

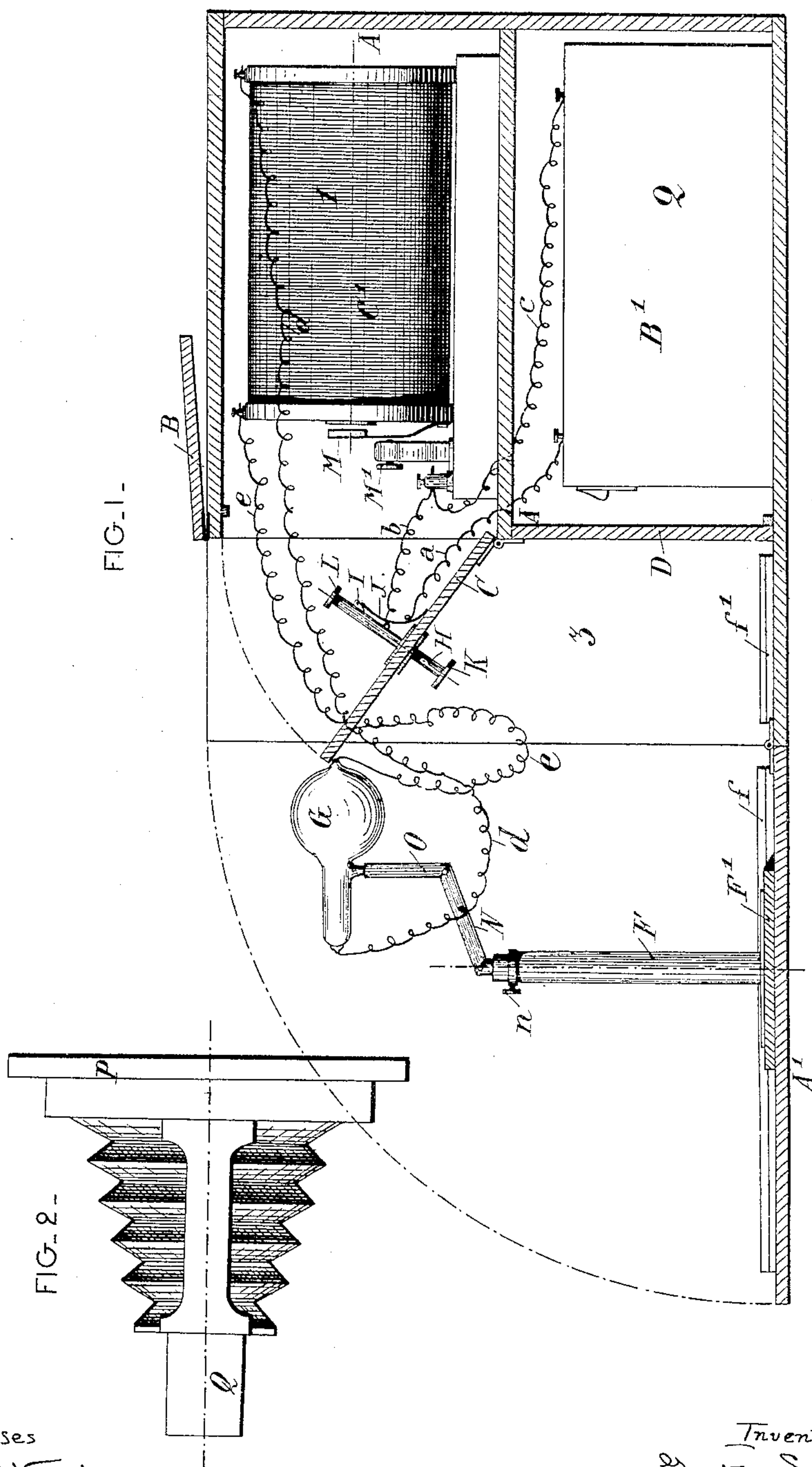
(No Model.)

G. SEGUY.

PORTABLE CAMERA FOR ROENTGEN RAY PHOTOGRAPHY.

No. 601,172.

Patented Mar. 22; 1898.



Witnesses

~~W. B. Keener~~
R. D. Johnston, Jr.

Inventor

Walter Seguy

By James L. Norris

UNITED STATES PATENT OFFICE.

GASTON SEGUY, OF PARIS, FRANCE.

PORTABLE CAMERA FOR ROENTGEN-RAY PHOTOGRAPHY.

SPECIFICATION forming part of Letters Patent No. 601,172, dated March 22, 1898.

Application filed March 23, 1897. Serial No. 628,884. (No model.)

To all whom it may concern:

Be it known that I, GASTON SEGUY, a citizen of France, residing at Paris, in the Department of the Seine, France, have invented certain new and useful Improvements in a Portable Camera for Roentgen-Ray Photography, of which the following is a specification.

My invention relates to a Roentgen-ray camera, my object being to provide an apparatus which shall be portable, easily and compactly stowed, and which shall comprise a complete installation, consisting of a battery or accumulator, an induction-coil, a Crookes tube, and the parts required for a complete operation, the whole being confined in a portable box of a relatively small size.

In order that my invention may be clearly understood, I will now describe it in its details, reference being made to the accompanying drawings, in which—

Figure 1 represents a longitudinal section of the camera-box, which is shown open with the parts in position for use. Fig. 2 is a side elevation of the bellows portion of the camera, with the tube containing the objective and the frame-holding screen. Fig. 3 is a section upon the line C D in Fig. 4, showing the interior arrangement of the apparatus, the two doors or lids being shown as closed. Fig. 4 is a section upon the line A B in Fig. 3.

The apparatus consists of a box A, divided by partitions into four compartments 1, 2, 3, and 4, which contain, respectively, the induction-coil, the battery or accumulator, the Crookes tube with its support, and the bellows or extensible portion of the camera. The compartment containing the latter is situated behind the compartments which receive the induction-coil and the battery. Access may be had to the box by hinged doors A' and B, which in Fig. 1 are shown in an open position. When the box is opened, the doors C and D give access to the induction-coil and to the battery. The door A' being turned down or lowered, the support F, which carries the Crookes tube G, may be brought out of the compartment 3 by sliding the support F, carrying said tube, upon guide-strips *f*, which have grooves *a*, in which the base F' of the support F can slide. These guide-strips are formed partly upon the floor of the compartment 3 and partly on the inner face of the

door or lid A', as shown in Fig. 1. When the parts are arranged for transportation, said slides hold the support F in place and prevent any movement which might cause injury to the Crookes tube.

The door C is provided at its center with a socket, in which is arranged a rod H, carrying a bevel I, which can be brought in contact with a spring J by drawing the rod outward, for which purpose I provide the handle K. The rod H and the spring J are of conducting metal, and they are so arranged as to furnish convenient means by which the battery-circuit through the primary of the induction-coil C' may be opened and closed. The terminals of the primary winding of said induction-coil are connected to binding-posts *a'* and *a''*. (Best shown in Figs. 3 and 4.) An interrupter M and an adjustable contact-point M' are provided and connected in the primary circuit in the usual manner. From one pole of the battery B' a wire *a* is carried to the spring J, the circuit being completed by a wire *b* from the rod H to the binding-post *a'*, thence through the primary winding of the coil, thence to binding-post *a''*, and from the latter a wire *c* goes to the second pole of the battery. By drawing the rod H outward till the bevel I makes contact with the spring J the primary circuit is established. The secondary or high-tension current being thereby induced in the secondary winding of the induction-coil, a circuit is provided for it by wires *d* and *e*, which go to the electrodes of the Crookes tube G.

The rod H is provided with a head L, of non-conducting material, which bears against the interrupter M when the parts are packed and the door C shut. When the rod H is pulled in order to establish the circuit of the primary, the interrupter M, being suddenly released, receives a sufficient impulse to set up its vibrations, which are continued by the successive makes and breaks of the current.

The bellows portion P is a dark chamber with bellows similar to the corresponding parts of photographic apparatus. In this camera, however, the ground-glass screen is replaced by a sheet of paper covered on its inner surface with a phosphorescent material. This part of the camera can be folded and placed in the compartment 3, intended for that purpose. The tube G may be brought

to any position required by means of jointed arms N and O. The part N has a pivot which enters a socket in the upper end of the support F, a set-screw *n* being provided to clamp the
5 pivot.

In an experiment the object to be examined is placed between the tube G and the frame P, on which has been applied the sheet of paper covered with phosphorescent material.
10 The circuit is then established by pulling upon the handle K, thereby bringing the bevel I and spring J into contact.

Having thus particularly described and ascertained the nature of my invention and by
15 what means it may be performed, I declare that what I claim is—

1. A transportable Roentgen-ray camera consisting of a box of suitable material divided into four compartments in which are respec-
20 tively located an induction-coil, a battery or accumulator, a Crookes tube mounted upon jointed arms, an upright support on which said jointed arms are swiveled, said support being movable on guides formed partly upon
25 the bottom of the box and partly on the inner

face of a lid hinged to the end of said box, a movable, circuit-closing rod mounted on one of the lids or doors and provided with a bevel, a spring connected through the primary wind-
30 ing with the poles of the battery and arranged in suitable proximity to said rod, and a bellows portion for the camera having an objective, substantially as specified.

2. The combination with an induction-coil and a battery or accumulator of a movable
35 rod having a bevel, a spring arranged in relation to said rod, and a support carrying a Crookes tube, in order to form an open circuit which may be closed by adjusting the said rod, the latter having a non-conducting head
40 which in non-use bears upon the interrupter, and in releasing the latter sets up its vibration, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit-
45 nesses.

GASTON SEGUY.

Witnesses:

EDWARD P. MACLEAN,
HIPPOLYTE JOSSE.