

(No Model.)

2 Sheets—Sheet 1.

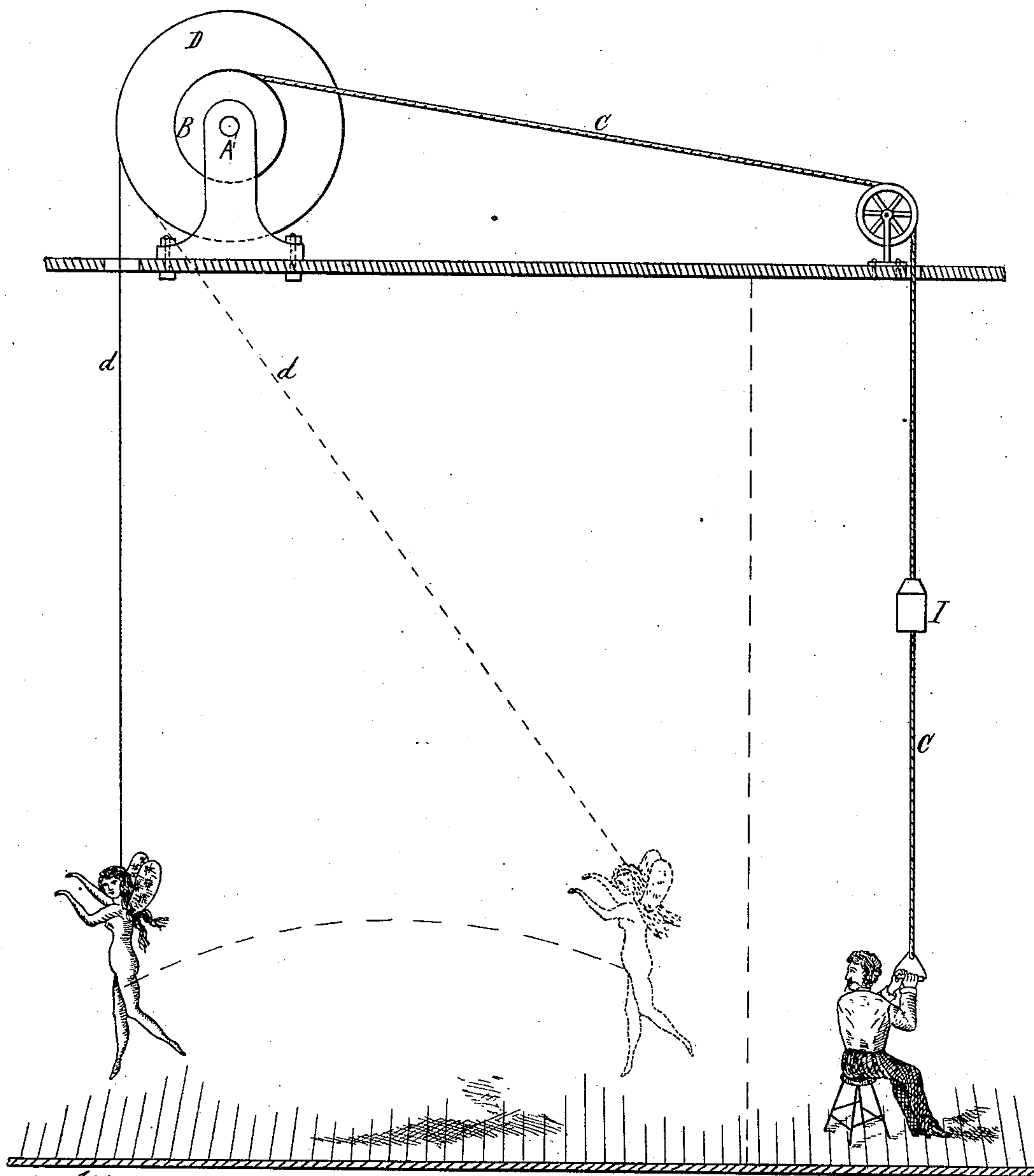
D. F. TURNER.

METHOD OF AND MEANS FOR PRODUCING GYMNASTIC THEATRICAL
PERFORMANCES.

No. 247,135.

Patented Sept. 13, 1881.

Fig. 1.



Attest:
John Buckles,
A. M. Pierce

D. F. Turner,
Inventor.
By Worth Osgood,
Attorney.

(No Model.)

2 Sheets—Sheet 2.

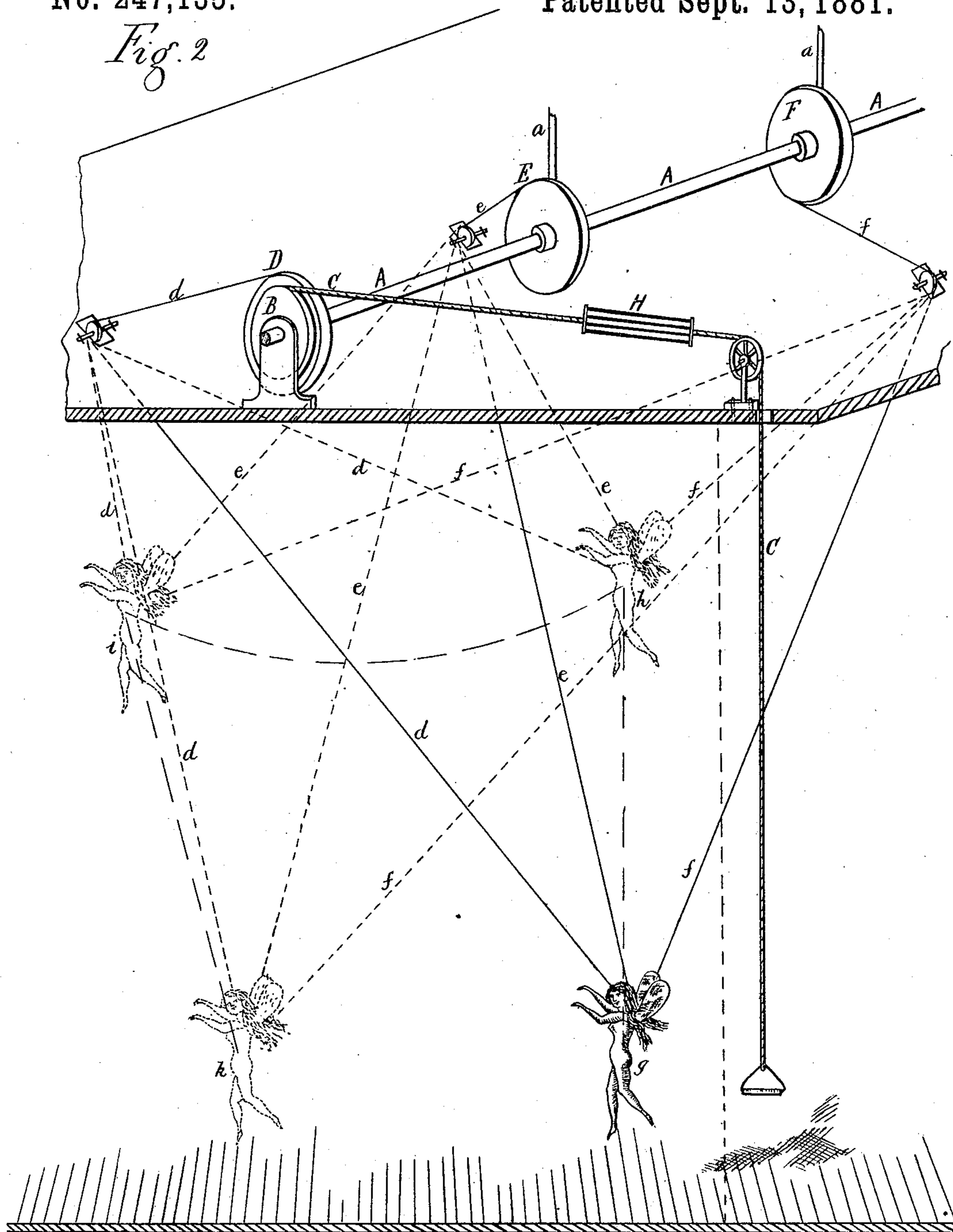
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Fig. 2



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UNITED STATES PATENT OFFICE.

DAWSON F. TURNER, OF NEW YORK, N. Y., ASSIGNOR TO EMILY TURNER,
OF SAME PLACE.

METHOD OF AND MEANS FOR PRODUCING GYMNASTIC THEATRICAL PERFORMANCES.

SPECIFICATION forming part of Letters Patent No. 247,135, dated September 13, 1881.

Application filed May 9, 1881. (No model.)

To all whom it may concern:

Be it known that I, DAWSON F. TURNER, a
a subject of Great Britain, at present residing
at New York city, in the county and State of
New York, in the United States of America,
have invented certain novel and useful Im-
provements in Methods of and Means for Pro-
ducing Gymnastic Theatrical Performances, of
which the following is a full, clear, and exact
description, reference being had to the accom-
panying drawings, and to the letters of refer-
ence marked thereon.

My invention or improvements have relation
to that class of devices or apparatus employed
in theaters or elsewhere for the purpose of ele-
vating one or more of the actors from off the
stage; and the purpose or object of my inven-
tion is to simplify and improve the apparatus,
whereby the actor or dancer may be quickly,
easily, and gracefully elevated at the proper
instant, lowered in a like manner, and swung or
diverted from over one point of the stage to
any other desired point, by reason of which a
veritable flying dance may be produced; and
to accomplish all of this the invention involves
certain novel and useful arrangements or com-
binations of parts and methods of producing
the desired movements, all of which will be
herein first fully described, and then pointed
out in the claims.

In the accompanying drawings, forming part
of this specification, Figure 1 is a vertical sec-
tion of a theater-stage, the mechanical means
employed for elevating the dancer being shown
in elevation. Fig. 2 is a similar view, in which
the location of the operating mechanism or
drums, shaft, and pulleys are indicated in per-
spective, various positions of the actor being
indicated by dotted lines.

In both these figures like letters of reference,
wherever they occur, indicate corresponding
parts.

Heretofore and before my invention certain
apparatus had been designed for elevating an
actor or dancer from off the stage. This appa-
ratus required that the actor proceed to a cer-
tain point in the scene, there to be elevated
and lowered, and this performance was always
the same, admitting of no variation from the
monotonous vertical flight, and difficult to time

correctly so that the elevation could be com-
menced at the proper instant.

By use of my improved method and means
the actor can be elevated from any point of the
stage at any instant of the play, and if desired
can be lowered to any other point of the stage
and generally assisted in the various parts or
figures of the dance by graceful and timely ele-
vations and movements in the air without ap-
pearing to be encumbered by any mechanical
appliance.

In the drawings, A is a shaft of any suitable
length, located above the stage or scene, and
of course out of sight of the audience. This
shaft is made to revolve rapidly and at the de-
sired times by any suitable drum, B, connected
therewith and operated—as, for instance,
through the medium of a cord, C, passing down
to a convenient station where the operator can
view the performance on the stage. The cord
C being wound around the drum B, it is plain
that when the cord is pulled the drum B and
its connected shaft A must turn with it. The
actor being elevated by the turning of this shaft,
when he descends his weight will cause the shaft
to turn in the opposite direction, winding up the
cord C on drum B, and thus preparing for an-
other elevation. The apparatus is thus con-
veniently arranged to be worked by hand-
power; but of course any other power may be
substituted, if desired.

Any number of elevating-drums, as D E F,
may be mounted upon the shaft A, and these
are provided with the usual or any approved
form of clutch by which they may be connected
with the shaft so as to be made to revolve
with it.

Clutch-levers are indicated at *a a*, by use of
which the drums may be coupled with the shaft
or uncoupled in a manner well understood by
mechanics. If the shaft be turning, it will be
only necessary to shift the clutch-lever of any
drum in order to make that drum turn with
the shaft.

Over the drums D E F are wound the very
fine wires *d e f*, which pass over suitable guid-
ing-pulleys at any required points over the
stage, and thence down so as to be attached
to the belt or corset of the dancer. The ele-
vating-wires are made very fine, so that when

the lights are dimmed they will not be visible to the audience. Steel wires are preferred, being best adapted for the purpose.

The dancer being connected with the apparatus by the invisible wires, and being at any point of the stage, by the turning of the drum most directly above him he will be elevated—as, for instance, from the position at *g* on the stage to *h*. Then by turning drum *D* he may be swung by wire *d* from *h* to *i*, and then lowered to a point, *k*, or otherwise deflected by suitable turnings of drums *E* and *F*, one or both. Instead of being elevated vertically, by properly regulating the movements of any one, two, or more of the drums, he may be made to take any upwardly-inclined direction or any intermediate course; and, following out these methods, it is clear that any desired direction (ascending or descending) may be given the performer, and various movements and combinations of movements beyond explanation may be produced, thus enabling one to execute figures of the dance as if entirely unaffected by gravity. The invention also contemplates that the apparatus may be so arranged as to enable the actor to execute a flight from the stage to some point over the auditorium and back again.

The simple vertical ascent heretofore proposed is hardly suggestive of a flying-dance, and the means of carrying it out are readily comprehended by the audience, thus depriving the spectacle of any interest. The variations which I am enabled to produce heighten the spectacular effect and make the dancer appear as if under some magical influence.

To make the ascensions easy and graceful, without sudden jerking, it is desirable to interpose a spring, as at *H*, in the operating-cord, by means of which a sudden jerking will be avoided and the cord maintained always ready to revolve the drums. Substantially the same effect may be produced by use of a weight at any convenient point of the cord, as shown at *I*. The wires attached to the dancer will operate to better advantage if kept taut at all times, so that the instant the drums are turned the actor will be compelled to move. This may be accomplished by the director who has charge of the drums, keeping them always turned so as to take up the slack in the wires as the actor moves about on the stage; or any convenient form of weight or spring may be applied to the drums or wires for automatically accomplishing the desired work.

The apparatus is simple and complete, easy to be worked or managed, and not liable to get out of order. The effects produced by its use are agreeable and sightly, and they contribute largely to the effects of the general scene, enabling me to produce the desired fly-

ing-dance in accordance with the before-stated object of my invention.

When the apparatus is to be operated by hand-power the drum *B* should be somewhat smaller in diameter (as shown) than the elevating-drums, so that as the operating-cord is pulled through a short distance the elevating-wires will move a greater distance. A more rapid elevation of the actor can thus be obtained. Other arrangements for the same purpose may be employed—as, for instance, by suitable gearing or a system of multiplying-pulleys.

When only a single elevating-wire is employed the dancer is simply elevated and swung after the manner of a pendulum—as, for instance, from the dotted position to the full-line position, Fig. 1.

Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus for producing a flying-dance, as herein set forth, the combination, with an elevating-drum carrying the elevating-wire, of a drum or pulley made smaller in diameter than the said elevating-drum, and connected therewith for the purpose of producing increased motion therein, substantially as shown and described.

2. The combination, with the revolving shaft, of the drum *B*, made smaller in diameter than the elevating-drums *D E F*, for the purpose of causing increased motion, substantially as explained.

3. The combination of shaft *A*, drum *B*, drums *D E F*, operating-cord *C*, weight *I*, or spring *H*, elevating-wires *d e f*, and the deflecting-pulleys arranged to produce a varied flight from one point to another, all substantially as shown and described.

4. The herein-described method of producing a flying-dance—that is to say, by elevating the dancer by one drum from over one point of the stage, transferring him while elevated by means of one or more other drums to another point over the stage, and lowering him, in the manner and for the purposes set forth.

5. The combination, with the elevating-drum, adapted to be actuated by hand or other power, of a fine wire coiled around said drum and attached to the actor or dancer, the arrangement being substantially as explained, so as to cause increased motion in the said drum, and so as to lift and lower the actor at the proper points of the play, for the purposes and objects named.

DAWSON FYERS TURNER.

Witnesses:

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R. J. KOEHLER.