(No Model.)

G. OLIVER.

Apparatus for Use in Gymnastic and Other Performances.

No. 233,541. **Patented Oct. 19, 1880.**

Fig. 1.

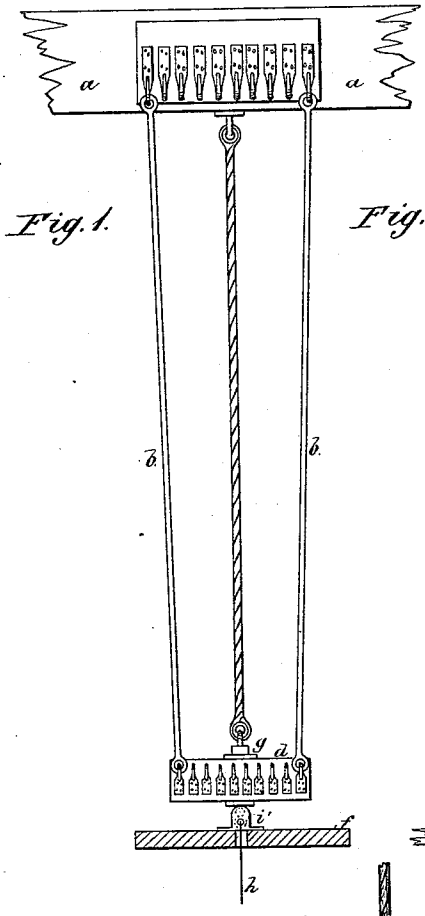


Fig. 2.

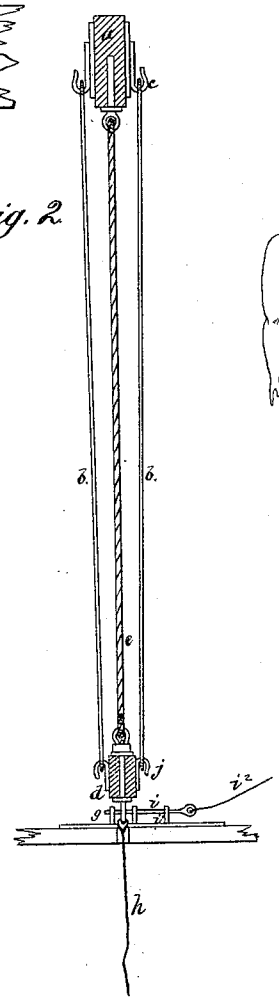


Fig. 3.

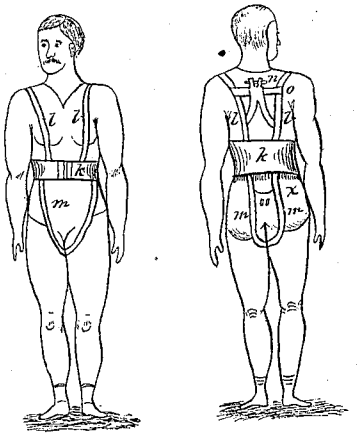


Fig. 4.

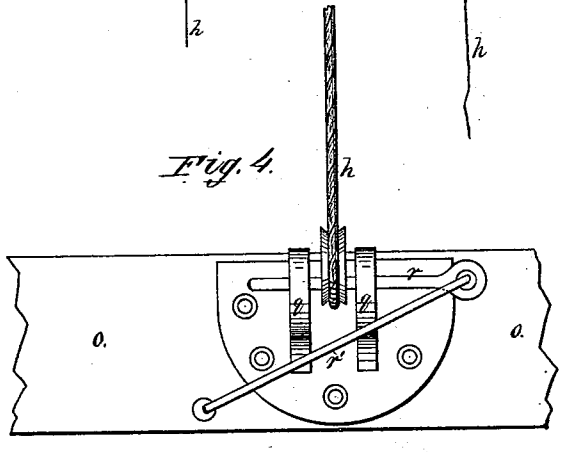
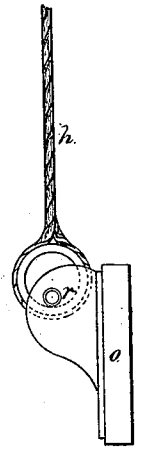


Fig. 5.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR USE IN GYMNASTIC AND OTHER PERFORMANCES.

SPECIFICATION forming part of Letters Patent No. 233,541, dated October 19, 1880.

Application filed June 19, 1880. (No model.) Patented in England May 6, 1871.

To all whom it may concern:

Be it known that I, GEORGE OLIVER, of the City Road, in the county of Middlesex, England, have invented a new and Improved Apparatus for use in Gymnastic and other Performances, (Case A;) and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to apparatus for enabling a performer to ascend to or descend from a considerable height from a stage or platform, either in a vertical or oblique direction, as may be required, or for personating a bird, for instance, or other character suspended in mid-air.

The apparatus, when arranged for raising the performer to a height from the stage, consists of a number of india-rubber springs permanently attached to a fixed beam in the roof of the stage, to which springs is also attached a fine wire rope stretched downward in a vertical or oblique direction, according to the direction in which the performer desires to ascend. The wire may be of sufficient strength and yet fine enough to be almost invisible to the spectators. To this wire, near the upper part, a cross-bar is fixed, to which the springs are distended and attached, the cross-bar being attached by a trigger-bolt to a fixed staging. The performer is attached to a ring at the lower part of the wire by means of a trigger hook or bolt connected to an arrangement of straps or harness worn by the performer. Upon the release of the trigger-bolt by which the springs are kept distended the performer is suddenly raised or caused to shoot up by the combined force or contraction of the springs to a support fixed or hung at a suitable height above the stage, according to the power of the springs, and having alighted thereon, he may be then detached from the wire.

Figure 1 is a side elevation, and Fig. 2 a central transverse section, of the apparatus employed for suddenly lifting a performer, as before mentioned, the apparatus being represented with the springs distended and ready for action.

a is a fixed beam or joist in the roof of the stage, to which the springs *b* are attached by means of hooks *c*, fixed to the beam *a*, or to a board or plate bolted thereto. The springs may be permanently hung from the hooks *c*, which should be sufficiently closed to prevent the springs falling off.

d is a block, suspended from beam *a* by a short length of rope, *e*, which allows the beam to hang just above a platform or staging, *f*, erected across the upper part of the stage at a distance of about eight feet below the beam *a*. *g* is a double-eyed bolt passing through block *d*, as shown, to the lower eye of which is attached a fine steel wire rope, *h*, which passes through a hole in platform *f* and reaches nearly down to the stage. *i* is a trigger-bolt passing through the other eye, as shown, by which the block *d* is held down when the springs are attached. This bolt works in guides or staples i', attached to platform *f*, and is pulled by a line, i^2. The spring-block being fastened down by the trigger-bolt, the springs *b* are drawn down and attached, one at a time, to the hooks *j* on block *d*.

In Fig. 1 only two of the springs *b* are shown, but they would be applied to all the hooks. The kind of spring I employ for this purpose is the india-rubber spring known in the trade as the "accumulator," said springs (of which I use eighteen or twenty in combination) being about two feet in length and three-fourths of an inch in diameter; but these dimensions may be varied, as well as the number of springs employed, according to the weight of the performer and the height it is desired to attain.

When the trigger *i* is pulled the springs *b* contract suddenly and raise the block *d*, as shown in dotted lines, and also the performer, who is attached to the end of wire *h*, as hereinafter described, the impetus thus acquired being sufficient to raise the performer to a considerable height. He may alight on a fixed bar or staging erected at a convenient height and distance in front of the vertical plane of the apparatus, and two wires may be stretched vertically between the stage and roof, so as to be within easy reach of the performer, to assist in supporting him, if necessary, in his elevated position. The springs disconnect themselves from hooks *j* and the block *d* falls as far as the rope *e* will allow, ready to be attached for again distending the springs as before.

Fig. 3 shows a front and back view of a hu-

man figure to which an arrangement of straps or harness is applied for the purpose of attachment to the wire *h*, this view being drawn to a smaller scale than Figs. 1 and 2. Figs. 4 and 5 are a front and side view, respectively, of the means of connection detached and drawn full size.

k is a broad leather waistband fitting tightly to the body, and *l l* are braces attached thereto and passing over the shoulders, as shown. *m m* are suitable straps, also attached to *k*, passing between the thighs, and suitably padded. The wire *h* is attached at *n*, Fig. 3, by means of a spring-bolt fitted in staples attached to a strong cross-strap, *o*, connecting shoulder-straps *l l*.

In Fig. 4, *r* is the pin, and *q q* are the staples, *r'* being a spring to keep the bolt in place. By this means the performer may readily disengage himself from wire *h* after his descent.

The harness may be otherwise disposed of, if found desirable.

Having thus described my invention, what I claim as new is—

1. The combination, with the platform *f*, suspended block *d*, and springs *b*, of the double eyebolt *g*, passing through said block, the wire *h*, the trigger-bolt *i*, staples *i'*, and line i^2, as and for the purpose specified.

2. An apparatus for use in gymnastic, theatrical, and such like performances, consisting of the combination of india-rubber springs, a connecting wire or rope to which the performer is attached, and a spring-connection for enabling the performer to be readily attached to and detach himself from the wire.

3. The combination of a harness adapted to fit the body of the performer, a catch for securing the same to the wire rope, the wire rope *h*, and a set of springs with a trigger or tripping device, as shown and described.

The above specification of my invention signed by me this 28th day of May, 1880.

GEORGE OLIVER.

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