

N^o 21,561



A.D. 1903

Date of Application, 7th Oct., 1903

Complete Specification Left, 5th Aug., 1904—Accepted, 7th Oct., 1904

PROVISIONAL SPECIFICATION.

Improvements in Hand Cameras

We, CHARLES EDMUND PECZENIK, Electrical Engineer, of 31, Queen Victoria Street in the City of London, and AUGUSTUS MASKENS, Leather Goods Manufacturer, of 5 Maryland Road, Chitts Hill, Wood Green do hereby declare the nature of this invention to be as follows:—

5 Twin lens and reflector cameras generally have been hitherto of a bulky nature. The object of our invention is to reduce the size of cameras of the reflector type, to make them more portable and convenient to use. The novel feature of our reflector camera is that it is so constructed that when not in use it may be closed up in a comparatively small compass: This we accomplish
10 in the following manner:—

Between the lens board, which carries the lens, and the back of the camera, which carries the plate or film, instead of the usual box we have either a bellows or gusset, or else a telescopic arrangement, made of metal, wood or other material. When the camera is not in use, the lens board can be brought near
15 to the back of the camera; the bellows, or gusset, or the telescopic arrangement, allowing for this.

The above arrangement, which to the best of our knowledge, has never been applied to reflector cameras, is made possible by the displacement of the mirror and focussing screen. The mirror can be easily brought back to allow for this,
20 owing to a certain amount of angular play on the spindle of the mirror.

Unlike other twin lens, or reflector cameras, the focussing screen, which is usually at an angle of 90 degrees with the lens, is such that it can be displaced from its position, either by pivoting along one of its ends, or by taking it away completely.

25 We can cause the focussing screen to pivot in such a manner, that with the assistance of a spring or other device it will reach its correct angle and remain there, or we may remove it altogether.

The shutter, which is new in construction, is of the focal plane type, and works in combination with the mirror.

30 After the picture has been focussed the lever, button, or release, allows the spring which actuates the mirror to be released, and the mirror thereupon pivots and clears the lens, in order to enable the rays of light, which will presently act on the plate, to have thorough access to such plate. After the mirror will have cleared the lens, the shutter, which is actuated by a spring,
35 is released. This is brought about in a novel manner: On the spindle on which the mirror pivots is a small gear wheel. There is also one fixed on the spindle carrying the blind of the shutter. When the mirror will have reached the proper angle, the shutter will be released and the exposure made.

40 This is brought about preferably by a train of gear wheels, with or without several teeth missing, in order that the shutter may continue its travel, notwithstanding that the mirror may have reached a position of rest. Both the shutter and mirror are set in one single operation: This is done by having,

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preferably on an intermediate gear wheel, a tooth or arm which on being turned, by a small handle or other convenient device on the outside, comes into contact with a projecting tooth, or lever, which sets the mirror in its right position.

The speed of the shutter we adjust in a novel way: When it is necessary to regulate the width of the slit of the shutter, a projecting handle or key is taken hold of by the operator. This action disconnects a clutch arrangement on the spindle of the shutter, and the blind can thus be made to have the required opening. When the desired width of the slit is obtained the key or lever, just referred to, is made to resume its former position, the clutch comes into play, and the shutter retains the aperture to which it has been set.

Oct. 7th 1903

CHARLES E. PECZENIK

COMPLETE SPECIFICATION.

Improvements in Hand Cameras.

We, CHARLES EDMUND PECZENIK, Electrical Engineer, of 31, Queen Victoria Street, in the City of London, and AUGUSTUS MASKENS, Instrument Maker, of 12A, Cross Street, Islington, in the County of London do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:

Twin lens and reflector cameras generally have been hitherto of a bulky nature. The object of this invention is to reduce the size of cameras of the reflector type, to make them more portable and convenient to use. The novel feature of this reflector camera is that it is so constructed that when not in use it may be closed up in a comparatively small compass. This is accomplished in the following manner:—Between the lens board which carries the lens, and the back of the camera, which carries the plate or film, instead of the usual box there is either a bellows, or gusset or else a telescopic arrangement, made of metal, wood or other material. When the camera is not in use, the lens board can be brought near the back of the camera, the bellows, or gusset, or the telescopic arrangement, allowing for this.

The above arrangement, which to the best of our knowledge has never been applied to reflector cameras, is made possible by the displacement of the mirror and focussing screen. The mirror can be easily brought back to allow for this, owing to a certain amount of angular play on the spindle of the mirror.

Unlike other twin lens, or reflector cameras, the focussing screen, which is usually at an angle of 90 degrees with the lens, is such that it can be displaced from its position, either by pivoting along one of its ends, or by taking it away completely.

The focussing screen can be caused to pivot in such a manner that with the assistance of a spring or other device it will reach its correct angle and remain there, or it may be removed altogether.

The shutter which is new in construction is of the focal plane type and works in combination with the mirror. After the picture has been focussed the lever, button, or release, allows the spring which actuates the mirror to be released, and the mirror thereupon pivots and clears the lens, in order to enable the rays, which will presently act on the plate, to have thorough access to such plate. After the mirror will have cleared the lens, the shutter, which is actuated by a spring, is released. This is brought about in a novel manner: On the spindle on which the mirror pivots is a small gear wheel. There is also one fixed on the spindle carrying the blind of the shutter. When the mirror

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will have reached the proper angle, the shutter will be released, and the exposure made. This is brought about preferably by a train of gear wheels, with or without several teeth missing, in order that the shutter may continue its travel notwithstanding that the mirror may have reached a position of rest. Both

5 the shutter and mirror are set in the single operation: This is done by having, preferably on an intermediate gear wheel, a tooth or arm which on being turned by a small handle, or other convenient device, on the outside, comes into contact with a projecting tooth, or lever, which sets the mirror in its right position.

10 The speed of the shutter is adjusted in a novel way: When it is necessary to regulate the width of the slit of the shutter, a projecting handle or key is taken hold of by the operator. This action disconnects a clutch arrangement on the spindle of the shutter, and the blind can thus be made to have the required opening. When the desired width of the slit is obtained the key, or lever just referred to, is made to resume its former position, the clutch comes

15 into play, and the shutter retains the aperture to which it has been set.

In the accompanying drawings:—

Figure 1 is a longitudinal section of one form of hand camera constructed in accordance with this invention;

20 Figure 2 is a back view of the same, and

Figure 3 is a perspective view of the same.

Like letters indicate like parts throughout the drawings.

Between the lens board A which carries the lens and the back of the camera B which carries the plate or film is fixed a bellows or gusset C. The lens board A in its extended position is held open by distance bars D pivoted to the back B and engaging pins A¹ on the lens board. When the camera is not in use the lens board A can be brought near the back B, the gusset C and the focussing hood E folding up at the creases C¹ and E¹ and allowing the body to collapse, the distance bars D turning into the back B.

30 The focussing screen F is carried on a spindle F¹ journaled in the sides of the camera back B. The spindle is provided with a milled knob F² outside the case on one side whereby the screen F may be turned and a stop F³ on a leaf spring F⁴ on the back B is arranged to engage a recess F⁵ on the knob F² when the screen F is turned into a horizontal position for focussing, as shown in full lines in Figure 1; and when it is desired to collapse the camera the screen is turned into a vertical position in the back of the camera, as shown in dotted lines in Figure 1.

35 The reflecting mirror G is attached to a plate G¹ which is bent twice at right angles and is carried on a spindle G² journaled in two bearings H¹ in a frame H pivoted on a rod J supported in the sides of the camera. The frame H normally rests on a fixed cradle K connected with the rod J and with the sides of the camera: within the cradle is a pneumatic bulb K¹ connected by an air tube K² with a pneumatic hand ball K³ and when the ball K³ is pressed and the bulb K¹ expanded, the frame H is tilted upwards about the rod J and carries with it the mirror G which is thus moved out of the path of the rays

45 from the lens. The mirror plate G¹ is normally held flat against the frame H by means of a spring or the like, but when the focussing screen F is turned down into a vertical position it carries the mirror G with it, as shown in dotted lines in Figure 1, so that the body C of the camera is free to collapse.

50 The shutter is of the focal plane type: It comprises an upper blind L on a roller M and a lower blind L¹ on a roller N, the two rollers being connected by an elastic band O or otherwise. The lower roller N contains a spring N¹ which tends to pull the blinds down. The spindle of the upper roller M has a milled knob M¹ outside the camera whereby the blinds L L¹ may be turned up

55 on to the upper roller M and a toothed wheel M² on the end of the roller spindle is normally prevented from rotating backwards by a pivoted pawl P controlled by a spring P¹. The tail end of the pawl P supports a light rod Q.

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which can slide in guides Q¹ and the upper end of the rod Q is arranged in the path of a projection H² on the frame H so that when the frame H is tilted up by the pneumatic bulb K¹ the projection H² presses down the rod Q against the action of the spring P¹ and thus releases the toothed wheel M² and allows the spring N¹ to pull down the shutter on to the lower roller N. 5

In order to adjust the speed of the shutter the width of the slit between the blinds L L¹ may be regulated. For this purpose a clutch member N² is arranged to engage the end of the lower roller N and a milled knob N³ outside the case is attached to the clutch member N². The elastic band O passes from the upper roller M over the clutch member N² and the two rollers are thus normally connected, but by turning the knob N³ the clutch member N² may be disconnected from the roller N, and the upper roller M and its blind can be independently adjusted until the desired aperture has been obtained. When the knob N³ is made to resume its former position the clutch comes into play and the shutter retains the aperture. 10 15.

The body of the camera may be of leather, cloth, metal, wood or the like and may be telescopic or otherwise collapsible.

The focussing screen may be of any known type; it may be entirely removed to allow the camera to collapse or may be otherwise displaceable.

The mirror may be otherwise arranged to move out of the path of the rays from the lens and into the back of the camera for folding up; and the connection between the mirror and the shutter may be effected by a train of gear wheels or other suitable means. 20

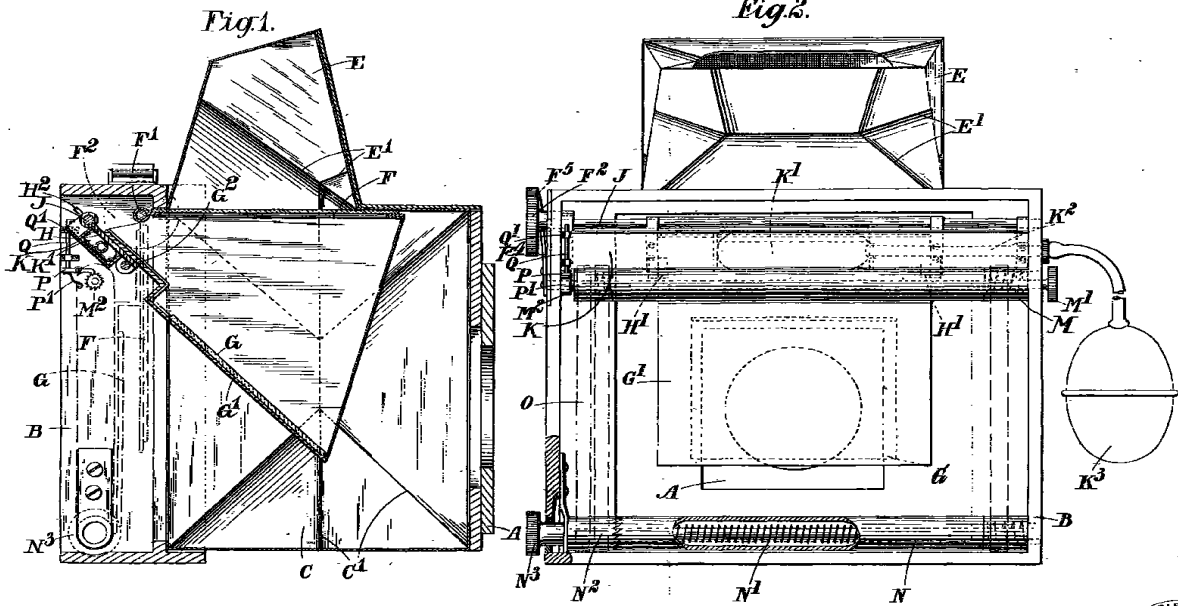
The two blind rollers may be connected otherwise than by elastic bands and in other features it is to be understood that the details may be varied without departing from this invention. 25

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. A collapsible reflector-focussing camera substantially as described. 30
2. In a collapsible reflector-focussing camera a normally horizontal focussing screen which can be displaced for the purpose described.
3. In a collapsible reflector-focussing camera an inclined mirror which can swing into the back of the camera for the purpose described.
4. In a collapsible reflector-focussing camera the combination with a collapsible body of a screen and mirror which can be displaced substantially as described. 35
5. In a collapsible reflector-focussing camera the combination with a collapsible body of a normally horizontal focussing screen and an inclined mirror which can both be turned into the back of the camera substantially as described. 40
6. In a reflector-focussing camera the combination with a collapsible body of a collapsible focussing hood such as E substantially as described.
7. In a reflector-focussing camera the combination with support such as H and a mirror which can be turned to clear the rays from the lens of a spring shutter automatically released through mechanism substantially as described by the motion of the mirror. 45
8. In a camera shutter the combination with two roller blinds normally connected of a clutch whereby one roller may be disconnected and independently adjusted substantially as described. 50
9. The complete camera substantially as described or illustrated in the accompanying drawings.

Dated this 29th day of July 1904.

CHARLES E. PECZENIK
Boult, Wade & Kilburn,
Agents for the Applicants. 55



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Fig. 1.

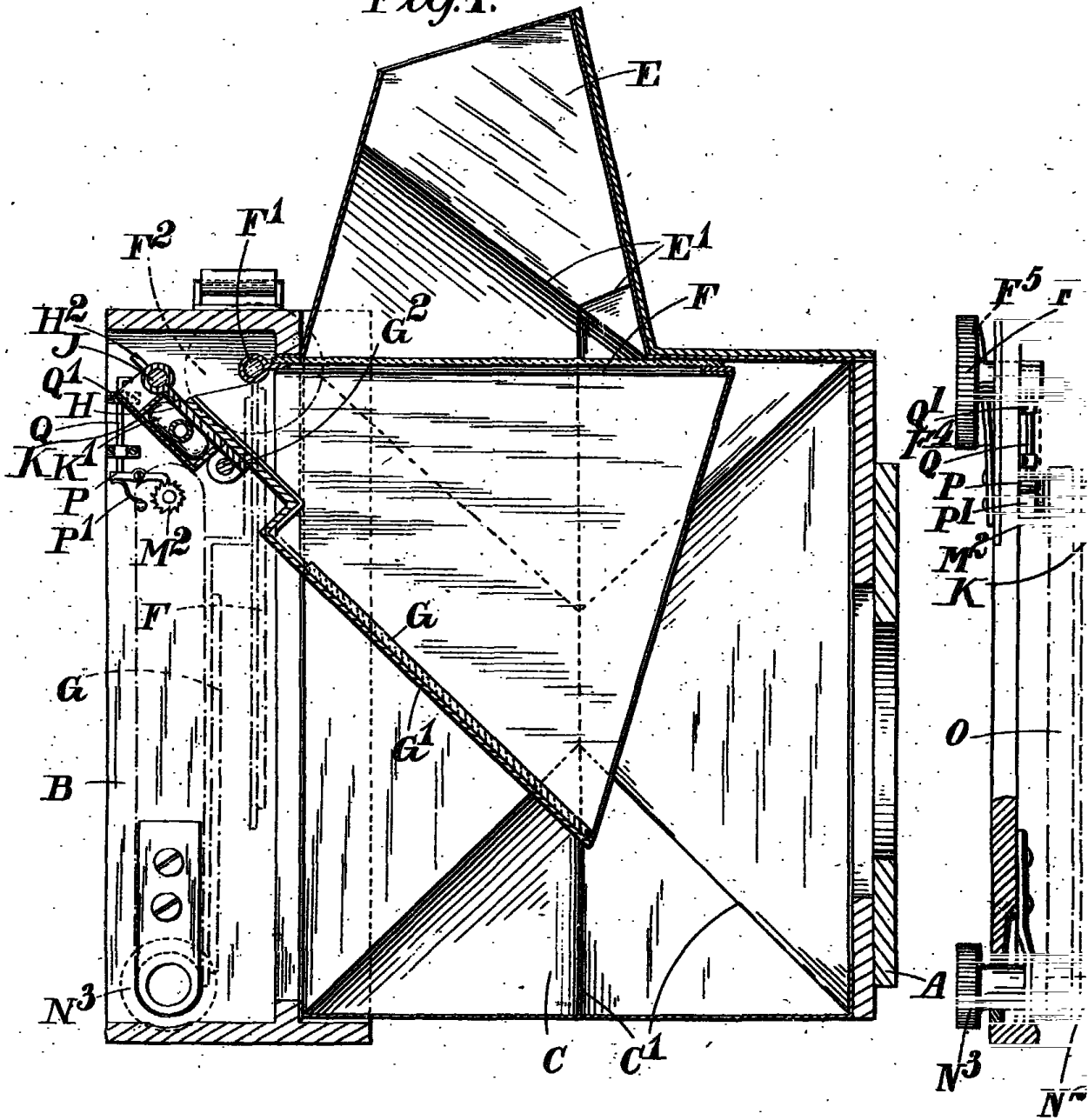
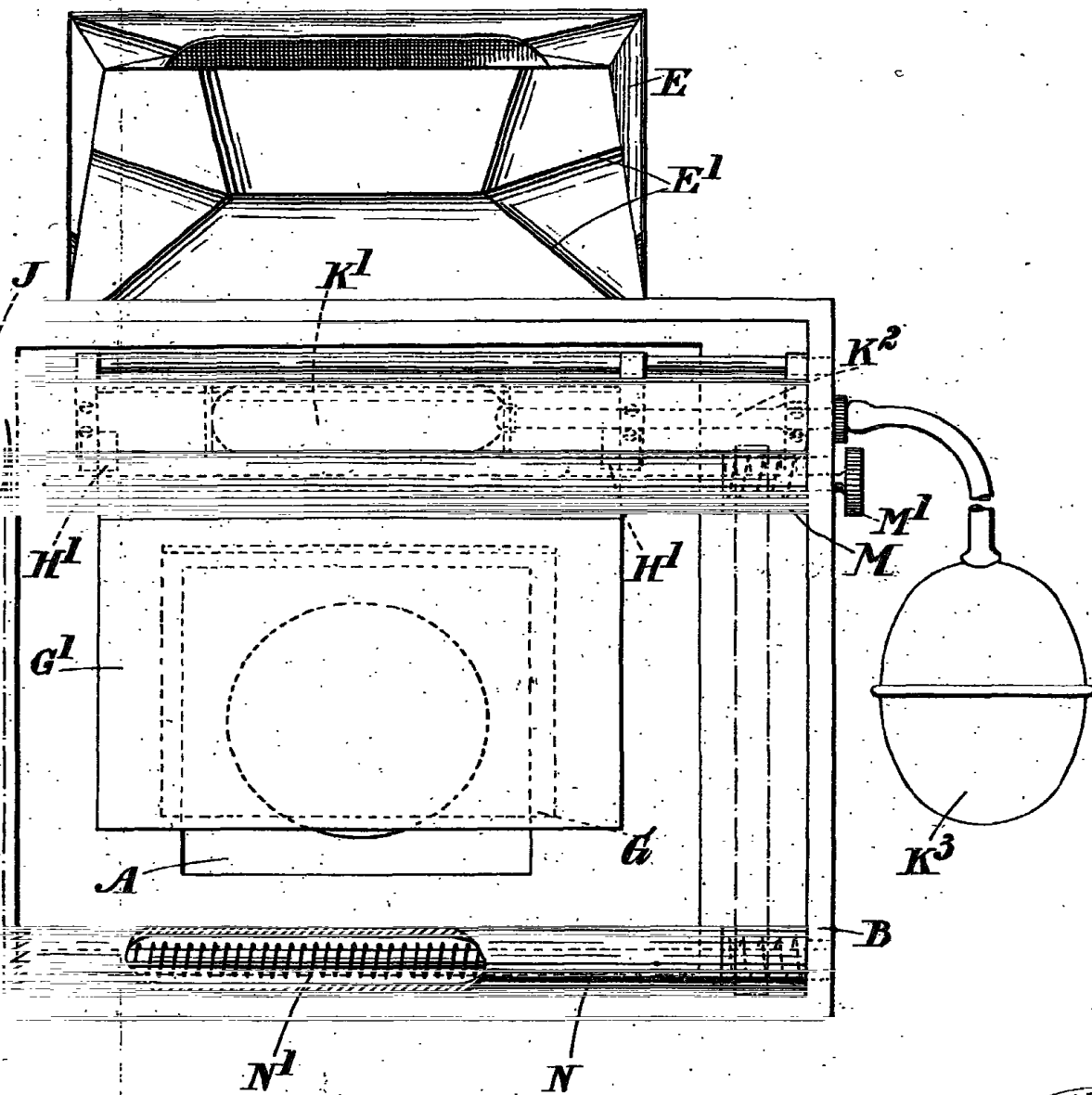


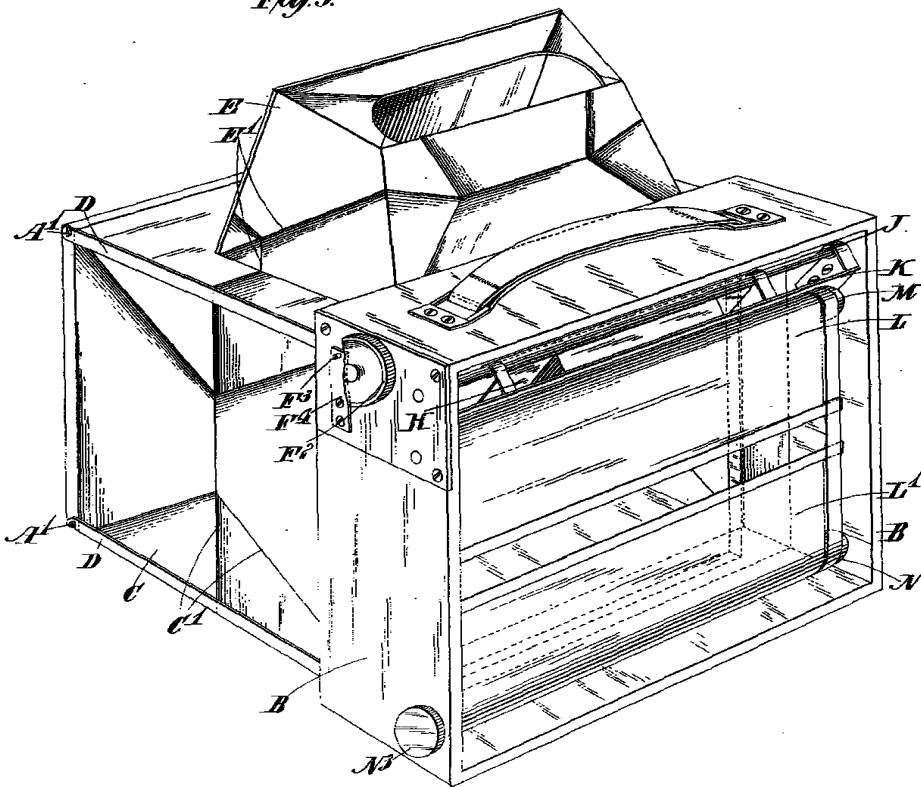
Fig. 2.



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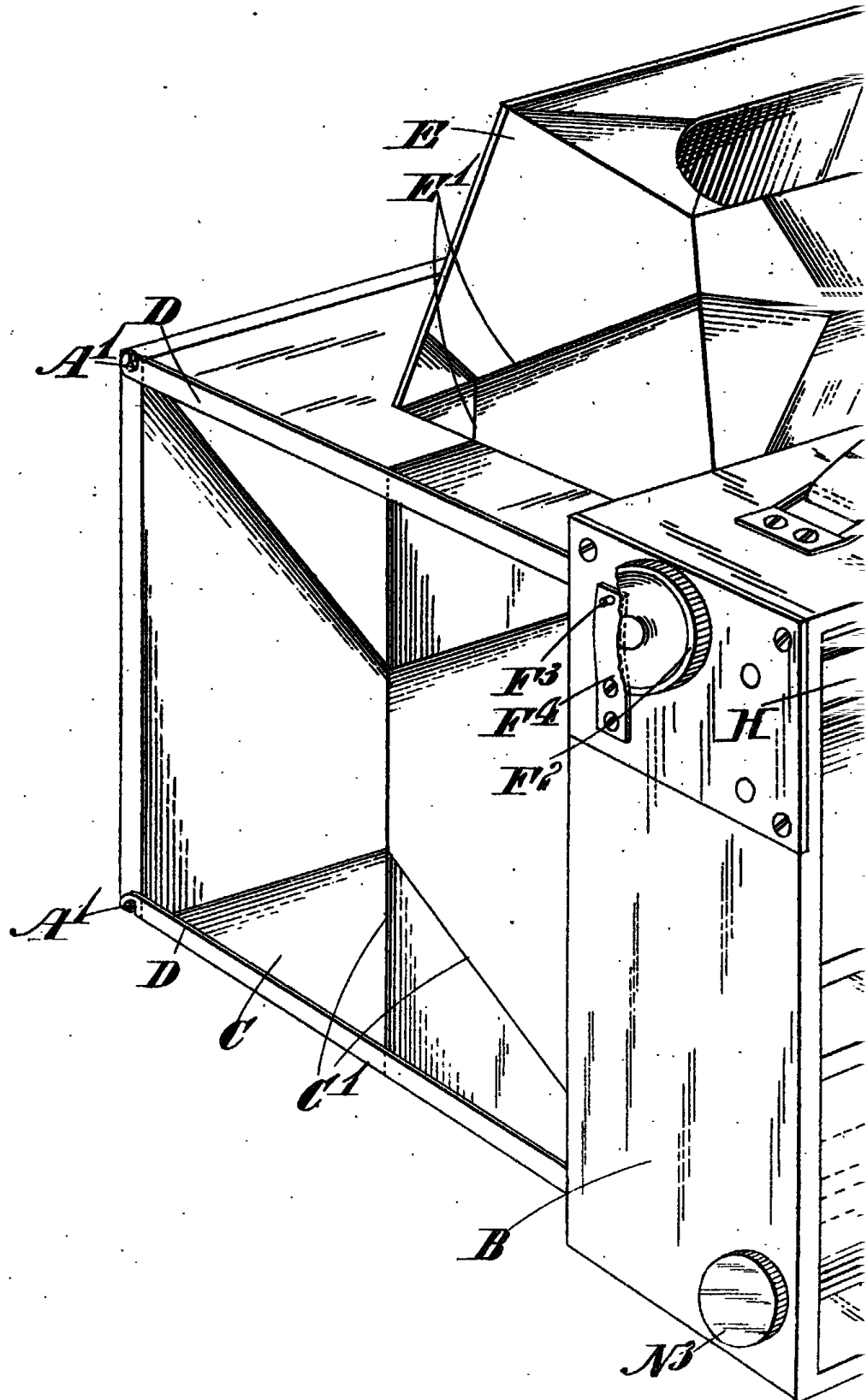
Fig. 3.

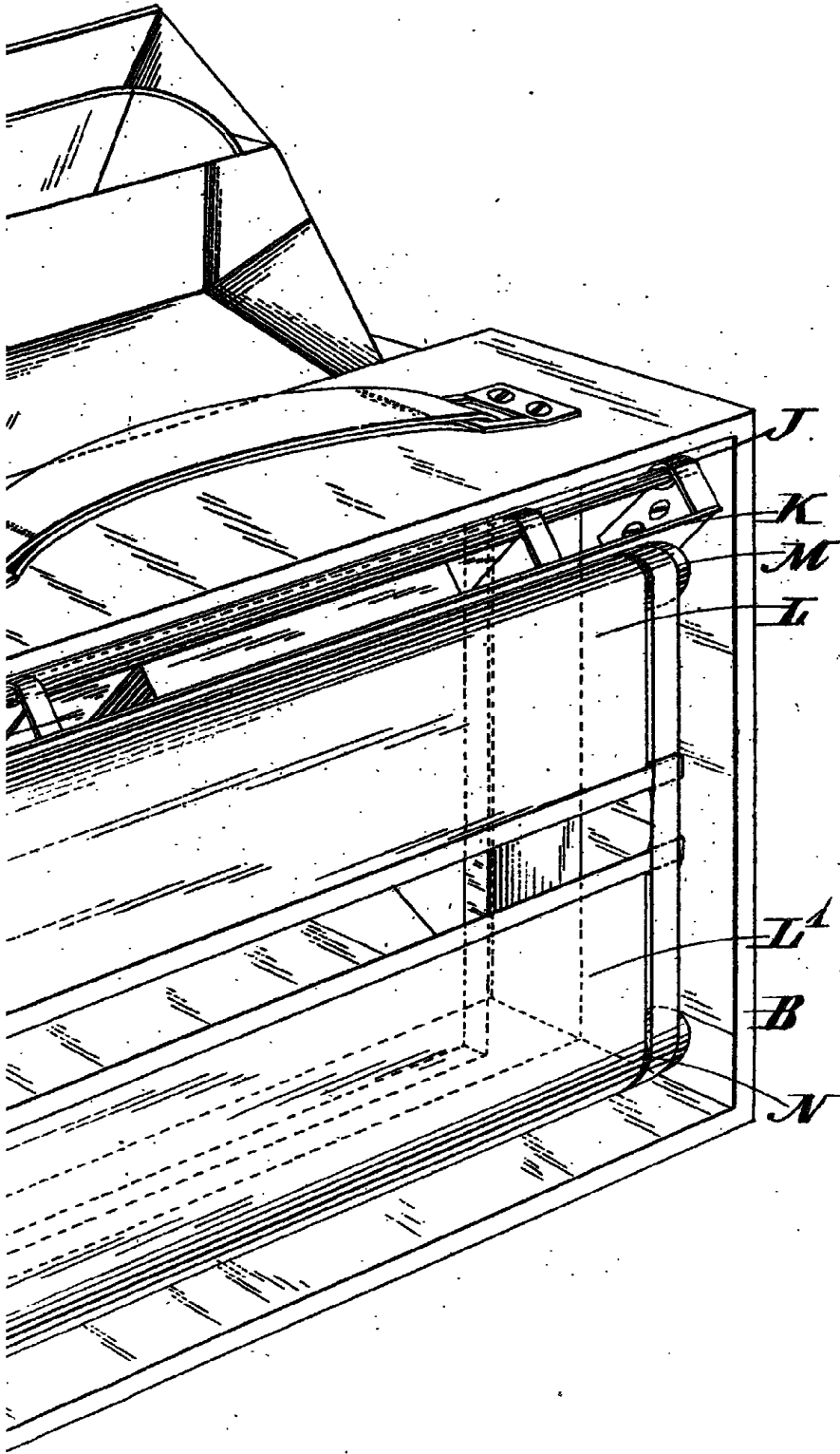


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Fig. 3.





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