

TAYLOR v. WOOD.

{12 Blatchf. 110; 1 Ban. & A. 270; 8 O. G. 90.}¹

Circuit Court, S. D. New York. May 30, 1874.

PATENTS—EQUIVALENTS—ANTICIPATION—ABANDONED
EXPERIMENT—RUBBING MACHINE.

1. The apparatus described in letters patent granted to Allen L. Wood, December 7, 1869, for an “improved apparatus for treating diseases by mechanical movement.” is an infringement of the first, second and fifth claims of letters patent No. 75,218, granted to George H. Taylor, March 3, 1868, for an “apparatus for exercise,” and of the first and fourth claims of letters patent No. 77,933, granted to said Taylor, May 12, 1868, for an “oscillating rubbing machine for medical uses,” and of the first claim of letters patent No. 75,217, granted to said Taylor, March 3, 1868, for an “apparatus for exercise.”
2. Although, in patent No. 75,218, the handle and the foot holder are described as having oscillating or vibrating motions communicated to them, while the handle and foot holder of Wood have a rotary motion, yet the latter motion, although circular, is not a continuous motion in one direction, but is an oscillating or vibrating motion to and fro, in view of the action on the limb.
3. Although, in patent No. 77,933, the rubber is described as having india rubber on its external surface, and the rubber of Wood has a surface of cloth or leather, and is stuffed with some material, and is very slightly elastic, and is corrugated, yet the inferior adhesion of the cloth 808 or leather to the skin, in rubbing, requires the corrugations, and there is more or less adhesion in each of the surfaces. The change does not avoid the infringement.
4. The inventions claimed in patent No. 75,218, are not anticipated by a prior machine the motion of which was so slow as not to produce a rapid vibratory or oscillating motion, in the sense of such patent.
5. As only one of such prior machines was built, and that more than 35 years before, and the recollection of the mechanism which constituted it had passed away from the mind of the witness who deposed to its existence, if he ever knew what it was, and it could not, from such recollection, be reconstructed, and there was no other

record of it and it was only an abandoned experiment, it did not anticipate such patent.

6. The burden of proof is on the defendant to show a prior invention, and, if the evidence is too vague and unsatisfactory to establish affirmatively, as against the patent, that the patentee was later in time of invention, the patent must stand.

{This was a bill in equity by George H. Taylor against Allen L. Wood, for the infringement of certain letters patent.}

Frederic H. Betts, for plaintiff.

Charles N. Judson, for defendant.

BLATCHFORD, District Judge. This suit is brought on three several letters patent, granted to the plaintiff, namely, No. 75,218, granted March 3, 1868, for an "apparatus for exercise," No. 77,933, granted May 12, 1868, for an "oscillating rubbing machine for medical uses," and No. 75,217, granted March 3, 1868, for an "apparatus for exercise."

The specification of No. 75,218 states, that the plaintiff has invented an "oscillating vibrating machine for medical purposes." It refers to three figures of drawings—Fig. 1, a front view; Fig. 2, a top view; and Fig. 3, an end view.

It says: "This invention relates to the application of oscillatory or vibrating motion to various parts of the human body, under the direction of a competent physician, to aid in the recovery of health, by inducing the following effects—to increase the production of heat in such parts as are subjected to the action; to cause blood to flow in larger amount into such parts; to attract blood from other portions, where it may be retained in too large measure; to excite capillary activity; to counteract the tendency to local congestion; to restore nervous action and power; to perfect and equalize the nutritive operation of the body; and to render healthful the tissues of the body. My invention consists of, first, a handle, of convenient shape and size to be grasped by the hand, to which an

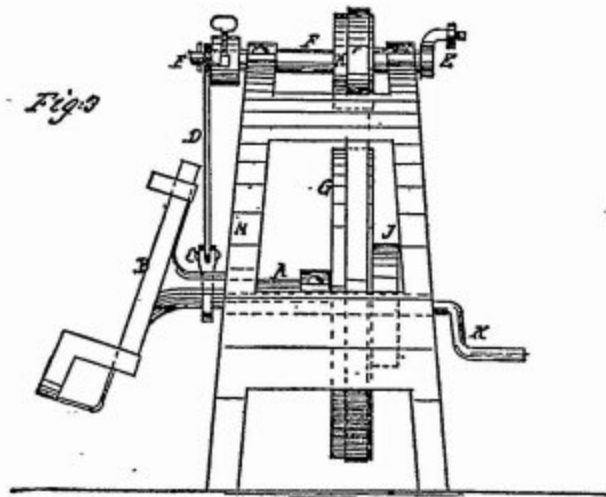
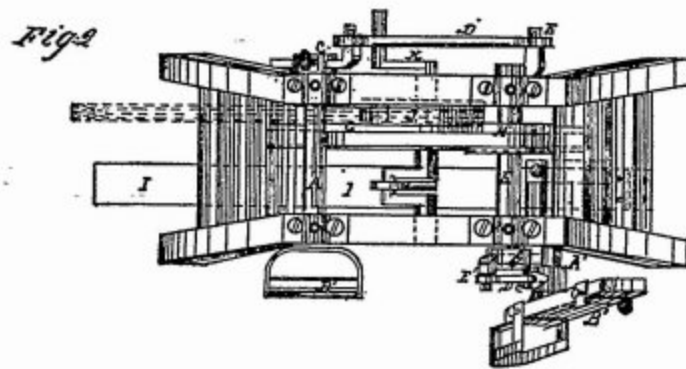
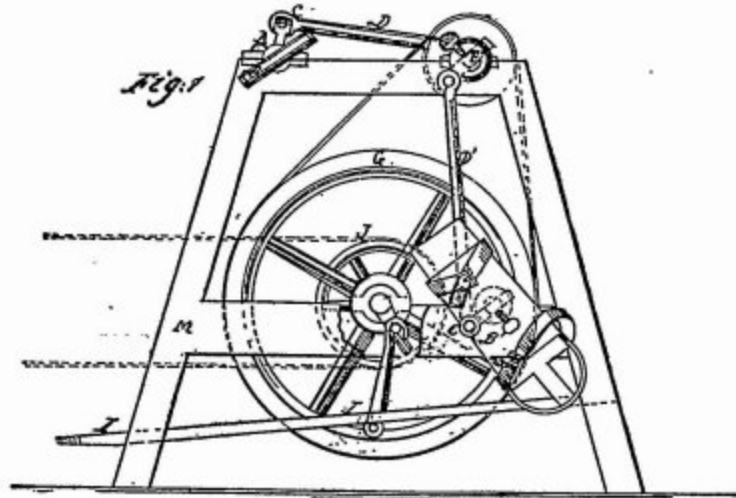
oscillating or vibrating motion is communicated by any suitable mechanism; second, a shoe or foot holder, of convenient size and shape, and adjusted in a suitable position to receive and retain the foot of the person to be operated upon, the said foot-holder having an oscillating or vibrating motion communicated to it by proper mechanism; * * * fifth, the combination and arrangement of the several parts or devices forming the machine, hereinafter fully described, for producing the effects stated." The handle B is hung on a shaft, and vibrates or rocks with it, and to such shaft is hung a crank, to which is connected, by a rod, a shorter crank, on the driving shaft, F. When the shaft F revolves, the shorter crank revolves with it, and gives a reciprocating or rocking motion to the shaft on which the handle B is hung, and to such handle. The foot-holder, B', is hung on another shaft, which is, in like manner, driven by two cranks and a rod, which obtain their motion from the driving shaft, F. The working parts are hung or attached to a frame. There is a pulley, H, on the driving shaft, F, and a driving pulley, G. The machine may be driven by the hand, through a crank, or by the foot, through a treadle, or by power. The extent of the vibrating motion given to the hand or foot may be increased or diminished by shortening or lengthening the cranks by which the handle or foot-holder is driven; and, by running the machine faster or slower, the rapidity of the vibrations may be increased or diminished, to suit different cases. The first, second and fifth claims of this patent are those which are claimed to be infringed, and are as follows: "(1) The handle, B, driven by any suitable mechanism, by which a vibratory or oscillating motion is imparted to it, substantially as and for the purpose set forth; (2) the shoe or foot-holder, B', driven by any suitable mechanism, by which a vibratory or oscillating motion is imparted to it, substantially as and for the purpose set forth; * * * (5) the combination, with the handle B

and foot holder, B', and their immediate connections, of the driving shaft, F, pulleys, G and H, and a suitable means for applying power, as described, the whole constituting a machine constructed and operating substantially as, and to the effect, set forth."

The specification of No. 77,933 says: "The object of my invention is to produce effects on different parts of the human body similar to those produced by a rubbing with the hands, and to produce these effects in an increased degree, but without the fatigue to the operator occasioned by that operation. For this purpose, my invention consists, first, in a new and improved rubber, hereinafter fully described, which, when operated by any suitable mechanism, rubs the surface to which it is applied in such a manner as to produce effects similar to those produced by the human hand; * * * fourth, in the combination, with the said rubber, and the mechanical devices for imparting motion thereto, of a suitable couch, bed, or table, on which the person to be operated upon may sit or recline, the said couch, bed, or table having a suitable opening in it, through which the said rubber may be made to protrude, in order that it may be brought in

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{Drawings of patent No. 75,218, granted March 3, 1868, to G. H. Taylor; published from the records of the United States patent office.}

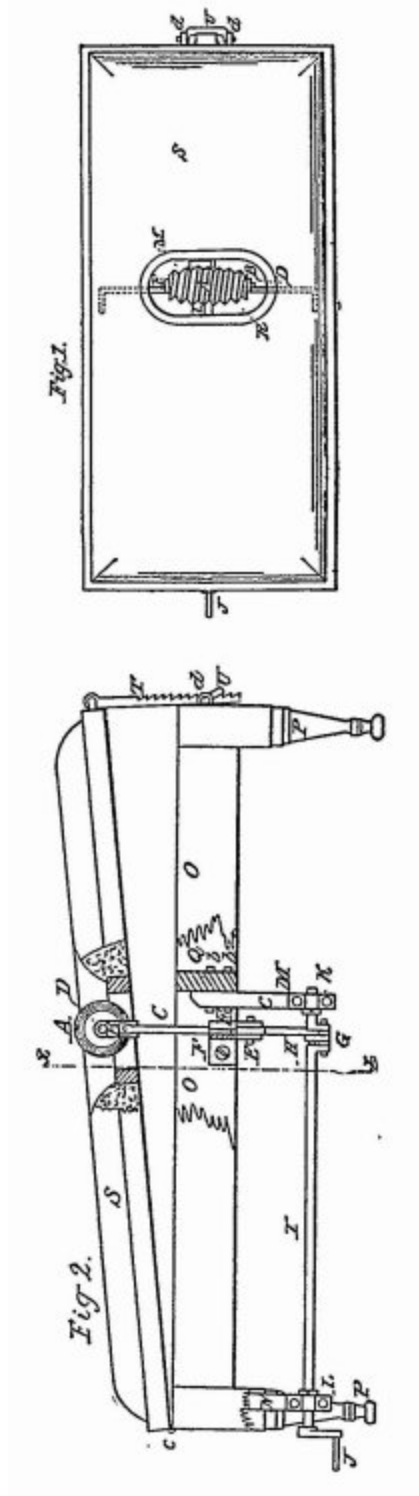


810 contact with, and caused to operate on, that portion of the body of the patient which rests on or across said opening. * * * A is the rubber. It consists of a core of wood, or other similar material, of the

form of the middle frustum of a prolate spheroid, somewhat resembling a very long cask or barrel. On this core, a triangular band of india rubber is wound spirally from end to end, covering its entire surface, except the ends, and securely fastened to the said core. A strip or band of india rubber, of a square section, may be used, by previously cutting out of the wooden core a triangular spiral groove, to receive one-half of it. India rubber bands of other shapes may also be used in a similar manner, or the india rubber surface, containing the requisite corrugations or projecting points, cones or ridges, to make it adhere to the surface to be operated upon, may be prepared in a sheet of proper size, and fastened on the core, or a hollow cylinder of india rubber, having the requisite outer surface, may be stretched over or secured to the core, or upon the rod or pivot on which the rubber turns. In this last case, no core would be used, but circular end plates, of metal or other stout material, ought to be put on at the ends of the rubber, to keep it in place." The rubber is hung in the fork of a rod, by means of a shaft, so as to turn freely. Such rod is hung on a pivot in a cross piece, at any convenient height, being capable of being raised or lowered by means of a series of holes, in any one of which such pivot may be placed. By shortening the upper end of such rod, the lateral motion of the rubber is shortened, and the convexity of its motion is increased. The middle part of such cross piece is made double, and such rod passes down between the two parts, such pivot passing through both, so as to have a firm and even bearing. The lower end of such rod is connected to a double crank, by means of an arm, and thus has a reciprocating or vibrating motion imparted to it by a shaft on which such double crank is hung. Such shaft is turned by a crank, and is hung in

bearings in two hangers secured to the frame of the machine.

{Drawings of patent No. 77,933, granted May 12, 1868, to G. H. Taylor; published from the records of the United States patent office.}



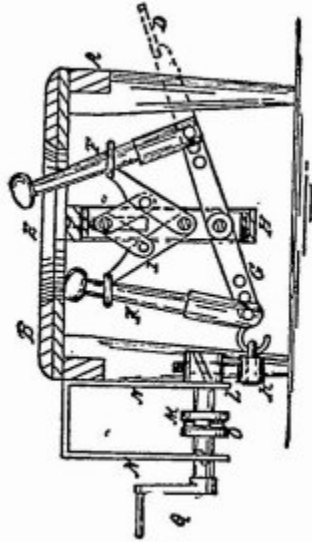
The lower part of the machine consists of a strong, rectangular frame of wood, O, with legs similar to a common lounge frame. To this frame, at one end, is secured, by hinges, a bed or couch, having a hole or

opening, R, through it, to permit the rubber, A, to work against that portion of the body of the patient which is placed over the opening. There is an arrangement for fixing and holding the couch at any desired elevation or inclination. In using the machine, the patient sits or reclines on the couch, and brings a portion of the body directly over, and partially resting on the rubber, A. The attendant turns the crank, or connects the power by which the shaft is revolved, and sets the rubber, A, in motion. The claims which are alleged to be infringed are the 811 first and fourth. They are as follows: "(1) The rubber, A, composed of india rubber, and having its outer surface coated or covered with india rubber, the said outer surface being furnished with projecting ribs, points or corrugations, and the said rubber, A, being constructed substantially as and for the purpose specified; * * * (4) the combination with the rubber, A, driven by suitable mechanism, substantially as set forth, of the couch, S, properly connected to the frame, O, and having an opening, R, through it, for the said rubber, A, to work through, substantially as and for the purpose set forth."

The specification of No. 75,217 says, that the invention is a "medical kneading and vibrating machine, the purpose of which is to apply kneading and vibrating motions to the body or any of its parts, under the direction of a competent physician, to aid In securing the following therapeutic effects—reinforcing the circulation of the blood in weak parts and obstructed capillaries, removing congestion, promoting intestinal and digestive absorption, increasing the attraction of the products of waste for oxygen, and their consequent removal from the body, solidifying the tissues, equalizing and invigorating the nutritive operations of the body." The arrangement described, so far as it is involved in this suit, is to construct a couch so arranged as to be capable of elevation and depression, so as thereby to adjust the position of the

body lying thereon to the desired action and effect of the machine. The top of the couch has an opening of size and shape suitable to admit one or more headed rods, F, which, in size, shape and position, are adapted to impinge against that portion of the body resting on the couch immediately over the before described opening.

{Drawing of patent No. 75,217, granted March 3, 1868, to G. H. Taylor; published from the records of the United States patent office.}



The lower ends of the headed rods are attached to a lever at equal distances from its fulcrum, which distances may be varied to produce more or less motion, as may be desired. The fulcrum of the lever is on a vertical bar, which turns freely on pivots or centres at each end, and the lever is driven by a crank on a shaft, which gives to its ends a circular motion. The upper ends of the headed rods pass through rings, which guide them, and, in conjunction with the lever, give to the upper ends of said rods a compound motion, which is, at the same time, lateral, vertical and circular. The distance of the rings from the axis of the swinging or pivoted bar is fixed and kept equal by a parallelogram of levers, to the outer corners of which, respectively, the rings are attached. The lower

corner of the parallelogram of levers is attached to the vertical bar before mentioned by a pivot or pin, on which the two levers composing the lower corner freely swing, while the upper corner is held in position, and adjusted to any desired height, by a bolt and nut. The shaft may be driven by any suitable means, as by a crank, by a belt acting on a pulley, or by a suitable treadle. By a modification, the lever to which the lower ends of the headed rods are attached is hung on a rock-shaft, which is driven by a crank or arm, and the upper ends of the rods pass through holes in the frame of the couch; and the motion thereby imparted to the upper ends of the headed rods is thus confined to one vertical plane, being a circular reciprocating motion. Such lever may be driven, if desired, by the hand or foot, applied to an extension of one of its arms. For the purpose of producing a kneading motion, the machine is driven at such a speed as will produce from 50 or less to 200 or 300 upward motions per minute, while, for producing a vibrating motion, consisting of, or caused by, a rapid succession of slight shocks or blows, the form of the machine which produces a circular reciprocating motion is used, and it is driven at a speed of from about 200 to 1,200 or more upward motions per minute. The effects of these two degrees of motion are different, becoming more similar as they approach the common speed of about 200 per minute. The slow or kneading motion is, in its effects, laxative, soothing and calculated to increase muscular action and development, while the rapid or vibrating motion stimulates absorption of the fluids, equalizes their distribution throughout the body, and promotes the excretion of all those products which, in health, are thrown off from the system. When it is desired to give to the machine the rapid motion above stated, it is most convenient to drive it by steam or other power, or, if driven by hand, additional gearing facilities obtaining the desired speed. Only the first

claim of this patent is alleged to be infringed. It is in these words: “(1) The headed rods F, driven by any suitable mechanism for producing a reciprocating or circular motion 812 of the headed ends of said rods, substantially as and for the purpose set forth.”

The apparatus employed by the defendant, and alleged to infringe the claims above referred to, is substantially such an one as is described in a patent granted to him December 7, 1869, for an “improved apparatus for treating diseases by mechanical movement.” The specification of this patent says: “The object of my invention is to devise a machine in which mechanical action is adapted to produce motion of various kinds, in a manner applicable to the treatment of various diseases with salutary effect; and it consists essentially in the employment of certain mechanism, whereby circular or rotary motion, properly converted and applied, is made to perform the several operations of rubbing, kneading and giving vibratory and other action to the muscles and various parts of the system.” The defendant’s machine has a vibratory bar, lying horizontally, which has a rotary motion at the end actuated, and the opposite extremity of it is connected with a vertical vibratory support, and it produces the operations of kneading and vibrating, through the medium of fixed or removable attachments. It is capable of imparting vertical, horizontal or circular vibrations. Tables or platforms are placed on either side of such bar, on which the patient is supported, with the part to be operated upon lying upon and across the bar, the upper surface of which is provided with a friction or rubbing device, or with cushions adapted to the particular mode of operation required. In the application of kneading, an attachment which has undulations on its upper surface is applied to the top of the vibrating bar, and the opposite end of the bar is so connected, by a bolt, with a disk which rotates freely, that a circular vibration of such

attachment is produced, and, as the patient lies on the tables in such position that the part to be operated upon is in contact with such attachment, the operation of kneading is closely simulated, the effect being heightened by the undulations on the surface of the attachment. The motion thus obtained is an elliptical vibration and not a regular vibration on the same plane. Special arrangements convert the motion of the vibrating bar from a circular vibration to one which is vertical or to one which is horizontal. The latter consists of rapid vibrations on a horizontal plane, and is adapted to friction or simple rubbing, and the attachment then employed consists of a series of transverse ribs alternated with grooves or spaces between. Provision is made for increasing or diminishing the rapidity of the vibrations. The specification states, that "the attachments for friction, kneading, &c., are preferably covered on the surface with leather, and may be stuffed with any suitable material, possessing but a slight amount, if any, of elasticity." To give motion to the feet of the patient, a disk is employed, to the face of which is affixed, by means of a bolt or pivot at the centre or its length, a bar, having at each side of said pivot, which forms its axis, a foot piece. To these foot-pieces the feet of the patient are secured. The rotation of the disk imparts like motion to the axis, which carries the centre of the bar around in a true circle, while the extremities on which the feet rest are free to follow the uniform rotation, or to oscillate. For motion to the hands and arms, a bar is affixed in the same manner to another disk. This bar is grasped by the hands of the patient on either side of its axis, the motion being the same as that of the feet. The axes of these bars and of the vibrating bar may be adjusted at a greater or a less distance from the centre of the disk, to increase or diminish the motion.

“Oscillate” is defined, “to vibrate as a pendulum; to move backward and forward; to swing.” “Oscillatory” is defined, “moving alternately one way and another, as a pendulum; swinging; vibrating.” “Vibrate” is defined, “to move or play to and fro, as a pendulum; to oscillate; to swing.” “Vibratory” is defined, “vibrating; moving up and down, or to and fro; oscillating.” It is contended, by the defendant, that his apparatus does not infringe patent No. 75,218, for the reason that the plaintiff’s handle and foot-holder are required to have a vibratory or oscillating motion, as contradistinguished from a rotary motion, while the defendant’s handle and foot-holder have a rotary motion. In seeking to maintain this distinction, it is urged, that the defendant’s handle and foot-holder, because they move each in a circle, have a continuous motion in one direction. This is a fallacy. The matter must be looked at in view of the action on the arms and legs of the patient. In each machine, the hand or the foot is moved from a given position with relation to the parts of the body with which, through the joints, it is connected, and returns again to that position, to start anew. The motion to and fro is equally oscillating or vibrating, in view of the action on the limb, whether such motion takes place in both directions in the same line, or whether an ellipse or a circle be described in passing away and returning. The muscles and joints may be brought into different play by the difference of motion, but that is aside from the mechanical operation of giving play to the muscles and joints and particles of the legs and arms by the movement to and fro, in passing rapidly from a given position and returning to the same position. In the sense of the plaintiff’s patent and invention, the defendant’s handle and foot-holder have a vibratory motion to and fro, although the return is made in a different path from the outward path. But, in each machine, there is the same point of departure; an extreme

point is reached by an outward movement; there is a return, by an inward movement, to the 813 point of departure; between every two arrivals at the point of departure, the path of the outward movement is gone over once and but once, and the path of the inward movement is gone over once and but once; and there is no departure from the prescribed path. There is, therefore, mechanical uniformity and precision; the movements are two in number, outward to an extreme point and inward from it, and are alternating, vibrating and oscillating, although the plaintiff uses one and the same path for each movement, and the defendant uses two different paths, one for each movement.

It is contended, for the defendant, that he does not infringe patent No. 77,933. He uses a rubber with a surface of cloth or leather, stuffed with some material, and very slightly elastic, and corrugated. It projects, and is applied, through an opening between two couches, the patient reclining on the two couches and across the opening, and it is driven by suitable mechanism. All these features are those of the patent. But, it is contended that the plaintiff's rubber is required to be made of india rubber on its external surface. It is said, that the india rubber surface is adhesive, and the leather or cloth surface is not, and that the corrugated india rubber surface yields horizontally in rubbing, while there is no such horizontal yielding in the corrugated leather or cloth surface. But, there is more or less adhesion in either surface. Where the adhesion is less, so that the rubber passes more readily over the surface that is being rubbed, the greater must be the corrugations, to produce a given effect. The object stated in the patent is to produce, by rubbing, effects on the body similar to those produced by a rubbing with the human hand. The hand, when applied to rub, controlled by the will, is adhesive and needs not to be corrugated, because its contact and pressure, as it rubs, can be

always maintained, to make the rubbing continuous and effective. Where a very adhesive substance, like india rubber, is used as the surface to rub with, impelled by machinery, the corrugations necessary to maintain continuous contact in rubbing are less than when a less adhesive surface is used; and, when a less adhesive surface is used, the corrugations must be greater, in order to compensate for the want of surface adhesiveness, by causing the surface of flesh to enter between the walls of the corrugations, and thus be rubbed in the movement of the rubber. The patent states that the object of the corrugations or ridges is to make the surface of the rubber adhere to the surface to be operated upon.

The invention set forth in the patent granted to Charles F. Taylor, December 8, 1863 for an "improvement in machines for exercising the human body," is adduced as anticipating what is claimed in patent No. 77,933. But, it is sufficient to say, that the Charles F. Taylor implements are not corrugated, and do not work from below through an opening in a couch or between couches, as the patient reclines thereon and over such opening. The patient lies on a lounge, and two pads are applied to opposite sides of the person, which pads are hinged to arms capable of being adjusted higher or lower, or more or less obliquely, or in a vertical position. The pads have a reciprocating or vibratory movement imparted to them by machinery, and act upon the parts of the body to which they are applied. The pads are not represented as being at any time out of contact with the body of the patient, and the operation is strictly one of rubbing.

The defendant uses substantially the headed rod of patent No. 75,217, driven by suitable mechanism for producing a circular motion of the headed end of the rod. The heads of the plaintiff's rods are described as being, in size, shape and position, adapted to impinge against the portion of the body presented to it. In

the kneading motion, the rod is driven more slowly, and its upper end has a compound motion, which is described as being lateral, vertical and circular at the same time, and which produces, through the motion of the end of the rod, an operation like that of kneading. The defendant performs the operation of kneading, by giving a circular vibration to his kneading attachment, which has on it protuberances, the equivalents of the heads of the plaintiff's rods.

As to Williamson's evidence in regard to the horse machine, it shows nothing which can avail to defeat any of the plaintiff's claims. The motion of the horse machine was so slow as not to produce any motion which can be properly called vibratory or oscillating, in the sense of the plaintiff's patents—a motion sufficiently rapid to accomplish the results accomplished by the plaintiff. Whatever there was of the horse machine, it rose only to the dignity of an experiment and was abandoned. But one was built, and that more than 35 years ago, and the recollection of the mechanism which constituted it has passed away from the mind of the witness, if he ever knew what it was, so that it cannot, from such recollection, be reconstructed, and there is no other record of it.

The defendant claims to have himself constructed and used, prior to the plaintiff, the inventions covered by the plaintiff's claims. As to patent No. 75,218, the evidence is entirely clear, that the plaintiff was prior in time. As to the other two patents, the burden of proof is on the defendant, to show his priority. His evidence is too vague and unsatisfactory to establish affirmatively, as against the plaintiff's patents, that the plaintiff was later in time [ILLEGIBLE] invention.

814 There must be a decree for the plaintiff on all the claims in question.

² [This cause having come on to be heard at this term, upon the pleadings and proofs, after hearing

counsel for the respective parties, and due proceedings had, it is, upon consideration, ordered, adjudged, and decreed: That the several letters patent granted to the complainant for apparatus for exercise, dated March 3, 1868, No. 75,217, March 3, 1868, No. 75,218, and May 12, 1868, No. 77,933, are good and valid in law. That the said George H. Taylor was the first and original inventor and discoverer of the inventions described and claimed in said letters patent, and in the specifications annexed thereto, and is the exclusive owner of said letters patent. That the defendant Allen L. Wood has infringed upon said letters patent, and upon the exclusive rights of the complainant under the same; that is to say, by making, using, and selling, without right or license from the complainant, certain machines, substantially described in letters patent granted to him, dated December 7, 1869, and machines similar thereto in certain particulars, which said machines contain and embody the inventions described and claimed in the first, second, and fifth claims of said letters patent No. 75,218, and in the first and fourth claims of said letters patent No. 75,217, and in the first claim of the said letters patent No. 77,933. And it is further ordered, adjudged, and decreed that the complainant do recover of the defendant the profits, gains, and advantages which the said defendant has received or made by reason of the infringement of the complainant's patents, set forth in the bill, or either of them, by any manufacture, use, or sale, and that said complainant do also recover any and all damages he has sustained by reason of any infringement of said letters patent by the defendant. And it is hereby referred to Joseph Gutman, Jr., one of the masters of this court, to take and state the account of said gains, profits, and advantages, and to assess such damages, and to report thereon with all convenient speed; and the defendant is hereby directed and required to attend before said master from time to time as

required, and to produce before him such books, papers, and documents as relate to the matters in issue, and submit to such oral examination as the master may require. And it is further ordered, adjudged, and decreed that a perpetual injunction issue out of and under the seal of this court, restraining the defendant, his clerks, agents, and workmen from making, using, or selling any machine or machines containing or embodying any one or more of the following features described and claimed in said letters patent, viz.: The handle B, driven by any suitable mechanism by which a vibratory or oscillating motion is imparted to it, substantially as and for the purposes set forth. The shoe or foot-holder, driven by any suitable mechanism by which a vibratory or oscillating motion is imparted to it, substantially as and for the purposes set forth. The combination of the handle and foot-holder and their immediate connections, of the driving-shaft, pulleys, and a suitable means for applying power, as described, the whole constituting a machine constructed and operated substantially as, and to the effect, set forth. The rubber, composed of india rubber, and having its outer surface coated or covered with india rubber, the said outer surface being furnished with projecting ribs, points, or corrugations, and the said rubber being constructed substantially as and for the purposes specified. The combination, with the rubber driven by suitable mechanism, substantially as set forth, of the couch properly connected with the frame, and having one opening through it for the said rubber to work through, substantially as and for the purpose set forth. The headed rods, driven by any suitable mechanism for producing a reciprocating or circular motion of the headed ends of said rods, substantially as and for the purpose set forth. Or from infringing upon any of the claims of said letters patent, or either of them, in any way whatsoever. And it is further ordered, adjudged, and decreed that the

complainant do recover of the defendant the costs of this suit, and that the question of increase of damages, and all further questions, be reserved until the coming in of the master's report.]³

¹ [Reported by Hon. Samuel Blatchford, District Judge, reprinted in 1 Ban. & A. 270, and here republished by permission.]

² [From 8 O. G. 90.]

³ [From 8 O. G. 90.]

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