

PATENT SPECIFICATION



Application Date: Sept. 23, 1926. No. 23,500/26.

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Complete Accepted: Dec. 15, 1927.

PROVISIONAL SPECIFICATION.

Improvements in or relating to Roll Film Photographic Cameras.

We, THE HOUGHTON-BUTCHER MANUFACTURING COMPANY LIMITED (an English limited liability company duly registered), of Clifford Road, Walthamstow, London, E. 17, ALFRED JOSEPH DENNISS, of "The Langdales", Connaught Avenue, Chingford, Essex, General Manager of the aforesaid company, and VALENTINE WILLIAM EDWARDS, of 69, Ulverston Road, Walthamstow, London, E. 17, both British subjects, do hereby declare the nature of this invention to be as follows:—

This invention refers to improvements in or relating to roll-film photographic cameras and consists of improvements in or relating to the method of and means for mounting the spool pin or spool pins on which the film spool is mounted in the spool chamber in such cameras.

The present invention is as follows:—

The spool pin at one end or at both ends of the spool chamber (for example the spool pin at one end only of such chamber in the case of the winding spool chamber or at both ends of such chamber in the case of the film supply spool chamber) is fixedly mounted on—and extends at or about right angles to the plane of the face of—a plate or frame which is swung or hingedly mounted to the side member or side wall of the camera where the said side wall forms the end of such spool chamber, the arrangement and mounting being such that said hinged or swinging plate or frame can be swung or moved into position in suchwise that the spool pin thereon will pass from the exterior of said side wall through an aperture in the latter and extending inwardly therethrough into the spool chamber will enter the central aperture or recess formed to receive same in the end

of the spool when the latter has been placed in position and centred in the spool chamber; and means are provided to then lock or secure this hinged or swinging plate or frame in this operative position; and advantageously same may be locked or secured in this operative position by means of the removable back e.g. by means of a detachable back of the kind which encloses or embraces half the body of the camera.

For example the present invention may be carried into practice as follows in the case of a roll-film camera of the well-known folding type wherein the extensible lens carrying front can be slid back or folded into a chamber or space—adapted to receive same—intermediate of the two spool holding chambers located one at each end of the body of the camera; and wherein the back of the camera is detachable and such detachable back encloses or embraces half (or thereabouts) of the body of the camera.

In this type of camera, the opposite sides or walls, extending lengthwise of the camera body and which we will term the top and bottom side walls—the end parts of which form the end walls of the spool holding chamber at each end of the body of the camera, are each usually constructed of three juxtaposed metal sheets or layers termed (a) the "inner lining" (b) the "lining" and (c) the outer casing or "body outer".

To mount the aforesaid hinged or swinging plate or frame carrying the spool pin for one end of one of the spool holding chambers, a slot is formed in the "inner lining" where same forms one end of the spool chamber and near that edge of such inner lining which is covered

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and uncovered by the detachable back; and on the narrow strip or bar thus formed in said inner lining, the said plate or frame carrying the spool pin is hinged or swung, for example by simply threading the end of such plate or frame (i.e. the end remote from the spool pin) through such slot and then bending over said end of said plate or frame so as to loosely encircle or embrace said strip or bar of the inner lining; and thereby said plate or frame is hinged or attached to said bar or strip on the inner lining so as to be capable of being swung or turned to the desired extent around same, e.g. through a half circle or more.

The other end i.e. the free end of said hinged or swinging plate is advantageously formed in suchwise as to totally exclude or assist in totally excluding light entering said spool chamber through the aperture in the said end wall for said spool pin where said plate fits against the outer casing or body outer; for example this free end of said hinged plate may be stamped or formed with a curved flange (extending outwardly and then in the plane of the said plate) adapted to fit a corresponding curved recess or depression formed to receive same in the outer casing or body outer as hereinafter explained.

An aperture is formed through the end wall of the spool chamber for the spool pin to pass freely therethrough from the outside inwardly to engage the end of the spool.

That part of the inner lining which forms the end wall of the spool chamber as aforesaid, and adjacent to where the hinged or swinging plate is attached thereto, is depressed or formed with a recess on the outside of the spool chamber corresponding in outline and depth more

or less closely to the outline and thickness of said hinged plate or frame so that, when the latter is swung into position with the spool pin extending through the said aperture into the interior of the chamber, the hinged plate will lie (in said recess) more or less flush with the outer surface of the inner lining.

A curved recess is also formed (e.g. cut away) where necessary in the lining, and in the outer casing as before explained, so that when the detachable back is placed in position on the camera body a completely light-tight joint will thus be made; and each and all of the hinged plates carrying the spool pins will be securely locked and held in position thereby.

The spool pin for the opposite end of the spool chamber for the film supply spool is similarly mounted and arranged to act (in conjunction with one another) for mounting and holding the film supply spool in its particular chamber.

In the case of the spool winding chamber, the spool pin and its hinged or swinging plate are mounted and arranged to act as aforesaid at one end of said winding chamber; while at the other end of the latter the usual (or any suitable) spring winding key may be employed for mounting and operating the winding spool.

In the case of wood-bodied cameras the plates carrying the spool pins may be hinged to metal plates secured to the wood body, the latter being drilled to allow the spool pins to pass through and recessed to receive the hinged plates flush with the wood body.

Dated this 23rd day of September, 1926.
TONGUE & BIRKBECK,
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in or relating to Roll Film Photographic Cameras.

We, THE HOUGHTON-BUTCHER MANUFACTURING COMPANY LIMITED (an English limited liability company duly registered), of Clifford Road, Walthamstow, London, E. 17, ALFRED JOSEPH DENNISS, of "The Langdales", Connaught Avenue, Chingford, Essex, General Manager of the aforesaid company, and VALENTINE WILLIAM EDWARDS, of 69, Ulverston Road, Walthamstow, London, E. 17, both British subjects, 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:—

This invention relates to roll film photographic cameras, more particularly of the kind having a detachable back, and has for its object to provide an improved mounting for the film spools such that the latter may be withdrawn and replaced with the minimum of difficulty.

It has already been proposed for this purpose to mount a pivoted plate in one

end of the winding spool chamber, the winder being mounted on said plate and adapted to receive a key-pin carried by the film spool, the arrangement being
 5 such that the plate can be swung out from the end of the spool chamber so as to cant the film spool to facilitate its removal. Another proposal was to
 10 mount a spool pin i.e. a projection engaging a recess in the end of the spool, on a spring secured to the camera body in such a manner that the spool pin normally
 15 passed through a hole in the end of the spool chamber and engaged the spool, disengagement being made by forcing back the spring.

According to the present invention an improved releasable mounting for a film spool comprises a plate or arm freely
 20 hinged to the camera body adjacent the end wall of the spool chamber and external thereto and carrying on its inner side a spool pin disposed so as to pass through a hole in the end wall of the
 25 spool chamber to engage the spool, the arrangement being such that on removal of the camera back the said plate or arm may be swung outwards from the camera
 30 body to disengage the pin from the spool and when the plate or arm is in the closed position the camera back passes thereover and locks the same in position with the pin in engagement with the spool.

Further according to this invention
 35 means are provided acting in conjunction with the detachable camera back to make a light-tight joint between the hinged plate or arm and camera body and back.

In the accompanying drawings we have illustrated the present invention as carried
 40 into practice in the case of a roll-film folding camera of the well-known type wherein the extensible lens-carrying front
 45 can be slid back or folded into a chamber or space, adapted to receive same, intermediate the two spool holding chambers located one at each end of the body of the camera; and wherein the back of the
 50 camera is detachable and such detachable back encloses or embraces half (or thereabouts) of the body of the camera.

Figs. 1 to 5 (Sheet 1) of the drawings hereunto annexed illustrate the present
 55 invention as carried into practice in the case of a roll-film folding camera of the aforesaid well-known type wherein the body of the camera is mainly formed of sheet metal.

Figs. 6 to 9 (Sheet 2) of the annexed drawings illustrate the present invention
 60 as carried into practice in the case of a roll-film folding camera of the aforesaid well-known type wherein the body of the camera is mainly formed of wood.

Referring to the said drawings:—

Fig. 1 is a plan view of one end of a camera (having the body thereof formed
 70 mainly of metal) with the detachable back removed—showing the spool chamber for receiving therein the film supply spool.

Fig. 2 is a side view of said end of the camera with the detachable back in position thereon.

Fig. 3 is a local side view of said end
 75 of the camera (corresponding to Fig. 2) but with the detachable back removed.

Fig. 4 is a local side view of the end of the detachable back (corresponding to
 80 Fig. 2) removed and separate from the camera body.

Fig. 5 is an enlarged cross sectional view on the line 5—5, Fig. 2, looking in the direction of the arrows *x*.

Fig. 6 is a plan view of one end of a camera (having the body thereof formed
 85 mainly of wood) with the detachable back removed—showing the spool chamber for receiving therein the film supply spool.

Fig. 7 is a side view of said end of the camera—with the detachable back
 90 removed.

Fig. 8 is a local interior view of the end of said spool chamber—looking in the
 95 direction of the arrow *y* Fig. 6.

Fig. 9 is a sectional view on the vertical line 9—9, Fig. 8, looking in the direction of the arrows *z*.

Referring now more particularly to
 100 Figs. 1 to 5 (Sheet 1):—

In this type of camera having the body thereof mainly formed of metal; the opposite sides or walls *A* extending lengthwise of the camera body (and which we will
 105 term the top and bottom side walls, the end parts of which form the end walls of the spool holding chamber at each end of the body of the camera) are each
 110 usually constructed of three juxtaposed metal sheets or layers termed (1) the "inner lining" *a* (2) the "lining" *b* and (3) the outer casing or "body outer" *c*—see Fig. 5.

B is the hinged or swinging plate or arm carrying thereon the spool pin *C*.
 115

To mount the aforesaid hinged or swinging plate or arm *B* on one end of the spool holding chamber *W*, a slot is formed
 120 in the "inner lining" *a* where same forms one end of the spool chamber *W* and near the edge of such inner lining *a* which is covered and uncovered by the detachable back *D*; and on the narrow strip or bar *a*¹ (see Fig. 5) thus formed
 125 in said inner lining *a* the said plate *B* (carrying the spool pin *C*) is hinged or swung, for example by simply threading the end of such plate *B* (i.e. the end remote from the spool pin *C*) through such
 130 slot and then bending over said end of

said plate B (e.g. as shown at B^x Fig. 5) so as to loosely encircle or embrace said strip or bar *a*¹ of the inner lining *a*; and thereby said plate B is hingedly attached to said bar or strip *a*¹ (on the inner lining *a*) so as to be capable of being swung or turned to the desired extent around same, e.g. through a half circle or more (as indicated in dotted lines in Fig. 5) when the detachable cover D has been removed.

The other end (i.e. the free end) of said hinged or swinging plate B is advantageously formed in suchwise as to totally exclude or assist in totally excluding light entering said spool chamber W through the aperture in the said end wall for said spool pin C or/and where said plate B fits against the outer casing or body outer C; for example this free end of said hinged plate B may be stamped or formed with a curved flange B¹ extending outwardly and then in the plane of the said plate, and a baffle plate B² (see Fig. 5) may be arranged and mounted as shown on the outside of the said free end B¹ whereby a space or clearance is left between the plate B and baffle B² into which space or clearance the side of the detachable back D slides (when the back D is placed in position on the camera body) as shown in Fig. 5.

An aperture is formed through the end wall of the spool chamber W for the spool pin C to pass freely therethrough, from the outside inwardly, to engage the end of the spool in said chamber.

That part of the outer lining or body outer *c* (and if necessary of the lining *b*) which forms (together with the inner lining *a*) the end wall of the spool chamber W as aforesaid, and adjacent to where the hinged or swinging plate B is attached at B^x to the inner lining *a* at *a*¹ as aforesaid is cut away or has a part removed to form a recess or depression (on the outside of the spool chamber) corresponding in outline and depth more or less closely to the outline and thickness of the corresponding part of said hinged plate B; so that, when the latter is swung into position with the spool pin C extending through the said aperture into the interior of the chamber W, the said part of said hinged plate B will lie (in said recess) more or less flush with the outer surface of the outer lining *c* for the side of the detachable back D to slide over; so that, when the detachable back D is placed in position on the camera body, a completely light-tight joint will thus be made; and each and all of the hinged plates B carrying the spool pins C will be securely locked and held in posi-

tion by said detachable back D when the latter is placed in position on the camera.

The spool pin for the opposite end of the spool chamber W for the film supply spool is similarly mounted and arranged to act (in conjunction with the first named spool pin C) for mounting and holding the film supply spool in its particular chamber W.

In the case of the spool winding chamber (not shown) the spool pin and its hinged or swinging plate are mounted and arranged to act as aforesaid at one end of said winding chamber; while at the other end of the latter the usual (or any suitable) spring winding key may be employed for mounting and operating the winding spool.

Referring now more particularly to Figs. 6 to 9:—

In the case of wood-bodied cameras; the plates B carrying the spool pins C may be hinged to metal plates E secured to the wood body T, i.e. to the interior end face of the spool chamber W, the latter being (a) drilled to allow the spool pins C to pass through and (b) recessed exteriorly to receive the main part of the hinged plates B flush with the wood body T; see Figs. 6 to 9.

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. In a roll film photographic camera of the kind having a detachable back, an improved releasable mounting for a film spool, comprising a plate or arm freely hinged to the camera body adjacent the end wall of the spool chamber and external thereto and carrying on its inner side a spool pin disposed so as to pass through a hole in the end wall of the spool chamber to engage the spool, the arrangement being such that on removal of the camera back the said plate or arm may be swung outwards from the camera body to disengage the pin from the spool and when the plate or arm is in the closed position the camera back passes thereover and locks the same in position with the pin in engagement with the spool.

2. In a film spool mounting constructed in accordance with Claim 1, the provision of means acting in conjunction with the detachable camera back to make a light-tight joint between the hinged plate or arm and the camera body and back.

3. A film spool mounting in accordance with Claim 2 wherein the hinged plate

or arm carries a baffle plate, such for example as B², under which the edge of the detachable camera back is received in the closed position. in described with reference to and as illustrated in Figs. 1 to 5 or Figs. 6 to 9 of the accompanying drawings.

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- 5 4. In a roll film photographic camera, a film spool mounting constructed and arranged to operate substantially as here-

Dated this 23rd day of June, 1927.

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329, High Holborn, W.C. 1,
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Fig. 1.

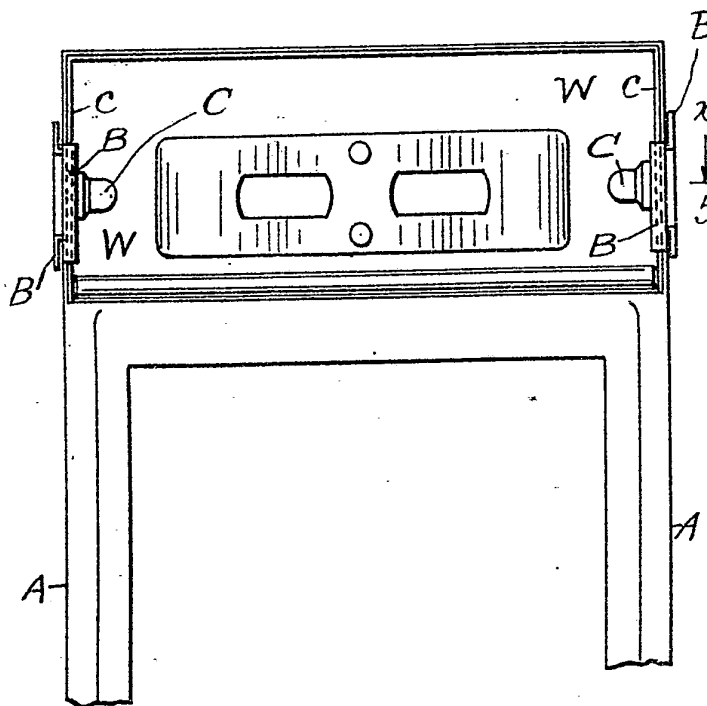


Fig. 2.

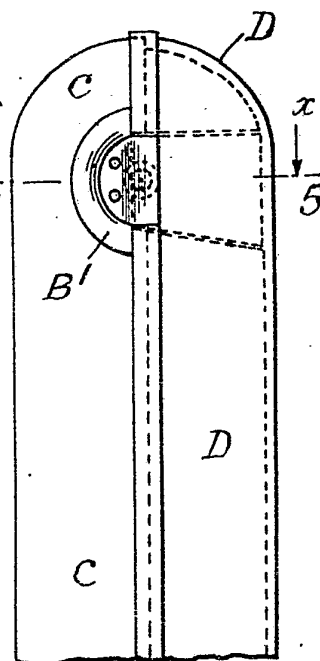


Fig. 5.

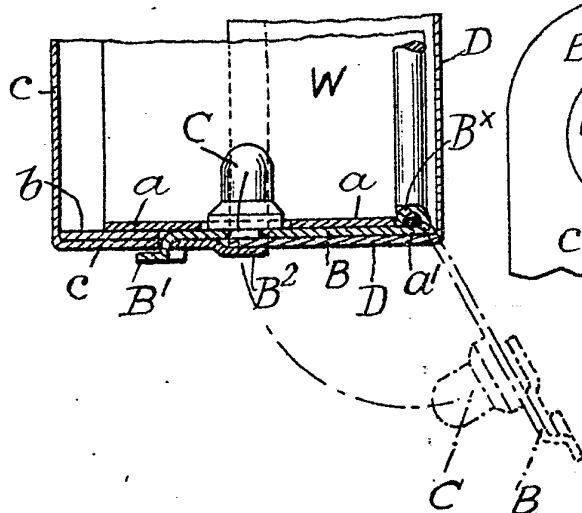


Fig. 3.

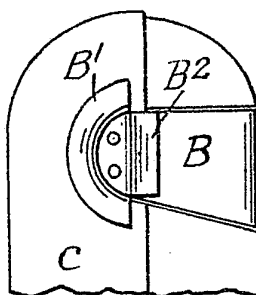
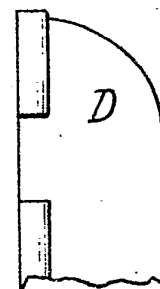


Fig. 4.



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$$\bar{I}$$

B.

Fig. 2.

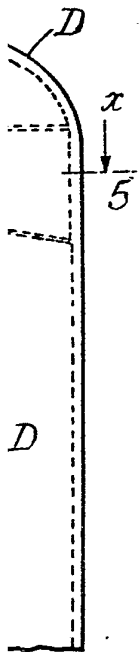


Fig. 4.



Fig. 6.

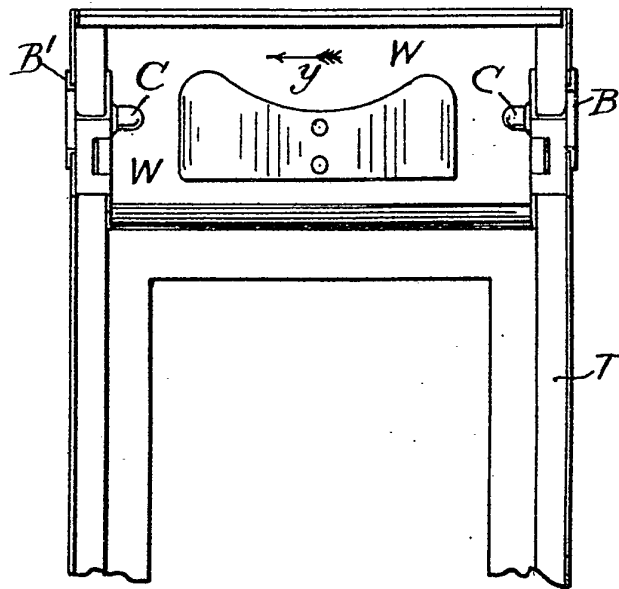


Fig. 7.

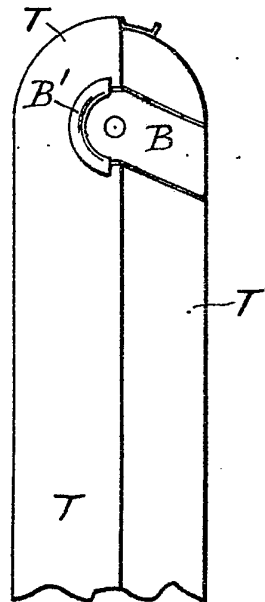


Fig. 9.

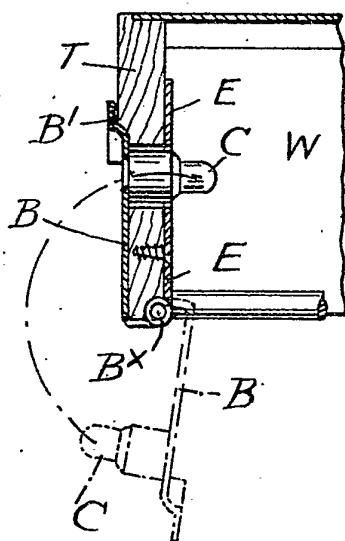


Fig. 8.

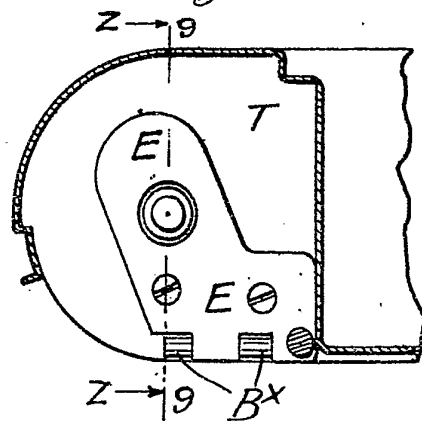


Fig. 1.

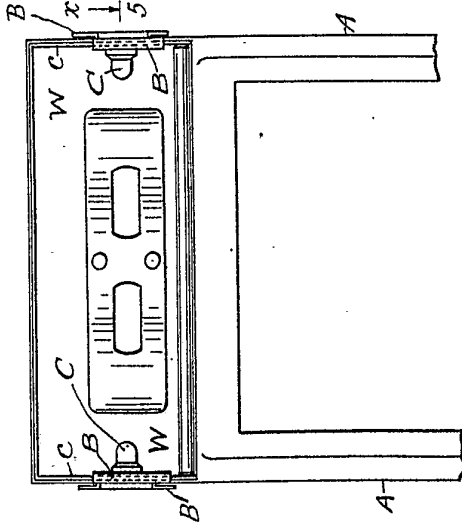


Fig. 2.

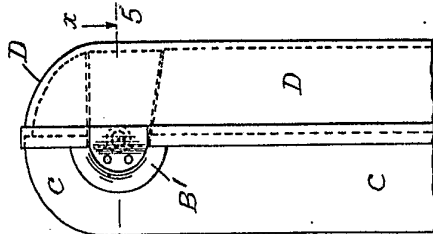


Fig. 5.

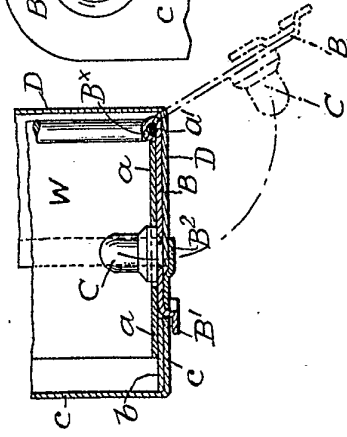


Fig. 3.

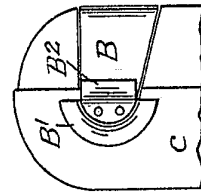


Fig. 4.

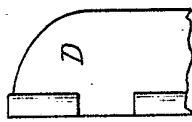


Fig. 6.

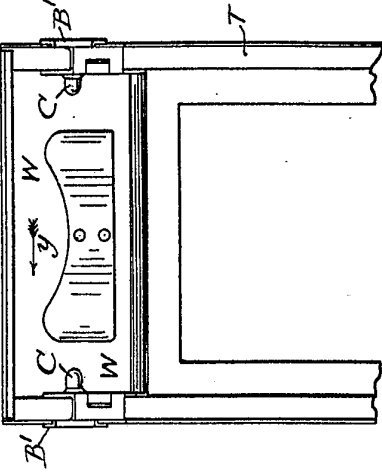


Fig. 7.

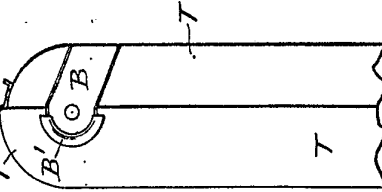


Fig. 9.

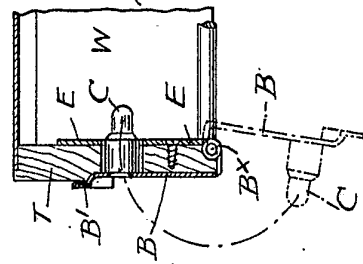
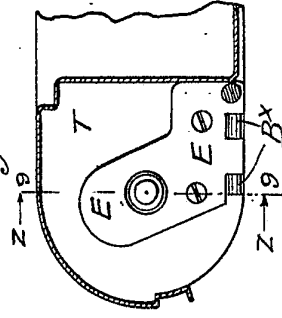


Fig. 8.



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