

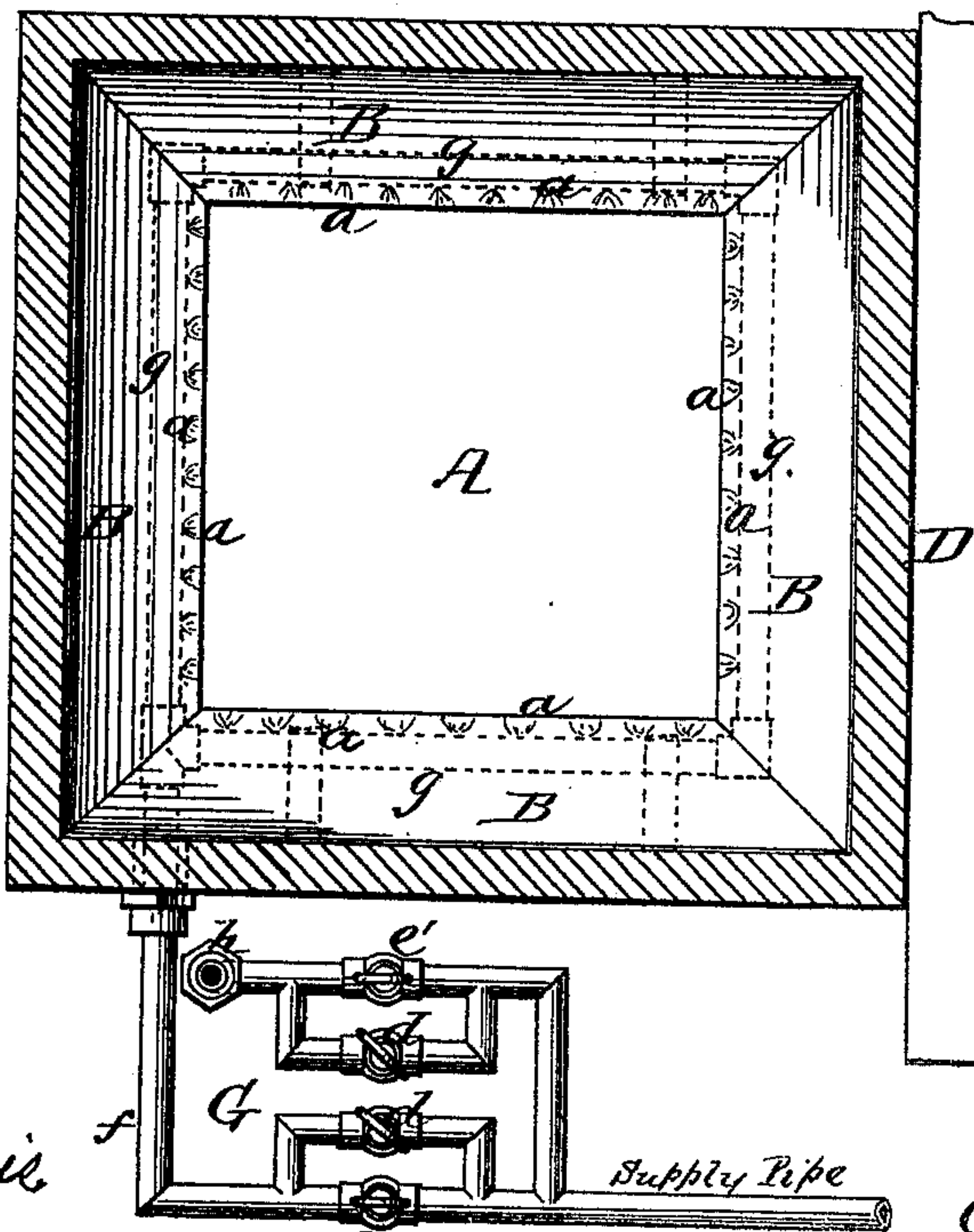
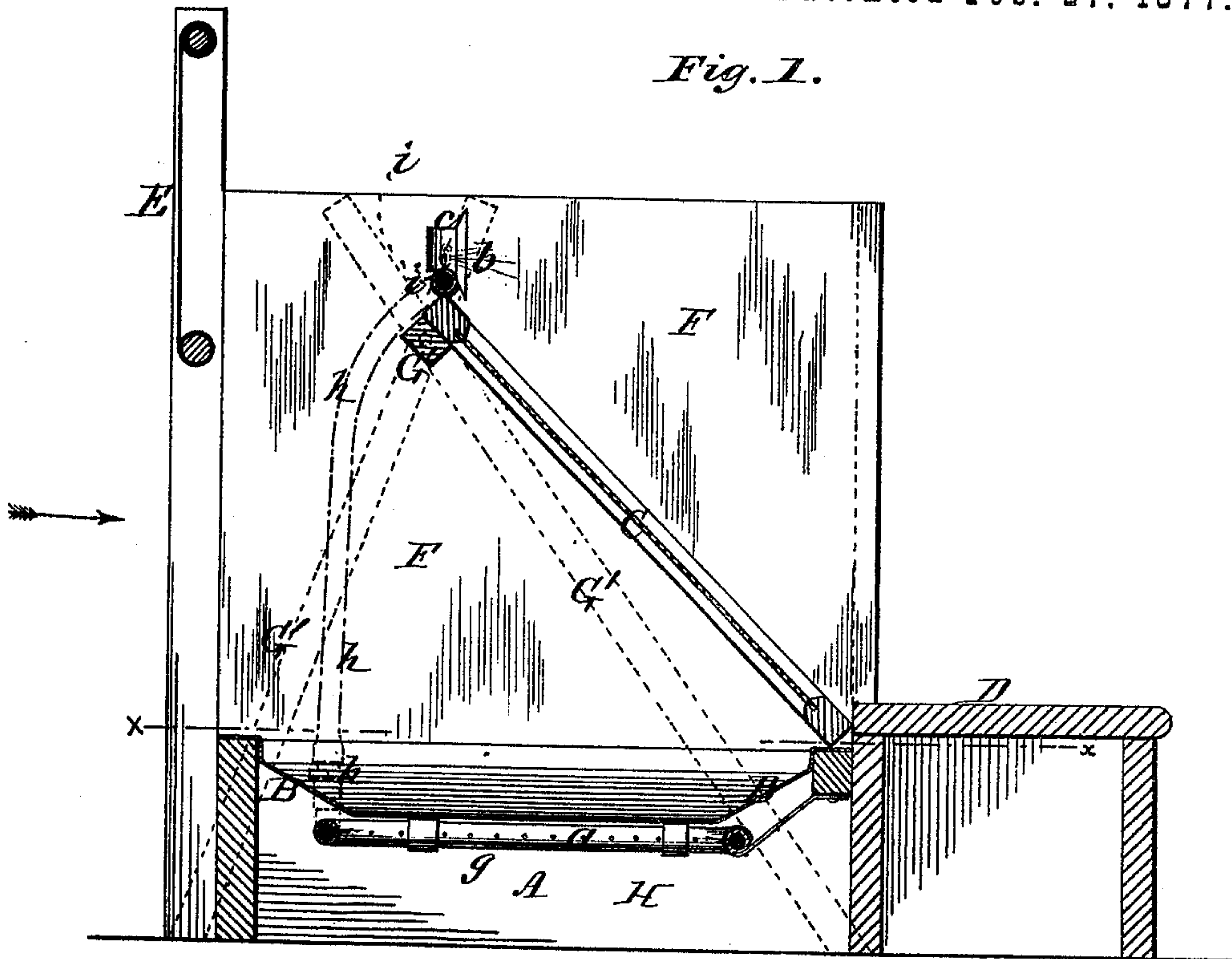
C. W. & O. McGLENNEN.

# APPARATUS FOR PRODUCING OPTICAL ILLUSIONS.

No. 187,884.

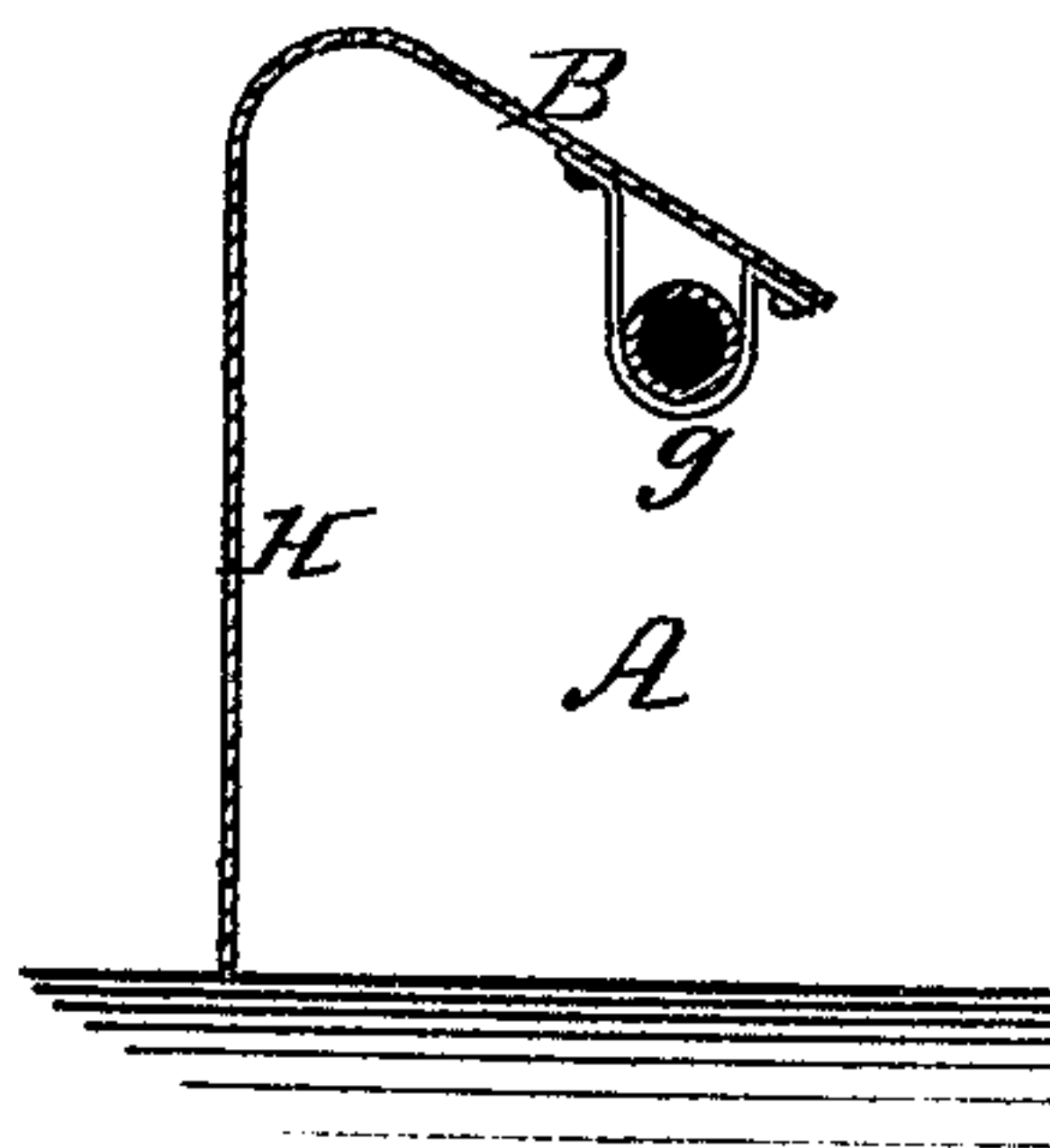
Patented Feb. 27, 1877.

*Fig. 1.*




*Fig. 2.*

*Fig. 3.*



Witnesses:  
 Lloyd Norris  
 D. P. Lowe.

*Inventor:*


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# UNITED STATES PATENT OFFICE.

CHARLES W. MCGLENNEN AND OLIVE MCGLENNEN, OF HANOVERTON, OHIO.

## IMPROVEMENT IN APPARATUS FOR PRODUCING OPTICAL ILLUSIONS.

Specification forming part of Letters Patent No. 187,884, dated February 27, 1877; application filed January 3, 1877.

*To all whom it may concern:*

Be it known that we, CHARLES W. MCGLENNEN and OLIVE MCGLENNEN, of Hanoverton, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Theatrical Appliances for Producing Illusions; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The design of the invention is to produce illusive representations in connection with real representations, or for producing illusions or representations of ghosts only. This we accomplish by means of an apparatus adapted for the purpose, the essential features of which consists of a stage-chamber, called an "oven," (wherein persons act for producing the illusions,) in combination with a receiving unsilvered glass, called a "pebble," wherein the image of the person in the oven is received and exhibited, and a stage whereon actors cooperate with the illusions, and in this way ghost illusions are produced from invisible persons while acting in connection with persons visible. The development of such illusions, however, is only effected by a device called a "key," and by which an attendant produces the mechanical effect of transferring the actor or actors in the oven and their actions to the pebble by raising the oven-lights and lowering the pebble-lights, the dispelling of the illusion being effected by raising the pebble-lights and lowering the oven-lights.

In this apparatus the position of the pebble renders it invisible to the audience, while the oven is also out of sight. The position of the oven is intermediate with the pebble and the audience.

The apparatus operates upon a well-known principle of the refraction of light. The lights under the oven-shield shine full upon the actor in the oven, and if he be in a recumbent position therein he will appear in an upright position to the audience.

In the accompanying drawings, Figure 1

represents a vertical longitudinal section of the apparatus, and showing its relation to the audience and the stage; Fig. 2, a partial-plan section on line *x x* of Fig. 1; and Fig. 3, a section of a modified form of cast-iron oven-shield and side wall.

The stage should be between four and five feet high, and at its front portion a chamber, A, is formed, which is called an oven, the interior of which should be rendered dark by being lined with black cloth or velvet.

The top of this oven is open, and has inclined light refracting and concealing shields B, beneath which are arranged gas pipes and jets *a*, so that the light therefrom is thrown down upon the bottom of the oven, (and at the same time prevented from being thrown upward,) leaving the open top of the oven A unobstructed.

The invisible actors occupy this oven, and their performances are refracted upon a pebble-glass, C, arranged back of the oven, and at an angle of about forty-five degrees, the inclination of its top being toward the oven and the audience. At the base of the pebble is the stage D for the visible actors, the light for which is furnished by gas-jets *b* at the top of the pebble-frame, said gas-jets being furnished with shields *c*, to throw the light upon the stage and to render them invisible to the audience; but they are not designed to give light to the pebble or oven. A curtain, E, serves to shut off the stage while changing scenes and between acts. The curtain hangs down at all times sufficiently, as shown in Fig. 1, to screen the top lights of the pebble. The light in the oven is only raised to produce the illusions, and the pebble-lights are then lowered. The control of the lights is effected by an operator, who manipulates the key, and who is concealed from the audience by one of the side curtains F F, said key G being arranged at one side of the oven A upon the main supply-pipe, and consisting of a series of set-cocks and control gas cocks, the set-cocks *d* permitting a small flow of gas sufficient to keep the jets lighted, and no more, while the control-cocks *e e'* are manipulated by the operator—the one *e* connecting by pipe *f* with the oven jet-pipe *g*, to raise and lower the



oven-lights, and the one  $e'$  connecting by pipe  $h$  with the pebble jet-pipe  $i$ , to raise and lower the pebble-lights.

The pebble  $C$  is supported by any convenient frame-work  $G'$ , as shown in the drawings by dotted lines. In Fig. 1 the oven is shown as having cast-iron shields painted black underneath, if necessary, and cloth or velvet side walls  $H$ ; but we have shown in Fig. 3 a modification of such oven-shield and wall, consisting of a bent sheet of cast-iron, forming both shield and wall, the round curve tending to more thoroughly cast the light upon the bottom of the oven, the gas-jet pipes being supported thereunder by brackets or otherwise. This shield-wall should extend only around three sides of the oven, leaving an opening under the stage for the actors to enter the oven. This opening is hung with a cloth or velvet curtain.

The operation of the apparatus is obvious from the foregoing description. The effect to the audience is that two or more figures appear on the same stage, one seeming as life-like and well-defined as the other until a "cue" is given and one vanishes. Of course, the living solid figure must not at any time thrust himself before or behind the pebble, but must keep to one side, and the living figure in the oven must not allow any part of his person to be covered by the oven-shield, else his counterpart visionary figure will be marred. When desired, the actor in the oven may keep his head under the shield  $B$ , in which case his visionary counterpart would appear headless. The actors assume any position in the oven,

and two or more may act. A recumbent figure gives an upright visionary counterpart in the pebble. Gasoline may be used or any other suitable light.

The oven must be so arranged as not to be seen by the audience, and preferably a railing or bar should be placed at least twelve feet from it in the auditorium, to prevent persons from looking over.

We claim—

1. An apparatus for producing optical illusions, consisting of an open oven,  $A$ , inclined pebble  $C$ , stage  $D$ , and key  $G$ , for controlling the oven and pebble-lights, substantially as and for the purpose described.

2. In an apparatus for producing optical illusions, the combination of the oven  $A$ , consisting of shields, gas-jets, and dark-colored bottom and side walls and open top, with an inclined pebble or unsilvered mirror, provided with gas-jets, as described, the whole in combination with a controlling-key,  $G$ , consisting of set-cocks and control-cocks for regulating the light, substantially as described.

3. The combination, with the inclined pebble  $C$  and its top jet-pipe  $i$ , of the frame  $G'$ , substantially as described.

In testimony that we claim the foregoing we have affixed our signatures in presence of two witnesses.

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OLIVE MCGLENNEN.

Witnesses:

A. E. H. JOHNSON,  
J. W. HAMILTON JOHNSON.