

April 16, 1929.

R. H. HASSLER
MESSAGE MACHINE

1,709,170

Filed July 11, 1927

3 Sheets-Sheet 1

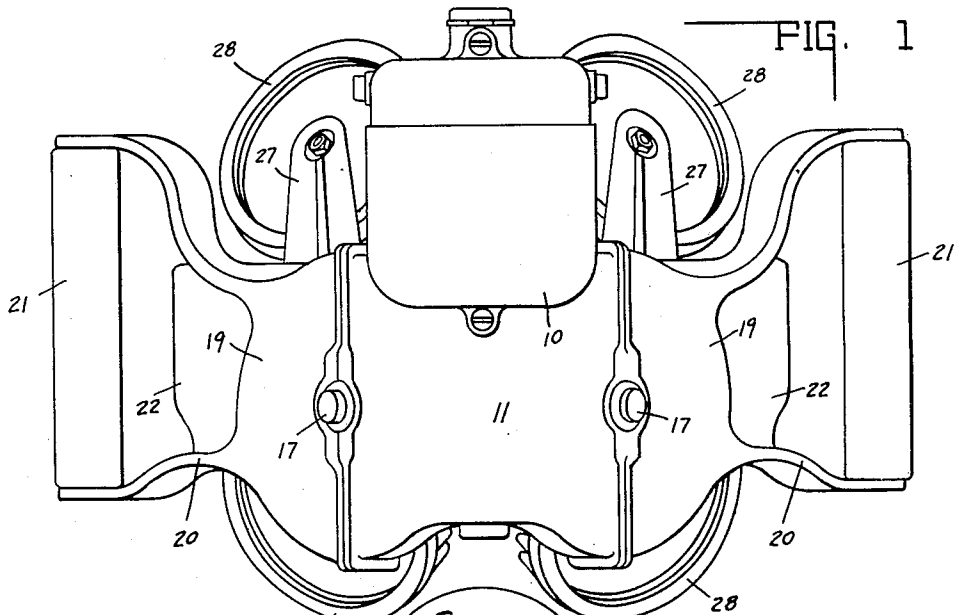


FIG. 1

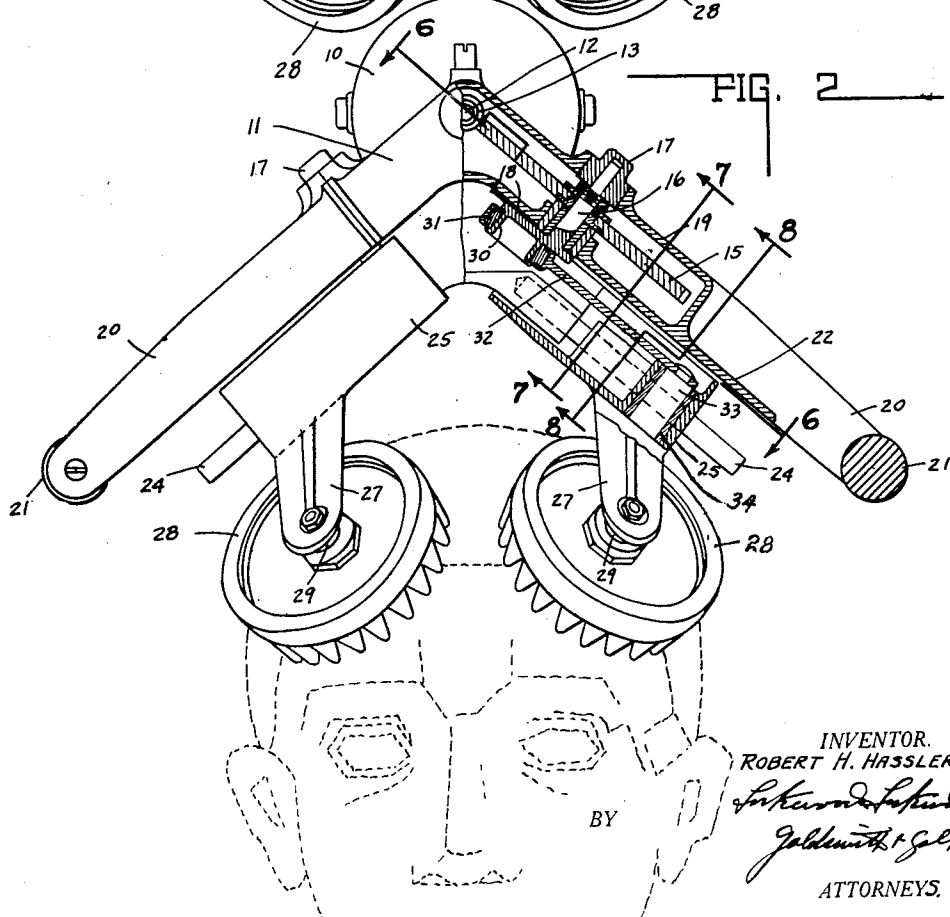


FIG. 2

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April 16, 1929.

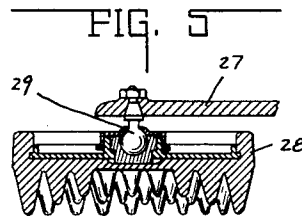
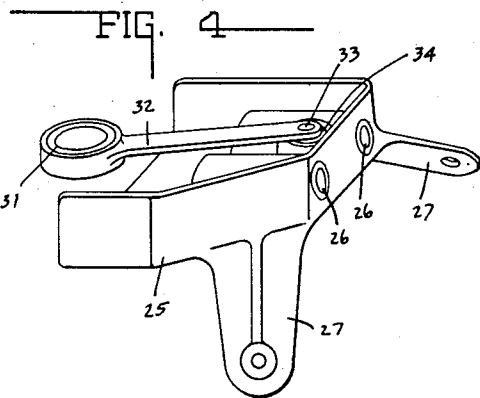
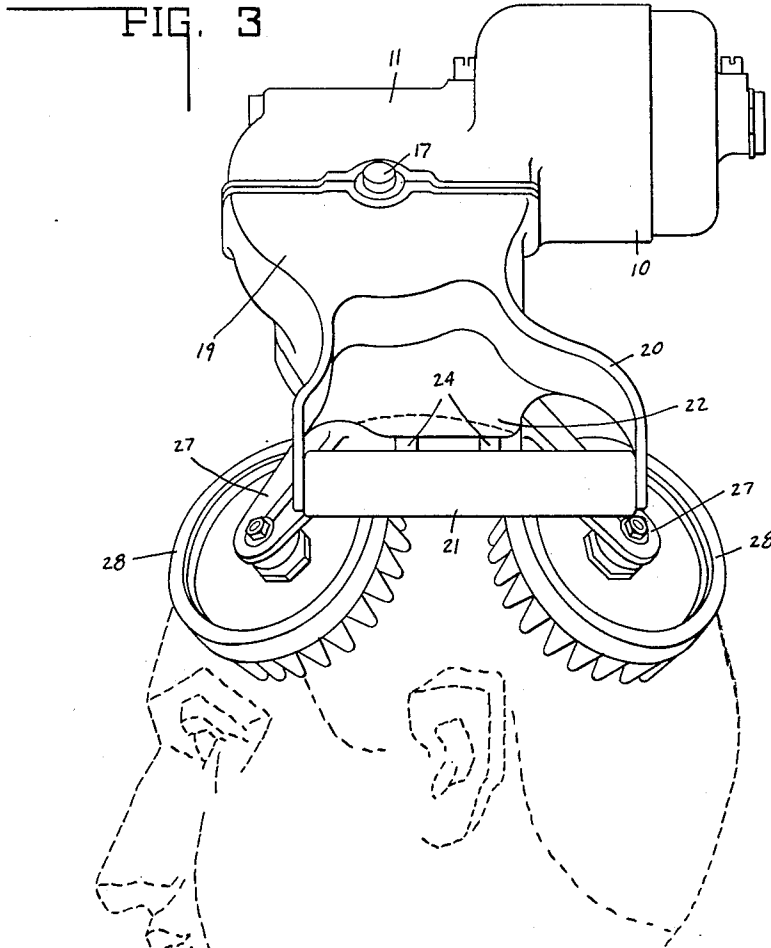
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MASSAGE MACHINE

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3 Sheets-Sheet 2



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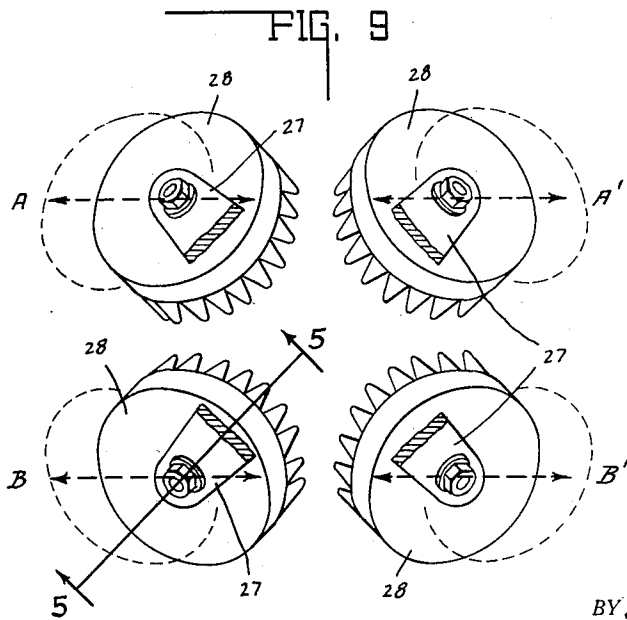
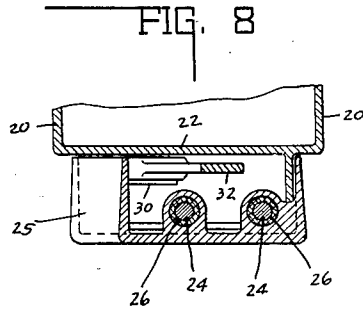
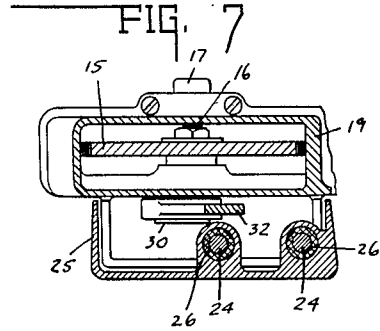
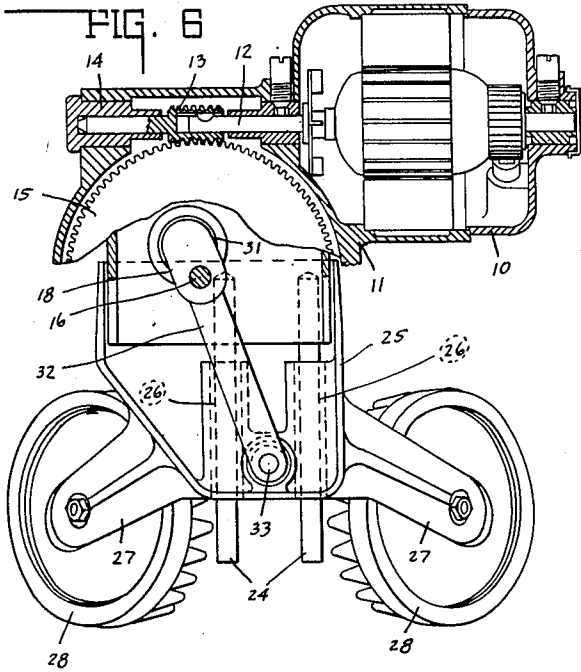
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MASSAGE MACHINE

Filed July 11, 1927

3 Sheets-Sheet 3



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MASSAGE MACHINE.

Application filed July 11, 1927. Serial No. 204,995.

This invention relates to a massage machine for massaging, rubbing or manipulating the scalp of the human head, of the general type shown and disclosed in my co-pending application, Serial No. 136,421, filed September 20, 1926.

Medical authorities contend that the disease of baldness is to a large extent caused by the wearing of hats with tight bands. These tight hat bands, so universally worn by men, cause a restriction of blood circulation to the top of the scalp. The blood tissues at the top of the head are starved for nourishment.

The principal object of the present invention is to provide means for gripping the scalp around the entire hat band area of the head, and to produce a vigorous massage of these parts so as to counteract the ill effect of tight hat bands.

This result is partially accomplished by the device as shown in my co-pending application Serial No. 136,421, mentioned above, which discloses massaging elements adapted to grip the sides of the head.

In my present invention described herein, I grip the entire hat band area more completely by providing a plurality of applicatory elements or pads spaced in a circle around the head. I drive these pads in reciprocating straight line motions at an angle of approximately 45 degrees from the vertical. In this way the entire scalp is lifted and vigorously massaged, and the effect produced is felt far more keenly than when only a part of the area is worked on at a time. A decided lifting effect is produced, not only on the entire scalp, but on the facial muscles as well. By gripping and operating the entire hat band area at one setting of the machine, not only is the labor and time required for a treatment materially reduced, but a vastly superior effect is obtained by the vigorous working of all parts of the scalp simultaneously.

Another feature of the invention resides in the provision of suitable guard means for preventing hair from being caught or entangled in the working parts of the driving mechanism, as well as preventing materials used on the hair during the massaging treatment from entering and affecting the mechanism.

Another object of this invention is to so arrange the various elements of the mechanism, more particularly the driving motor

and associated mechanism, so as to provide a massage device in which the weight of the machine is substantially balanced when placed in operative position on the head.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

Fig. 1 is a plan view looking down upon the machine. Fig. 2 is a front elevation of the machine showing it applied to the scalp and having a portion thereof shown in cross-section. Fig. 3 is an end elevation showing the machine applied to the human scalp. Fig. 4 is a perspective view of the reciprocating member. Fig. 5 is a sectional view taken on the line 5—5 of Fig. 9. Fig. 6 is a sectional view taken on the line 6—6 of Fig. 2. Fig. 7 is a section taken on the line 7—7 of Fig. 2. Fig. 8 is a section taken on the line 8—8 of Fig. 2. Fig. 9 is a diagrammatic illustration showing the position of the massaging elements with respect to each other and their line of movement.

In the drawings there is shown a massaging machine or mechanism and, for the purpose of illustration, an electric motor 10 is employed for driving means. This motor is shown mounted on the central portion of a stationary housing 11, the ends of said housing extending at an angle to each other, as best shown in Fig. 2. I find an angle of approximately 90 degrees to give the best results. Mounted in said housing, and extending transversely of the central portion thereof there is a shaft or spindle 12, in the present instance motor driven, having one end connected with the motor 10 and its other end extending into and keyed to the worm 13, said worm being provided with an extension bearing 14, extending into a bearing recess formed in the housing.

Positioned on each side of the worm 13 and extending into the housing 11, there are worm gears 15 adapted to mesh therewith and be rotated by the action of the motor. Each of the gears 15 is secured to a shaft 16 having its upper end mounted in the bearing 17 and its lower end mounted in a suitable bearing secured in the lower surface of the housing and having formed thereon an eccentric or crank arm 18.

Secured to the open ends of the housing 11, there are detachable covers or end housings 19 which are provided with the arms 20 and handle bars 21. The lower surface of the

end housing 19 terminates in the present instance, in a flat surface 22 between the arms 20. The ends of the central housing 11 and the detachable housings 19, as well as the flat surface 22 and handles 21, extend downwardly at substantially right angles to each other, as best illustrated in Fig. 2.

The lower portion of the central housing 11 is provided with a pair of pins or guide bars 24 rigidly secured thereto, and extending outwardly therefrom. The axes of these bars are parallel with the flat surface 22. Slidably mounted on the guide bars 24, so as to freely reciprocate thereon, there is a reciprocating member 25, the upper portion of which is formed into a guard portion (as best illustrated in Fig. 8). It also is provided with a pair of cylindrical openings 26 adapted to receive the guide bars 24 to slide thereon. It will be noted that the guide bars 24 are offset from the axis of the stationary housing 11 so that their intermediate point will be positioned well to one side of the center of the gear 15.

Carried by the reciprocating member 25 and in the present instance formed integral therewith, there are a pair of rigid angularly disposed spreading arms 27, said arms also extending downwardly at an angle to each other and supporting on the ends thereof the massaging pads 28. Said massaging pads are connected to the respective ends of the supporting arms 27 by means of ball and socket universal connections 29 (as shown in Fig. 5).

Secured to the crank arm 18 there is a crank pin 30 about which there is rotatably mounted the collar 31 having a link connection or pitman 32 with the shouldered pin or journal 33 mounted in the opening 34 formed in the reciprocating member 25.

Fig. 6 illustrates the pitman when in dead center and shows its angular position with reference to the stationary housing and the reciprocating member. This angular position is caused by off-setting the axis of the reciprocating member from the axis of the stationary housing as above described.

In operation, upon rotation of the spindle 12, the driving mechanism as above described, will be rotated for causing a reciprocating action of the pitman 32 which in turn will move the reciprocating member upon the guide bars 24. In applying the reciprocating movement to both sides of the machine, the result will be the reciprocation of both pairs of massaging pads toward and away from each other in a straight line, the paths of which are indicated by the dotted lines, A—A' and B—B', and arrows in Fig. 9, of the drawings.

Surface 22 and also the under side of the central housing 11, as well as the upper surfaces of reciprocating member 25, are all in parallel alignment with the guide bars 24,

and there is very little clearance between the stationary and moving parts, for protecting the hair and mechanism as hereinafter set forth.

It will be understood from the above that I provide a plurality of arms extending downwardly from the device proper, and that the lower ends of these arms are spaced around the head at the hat band area. The lower ends of these arms are flattened and face a common center and lie approximately tangential to the surface of the scalp. These arms, which are formed in pairs on a single reciprocating member, are positioned so that each arm extends at an angle to the other arm of the same pair, and each arm faces a diametrically opposed arm of another pair carried by another reciprocating member.

The end of each arm carries an applicatory member or pad mounted on ball and socket bearings and each pad is thus capable of universal movement. This construction and novel positioning of the arms with respect to the scalp, provides a device in which a comparatively large range of travel can be imposed on the pads without excessive action of the ball and socket joints in order to maintain a constant pressure from each pad.

The driving action of the ends of each arm, adjacent to the hat band area, is tangential to the scalp. The driving action exerted on the pads is also tangential to a large extent, but is modified slightly by the small amount of play on the ball and socket joints, so that the net resulting movement of the pads is absolutely parallel to the scalp. This movement of the pads, accurately following the contour of the scalp with constant pressure, is due to the tangential driving direction of the arms over the area desired. The pads are not tight at one point and loose at another, but they maintain a steady grip on the scalp throughout their entire travel. The worm gears being set at an angle of approximately 90 degrees to one another, enables the pads to maintain their steady grip of the desired area in the most efficient manner.

Portions of the reciprocating members are formed in straight lines parallel to the direction of travel. Surfaces on the stationary housing, adjacent to the reciprocating members, are also formed in straight lines in the same direction and with very little clearance from the corresponding mating portions of the reciprocating members. In this way an effective guard is formed that affords the desired protection at all points of travel.

It will be observed also that the transverse center of the driving worm and the centers of the worm gears, the latter of which the crank pins 30 travel about, are in true alignment. The center of the worm gears and journals 33 are in an off-set position with

respect to each other. This construction positions the driving pitmans 32 in an angular position equal to the amount of the above off-set. This construction makes it possible to mount the motor more closely to an intermediate point between the pairs of massaging pads, and the center of gravity of the machine is then positioned more nearly intermediate the same. This is particularly desirable for obtaining a more balanced machine when mounted in operative position, and causes the weight of the machine to be more evenly distributed to the four massaging pads.

From the foregoing description, it will thus be seen that I obtain a very superior gripping effect on the head where it is most needed, and where the action of the pads will tend to increase the blood supply to the upper part of the scalp and counteract the ill effect of tight hat bands.

The invention claimed is:

1. A massage machine adapted to operate upon a body having a substantially spherical surface, including two pairs of massaging elements, and means for bodily moving corresponding elements of each pair toward and away from each other in the same vertical plane, the lines of movement thereof being substantially parallel and tangential to the curvature of said spherical body.

2. A massage machine adapted to grip the sides of the human head, including a plurality of massaging elements, and means for bodily moving said elements toward and away from each other in spaced parallel vertical planes and in paths conforming to the curvature of the head.

3. A massaging machine adapted to operate upon a body having a curved surface, including a plurality of reciprocating members, a massaging element carried by each of said reciprocating members, and means for moving each of said members and their respective elements toward and away from each other in a common vertical plane and substantially at right angles to each other and substantially tangential to the curvature of said body.

4. A massaging machine adapted to be applied to a body having a curved surface, comprising a centrally extending driving shaft, rotatable gears mounted on each side of said shaft and lying in planes extending at an angle to each other through the center of said shaft, means on said shaft for rotating said gears in their respective planes, a pair of opposed reciprocating members, means for connecting said members with said gears for causing them to reciprocate toward and away from each other in a common vertical plane and parallel to the planes of their respective gears and substantially tangential to the curvature of said body, and a massaging element mounted on

each of said opposed members and carried thereby for engaging and manipulating the curved surface to be massaged.

5. A massaging machine adapted to be applied to a body having a curved surface, including opposed pairs of massaging elements, the elements in each of said pairs being disposed at an angle to each other and normally in a plane substantially tangential to the curvature of said body, a reciprocating member for supporting each pair of elements, each of said reciprocating members extending at an angle to each other in a plane substantially tangential to the curvature of said body, and means for imparting to each of said members a reciprocatory movement toward and away from each other.

6. In a massaging machine, a housing having laterally-extending and angularly-disposed portions, a driving unit mounted substantially centrally thereof, a pair of oppositely-disposed reciprocating members mounted thereon, a driving mechanism operatively connected with said driving unit for imparting an oppositely-directed reciprocating motion to each of said members, laterally-extending arms supported by said members and directed at an angle to each other, and a massaging element mounted on each of said arms.

7. In a massage machine, a housing, driving means associated therewith, a plurality of massaging elements, mechanism actuated by said driving means for driving said massaging elements and imparting thereto a reciprocatory movement oppositely-directed with respect to each other, and a guard member to which said elements are secured and movable with respect to the first-mentioned housing and enclosing the movable parts of said mechanism for preventing hair, foreign matter and the like to be engaged or drawn therein.

8. In a massage machine, a housing having laterally-extending and angularly-disposed portions, driving means mounted thereon, a pair of oppositely-disposed reciprocating members mounted thereon, a driving mechanism operably connected with said members for imparting an oppositely directed reciprocating motion thereto, side and end walls formed on each of said members for enclosing said mechanism to protect the same from engagement with hair, foreign matter and the like, and a massaging element secured to each of said members and supported thereby.

9. In a massage machine, a saddle-like housing having its lateral portions projecting at an angle to each other, a driving unit substantially centrally positioned with respect thereto, driving mechanism connected with said unit and partially positioned within the lateral portions of said housing, hous-

ings adapted to be mounted over a portion of said driving mechanism and secured to said saddle-like housing, a plurality of massaging elements slidably mounted on said housing, and means operably connected with said mechanism for imparting a reciprocatory movement to said elements, the movements of said respective elements being directed at an angle with respect to each other.

10 10. A massage machine adapted to be applied to a body having a curved surface, including a plurality of massaging pads directly connected together as a unit, a plurality of massaging pads opposed thereto
15 and directly connected together as a second unit, each of said massaging pads normally extending in a plane substantially tangential to the curvature of said body and facing a common imaginary center, and means for
20 reciprocating each of said opposed units toward and away from each other in a substantially vertical plane.

11. A massaging machine comprising a housing having outwardly extending side
25 portions, a motor positioned intermediate said portions and to one side thereof, gears mounted in said portions adapted to be driven by said motor, a reciprocating member slidably mounted on each of said portions
30 to one side of the longitudinal center line therethrough, massaging elements mounted on each of said reciprocating members, and means connecting each of said gears with its respective reciprocating member for actuating the same, said reciprocating
35 members being on the same side of the longitudinal center line as the motor, whereby the center of gravity of said machine will be substantially intermediate said massaging elements.

12. A massaging machine comprising a housing having angularly extending side
40 portions, a horizontally mounted motor positioned intermediate said portions and to one side thereof, a shaft extending horizontally from said motor intermediate said portions, gears mounted in said housing portions on each side of said shaft adapted to be driven thereby, a reciprocating member
45 slidably mounted on each of said portions to one side of the longitudinal center line therethrough, a plurality of massaging elements mounted on each of said reciprocating members, and a pitman connecting each of
50 said gears with its respective supporting member for reciprocating the same, said pitman extending at an angle to the line of movement of the respective reciprocating members when on dead center, whereby the
55 center of gravity of said machine will be substantially intermediate said massaging elements.

13. A massage machine adapted to be applied to a body having a curved surface,

65 comprising a housing having side portions extending at an angle to each other, a pair of oppositely disposed reciprocating members, a plurality of massaging pads spaced apart and carried by each of said members, and
70 means for moving each of said members and their pads simultaneously toward and away from said housing.

14. In a massage machine, an inverted V-shaped housing having a pair of individual
75 oppositely and angularly extending arms, a rotating driving member, massaging elements slidably upon the under-side of each of said arms and reciprocable in straight lines parallel therewith, and means connected with said driving member and elements
80 for transforming the rotary motion of said driving member to a reciprocatory motion of said elements, whereby said elements will be simultaneously reciprocated in straight lines toward and away from the apex of
85 said housing.

15. In a massage machine, a housing having laterally extending and angularly disposed handles, a driving member mounted on said housing intermediate said handles,
90 a worm driven by said member, a pair of angularly disposed worm gears positioned to mesh with said worm and rotatably mounted in said housing, a pair of angularly disposed massaging elements slidably mounted
95 on said housing, and an eccentric driving means connecting said worm wheels with their respective massaging elements for imparting thereto a reciprocating motion.

16. In a massage machine, a housing, gears
100 mounted in said housing in angularly disposed planes, a pair of massaging elements extending in planes disposed in angular relation to each other, means for slidably supporting said elements with respect to said
105 housing, a driving member eccentrically connected with each of said gears, and means for connecting each of said driving members to its respective massaging element for imparting a reciprocating motion thereto.

17. In a massage machine, a housing having its sides extending laterally in angular
110 relation to each other, a driving shaft provided with a worm thereon, a pair of worm gears mounted in each side of said housing and extending at an angle to each other in conformity with the latter, said gears being adapted to mesh with said worm, a pair of driving members, pins for eccentrically connecting the respective driving members
115 with their corresponding gears, a pair of massaging elements, a pair of guide pins for slidably mounting said elements with respect to said housing in angular relation to each other, and means for connecting
120 each of said eccentric driving members with their respective elements for imparting thereto a relatively slow reciprocating move-

ment so as to move in a line with each other and in a plane substantially tangential to the surface to be treated.

18. In a massage machine having a supporting frame, oppositely-disposed massaging elements mounted on said frame in position to engage opposite sides of the human head, said elements being so positioned with respect to each other as to simultaneously grip the scalp substantially at the hat band area, and means for reciprocating said oppositely-disposed elements toward and away from each other.

19. In a massage machine having a supporting frame, oppositely and angularly-disposed reciprocating massaging elements so positioned with respect to each other on said frame as to engage opposite sides of the human head and permit the scalp to be wedged therebetween, and means for reciprocating said elements toward and away from each other and with respect to the scalp wedged therebetween so as to move the scalp therewith and intermittently pinch and stretch the same.

20. In a massage machine, a fixed support,

movable housings slidably mounted on opposite sides thereof, said housings being adapted to move toward and away from each other telescoping with the opposite ends of said support, massaging elements carried by each of said housings, and means enclosed by said housings and pivotally connected therewith for actuating said housings and elements.

21. In a massage machine, having oppositely and angularly-disposed reciprocating pairs of massaging elements so positioned with respect to each other as to permit the scalp of the human head to be wedged therebetween when applied, means for reciprocating said pairs of massaging elements toward and away from each other and with respect to the scalp wedged therebetween, and means for securing said pairs of elements in position with respect to each other, whereby one element of each pair maintains a constant distance from its associated element during the reciprocating action thereof.

In witness whereof, I have hereunto affixed my signature.

ROBERT H. HASSLER.