

P. F. & W. S. Dodge,

Camera Attachment,

N^o 31,444.

Patented Feb. 19, 1861.

Fig. 1.

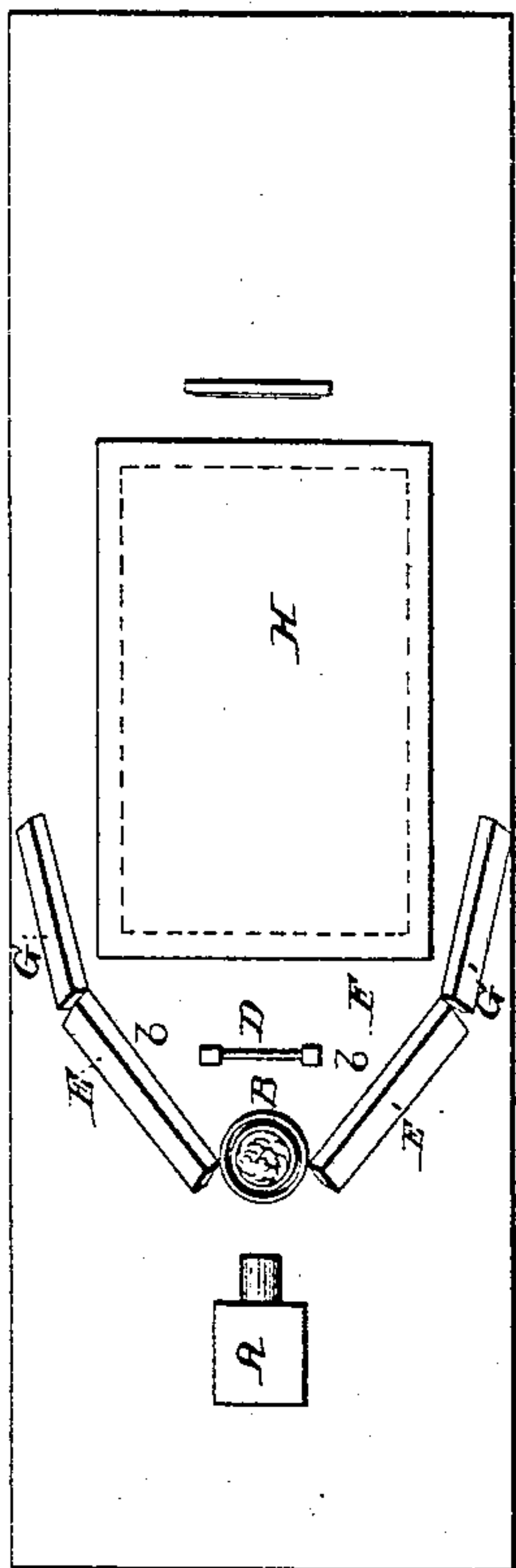


Fig. 2.

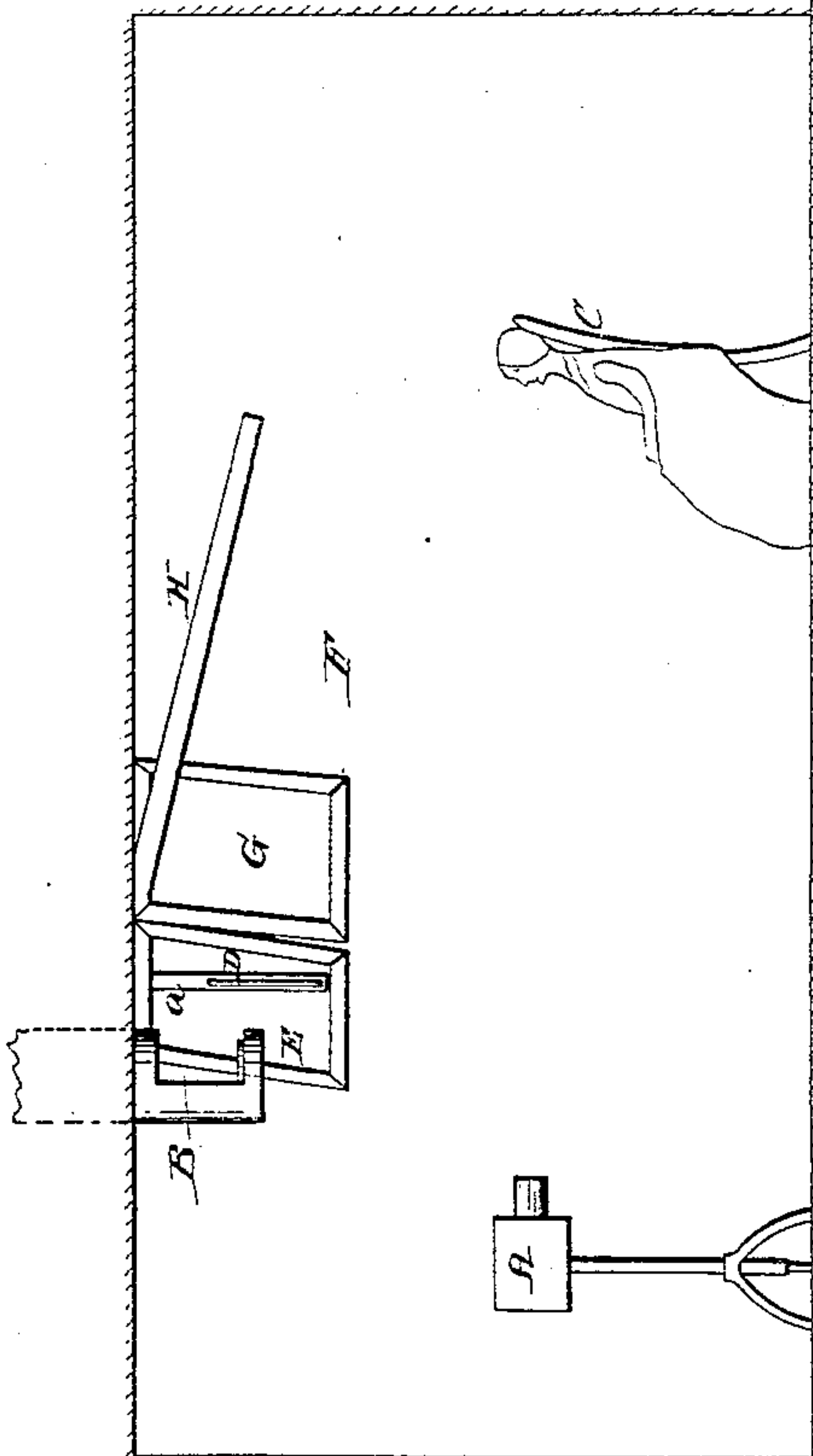
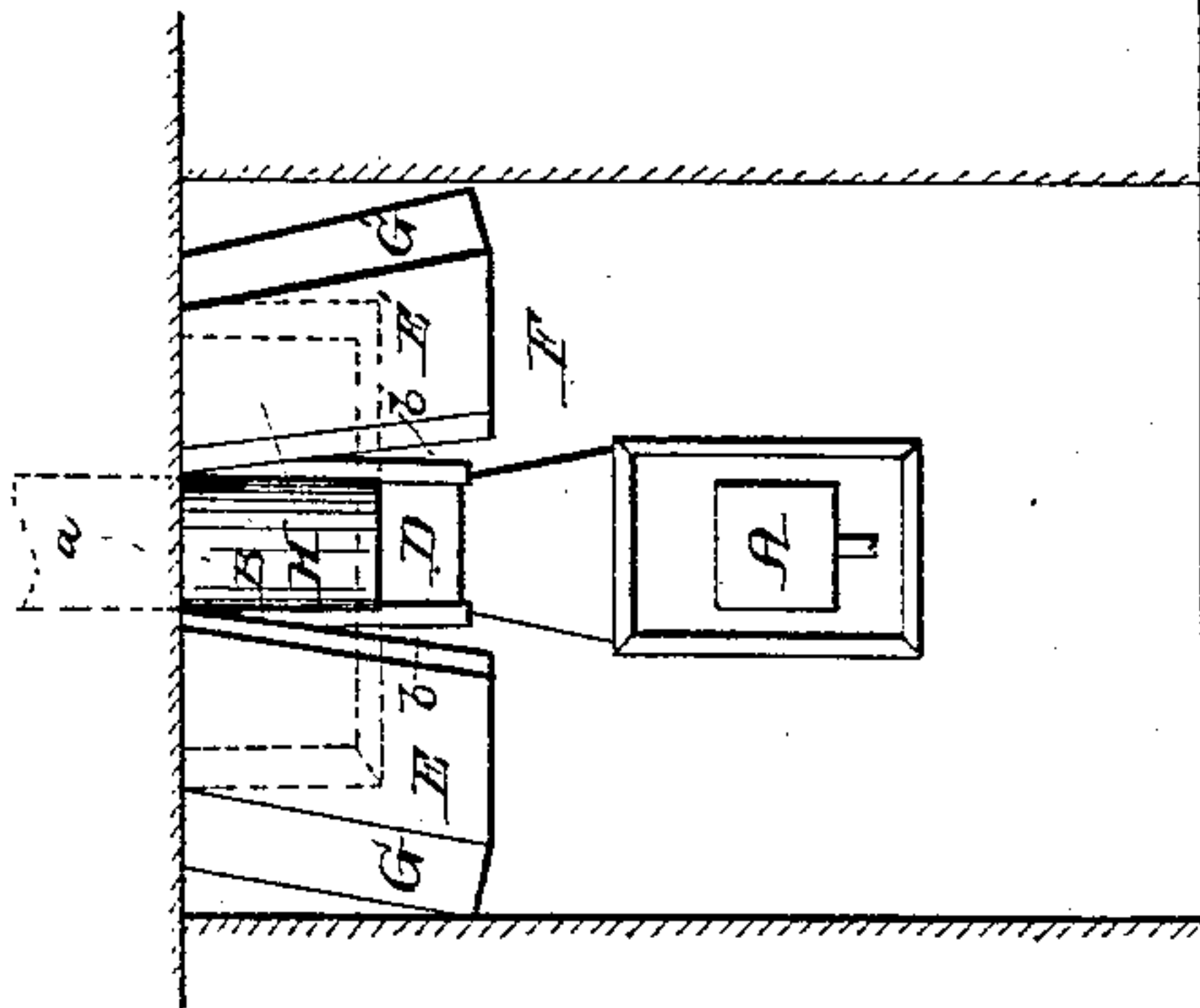


Fig. 3.



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PAUL F. DODGE AND WM. S. DODGE, OF WEST CAMBRIDGE, MASSACHUSETTS.

TAKING PHOTOGRAPHIC PICTURES BY ARTIFICIAL LIGHT.

Specification of Letters Patent No. 31,444, dated February 19, 1861.

To all whom it may concern:

Be it known that we, PAUL F. DODGE and WILLIAM S. DODGE, of West Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in the Art of Taking Photographic or Heliographic Likenesses by Artificial Light; and we do hereby declare that the nature of the same is fully set forth in the following specification, taken in connection with the accompanying drawings, to which the specification and letters refer.

In the year 1857, one John Moule took out a patent in England (No. 478) for an apparatus to be used for burning pyrotechnic compositions or preparations for producing artificial lights of various colors, and in the specification of said patent he describes a particular manner of using an artificial light for taking photographic likenesses, one of the features of which consisted in surrounding the light by a colored glass or screen, that should prevent the dazzling rays from the light from striking upon the face of the person who is sitting for a likeness. He also describes or refers to the use of reflectors for reflecting or concentrating the light so or otherwise obtained, upon the sitter. Now by the use of the methods described by him in said specification, if the colored screen is used, we do not get the benefit of the reflected rays, excepting as they may pass through said screen upon and from the reflecting surface.

Our invention consists in a peculiar manner of arranging a screen, with respect to the sitter and the reflectors, so that the light from the illuminating medium may be cast directly upon the reflectors, and thence upon the object; while the rays which strike straight from the light upon the sitter, shall pass through a colored glass or other intercepting medium, which shall serve to prevent the dazzling effects of the light upon the eyes of the sitter, and yet throw upon him the direct rays cast from the light upon the reflectors.

Our invention also consists in a peculiar arrangement of mirrors to multiply the reflections cast upon the sitter, as will be hereinafter described.

To enable persons skilled in the art of making photographic representations, to understand our inventions, we have shown in the accompanying drawings, to which this specification refers, the arrangement of

the reflectors and screen, Figure 1, of said drawings, showing the same in top view. Fig. 2, in end elevation, and Fig. 3, in side elevation, as they appear in the operating room.

A, in said drawings, denotes a camera-obscura, made in the usual manner; B, a furnace or lamp for containing and burning the combustible or illuminating material used to produce the artificial light.

C, in Fig. 3, shows the position of the person.

D, represents a screen placed at a short distance in front of the illuminator, and so that it shall come between the light and the face of the person at C.

E, E, are two reflectors placed one on each side of the apartment or operating room, F. Two more side reflectors, G, G', may be used if desirable. These reflectors are so placed, that light impinging upon their surfaces, from the illuminator, at B, is reflected or cast upon the sitter at C. Another reflector, H, is placed at the top of the room, or above the horizontal plane of the illuminator, as seen in the drawings, such an inclination being given to it, as shall cause the light cast upon its surface, to be reflected upon the sitter, as is the light cast upon the other reflectors, E, E'. Now if the screen, D, is so made as to cover the whole field cast by the illuminating rays upon the sitter, and upon the reflectors, it will be evident that not only are the dazzling rays prevented from striking directly upon his face, but the rays cast upon the reflectors are dimmed and partially obliterated by passing through such screen. To obtain all the light that is possible upon the sitter, and at the same time, cut off the dazzling effect of the rays, we so arrange the screen as to cut off the rays from the sitter's face, but not intercept them from striking directly upon the mirrors, and thence, with all their power, from reflection upon the sitter. The effect of this would not be so valuable, if these reflected rays strike perpendicularly upon the face, as those do, which come directly from the light, because through losing much of their brilliancy from reflection, they would still be too dazzling to the eyes, and cause them to close or move, while the picture is being taken, but striking as they do at angles from a line passing directly between the light and the face, they serve the purpose of illuminating the object, without dazzling the eyes.

In Fig. 3, of the drawings it will be seen that there is a space, *a*, above the screen, between the lamp and the upper reflector, H, and in Fig. 1, a space, *b*, is seen on each side of the screen, said spaces coming between the lamp and the reflectors, E, E', for the purpose as above set forth. The mirrors, E, E' (and if used those at G, G') are so placed in relation to the upper mirror or reflector, H, that not only is the light, reflected from the former, cast upon the sitter, but it is also cast upon the reflector, H, and thence upon the sitter. And the reflector, H, reflecting its rays thrown by the illuminator upon its surface directly therefrom upon the sitter, also throws the rays cast upon by reflection from the other mirrors upon the sitter. Thus if the two mirrors, E, E', are used in connection with the upper mirror, a person sitting at C, by looking into either of the mirrors, at E, or E', sees therein the reflected illumination, and by looking up at the mirror, H, he sees not only the reflected illumination, but the reflection of the same, as cast upon it by the reflections on the mirrors, at E, E'. This not only increases the light thrown upon the sitter, but brings a preponderance of that light from above down upon him, giving to

the person, that peculiar disposition of light, considered by most photographers, to be best fitted for procuring the most perfect pictures.

What therefore we claim as our invention, is—

1. The combining with an artificial light, and one or more series of reflectors, of an intercepting medium or plate, when so arranged with respect to the object and the light and reflectors, as to intercept or soften the dazzling rays from the light, and allow the unobstructed rays to pass from the light upon the reflector, and thence upon the sitter, substantially as above described.

2. The peculiar arrangement of the upper and side reflectors together, so that the side reflectors cast their reflected rays upon the object, while the upper reflector casts not only the rays thrown upon it by the light, upon the object, but also throws upon the object the reflected rays from the side mirrors, all as above set forth.

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