E. A. TUTTLE.

Extension Handle for Exercising Machine.

No. 232,218. Patented Sept. 14, 1880.

Fig. 1.

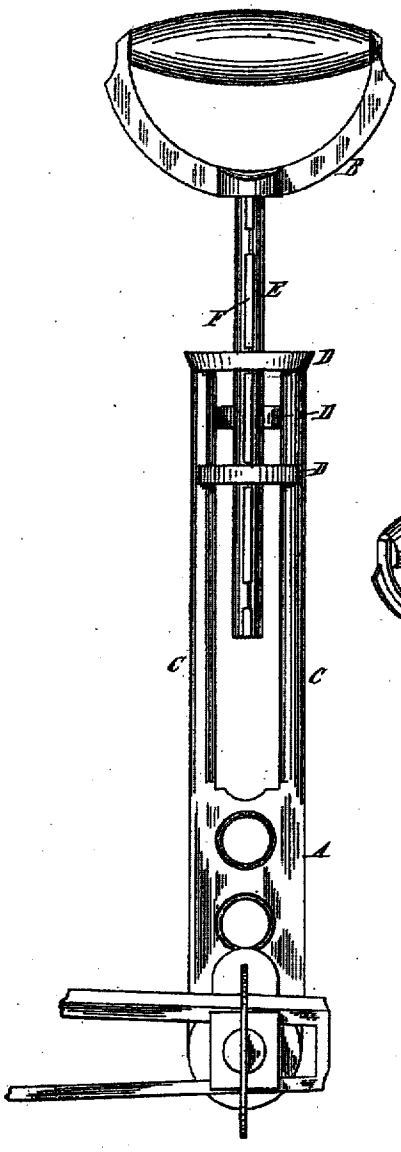


Fig. 3.

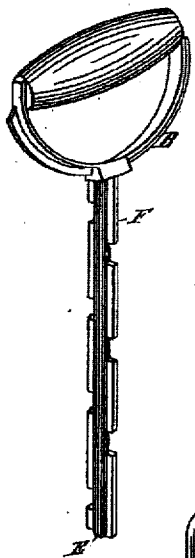
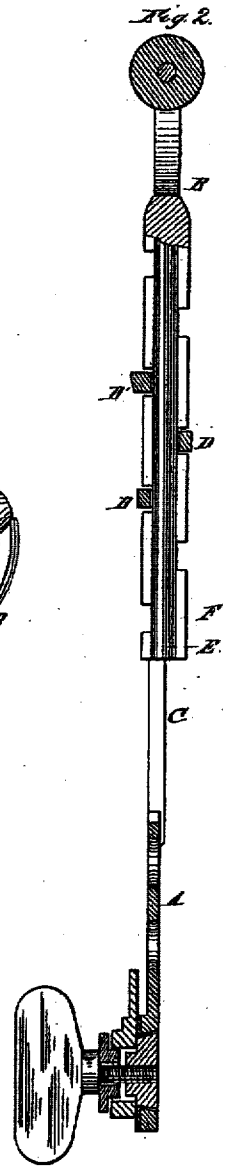


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD A. TUTTLE, OF NEW YORK, N. Y.

EXTENSION-HANDLE FOR EXERCISING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 232,218, dated September 14, 1880.

Application filed September 30, 1879.

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 a new and useful Improvement in Extension-Handles for Lifting and other Machines, (Case C,) of which the following is a specification.

This invention consists in an improvement in the lifting-handles of health-lifts and other machines requiring to be lengthened and shortened at will to suit the requirements of different persons, whereby they are made much simpler both in construction and operation, and also more certain and reliable than as heretofore made.

Figure 1 is a side elevation of my improved handle. Fig. 2 is a sectional elevation of it, and Fig. 3 is a perspective view of one of the parts.

The bar of the handle is constructed in two parts, A and B, one of which, preferably the lower one, A, consists of a kind of skeleton-tube with an elliptical-shaped bore, formed of upright bars C and cross-bars D, while the other is a rod, E, with notched wings or flanges F. In this case two of the cross-bars D are made to encircle the rod E on one side and one on the other; but there may be as many more of these bars as preferred, or instead of separate bars there may be continuous side plates to the upright bars C; but in that case the insides will have recesses corresponding to the spaces between the cross-bars. This skeleton-tube and the winged or flanged rod E are so shaped and proportioned relatively to each other that the latter will slide up and down freely in the former. When the flanges are set in the plane of the greatest diameter of the space or bore included within the bars it is too wide and cannot be turned into or set in the other or short diameter, except when the bar E is adjusted and the notches in the wings or flanges are set to coincide with the cross-bars D for that purpose, and thereby engaging with said bars to make the connection for lifting. Any number of these notches may be had in the bar E, according to the length of the extension required.

Stud-pins fitted in the sides of the bar E will serve the same purpose as the notched flanges; but I prefer the latter for being cheaper to make.

It will be noted that the arrangement of the notches and the cross-bars is such that the connections of the one with the other for lifting are established when the handles B are in the natural positions for the hands of the operator in the act of lifting, and that said handles must be turned at right angles to such positions for shifting; hence, although the disconnection is so easy to make—simply by turning the handles—yet there is little or no liability of it happening while lifting, as the operator has entire control of the handles at such time.

The most simple and preferable method of constructing this improved extension-handle is to make it in malleable cast-iron or other ductile metal; but it may be forged or otherwise made, if desired.

It will be noted that the cross-bars D of the opposite sides of the lengthwise bars C are arranged alternately to each other—that is to say, the bar of one side is midway between those of the other side, which arrangement has three important advantages as compared with that of placing them opposite to each other—viz., it does not require so many cross-bars, it enables the bar A to be molded without a core, and it permits the same alternation of the notches of the rod E, which makes it stronger than it would be if its notches were opposite, and enables a finer adjustment of the handle with the same number of cross-bars and notches.

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

1. The combination, in an extension-handle for lifting and other machines, of a skeleton tubular bar, A, and a rod, E, with notched ribs or flanges, substantially as described.

2. The cross-bars D, arranged alternately along the opposite sides of bars C, in combination with the similarly alternating notches of the rod E, substantially as described.

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Witnesses:
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