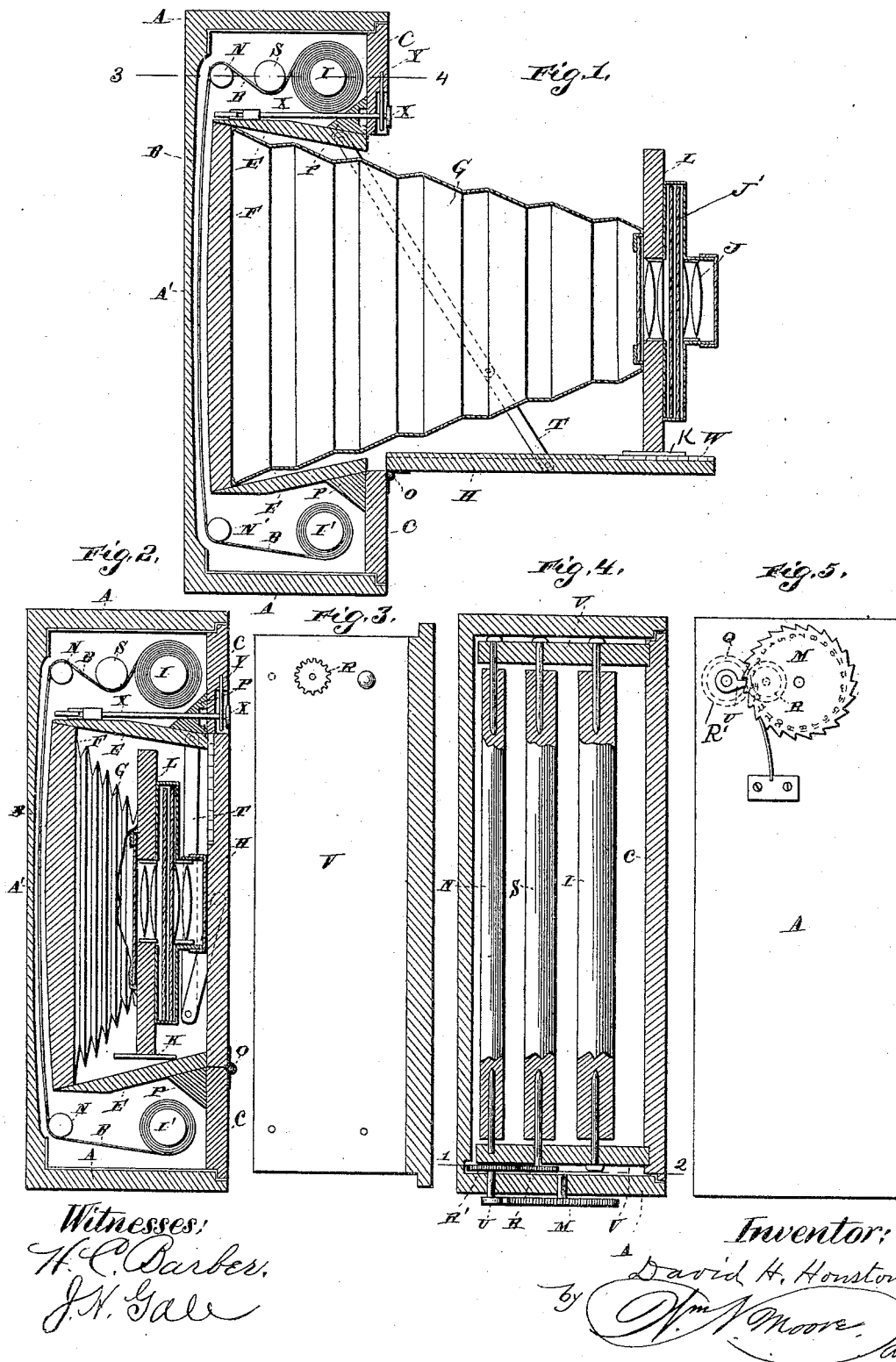


(No Model.)

D. H. HOUSTON.
FOLDING ROLL HOLDING CAMERA.

No. 526,445.

Patented Sept. 25, 1894.



UNITED STATES PATENT OFFICE.

DAVID H. HOUSTON, OF HUNTER, NORTH DAKOTA.

FOLDING ROLL-HOLDING CAMERA.

SPECIFICATION forming part of Letters Patent No. 526,445, dated September 25, 1894.

Application filed April 1, 1891. Serial No. 387,325. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. HOUSTON, a citizen of the United States, residing at Hunter, in the county of Cass and State of North Dakota, have invented certain new and useful Improvements in Folding Roll-Holder Cameras, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of the invention is to provide a folding roll holder camera which shall be simple of construction, easily and effectively operated, which can be cheaply produced, and which, when not in use may be folded up to occupy but little space thus enabling it to be easily carried by the traveler.

The invention consists in the details of construction and the combination and arrangement of parts as described hereinafter in this specification, and pointed out in the claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a central vertical section taken lengthwise of my improved camera, when unfolded. Fig. 2 is a central vertical section of the camera closed. Fig. 3 is a section on line 1—2 of Fig. 4. Fig. 4 is a section on line 3—4 of Fig. 1. Fig. 5 is a side view of the camera when folded, showing the indicating device.

In the drawings in which similar letters of reference denote corresponding parts in all the figures, the box is shown as composed of the side walls A, rear wall A' and front wall C. An opening is formed in the front wall C, and this opening is closed by a suitable door H, hinged to the lower part of the wall C, at O. A jointed or folding brace T is provided to support the door in a horizontal position when open, this brace folding out of the way when the door is closed.

L, is a suitable front board attached to the front of the bellows which carries the lens J and shutter J'. This front board is detachably connected to the door by the slide K, and when disconnected therefrom folds inward with the bellows when the camera is out of use.

The lens and shutter may be of any desired and well known form.

The inner end of the bellows is carried in

a frame F, supported by the partitions or light excluding divisions E, secured by suitable braces P, to the wall C, above and below the opening. As the box is of greater height than the diameter of the bellows, compartments are provided above and below the divisions E, and in these compartments are journaled the spools which carry the strip of sensitized film.

The film B is wound upon the spool I, and as it is unwound it passes under the measuring roller S, and over the guide roller N, down between the rear wall of the box, and the frame F, of the bellows, under guide roller N', and around the receiving spool I' in the lower compartment. The rear wall A', has its inner face slightly concave, and this curved or convex face of the wall A', causes the film to assume a curved position as it passes down and brings it more nearly in the curved focus field of the lens.

Upon the outside of the box is a measuring or indicating wheel M, for indicating the amount of film that is unwound as the film is successively exposed in taking the pictures. This measuring wheel is driven by a pawl U, carried on a shaft passing through the outer wall of the box, and on the inner end of the shaft is a gear wheel R' which is engaged and driven by a pinion R, on the end of the measuring roller S. The film is unwound from the supply spool and wound upon the receiving spool in any well known manner, and as it passes over the measuring roller it turns this and causes it, through the intermediate gearing M, to revolve the pawl which, at each revolution, engages one of the numbered teeth of the measuring wheel and turns it one step.

For indicating the points of division between the exposed portions of the film B I have provided the marker X, which consists of a rod passing through the wall C, and carrying upon its inner end a pencil or other marking point. The marker is normally held out of contact with the film by a spring Y, carried in the wall C which yields upon pressure and allows the marking point to be pressed against the film to indicate the point of division between the pictures.

For focusing the camera I have provided the scale W, upon the inside of the door H, by means of which the standard L, may be adjusted to any desired point, thus shifting
5 the lens to change the focus.

Having thus described my invention, what I claim is—

1. In a roll holding camera, the combination with two outer compartments for holding
10 the film, of a central compartment formed by light excluding divisions, a bellows attached at its rear end to the rear interior part of the central compartment and adapted to fold therein, a lens provided with a shutter, and
15 means for adjusting and indicating the extent of projection of said lens, substantially as described.

2. In a roll holding photographic camera, the combination with a case divided by light
20 excluding divisions into three compartments, of a bellows attached at its rear end to the back interior sides of said light excluding divisions, a film supply spool in one of the outer compartments and a take-up spool in the
25 opposite compartment, a front board carrying a lens and shutter, and means for indicating the extent of projection of said lens, substantially as described.

3. In a roll holding photographic camera,
30 the combination with a case divided by light excluding divisions into one central and two outer compartments; a film supply spool and a guide roller placed to the rear thereof in one of the said outer compartments; a take-
35 up spool and a guide roller placed to the rear thereof in the other of said outer compartments; a bellows attached at its rear end to the interior sides of the central compartment; a front board, carrying a lens and shutter,
40 attached to the front end of said bellows, and with it adapted to fold into the central compartment; means for adjusting and indicating the extent of projection of the lens; and a door adapted to close the front end of said

central compartment, substantially as de- 45 scribed.

4. In a roll holding photographic camera, the combination with a case divided by light
excluding divisions into one central and two outer compartments; of a supply spool, a
50 measuring roller, and a guide roller placed to the rear thereof in one of said outer compartments; a take-up spool and a guide roller placed to the rear thereof in the other of said
55 outer compartments; a bellows attached at its rear end to the inner sides of the central compartment; a front board, carrying a lens and shutter, attached to the front end of the bellows, and with it adapted to fold into the
60 central compartment; and means for indicating the extent of projection of the lens, substantially as described.

5. In a roll holding photographic camera the combination with the case; of a frame
65 carrying the operating mechanism and adapted to slide within the case, its front forming the front thereof; light excluding divisions within the frame and extending from the front close to the back thereof and forming a central compartment; supply and take-
70 up spools journaled in the front of the frame at the sides thereof; guide rollers journaled in said frame to the rear of the supply and take-up spools; a bellows attached at its rear
75 end to the interior sides of the central compartment; a front board, carrying a lens and shutter, attached to the front end of the bellows and with it adapted to fold into said
80 central compartment; means for adjusting and indicating the extent of projection of the lens; and an outwardly folding door hinged to the front of the frame and adapted to close the front of the central compartment, substantially as described.

DAVID H. HOUSTON.

Witnesses:

L. C. BARRETT,
J. H. GALE.