H. W. VAUGHAN.

Improvement in Photographic-Cameras.

No. 125,914. Patented April 23, 1872.

Fig. 1.

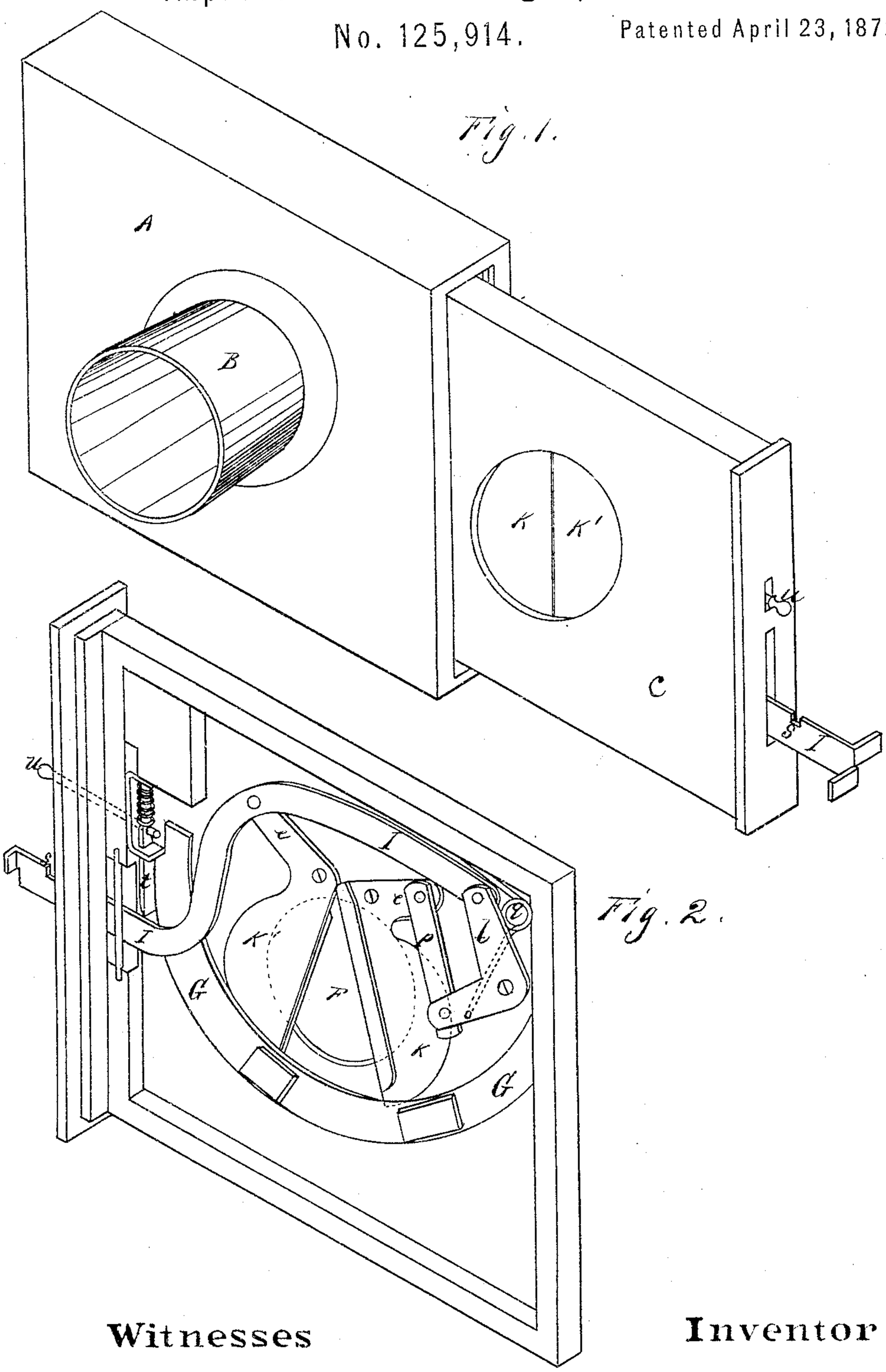

Fig. 2.

Witnesses

Alonzo Hughes
H. L. Miller

Inventor

H. W. Vaughan
by his attys
A. H. & R. E. Evans

125,914

UNITED STATES PATENT OFFICE.

HECTOR W. VAUGHAN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN PHOTOGRAPHIC CAMERAS.

Specification forming part of Letters Patent No. 125,914, dated April 23, 1872.

SPECIFICATION.

To all to whom it may concern:

Be it known that I, HECTOR W. VAUGHAN, of San Francisco, San Francisco county, State of California, have invented a Photogate for Photographic Cameras; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

The object of my invention is to provide a gate for excluding or admitting light into photographic cameras for photographic purposes, instead of the black cloth at present used by photographers for covering the end of the camera tube. This gate I have named a "photogate," in order to designate its particular application. My invention further relates to a peculiar construction and application of the gate by which its operation of opening and closing is rendered automatic by a system of levers and springs under the control of the operator, which also render it very convenient. The present arrangement of my photogate can also be used for other purposes, some of which are mentioned in the following description.

In order to enable others to fully understand the nature and construction of my invention, reference is had to the drawing accompanying this invention and forming a part of the same, in which—

Figure 1 is a perspective view of the device. Fig. 2 is a view of the operating machinery of the gate.

The same letters wherever they occur in each of the figures indicate the same parts of the invention.

A represents a camera-box, such as is used by photographers; and B, the camera-tube, through which light is admitted into the box for the purpose of producing the desired image. For excluding the light when its presence in the box is not required a black cloth has heretofore been thrown over the end or muzzle of the tube B. This device is not only unsightly, but its removal to admit the light disturbs the attention of the person whose picture is being taken at the very instant when perfect immobility is most desired. This is one of the chief causes which render it difficult to take the pictures of small children properly. To obviate these difficulties I employ a gate, C, inside of the box A for automatically shutting of the light from the box by closing the opening through which the light is admitted. In the particular application herewith represented the gate is divided into two parts, K K′, so as to open in opposite directions. When closed the two parts meet at a central line drawn across the opening which they are to close. The sections K K are each provided with a lever-arm, *e*, and both sections are pivoted or otherwise hinged to the inside of the box A, or upon a separate frame, as herein shown, so as to open in opposite directions and completely close the opening F when they are thrown together. G is a semicircular ledge, which is secured to the side of the box or frame upon the opposite side of the hole F. The inner side of this ledge is provided with a groove in which the swinging ends of the sections travel and which serve to guide them in opening and closing.

In order to operate the gate, I employ a main-lever bar, I, one end of which passes through a slot either in the side or top of the box, and has attached to its extremity a suitable knob or plate for handling it. This bar passes into the box or frame, and is hinged or loosely riveted to the lower end of the lever-arm *e* of the section K, and thence extends to near the opposite side of the box, where it is connected with one arm of a bell-crank, *l*. The opposite arm of the bell-crank is connected with the extremity of the arm *e* of the section K′ by a bar or rod, *p*, so that one movement of the bar I inward will cause the arms *e* to be depressed and approach each other, and thus cause the sections to be opened in a corresponding manner. A spring, *q*, serves to close the sections and keep them tightly pressed together. Near the outer end of the lever-bar I′ is a notch, *s*, with which a spring-bolt, *t*, inside of the box, engages when the bar is pressed inward so as to open the sections. This bolt serves to keep the sections open until it is desired to close them. The bolt *t* is retracted by means of a knob or lever, *u*, which projects to the outside of the box, so as to be readily reached by the operator.

Various arrangements of the levers and

springs for opening and closing the gate may be used instead of that above described, but the general idea involved in the invention will not be affected further than mere convenience for operating the gate. The spring *q* and spring-bolt *t* can, if desired, be dispensed with and the gate operated by simple pressure applied to the bar I. One of the chief uses of this gate will be in connection with the plate-holder in order to exclude the light from the sensitive plate while carrying it about.

I am aware that a slide has heretofore been used for closing the opening in the camera-tube, but it was placed outside of the camera-box, and did not, therefore, overcome many of the difficulties which my gate is intended to obviate. An automatically-closing gate constructed similar to my photogate can also be applied to animal-traps, in which case it will be arranged to close by pulling upon a bait-hook.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The photogate, consisting of the corresponding sections K K, with their lever-arms *e*, in combination with the push-lever I, bell-crank *l*, and connecting-bar *p*, substantially as and for the purpose above described.

2. The notched lever-bar I, bell-crank *l*, and connecting-bar *p*, or equivalent device, when connected with the lever-arms *e* of the sections K K, in combination with the spring *q* and spring-bolt *t*, substantially as and for the purpose above described.

In witness whereof I hereunto set my hand and seal this 2d day of February, A. D. 1872.

HECTOR WM. VAUGHAN. [L. S.]

Witnesses:
J. L. BOONE,
C. M. RICHARDSON.