D. WARK'S PATENTED AUG 1 1871

"Movement Cure Apparatus"

117580

Fig. I.

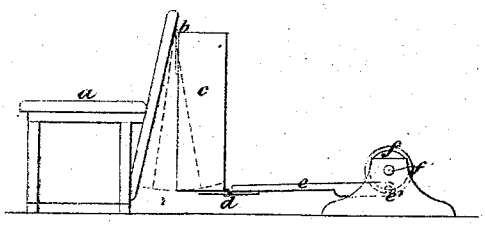


Fig. II.

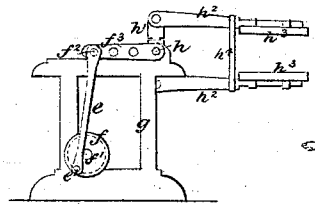


Fig. III.

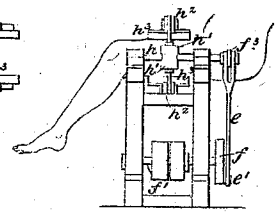


Fig. IV.

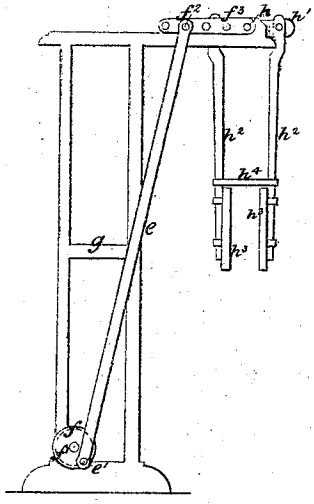


Fig. V.

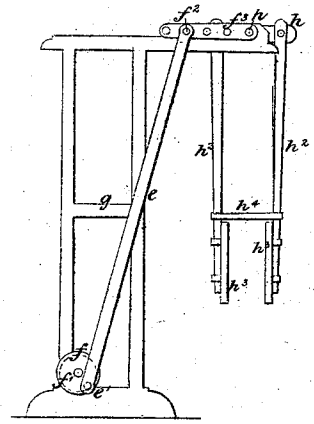


Fig. VI.

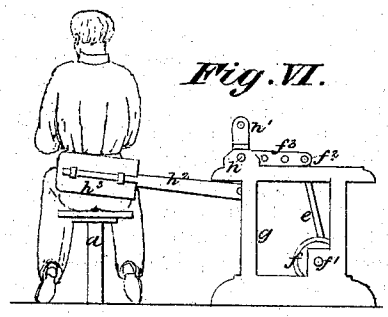


Fig. VII.

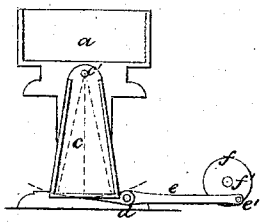


Fig. VIII.

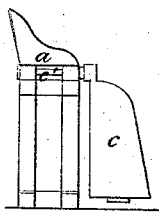


Fig. IX.

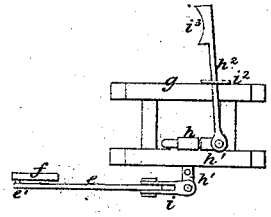
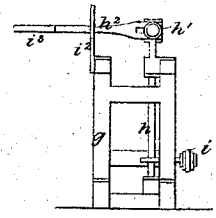


Fig. X.



WITNESSES

Charles Legge

Charles G. L. Simpson

INVENTOR

David Wark

UNITED STATES PATENT OFFICE.

DAVID WARK, OF MONTREAL, CANADA.

IMPROVEMENT IN MOVEMENT-CURE APPARATUS.

Specification forming part of Letters Patent No. 117,580, dated August 1, 1871.

To all whom it may concern:

Be it known that I, DAVID WARK, of the city of Montreal, in the district of Montreal, in the Province of Quebec, Canada, doctor of medicine, have invented new and useful Improvements in the Apparatus used in the Movement-Cure Treatment of Diseases; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, where—

Figure I represents an elevation of the apparatus as applied for moving the arm. Fig. II represents a side elevation of the apparatus as applied for rubbing the leg with horizontal action. Fig. III represents a back elevation of Fig. II. Fig. IV represents an elevation of the apparatus for rubbing the arm. Fig. V represents an elevation of an apparatus for rubbing the leg with vertical action. Fig. VI represents an elevation of an apparatus for rubbing the back. Fig. VII represents a front elevation of an apparatus for moving the leg. Fig. VIII represents a side elevation of Fig. VII. Fig. IX represents a plan of apparatus for moving and rubbing the body. Fig. X represents an elevation of Fig. IX.

This invention has reference to improvements on apparatus used in the movement-cure treatment of diseases of the human body. It is applied principally in two ways, viz., by friction on the surface of the skin, and by motion given to the limbs and body. The principle of the machines or apparatus used is the same in these two branches of action, only modified to act on the various parts of the body according to its configuration. Thus the apparatus shown in Figs. I, VII, and VIII are for movement purposes, while the remainder of the figures of the drawing show various modifications of an apparatus for frictional purposes, with the exception of Figs. IX and X, which show an apparatus for friction and movement combined.

In the drawing hereunto annexed similar letters of reference indicate like parts.

Referring to Fig. I, *a* is a seat for the patient to sit upon. To the back of this is attached, by a hinge, *b*, a case or receptacle, *c*, to receive the arm of the patient. The lower end of this receptacle *c* is attached by another hinge, *d*, to one end of a connecting-rod, *e*, the other end being fastened by a crank-pin, e', to a revolving disk, *f*, on the end of a shaft, f^1, to which motion is imparted in any ordinary manner. The patient being seated in the chair *a* places his arm in the case *c*, to which a vibratory motion is imparted by the connecting-rod *e* and disk *f*, at any rate of speed and for any time required. In Figs. II and III, *g* is a frame, of any suitable construction, provided with disk *f* and shaft f^1, and connecting-rod *e* fastened to disk *f* by crank-pin e', the other end of the connecting-rod *e* being, in this case, attached by a pin, f^2, to a lever, f^3, provided with holes to increase or decrease the action. This lever f^3 is attached to a rock-shaft, *h*, giving motion to two arms, h^1 h^1, at the ends of which are two extensions, h^2, moving back and forth in a horizontal direction. The upper and under sides of these extensions are, respectively, provided at their detached ends with rubbers h^3, for the purpose of acting by friction on the part. The leg of the patient being placed between the rubbers h^3 is held there at the required degree of pressure by an elastic band, h^4, and friction applied to the limb by the horizontal motion back and forth of the extensions h^2, acted on by the arms h^1 and rock-shaft *h*. Figs. IV and V show two modifications of the machine, the component parts, however, being the same as in Figs. II and III, wherein *g* is the frame; f^1, shaft; *f*, disk, giving motion to connecting-rod *e*, fastened to it by crank-pin e', and attached at the other end by pin f^2 to lever f^3 connected with rock-shaft *h*, which gives motion by arms h^1 to extensions h^2, furnished at the ends with rubbers h^3, as in Figs. II and III. Fig. IV shows the machine as adapted for rubbing the arm of the patient, and Fig. V the modification for operating on the leg, the limb being in each case held in between the rubbers h^3 by the elastic band h^4, and subjected to friction in a vertical direction by the extensions h^2. Fig. VI shows the modification of the apparatus for applying friction by a single extension and rubber to any part of the body, but preferably to the back or loins. The parts of this figure are the same as in Figs. II, III, IV, and V, *g* being the frame, *e* the connecting-rod, fastened at one end by crank-pin e' to disk *f* and moved by shaft f^1, and at the other by pin f^2 to lever f^3 attached to rock-shaft *h*, moving, by arms h^1, the extension h^2 provided with rubber h^3. The patient being placed in any convenient seat, *a*, the

extension may either be pressed by the hand of the operator against the part to which friction is to be applied, or kept in place by a spring of any suitable device. In the above description of the various apparatus, modifications of apparatus for frictional purposes, the rubbers h^3 are so attached to the extensions h^2 that they may turn round freely on the same, thus adjusting themselves to any shape of the portion of the human body inserted between them. Figs. VII and VIII show the modification of the apparatus used for applying the movement-cure to the leg of the patient, *a* being the seat, suitably arranged, but the case or receptacle *c* is, in this case, open in the front and hung to seat *a* by a pin, c'. This case *c* is connected with the disk *f* by the connecting-rod *e* attached thereto by a crank-pin, e', and to the case *c* by the hinge *d*. The patient being seated in the chair *a*, and having placed his leg in the case *c*, a vibratory motion is imparted thereto by the action of the revolving disk *f*. Figs. IX and X show a modification of the apparatus for the application of friction combined with movement of the body. It is for the main part similar to that shown in Figs. II, III, IV, V, and VI, *g* being the frame; *e*, connecting-rod, fastened as before by crank-pin e' to disk *f*, but connected at the other end with link *i*, which moves the arm h^1 of the rock-shaft *h*, in this case vertical. The other arm h^1 of the rock-shaft *h* is set at right angles to the lower arm h^1, to the other end of it being attached the extension h^2 moving in a guide, i^2, and furnished on the side with a concave projection, i^3, of a suitable shape to fit the body. The patient being placed in any convenient position, the concave projection i^3 is pressed firmly against the part of the body to be operated upon, and the extension h^2, being acted upon by the rock-shaft *h* with its arms h^1 connected with revolving disk by connecting-rod *e* and link *i*, is moved back and forth through the guide i^2, applying, at the same time, both friction and movement to the part affected.

Having thus described the construction and operation of my invention, to which I have given the name of "Wark's movement-cure apparatus," I beg to state that I disclaim all other apparatus now in use for analogous purposes.

What I claim as my invention, and wish secured by Letters Patent, is the new and useful improvements on the apparatus used in the movement-cure treatment of diseases, as follows:

1. The combination, in the movement apparatus, of seat *a* with arm or leg-receptacle *c*, pivoted at its upper end, to which motion is given by the disk *f* and hinged arm *e*, substantially in the manner and for the purpose described.

2. The combination, in the frictional movement-cure apparatus, of frame *g*, disk *f*, shaft f^1, connecting-rod *e*, crank-pin e', pin f^2, lever f^3, rock-shaft *h*, arms h^1, extension h^2, rubbers h^3, and elastic band h^4, as applied horizontally or vertically to the arm or leg.

Montreal, 10th day of December, A. D. 1870.

DAVID WARK.

Witnesses:

CHARLES LEGGE,

CHARLES G. C. SIMPSON.