E. A. TUTTLE.
Health-Lift.

No. 197,750. Patented Dec. 4, 1877.

Fig. 1

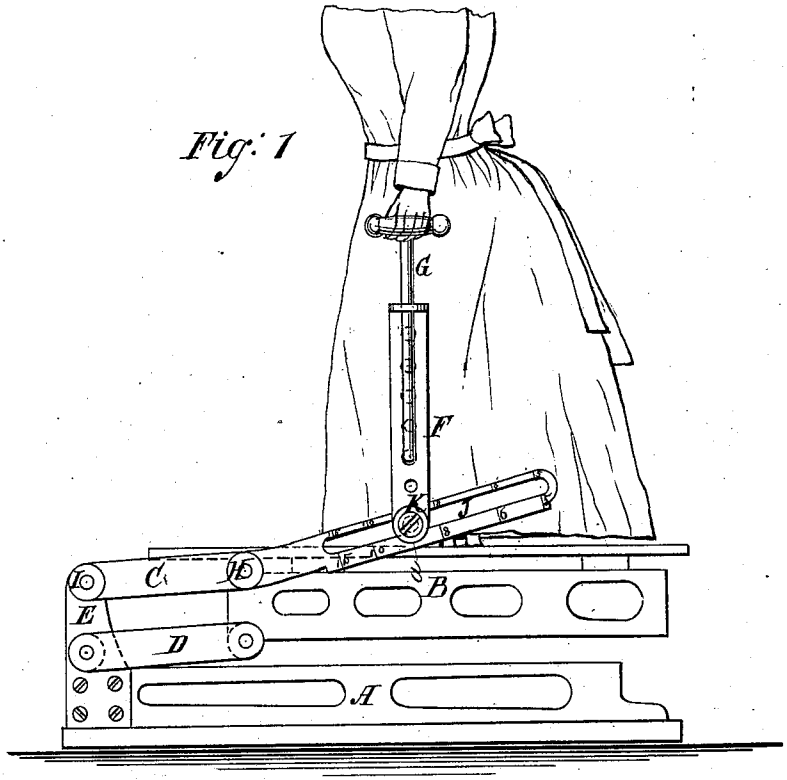
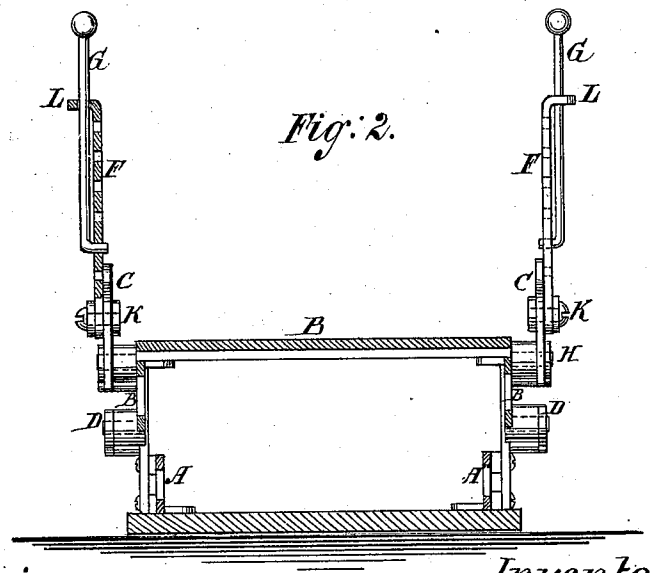


Fig. 2.



Witnesses:
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Inventor:
Edward A. Tuttle
By A. P. Thayer atty

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UNITED STATES PATENT OFFICE.

EDWARD A. TUTTLE, OF NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO SILAS TUTTLE, JR., OF BROOKLYN, N. Y.

IMPROVEMENT IN HEALTH-LIFTS.

Specification forming part of Letters Patent No. **197,750**, dated December 4, 1877; application filed March 21, 1877.

To all whom it may concern:

Be it known that I, EDWARD A. TUTTLE, of New York city, in the county and State of New York, have invented new and useful Improvements in Health-Lifts, of which the following is a specification:

This invention consists of a simple contrivance of a pair of jointed connecting links or bars in connection with the platform, the lifting-levers, and the bed-frame, whereby the rising and falling action of the platform is effected by a simpler and cheaper apparatus than the common lifting-machine, and the platform is always kept level.

The invention also comprises the most simple arrangements for adjusting the leverage and the height of the handles.

Figure 1 is a side elevation of my improved machine, and Fig. 2 is a transverse section.

A is the bed-plate; B, the platform; C, the lifting-levers; D, the coupling links or bars; E, the standards to which the platform is jointed, and F G the lifting-handles.

The platform is pivoted near one end to the levers C, at H, between the handles and the fulcrums I, and the coupling-bars are similarly pivoted to the platform and the standards, care being taken to arrange them parallel with the levers, by which the platform is kept level in its vertical movements, which is believed to be better than the tilting action common to lever lifting-machines now in use.

The levers are slotted at J, and the handles are connected to them by clamp-screws K, which allow them to be readily shifted along the levers, and set at any required point of distance from the fulcrums, as desired.

When the handles are set at the points *a*, which are the same distance from H as H is from the fulcrums I, the power required to effect the lift of the operator will be equal to his own weight, besides the weight of the platform. When shifted therefrom toward the fulcrums the power to effect the lift must be increased in the proportion of the distance between the handles and the joints H and I, and when shifted the other way the lift will be diminished in the same proportion, as the change of position of the operator on the platform does not vary the effect of the load thereon—that is to say, the platform lifts by the same power, whatever the position of the operator on it may be; only the leverage of the lifting devices varies with such changes. Hence, by the always level condition of the platform, and the adjustable lifting devices ranging along it, the graduating of the lift is very simple, and the action is the same, whatever the position of the operator on the platform. The power exerted may therefore always be easily ascertained by adding to or deducting from the known weight of the operator a fraction corresponding to the fractional difference of the leverage, which latter may be shown by the graduated scale, which will, by preference, be expressed on the levers in decimals, as shown.

The height of the handles is adjusted by shifting the hook-ended handle-rods G along the perforated bars F, which have guides Z, for keeping the rods in position.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The lifting-levers and the coupling-bars, connected directly to the platform, without other intermediate levers, and said levers arranged for shifting the purchase or leverage lengthwise thereon, substantially as described.

EDWARD A. TUTTLE.

Witnesses:
F. A. THAYER,
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