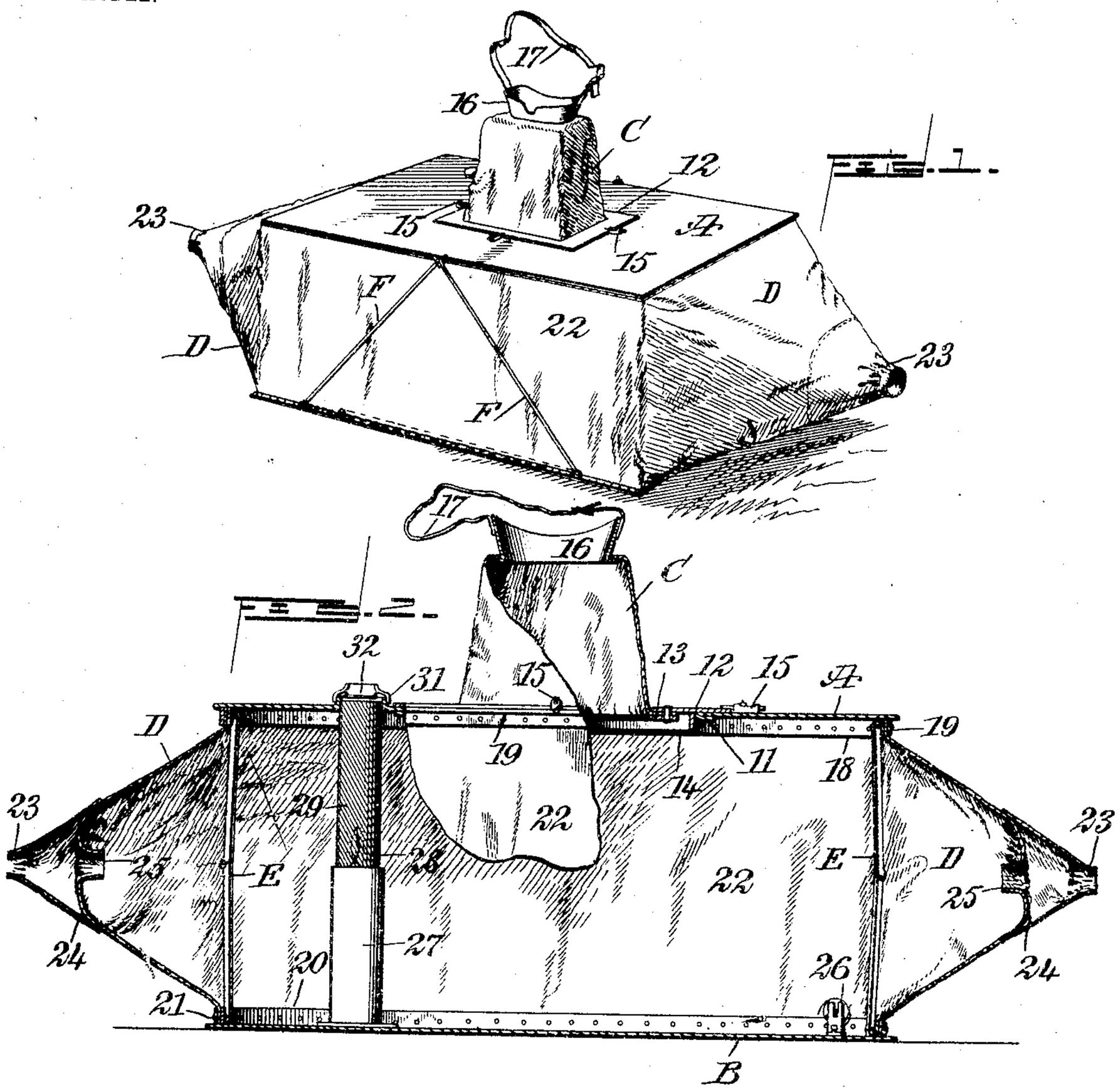
No. 775,969. PATENTED NOV. 29, 1904.

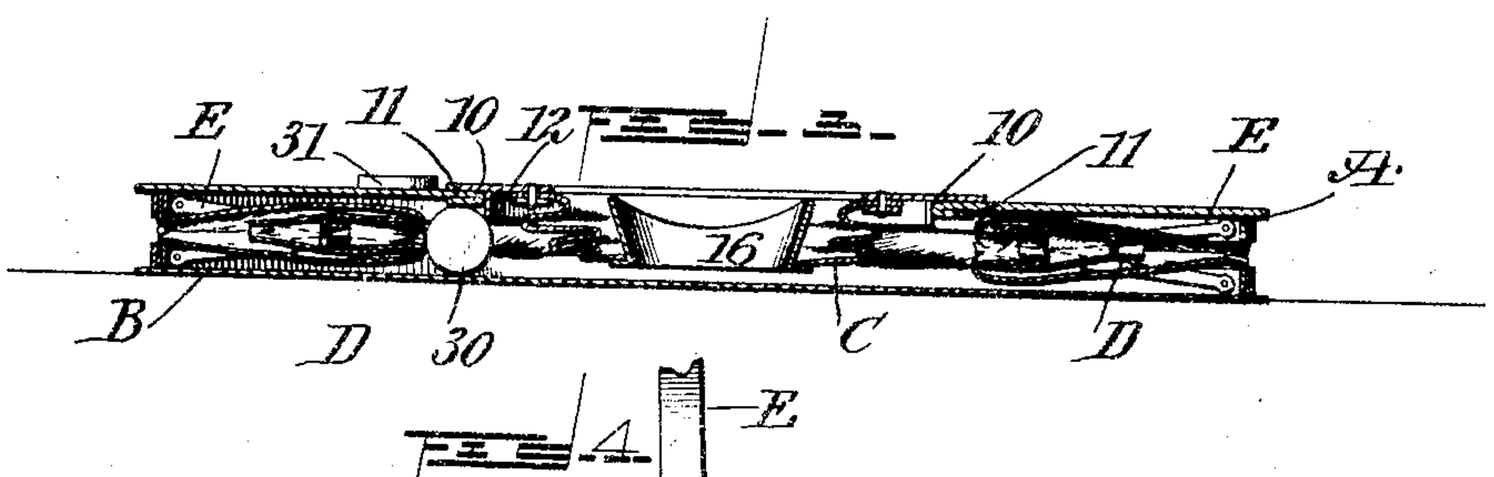
E. L. HALL.

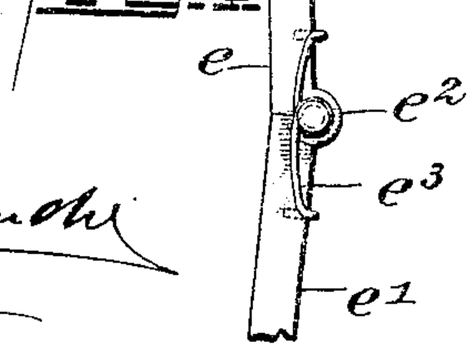
PORTABLE DARK ROOM.

APPLICATION FILED APR. 30, 1904.

NO MODEL.







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No. 775,969. Patented November 29, 1904.

UNITED STATES PATENT OFFICE.

EDWARD LANDER HALL, OF NEW YORK, N. Y.

PORTABLE DARK ROOM.

SPECIFICATION forming part of Letters Patent No. 775,969, dated November 29, 1904.

Application filed April 30, 1904. Serial No. 205,659. (No model.)

To all whom it may concern:

Be it known that I, EDWARD LANDER HALL, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Portable Dark Room, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a simple, durable, and collapsible dark room, one which can be compactly and flatly folded and conveniently carried in a dress-suit case, for example, and which can be quickly and readily set up and braced in said set-up position.

Another purpose of the invention is to provide sleeves at the ends of the device constructed of pliable material and so arranged as to fold into the body of the device when it is collapsed and so that when the arms of the operator are introduced the hands will be free, yet a light-tight connection is obtained between the arms of the operator and the said sleeves.

A further purpose of the invention is to provide the device with a collapsible detachable sight-hood, together with a telescopic illuminating device and a means of supporting a reel of films.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improved dark room set up. Fig. 2 is a sectional side elevation of the same. Fig. 3 is a vertical section through the device when folded, and Fig. 4 is a partial side elevation of one of the corner-braces drawn upon an enlarged scale.

The top A and bottom B of the body of the device are preferably made flat and of a rigid material, such as a light metal, for example. The top A is provided with a central opening 10, through which the developing material and the trays and plate-holders are introduced. The wall of this opening 10 is strengthened by a downwardly-extending and inwardly-bent flange 11, as is shown in Figs. 2 and 3. This opening 10 in the top A is closed by a plate 12 when the device is to be operated, which plate is of skeleton construction and is of sufficient size to extend well past the margin of the opening 10 in the top of the body, as is shown in Figs. 2 and 3. This skeleton plate 12 is provided with a lower horizontal flange 13 at its inner marginal portion and with a downwardly-extending flange 14, which engages with the reinforcing-flange 11 of the opening in the top A of the body. The said plate 12 is removably held in position on the top A of the body by means of latches 15 of any description or by equivalent means.

A sight-hood C, of a flexible material and a material which is light-proof, is carried by the plate 12, the lower edge of the said hood C being firmly clamped in a light-tight manner between the plate 12 and its inner horizontal flange 13, heretofore referred to, as is also shown in Figs. 2 and 3. This sight-hood C is provided at its upper end with an eyepiece 16, preferably recessed to accommodate the nose of the operator when the eyepiece is closed by the head of the operator in the operation of the device, and the head is held closely down to the eyepiece 16 by means of an adjustable strap 17, which is passed over the head.

The top A is provided at its marginal portion with parallel downwardly-extending flanges—namely, an inner flange 18 and an outer flange 19—and the bottom B is provided with inner and outer upwardly-extending flanges, (designated, respectively, as 20 and 21.)

The sides 22 of the body are constructed of a pliable light-proof material, and the edges of such material are firmly clamped between the inner and outer upper and lower flanges just described. These flanges are firmly held together by rivets or their equivalents.

Sleeves D constitute the end portions of the body of the device, and these sleeves are of conical formation, their outer ends being their narrower portions, and these sleeves may be continuous with the sides 22 or may be secured thereto, as desired. The upper and lower edges of the sleeves D are held between

the upper and lower flanges 18 and 19 and 20 and 21 at the end portions of the top and bottom A and B of the device. These sleeves are rendered more or less elastic at their contracted outer ends, as is shown at 23 in Fig. 2, and an inner partition 24 is formed, preferably, adjacent to the outer ends of the sleeves. In this partition an elastic cuff 25 is formed, which extends in an inward direction and is opposite the outer end opening 23, so that a person baring the arm to the elbow, for example, can force his hands through the openings 23 and the cuffs 25 of the said sleeves D into the interior of the body of the device, and the said openings through which the hands are passed will contract around the arms when the hands are in the body of the device, thus providing a light-tight connection, and the flexibility of the sleeves D and their conical shape enable a person to have considerable latitude with reference to the movement of the hands and arms.

Braces E are employed at each corner of the body portion. These braces E are each in two sections e and e', connected by a rule-joint e^2, and where such joint occurs a spring e^3 is located, having a tendency to straighten out the sections of a brace after the top A has been raised to a certain extent; but these springs e^3 are not of sufficient power to force the top upward after the device is collapsed. The sections of the braces E are pivoted, respectively, to the inner flanges of the top and the bottom portions A and B, as is shown in Fig. 2.

In order to strengthen the side parts of the body after it has been expanded, side braces F are employed, as is shown in Fig. 1, and these braces when used are pivoted to the outer flanges of the bottom B, one near each end, and are provided with eyes at the top, the upper portions of the braces F being made to overlap at the central upper part of the sides of the body, and said eyes are then made to receive set-screws or their equivalents. These side braces, however, are not absolutely necessary. Bearings 26 are located on the bottom portion of the said body, preferably adjacent to one end, which bearings are adapted to receive the trunnions of spools on which the films to be developed are wound, as is shown in Fig. 2.

Any approved form of lamp or illuminating device may be employed. Preferably I use that which is illustrated in Fig. 2, which consists of a cylinder made in two telescopic sections 27 and 29. The section 27 is made of metal or a like material, and in this cylinder a candle 28 is placed, an alcohol-lamp, or the like. The upper section 29 is made of a non-actinic yet translucent material, such as ruby glass, and when the body is to be folded up the upper section 29 is slipped within the lower section 27, and said lower section can be removed from the bottom and laid down lengthwise thereon, as is shown in Fig. 3, and at such time the upper and lower sections are closed by a cap 30.

When the lamp or illuminating device is set up in the body, the upper end of the upper section is made to enter an open ferrule 31, secured over an opening in the top A of the device in such manner as to be light-tight where it connects with the said body, and a deflector 32 is located in this ferrule.

In operation the plate 12 is removed from the device when the device is set up, for example, and the plate-holders or reels of films and the developing material are passed into the body through the opening 10 in the top, which is then uncovered, and the lamp is set up and lighted. The plate 12 is then again placed on the top A and the strap 17 is adjusted over the head, and the hands of the operator are passed into the body through the sleeves D.

When a portable dark room, such as has been described, is employed, plates may be developed as readily and as safely and with as much exactness on the field as in the dark room. When the device is not required, the lamp is telescoped, as has been described, capped, and placed on the bottom of the body. Then the eyepiece 16 is carried downward also within the body, as is shown in Fig. 3, and the corner-braces E are folded likewise within the body, the side braces F, if employed, being first disconnected from each other and from the top of the body.

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

1. A collapsible dark room having an opening in the upper wall thereof, in combination with a folding lamp mounted within said dark room and normally projecting upwardly through said opening.

2. A collapsible dark room having an opening in the upper wall thereof, in combination with a lamp comprising telescoping tubular members, the upper extremity of said lamp normally projecting through said opening.

3. A dark room comprising a box-like body, oppositely-disposed tapering sleeves constituting walls of said body, said sleeves having openings at the outer extremities thereof and transverse diaphragms consisting of sheets of pliable material attached to said sleeves adjacent to said openings, said transverse diaphragms also having openings, said openings being expansible.

4. A collapsible dark room comprising a bottom wall adapted to rest upon a substantially horizontal support, an upper wall opposite the same and having an opening therethrough, a removable frame mounted in said opening and having a hood attached thereto, means for attaching said hood in operative position, a flexible fabric attached to said bottom and upper walls, jointed braces adapted to support said upper wall, said upper wall

having a second opening therethrough, a telescoping lamp resting upon said bottom and normally projecting through said last opening, and flexible sleeves constituting portions of said vertical wall and having normally contracted openings therethrough.

5. In a portable dark room, a collapsible body, sleeves at the ends of the body, said sleeves having openings therethrough and transverse diaphragms with cuff members which contract and expand, and corner-braces for the body, constructed in pivotally-connected sections and having pivotal connection with the top and bottom of the body, for the purpose described.

6. In a portable dark room, a collapsible body, flexible sleeves at the ends of the body, capable of folding within the body, diaphragms in said sleeves and having cuff members forming a portion of the sleeve, capable of expansion and contraction, and inwardly-folding braces at the corners of the body, constructed in hinged sections, the sections having pivotal connection respectively with the top and bottom of the body, as described.

7. In a portable dark room, a flexible body, flexible sleeves at the ends of the body, capable of folding within the body, diaphragms having cuff members forming a portion of the sleeves, capable of expansion and contraction, inwardly-folding braces at the corners of the body, constructed in hinged sections, the sections having pivotal connection respectively with the top and bottom of the body, and a sight-hood detachably connected with the upper portion of the body and arranged to fold therein when the body is to be folded down upon itself, as described.

8. In a portable dark room, a body-section consisting of a stiff upper and a stiff lower section, pliable side sections, and end sleeves also of a pliable material, the pliable material being secured to the upper and lower sections in a light-tight manner, the sleeves being conical and provided at their outer ends with openings, partitions near the outer ends of the sleeves, provided with cuffs, the outer openings in the sleeves and the said cuffs being of an expansible and contractible nature, a sight-hood connected with the upper portion of the body, covering an opening therein and detachable from the said upper portion of the body, the said sight-hood being capable of folding down within the body, and means for holding the said hood in place on the body, as described.

9. In a portable dark room, a body-section consisting of a stiff upper and a stiff lower section, pliable side sections, and end sleeves also of pliable material, the pliable material being secured to the upper and lower sections in a light-tight manner, the sleeves being conical and provided at their outer ends with openings, partitions near the outer ends of the sleeves, provided with cuffs, the outer openings of the sleeves and the said cuffs being of an expansible and contractible nature, a sight-hood connected with the upper portion of the body, covering an opening therein and detachable from the said upper portion of the body, the said sight-hood being capable of folding down within the body, means for holding the said hood in place on the body, an illuminating medium located within said body, telescopically arranged and comprising a light-holding member and a non-actinic translucent member, and a ferrule provided with a deflector located at the opening in the upper portion of the body, which ferrule is adapted to receive the upper portion of the illuminating medium, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD LANDER HALL.

Witnesses:
J. FRED. ACKER,
JNO. M. RITTER.