section.

Fig. 7 is a view in side elevation on a reduced scale showing a modified embodiment of the invention.

Fig. 8 is a fragmentary detail bottom plan view showing one means of attaching a protective apron used in the device of Fig. 7.

Fig. 9 is a view similar to Fig. 8 showing a modified apron attaching means.

Like parts are identified by the same reference characters throughout the several views.

The fundamental form of the apparatus is similar to the disclosure of my companion application Serial No. 335,653, filed May 17, 1940, and entitled Massaging device. (See Patent No. 2,294,947, September 8, 1942.) There is a motor housing 10 to one end of which is secured a gear case 11 into which the armature shaft 12 projects.

A cross shaft 15 is journaled in the gear case and projects at both ends therefrom as best shown in Fig. 4. A worm 16 upon extended armature shaft 12 meshes with a worm gear 17 on cross shaft 15, whereby the cross shaft is positively driven from the motor.

On the projecting ends of the cross shaft 15, and immediately adjacent the gear case 11, are the applicator sets generically designated by reference character 20. Each such set comprises a hub 21 with side plates 22 and 23 between which are rotatably mounted the applicator rolls 25. In each applicator set, the number of rolls is three or more so that at all times one of the rolls will be available for the support of the apparatus from the surface upon which the applicators are operating.

In the device shown in Figs. 1 to 4, a D-shaped handle 26 is rigidly connected with the gear case 11 and with the rear end of the motor housing 10. The handle as herein disclosed has a vertical dimension materially in excess of its width for over at least part of its extent whereby the operator's fingers can have a better grasp of the handle for the manipulation of the device. Also, thumb pieces project at 27 from both sides of the handle, likewise facilitating manipulation of the device, either with the right or left hand.

While the front end of the device is supported from the massaged surface by one or another of the rolls 25, the rear end of the device is supported from such surface, when desired, by a caster or roller 28 rotatable on a cross shaft 29 carried by bracket 30 from the lower rear portion of the motor housing 10.

Immediately forward of the bracket and beneath the motor housing, the hook 32 is applied to the motor housing by one or more fingers 33 which may be integral therewith. The hook is made to engage in a pocket or pockets of the apron 35, best shown in Figs. 1 and 6. This apron may be made of any desired material preferably comprising a web of cloth or the like folded upon itself at 36 and having its ends seamed together at 37 and inwardly folded diagonally at 38 to provide pockets with which the projecting end portions 39 of the hook 32 are releasably engaged.

Adjacent fold 36, the web of material comprising apron 35 has an aperture 40 through which extends the arm 41 of a fitting 42 which is T-shaped in plan, as clearly shown in Fig. 6, and has a bar or head 43 disposed within the fold of the apron. The projecting arm 41 has a series of openings at 44, one of which may be engaged to the stud 45 which projects forwardly from handle 26. A spring detent clutch 46 engages the sides of arm 41 to hold it upon stud 45 even

though there may be considerable slack in the apron **35**.

When properly positioned, the apron **35** passes beneath the applicator rolls **25** at both sides of the device, as clearly appears from Figs. 1 and 2 with just sufficient tension to prevent its corner pockets **38** from becoming disengaged from the ends **39** and hook **32**.

According to the effect desired, the apron **35** may be of any desired material. If it is extremely heavy, it will cushion the effect of the applicator rolls **25** to a relatively great degree. If it is extremely light, the cushion effect will be minimized. Its purpose is not merely to cushion the rolls, but also to provide increased sanitation. If made of paper or other disposable material, the apron may be thrown away after each use. If made of cloth, the metal fitting **42** may readily be slipped from between the folds of the apron, leaving the apron in condition such that it may readily be washed. If the instrument is held slightly tilted, its entire weight, and any additional weight which may be imposed upon the handle **26** will be supported from the massaged surface solely by rollers **25** through the interposed apron, the apron being the only material to contact the massaged surface. Since the apron may readily be disposed of or washed following a single use, this will minimize transfer of bacteria and germs from one patient to another and, also make it possible to use the device on a patient who has been treated with creams or oils without soiling the device. If the apron shrinks when washed, the holes **44** will nevertheless provide for its remounting with the desired condition of slack.

For the protection of the operator and, also, for the protection of the patient, it is preferred to use a hood at **50** which may be interposed between handle **26** and the top of gear case **11** and which includes arcuately curved wings at **51** extending over the paths in which the rollers **25** of the applicator revolve. This will protect both the patient and the operator from contact with the applicator except as desired.

The applicator rollers have a dual effect. In their revolution about the shaft **15**, they contact successively the surface to be massaged, this contact being achieved under the weight of the instrument and such additional weight as is imposed on the handle **26**, it being understood that the operator can either increase or decrease the pressure of the rollers on the surface massaged. As the weight is transferred from one roller to another, the rollers successively strike the massaged surface with a slapping action which is very effective in reducing flesh. In addition, as the rollers rotate upon their own axes and move inwardly and outwardly with respect to the massaged surface, they act with a massaging action thereon. Both of these functions are performed whether or not the apron **35** is used. As above noted, the severity of the effect may be increased or decreased according to the material used in the apron, maximum effect being noted where the apron is entirely omitted.

It has already been observed that one purpose of the apron is to promote sanitation, and another to promote cleanliness, and still another is to control the effect of the applicators upon the body surface to which they are applied. A further purpose of the apron is to prevent any tendency of the device to "creep." It will be understood that the device is intended to be moved over the patient's skin in much the manner in which a flatiron is moved over goods to be ironed. Where the apron **35** is omitted, the rotation of shaft **15** tends to cause the device to advance under power across the patient's body so that it is much easier to move the device from right to left than from left to right, as viewed in Fig. 1 (assuming shaft **15** to have counter clockwise rotation). This "creeping" effect is also minimized where the apron is used.

The device shown in Figs. 7 to 9 is a dual device using some of the basic structure illustrated in Figs. 1, 2, 5. The motor casings **10** are the same, two motors being employed. The gear casings **11** are likewise the same, being assembled to the respective motor housings exactly as shown in Fig. 1 and Fig. 3. The applicator sets **20** are likewise identical

The two basic units, each including a motor housing, gear housing and applicator sets, are, for the purpose of the modified embodiment of the invention, rigidly connected by a bridge member **55** from which separate handles **56** project upwardly to be grasped by both hands of the operator. Since the two identical units are opposed to each other, end to end, the two shafts **15** will rotate in opposite directions as viewed in Fig. 7 with the result that the rollers **25** which are supporting the device from the massaged surface will move toward each other. In addition to the slapping and massaging action above noted, the approach of these rollers, repeated as successive rollers contact the massaged surface, will also contribute a pinching or squeezing which increases the effectiveness of the device for certain purposes such as the reducing of flesh.

Due to the angle at which the bridge member **55** holds the fundamental motor driven uits, as shown in Fig. 7, and due to the fact that the assembly is supported at two points upon the respective applicator sets, the trailing supporting wheels **28** shown in Fig. 1 and Fig. 5 are not needed in this dual form of the apparatus and they are omitted. The brackets **30** and shafts **29** remain, however, and may conveniently be used as a means of holding the apron **350** which passes beneath both sets of applicators.

Any desired means of detachably connecting the apron may be employed. By way of example, I have illustrated in Fig. 8 a triangular fitting **58** formed to provide an ear at **59** encircling the shaft **29** which would otherwise be used for the roller. The engagement of the sides of fitting **58** by the bracket **30** keeps the fitting from being displaced laterally. The fitting provides a hook at **60** with which apertured portions **61** of apron strap **62** are selectively engageable.

In the construction shown in Fig. 9, the apron strap **620** is provided with a series of buttons at **621** with which a glove fastener **64** is selectively engageable after the strap has been passed about the shaft **29** between the ears of fitting **30**.

As in the case of the device first described, the modified embodiment shown in Figs. 7 to 9 may be used with or without the apron according to the effect desired. Likewise, the apron may be made of any desired material and may be discarded or washed after each using for purposes already recited.

While no guard such as that shown at **50** is disclosed in connection with the device of Fig. 7, the adaptation of such a guard to the Fig. 7 construction will be apparent in the light of the disclosure of Figs. 1 to 4. A guard will, however, not usually be needed in view of the fact that in the Fig. 7 construction, the handles **56** are quite remote from the applicators and increased measure

of control is possible when both hands of the operator are engaged therewith.

I claim:

1. A massage instrument comprising the combination with a rotatable applicator, of frame means upon which said applicator is mounted for rotation, an apron comprising a strip of fabric folded upon itself to provide a plurality of plies, means connecting the ends of said strip to said frame means, and a connector having a portion receivable between the plies of said apron and having another portion detachably connected with said frame means.

2. An instrument of the character described comprising the combination with a rotatable applicator, a frame upon which a portion of the applicator is mounted for rotation, a hook on said frame at one side of the applicator, a connector on the frame at the other side of the applicator, an apron provided with pocket means in which said hook is detachably engageable, said apron passing beneath the applicator to be interposed between the applicator and the surface acted on thereby and provided in the vicinity of said connector with means detachably engaging said connector, said connector being adjustable on the frame to put the apron under such tension as to hold said pocket means from disengagement from said hook while allowing it to be quickly detached, cleansed and replaced.

3. In an instrument of the character described, a pair of substantially identical massage units each comprising a motor, a gear case, a cross shaft and an applicator, a bridge member rigidly connecting said units with the cross shafts approximately parallel, each unit having its motor supported from the bridge member in an upwardly inclined position with reference to its associated applicator, whereby the instrument may be tilted to vary the relative pressure of the applicators and to operate either of them independently without bringing either motor into contact with the patient.

4. A massaging implement comprising the combination with a manually manipulatable support, of a planetary set of individually rotatable applicators mounted for revolution about a common applicator supporting shaft with which the axes of the applicators are parallel, of a quick removable and replaceable apron adapted to be interposed between the applicators and the skin of the patient, said support and one end of the apron being provided with mutually engaging hook-shaped members and the other end of the apron having a connector extending across its end margin in engagement therewith, and having means for adjustable attachment of the connector with the support and adapted to be either connected with or disconnected from the support.

5. In a device of the character described, the sub-combination which comprises a fabricated flexible strip folded upon itself to provide an apron, one end of the apron being formed with a hook-receiving pocket and the other end of the apron being formed with an opening affording access of a tension regulating connector to the space between the plies, said apron being adapted to be quickly detached, cleansed and replaced after each operation, and said tension regulating connection comprising a T-shaped fitting having a head adapted to be manipulated between the plies of the apron, and an arm projecting through said opening and constituting an adjustable apron anchoring means.

6. In a massaging implement, the combination with a suport having a set of independently rotatable applicators revoluble as a planetary unit and power driven means for revolving the unit, of a quick removable apron detachably connected with the support and adjustable thereon to vary its tension, whereby the implement may be used either with or without the apron and with the apron at different tensions during a single massaging operation.

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