

N<sup>o</sup> 16,198



A.D. 1906

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Complete Specification Left, 17th Jan., 1907—Accepted, 17th Oct., 1907

PROVISIONAL SPECIFICATION.

“Improvements in and relating to Cameras”.

We, CHARLES EDMUND PECZENIK, of 11, Pancras Lane, London, E.C., Engineer, and AUGUSTUS JOHN GRATTE MASKENS, of 12<sup>a</sup>, Cross Street, Islington, N., Leather Manufacturer, do hereby declare the nature of this invention to be as follows:—

5 This invention relates to cameras, and especially to collapsible reflex cameras of the type covered in the prior Letters Patent No. 21561/03.

The invention comprises a number of improvements which have for their general object to render such cameras easy of manipulation and more effective in use.

10 According to the invention we provide positive means for uplifting the reflecting mirror into position beneath the focussing screen to permit of the plate being exposed, so that no vibration may result to the camera casing. This we advantageously effect by mounting an arm upon the spindle or one of the pivot pins upon which the reflecting mirror is carried, and connecting  
15 this arm by means of a link of suitable form with a slide, which slide may be adapted to be engaged by means of a spring operated catch, so that it may be retained by the catch in the position corresponding to the uplifted position of the reflecting mirror. The slide aforesaid may be adapted to be moved by means of a stop mounted so as to protrude on the outside of the  
20 frame, and the spring operated catch may be adapted to be operated for release from without.

According to the invention moreover we provide the focussing screen with a hood, which, when extended upwardly, tapers in form for viewing the image on the reflecting screen, and we support this screen in the upwardly extended  
25 position by means of two flaps, which are adapted to assume a substantially vertical position so that their top edges may be engaged by means of a bar or other means secured to one side of the hood, the bar being preferably provided at its respective extremities with recesses which advantageously may slide into V-shaped notches provided in the top edges of the respective flaps,  
30 the hood being held in position by tension thus exercised upon it.

According to the invention moreover, the flaps aforesaid are advantageously provided of a shape corresponding to that of the top of the camera casing, and are hinged at the respective edges thereof, and are adapted to fold one beneath the other. That flap which lies uppermost is provided with a hasp  
35 with which a catch may engage on it being brought down into position.

According to the invention also, the plate of the catch last before referred to, is provided with a stop or an independent stop is provided for the retention of an arm mounted at the exterior of the casing and upon the spindle upon which the focussing screen is carried, so that upon the uppermost flap  
40 being brought down into its closed position its hasp will depress the catch plate and thus release the arm by which the focussing screen is retained in its uppermost position, so that by such means no damage is likely to result

[Price 8d.]



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through inadvertence in allowing the focussing screen to remain in its horizontal position when closing the bellows, the focussing screen automatically dropping into its vertical position immediately on closure of the flaps.

It will be understood that the catch plate aforesaid is provided with a button by means of which the uppermost flap may be released. 5

Both flaps are preferably provided with spring hinges, so that when the uppermost flap is released they both assume a substantially vertical position ready for the hood to be mounted upon them in the manner hereinbefore described.

It will be understood that it is contemplated to make the hood of flexible material so that it may readily fold down on being withdrawn from the flaps. 10

It will furthermore be understood that by reason of the arrangement before described the focussing screen is retained in an absolutely fixed position and according to the invention the mirror may by means of a detent or other device be immovably fixed with relation to the focussing screen when the latter is brought into its uppermost position, and the lowermost position of the mirror may be determined by such means as a slotted arm depending from the screen, the slot engaging a pin upon the edge of the mirror, and thus permitting of the latter being freely uplifted when an exposure is to be made. By such means the possibility of the mirror and screen working out of register with the lens is avoided. 15 20

According to the invention we preferably insert between the hood and the focussing screen a piece of velvet or other similar jointing material which advantageously may have a backing of india-rubber on the screen or on the hood, so as thus to secure an absolutely light-tight contact of the screen with the hood. 25

In addition to the foregoing we provide for the purpose of excluding light from the plate, that finds its way through focussing screen at top, a piece of flexible material attached permanently to some or all sides of mirror plate underneath, and to the inner surface of stationary frame which carries the reversing frame, thus forming a light-tight chamber under the mirror when mirror is raised. In the front of this, behind the lens, we provide an aperture through which the image is allowed to pass from lens to plate. An aperture is also formed at back of chamber in front of plate. 30

According to the invention we may provide a rack focussing extension front whereby a larger field for variation in focus can be obtained than by means of the focussing jacket, if desired. 35

Dated this 20th day of June, 1906.

EDWARD EVANS & Co.,  
Chartered Patent Agents,  
27, Chancery Lane, London, W.C., &  
105, Colmore Row, Birmingham,  
Agents for the Applicants. 40

## COMPLETE SPECIFICATION.

## "Improvements in and relating to Cameras". 45

We, CHARLES EDMUND PECZENIK, of 11, Pancras Lane, London, E.C., Engineer, and AUGUSTUS JOHN GRATTE MASKENS, of 12<sup>a</sup>, Cross Street, Islington, N., Leather Manufacturer, do hereby declare the nature of this

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invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to cameras, and especially to collapsible reflex cameras of the type covered in the prior Letters Patent No. 21561/03, in which the reflecting mirror and the focussing screen both fold down so as to be approximately parallel and within the back part of the hood & which moreover are provided with a viewing hood.

The invention comprises a number of improvements which have for their general object to render such cameras easy of manipulation, and more effective in use.

The invention is illustrated in the accompanying drawings in which

Figure 1 is a side elevation of a camera provided according to the invention with the bellows and hood extended.

Figure 2 is a side elevation with the outer casing removed showing the reflector bellows and lens bellows closed.

Figure 3 is a similar view to Figure 2 showing the lens bellows in position for exposing the plates and the outer case removed.

Figure 4 is a similar view showing the reflector bellows extended, the flaps for the hoods in their raised position, and the outer casing removed.

Figure 5 is a plan view of the camera closed.

Figure 6 is a plan view corresponding to Figure 1.

Figure 7 is a view similar to Figure 5 showing the flaps open and the recess for the hood.

Figure 8 is a view similar to Figure 6 showing the hood folded down flat.

Figure 9 is a back view corresponding to Figure 1.

Figure 10 is a front elevation corresponding to Figure 4.

Figure 11 is a front elevation corresponding to Figure 3.

Figure 12 shows detail views of the air escape device.

According to the invention we provide positive means for uplifting the reflecting mirror into position beneath the focussing screen to permit of the plate being exposed, so that no vibration may result to the camera casing. This we advantageously effect by mounting an arm *a* upon the spindle *b* or one of the pivot pins upon which the reflecting mirror *c* is carried, and connecting this arm by means of a link *d* of suitable form with a slide *e*; which slide may be adapted to be engaged by means of a spring operated catch *f* so that it may be retained by the catch *f* in the position corresponding to the uplifted position of the reflecting mirror *c*,—that is the position indicated in Figures 3 and 10. The slide *e* aforesaid may be adapted to be moved by means of a stop *g* mounted so as to protrude outside the frame, as illustrated in Figure 1, and the spring operated catch *f* may also protrude so as to be operated for release from without as indicated in Figure 1.

It will be understood that the reflecting mirror *c* is retained in its uppermost position indicated in Figure 3 by means of the finger piece *f*<sup>1</sup> of the catch *f* which engages in a recess *e*<sup>1</sup> in the slide *e*. The depression of the catch *f* permits of the fall of the reflecting mirror.

According to the invention moreover we provide the focussing screen *h* with a hood *i*, which, when extended upwardly into the position indicated in Figures 1 and 9 tapers in form for viewing the image on the reflecting mirror *c*, and we support this hood in the upwardly extended position by means of two flaps *j* and *j*<sup>1</sup> which are adapted to assume a substantially vertical position so that their top edges *j*<sup>2</sup> may be engaged by means of a bar *k* or other means secured to one side of the hood *i*, the bar *k* being preferably provided at its respective extremities with recesses *l* (Figure 8) which may slide into notches *m* (Figure 5) provided in the respective top edges *j*<sup>2</sup> of the flaps *j* and *j*<sup>1</sup>, the hood being held in position by the tension thus exercised upon it.

According to the invention moreover, the flaps *j* and *j*<sup>1</sup> aforesaid are advan-

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tageously provided of a shape corresponding to that of the top of the camera casing, and are hinged at the respective edges thereof, and are adapted to fold one beneath the other as shown in Figure 5. The flap  $j^1$  which lies uppermost is provided with a hasp  $n$  with which a catch  $o$  may engage, on it being brought down into position for closure. 5

According to the invention also, the plate of the catch  $o$  last before referred to, is provided with a stop  $p$  or an independent stop is provided for the retention of an arm  $q$  mounted at the exterior of the casing and upon the spindle  $r$  upon which the focussing screen  $h$  is carried, so that upon the uppermost flap  $j^1$  being brought down into its closed position its hasp  $n$  will depress the catch plate  $o$  and thus release the arm  $q$  by which the focussing screen  $h$  is retained in its uppermost position in the use of the camera, so that by such means no damage is likely to result through inadvertence in allowing the focussing screen  $h$  to remain in its horizontal position when closing the bellows  $s$ , the focussing screen  $h$  automatically dropping into its vertical position immediately on closure of the flaps  $j$  and  $j^1$ . 10 15

It will be understood that the catch plate aforesaid is provided with a button  $t$  by means of which the uppermost flap may be released.

Both flaps  $j$  and  $j^1$  are preferably provided with a spring hinge  $u$  so that when the uppermost flap  $j^1$  is released the flaps both assume a substantially vertical position ready for the hood  $i$  to be mounted upon them in the manner hereinbefore described. 20

It will be understood that it is contemplated to make the hood  $i$  of flexible material so that it may readily fold down on being withdrawn from the flaps, as shown in Figures 8, and so as to fold with the top part of the bellows  $s$ . 25

It will furthermore be understood that by reason of the arrangement before described the focussing screen  $h$  is retained in an absolutely fixed position and according to the invention the mirror  $c$  may by means of a detent  $v$  and catch  $v^1$  or other device be immovably fixed with relation to the focussing screen  $h$ , and the lowermost position of the mirror  $c$ , when the camera is in use, may be determined by such means as a slotted arm  $w$  depending from the screen  $h$ , the slot engaging a pin  $x$  upon the edge of the mirror  $c$ , and thus permitting of the latter being freely uplifted and accurately set into its uppermost position when an exposure is to be made. By such means the possibility of the mirror  $c$  and screen  $h$  working out of register with the lens is avoided. 30 35

We may insert between the hood  $i$  and the focussing screen  $h$  a piece of velvet or other similar jointing material which advantageously may have a backing of indiarubber on the screen or on the hood, so as thus to secure an absolutely light-tight contact of the screen with the hood. 40

We prefer to attach to the back of the frame carrying the bellows an air escape device such as commonly employed consisting of a block  $a^1$  of wood or other suitable material provided with grooves  $b^1$  which are so provided as to prevent any entry of light into the camera.

In addition to the foregoing for the purpose of excluding from the plate any light that finds its way through the focussing screen at the top we utilise a hood of flexible material  $y$  attached permanently to some or all sides of the mirror plate  $c$  underneath, and to the inner surface of the stationary casing which carries the shutter frame, thus forming a light-tight chamber under the mirror when the mirror is raised. In the front of this, behind the lens, we provide an aperture  $z$  through which the rays are allowed to pass from lens to plate. 45 50

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:— 55

1. In a camera such as hereinbefore specified, means for uplifting the

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reflecting mirror into determined position beneath the focussing screen to permit of the plate being exposed, and provided in the manner and substantially as described.

2. In a camera such as hereinbefore specified means for mounting the hood  
5 in the manner and substantially as hereinbefore described.

3. In a camera such as claimed in Claim 2 means for ensuring the fall of the focussing screen before the closure of the camera casing substantially as described.

4. In a camera such as claimed in Claim 1 the provision of means for  
10 immovably fixing the mirror with relation to the focussing screen substantially as hereinbefore described.

5. In a camera such as specified in Claim 1 the use of a light tight chamber beneath the reflecting mirror in the manner for the purpose and substantially as described.

15 6. A reflex camera substantially as described with reference to the accompanying drawings.

Dated this 17th day of January 1907.

EDWARD EVANS & Co.,  
Chartered Patent Agents,  
London and Birmingham,  
Agents for the Applicants.

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[This Drawing is a reproduction of the Original on a reduced scale.]

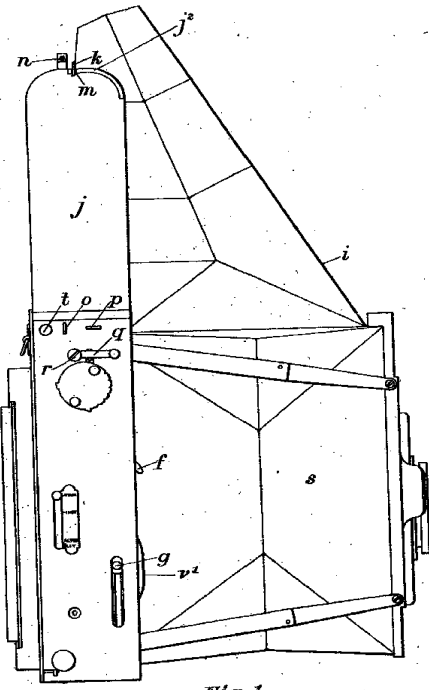


Fig. 1.

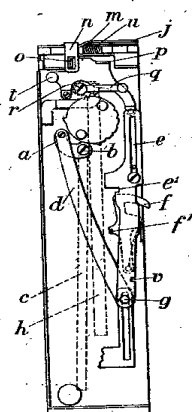


Fig. 2.

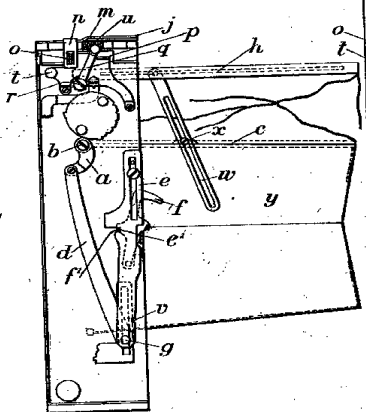


Fig. 3.

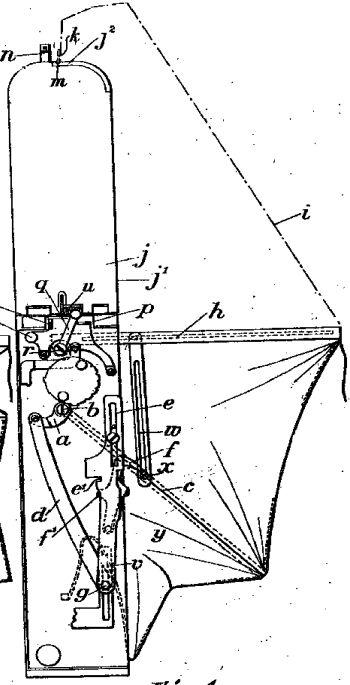


Fig. 4.

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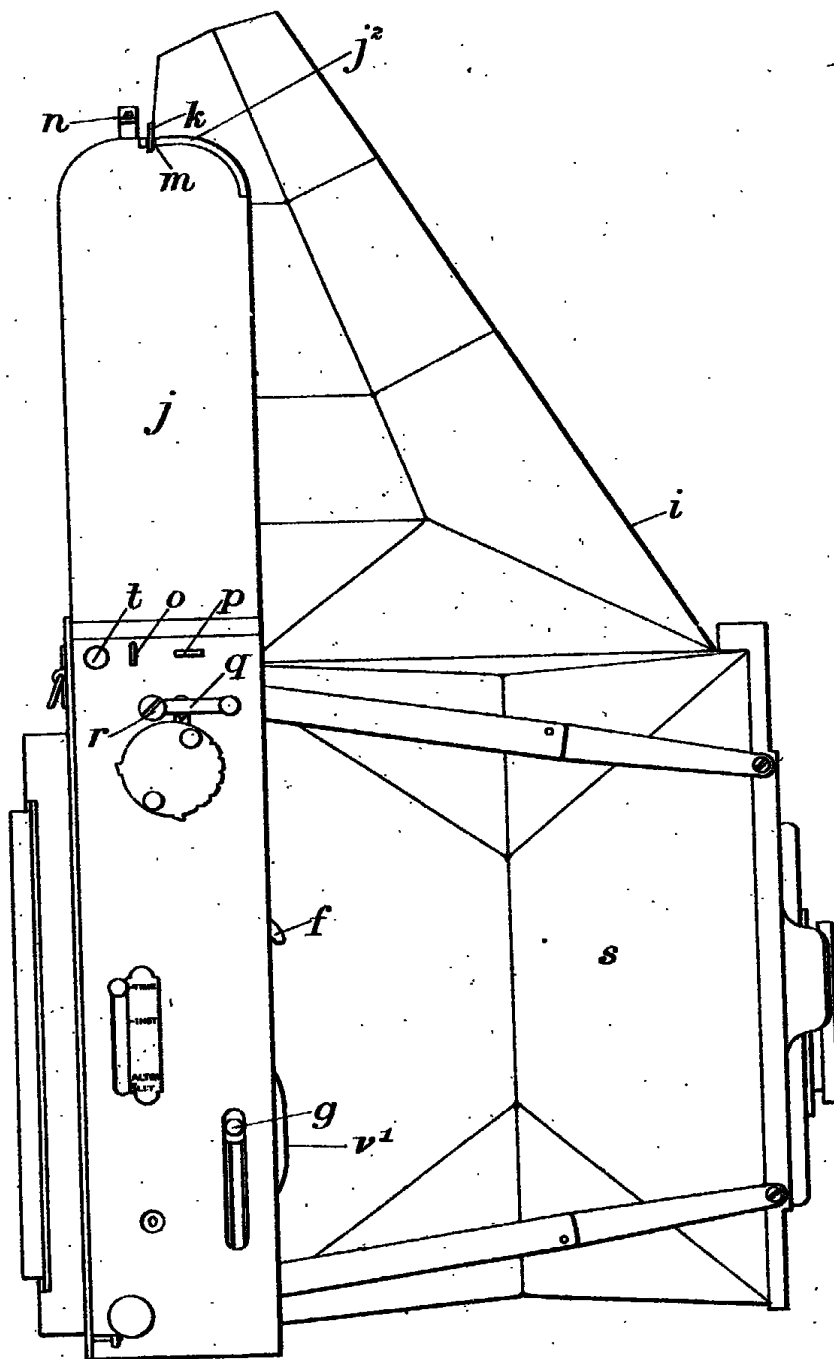


Fig. 1.

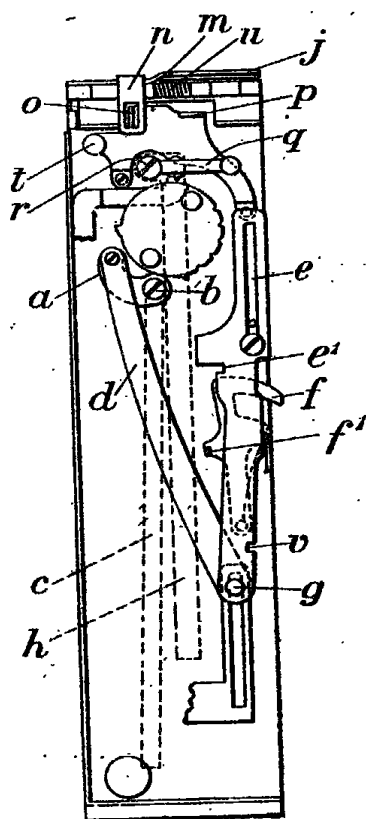


Fig. 2.

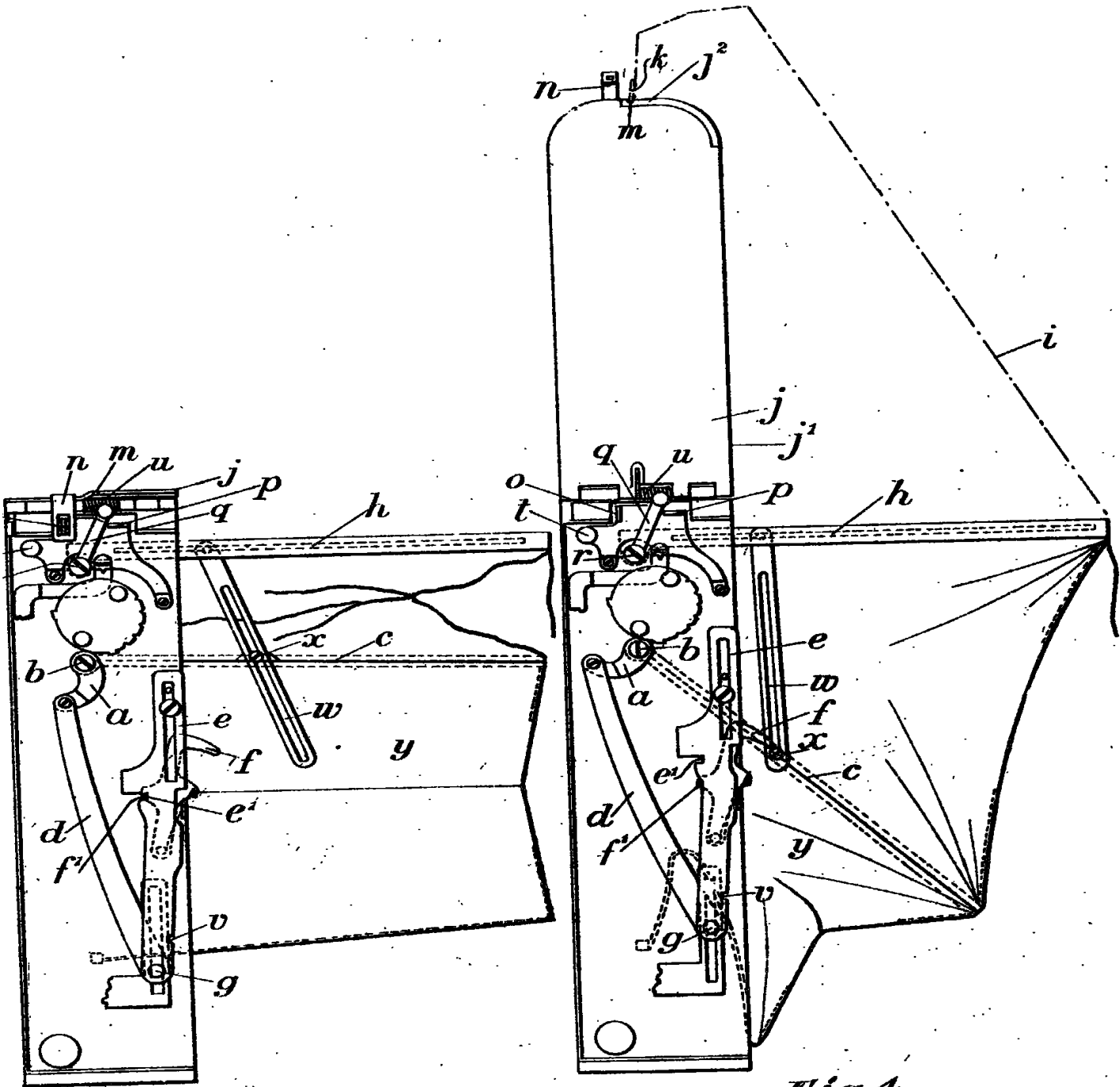


Fig. 3.

Fig. 4.

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[This Drawing is a reproduction of the Original on a reduced scale.]

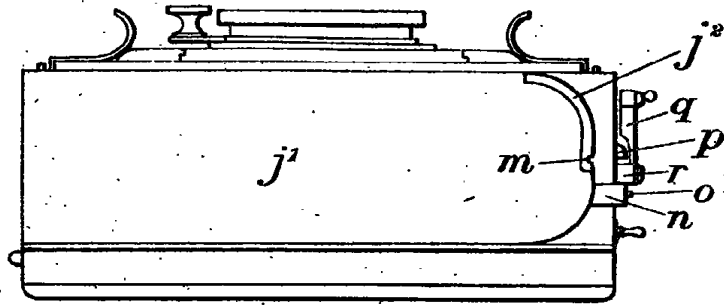


Fig. 5.

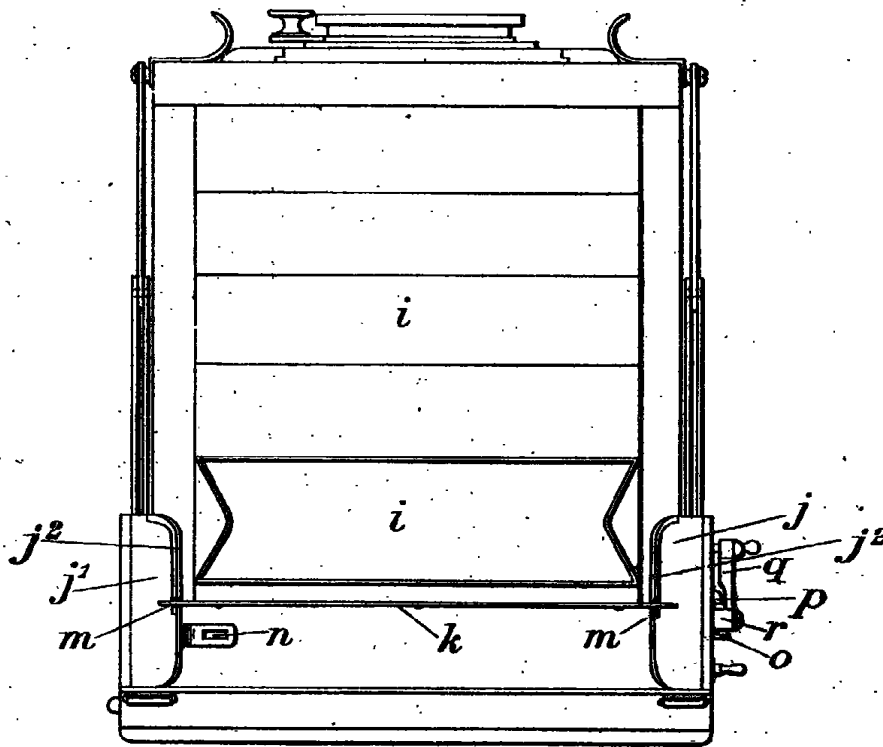


Fig. 6.

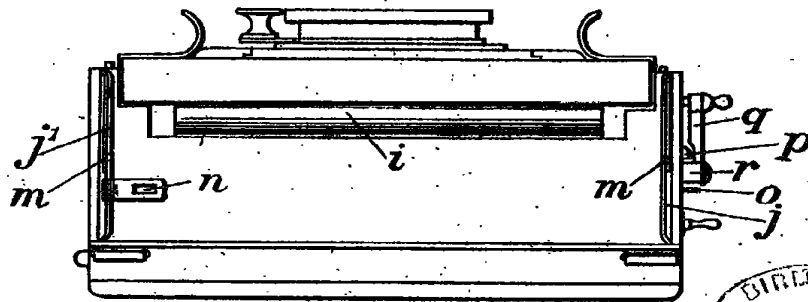


Fig. 7.

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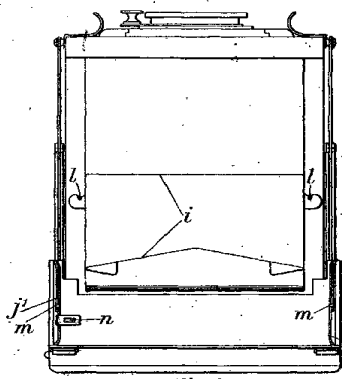


Fig. 8.

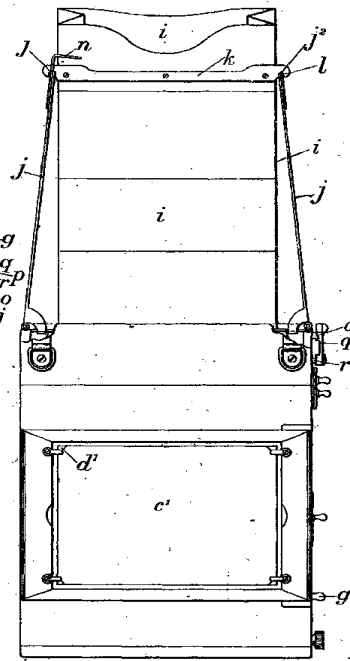


Fig. 9.

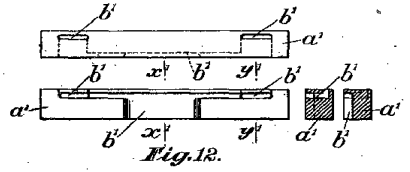


Fig. 12.

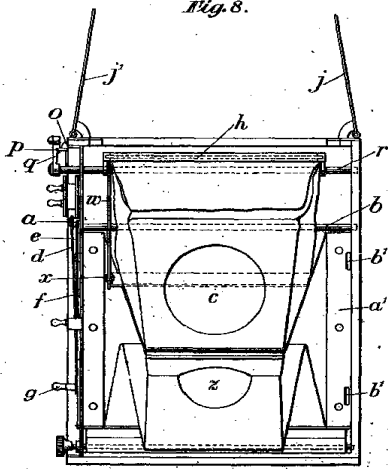


Fig. 10.

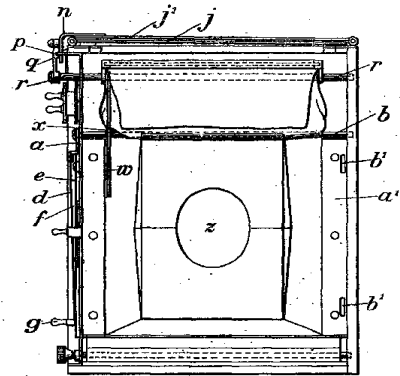


Fig. 11.

[This Drawing is a reproduction of the Original on a reduced scale.]

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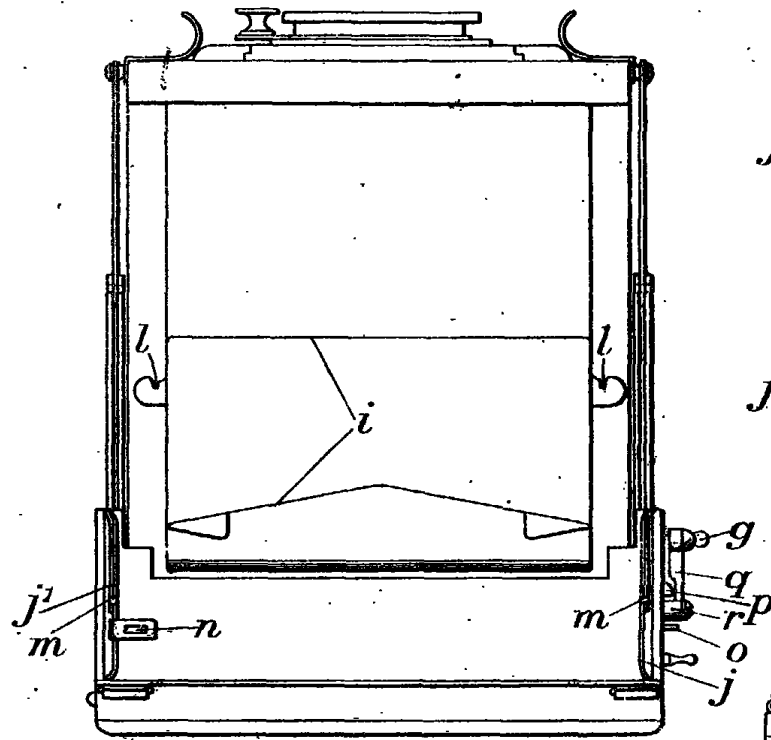


Fig. 8.

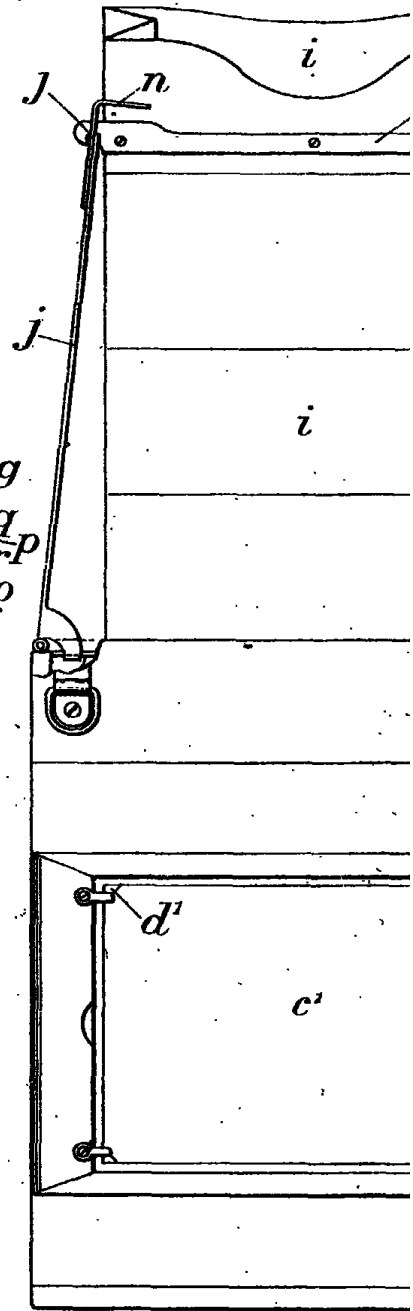


Fig. 9.

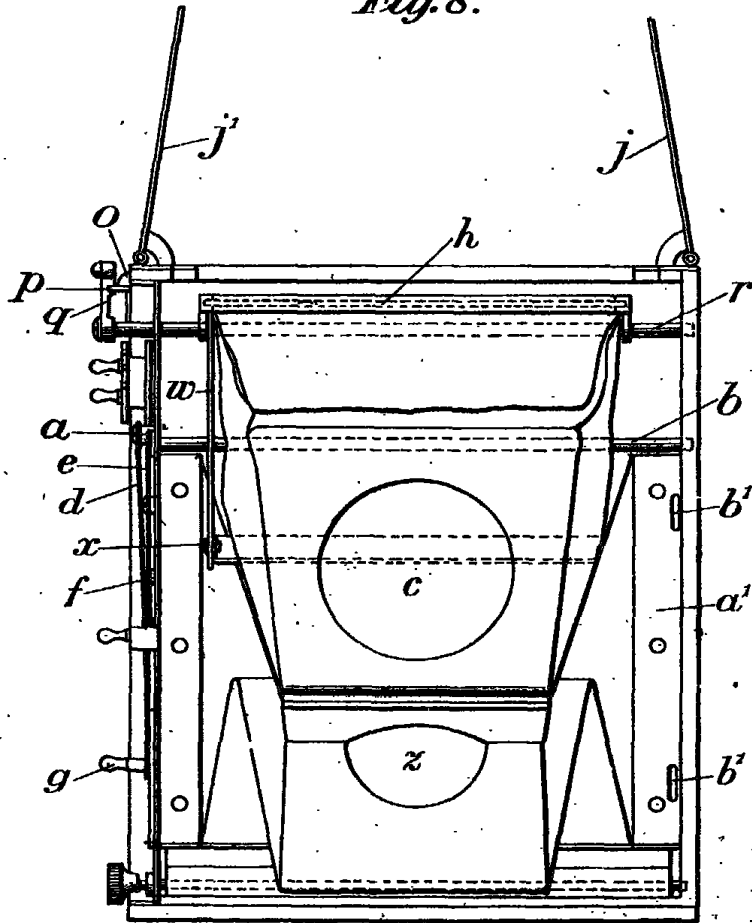


Fig. 10.

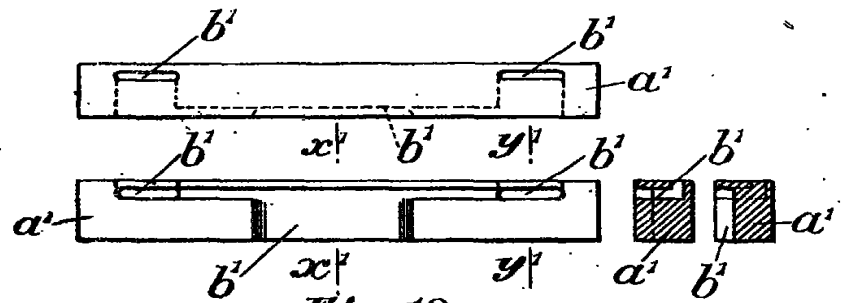
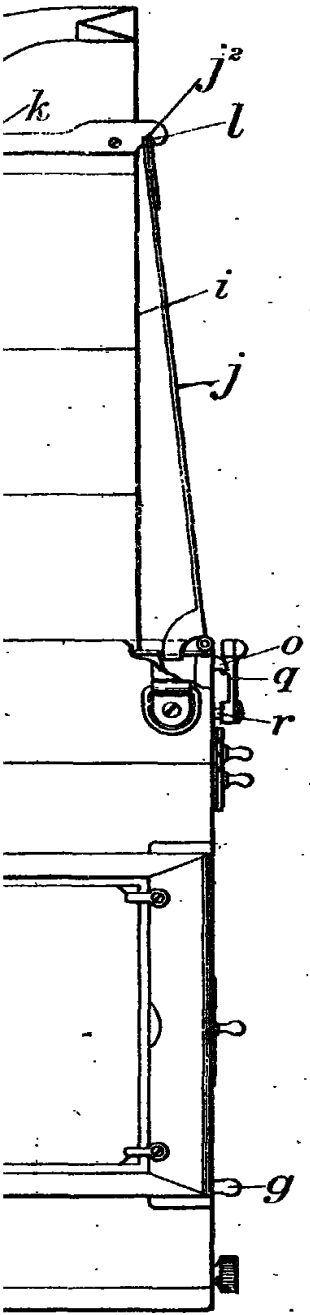


Fig. 12.

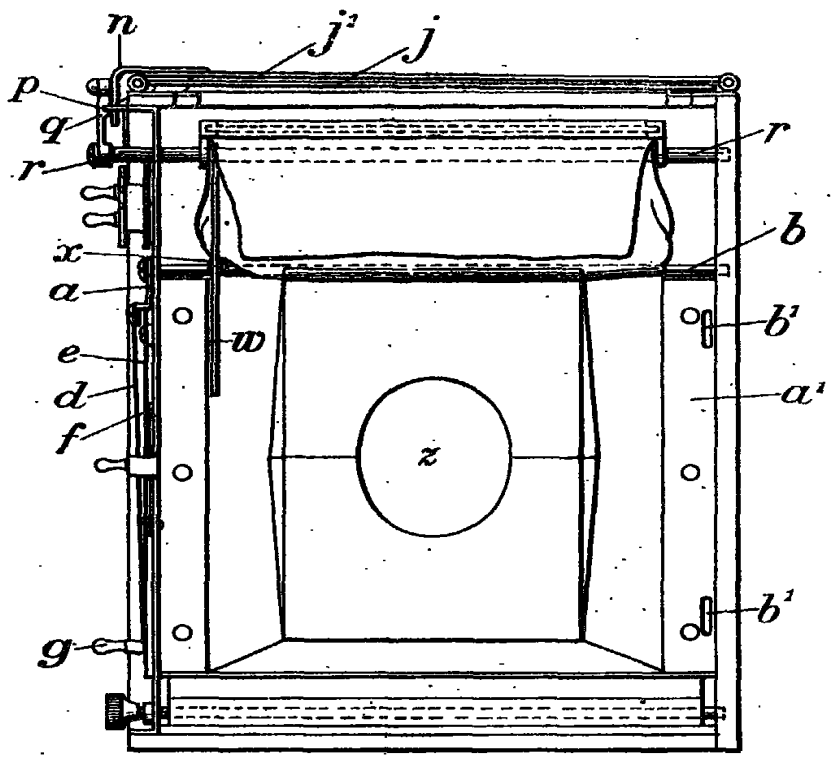


Fig. 11.