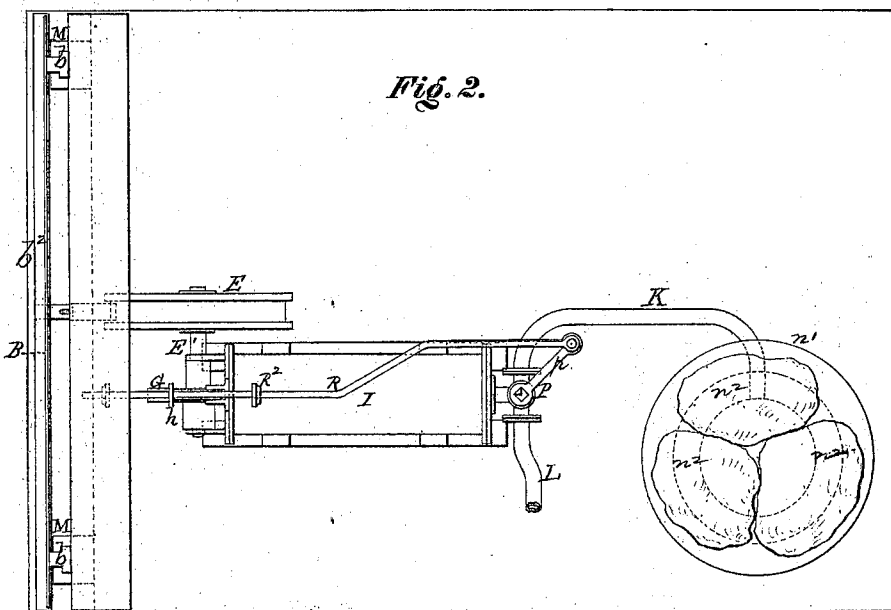
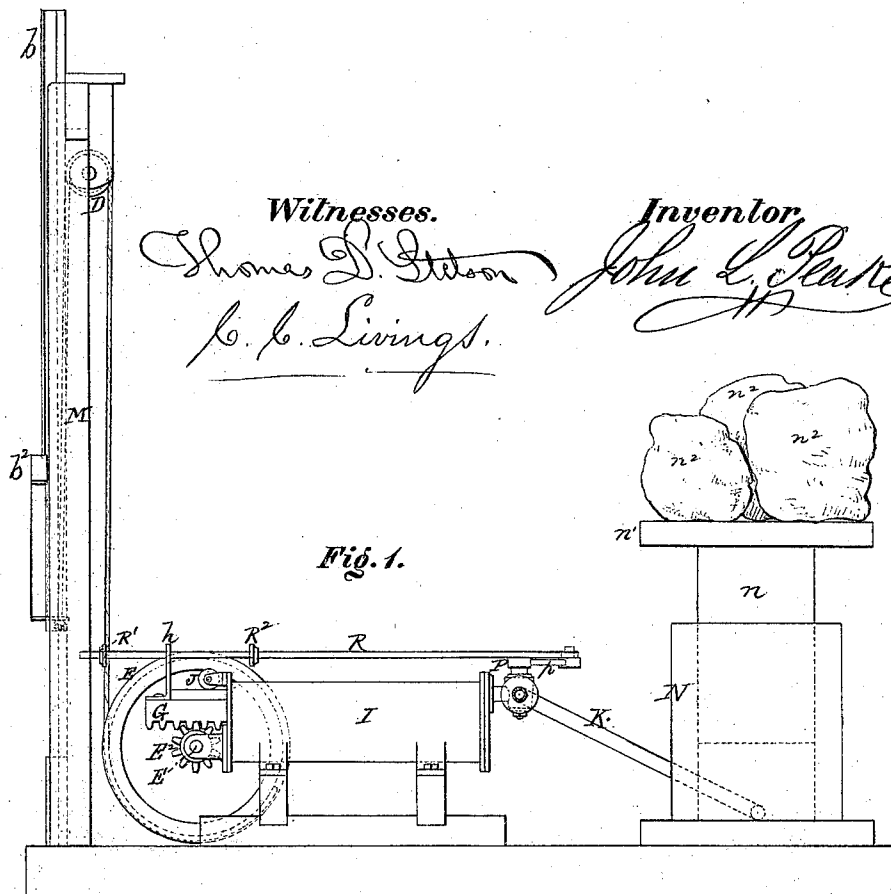


2. Sheets. Sheet 1.

J. L. Peake,
Shifting Scenes.
No. 113,202. Patented Mar. 28, 1871.



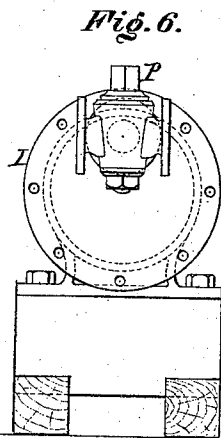
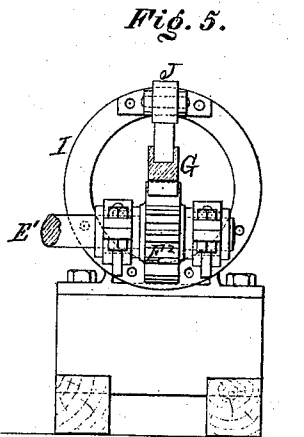
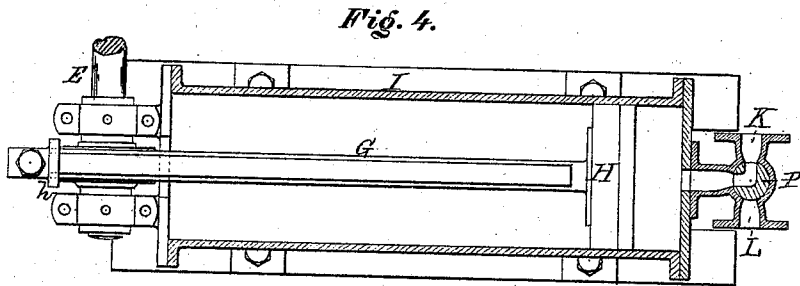
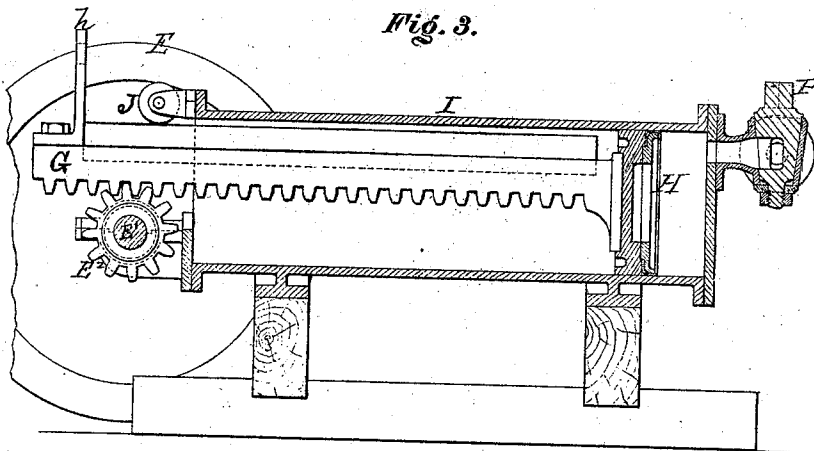
J. L. Peake,

2. Sheets Sheet 2.

Shifting Scenes.

No. 113,202,

Patented Mar. 28. 1871.



Witnesses.

Thomas D. Stetson
C. C. Livings

Inventor.

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United States Patent Office.

JOHN L. PEAKE, OF NEW YORK, N. Y.

Letters Patent No. 113,202, dated March 28, 1871.

IMPROVEMENT IN THE METHODS OF SCENE-SHIFTING FOR THEATRICAL AND ANALOGOUS PURPOSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN L. PEAKE, of the city and county of New York, in the State of New York, have invented a new and useful means of Scene-Shifting for Theatrical and Analogous Purposes; and I do hereby declare that the following is a full and exact description thereof.

My invention is intended to accumulate power in the interval between the movement of the scenes, and to hold it stored up in a condition ready for immediate application. It provides for moving the scenes rapidly and noiselessly, and the means are under perfect control. It provides for both the presentation and removal of the scenes.

I will first describe what I consider the best means of carrying out my invention, and will afterward designate the points which I believe to be new.

The accompanying drawing forms a part of this specification.

Figure 1 is a side elevation of my entire apparatus.

Figure 2 is a plan view of the same.

The remaining figures represent some of the important details on a larger scale.

Figure 3 is a longitudinal vertical section through the cylinder.

Figure 4 is a horizontal section through the same.

Figure 5 is an end view showing the open end of the cylinder.

Figure 6 is a view of the other end.

Similar letters of reference indicate like parts in all the figures.

I have represented the invention as applied where the scenes are elevated by raising them directly up through the stage, and are removed by lowering them again.

The same apparatus may, with suitable modifications, be applied to moving the scenes horizontally, but in such a case it would obviously be necessary to provide weights, cords, or the like, for performing the function of removing the scenes. I prefer the direct raising and lowering as herein represented, and will so describe.

B is the scene. It is stretched on a frame of which *b b* are the upright stiles.

It should be understood that these stiles may be suitably connected, and scenery may be painted on canvas or other suitable matter, and nailed or otherwise fixed on the frame-work.

The bottom stile is represented by *b'*, and is trussed to form a frame sufficiently strong to allow the entire scene to be held up by sufficient force at the bottom of the truss-work and allow the connections to be below the stage when the scene is in place.

The uprights *b b* are guided in T-shaped grooves

in fixed upright timbers or frames M. A stout cord or small rope extends upward from the bottom of the truss-work, and passes over the pulley D, thence extends downward, and is fastened on a large wheel, E, by turning which the scene B can be raised or lowered.

Wheel E is keyed on a shaft, E', on which is also fixed a small pinion, E². This shaft and its pinion are supported on suitable bearings, and are revolved by the action of the piston H, which plays in the fixed cylinder I.

G is a rack, meshing into the pinion E². It is firmly fixed to the piston H, and is held down by the anti-friction roller J, so that as the piston moves out and back the wheel E is revolved and the scene is raised or lowered.

I employ hydraulic pressure to work this piston. I accumulate a supply of water by the force of the pressure in the aqueduct mains in the street, or by pump, or otherwise, in a large cylinder, N, which carries the large piston *n*. This latter carries a frame, *n'*, which is capable of being loaded with variable weights, *n'' n''*.

A pipe, K, connects the base of this reservoir cylinder N with the back end of the working cylinder I. This pipe K conveys the water steadily and rapidly to effect the upright movement of the scene. Another pipe, L, discharges the water to lower the scene.

I control the action of the water by a cock, P, arranged as represented at the junction of the pipes K and L. The arm *p*, which controls the cock P, is connected to a rod, R, which has two adjustable stops R¹ R², and which runs through an arm, *h*, fixed on the rack G, as represented.

When the piston has traversed outward, or to the left, to a sufficient extent to properly raise the scene B, the arm *h* strikes the stop R¹, and moves the rod R, and turns the cock P sufficiently to close the passage.

The apparatus remains in this position as long as the scene may be required to be presented to the audience.

When it is desired to lower the scene the attendant seizes the rod R and moves it still further to the left; this action turns the cock P still further than before, and opens the communication from the interior of the cylinder I, through the pipe L, to the sewer or other suitable waste-passage.

The water in the cylinder I escapes steadily and rapidly, and the weight of the scene B, and the weights attached to aid it, if necessary, by their force moves the piston H inward, and the scene is steadily lowered.

When it is sufficiently lowered the arm *h* strikes

the stop R^2 , and moves the rod until the cock P is again turned back to the position to close all the passages.

Another scene may now be substituted, and at the proper signal the attendant shifts the rod R again to the right, and the water which has in the meantime been accumulating in the reservoir-cylinder N , again flows in the cylinder I and raises the scene.

There may be several of the cylinders I and their adjuncts, all connected to the same grand reservoir N ; the latter should be made capable of containing water enough for many movements of the scene-shifting apparatus.

I propose to lengthen the shaft E^1 , and mount four or other number of wheels side by side thereon, with suitable clutches for connecting them at pleasure. This may carry separate scene-shifting slides.

I can, instead of attaching the scene directly to the stiles $b\ b$, mount the scene on a separate frame, not represented, and connect and disconnect such frame by hooks or other readily-operated devices.

I can vary the force of my water by increasing or diminishing the weights n^2 . I can vary the point at which the presentation of the scene is arrested by adjusting the stop R^1 , and can vary the point at which the lowering is arrested by shifting the stop R^2 . I can, if preferred, in transformations and the like, thereby arrest the scenes and readily adjust situations, so that each shall be half-presented, or three-quarters presented, when desired.

The advantages of a portion of my invention may be realized by introducing the water to the cylinder I from an elevated tank instead of the loaded cylinder $N\ n$; but this involves serious annoyance in case of leakage, fires, or the like, and I much prefer the entire combination as represented.

I esteem the shortness of the connecting-pipe K of considerable consequence, because it is important that the water shall move rapidly and freely into the cylinder I when the presentation of the scene is called for. The friction of rapidly-moving water in long pipes occasions a serious loss of effect.

I can substitute a properly-formed slide-valve, working on a properly-constructed seat, in place of the cock P , and it may be operated by the same means, as above provided, for moving the plug of the cock. But I prefer the cock-chamber about as represented in fig. 4, and operated by partially turning, as described.

I claim as new and as my invention—

1. The piston and cylinder, in combination with scene-shifting mechanism, and with means for admitting and discharging water to shift the scenes, substantially as herein specified.

2. The reservoir N , in combination with scene-shifting mechanism, for the purpose of supplying large quantities of water rapidly, as specified.

3. In combination with theatrical scenery and the scene-shifting mechanism $G\ H\ I$, and their connections, the reservoir cylinder N , piston n , connected frame n^1 , and variable load n^2 , arranged as herein specified.

4. The adjustable stops $R^1\ R^2$, and their connections, in combination with the hydraulic scene-shifting means $G\ H\ I$, and with the cock P or its equivalent, for automatically stopping the motion, substantially as herein set forth.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

JOHN L. PEAKE.

Witnesses:

WM. C. DEY,
C. O. LIVINGS.