June 14, 1932. L. S. FRAPPIER ET AL 1,863,369

ADJUSTABLE SUPPORT FOR MOTION PICTURE PROJECTION MACHINES

Original Filed April 22, 1929 4 Sheets-Sheet 1

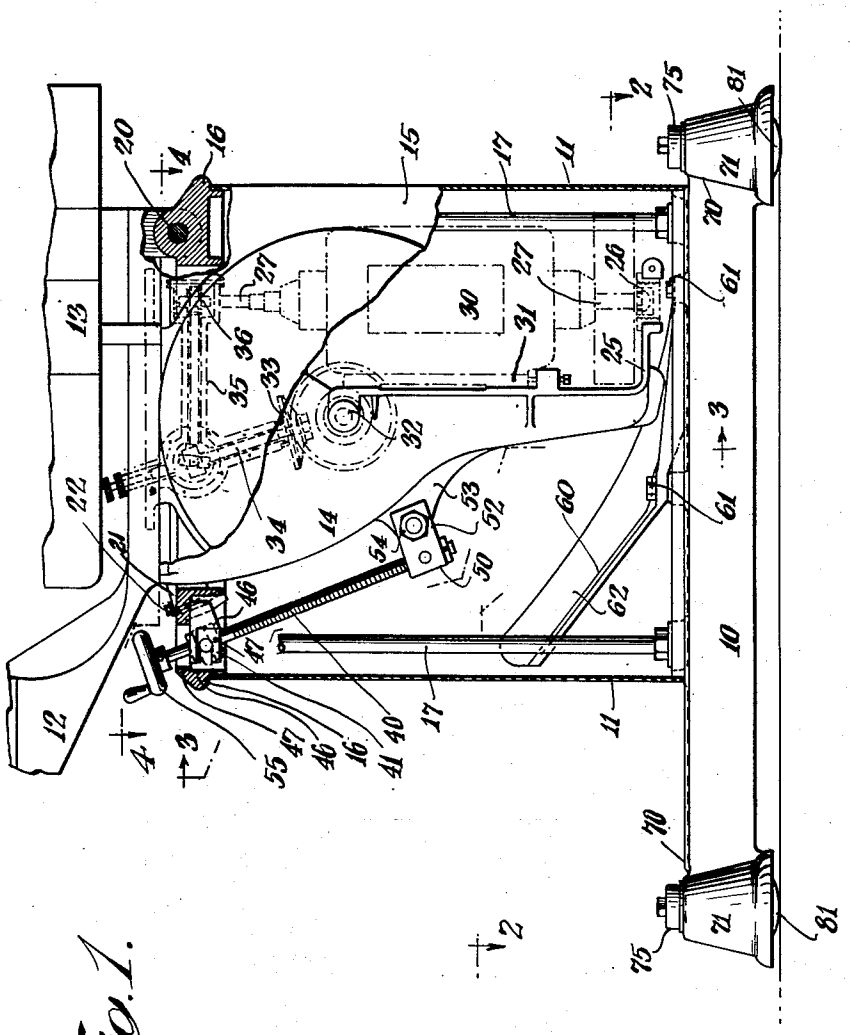


Fig. 1.

Inventors
Louis S. Frappier
Ewald Boecking
By their Attorney
Howard W. Dix

June 14, 1932. L. S. FRAPPIER ET AL 1,863,369

ADJUSTABLE SUPPORT FOR MOTION PICTURE PROJECTION MACHINES

Original Filed April 22, 1929 4 Sheets-Sheet 2

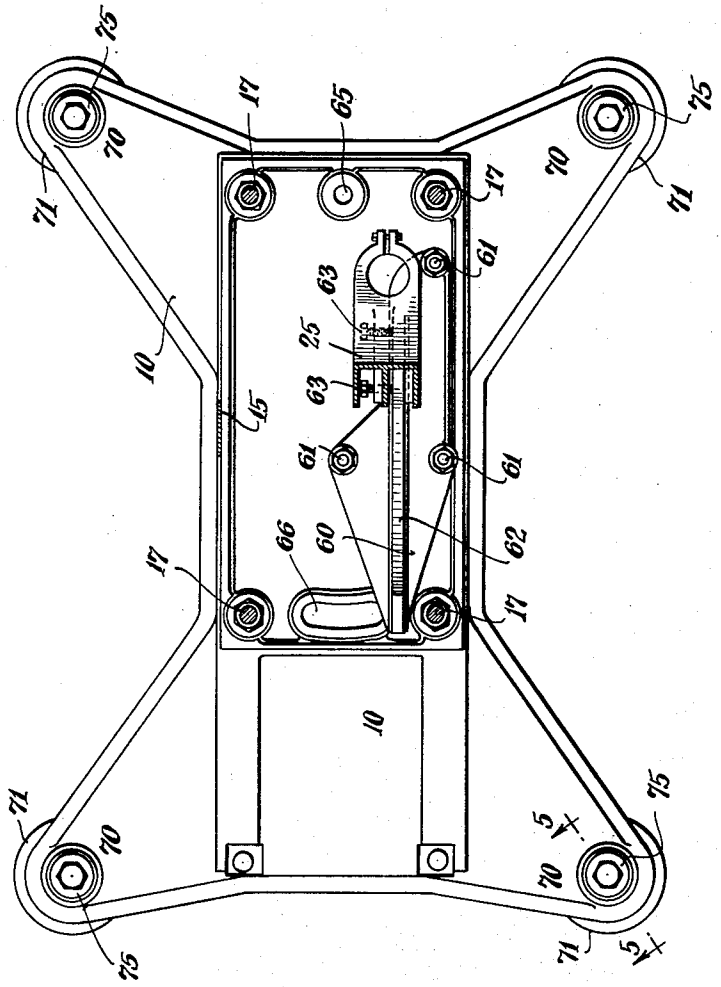


Fig. 2.

Inventors
Louis S. Frappier
Ewald Boecking
By their Attorney
Howard W. Dix

June 14, 1932. L. S. FRAPPIER ET AL 1,863,369

ADJUSTABLE SUPPORT FOR MOTION PICTURE PROJECTION MACHINES

Original Filed April 22, 1929 4 Sheets-Sheet 3

Fig. 4.

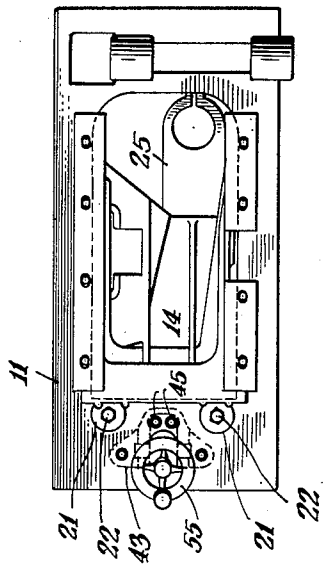
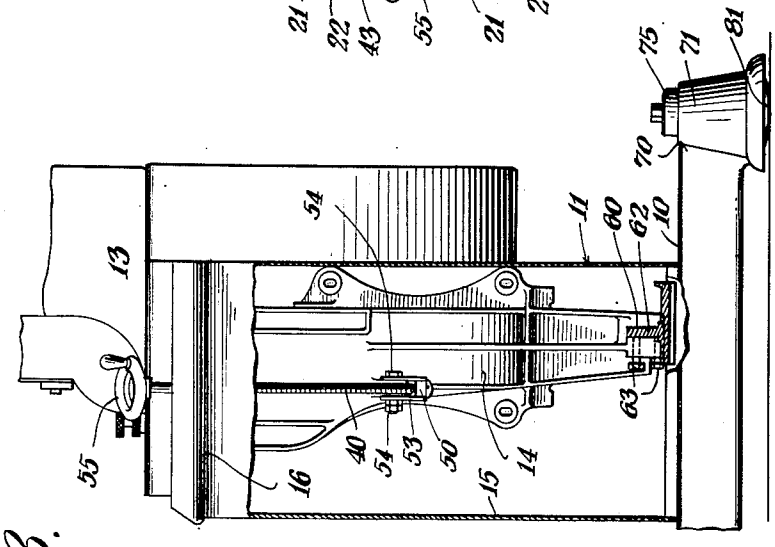


Fig. 3.



INVENTORS
Louis S. Frappier
Ewald Boecking
BY
Howard W. Dix
ATTORNEY

June 14, 1932. L. S. FRAPPIER ET AL 1,863,369

ADJUSTABLE SUPPORT FOR MOTION PICTURE PROJECTION MACHINES

Original Filed April 22, 1929 4 Sheets-Sheet 4

Fig. 5.

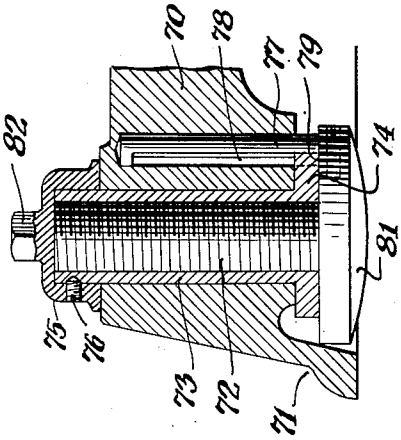


Fig. 10.

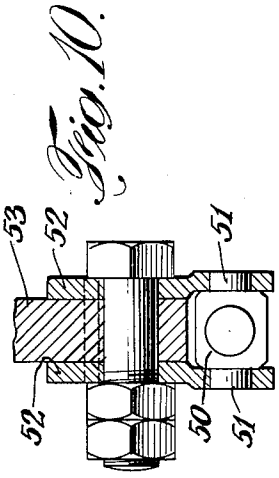


Fig. 8.

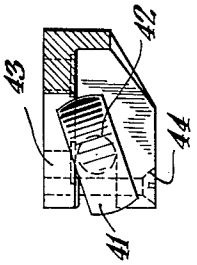


Fig. 9.

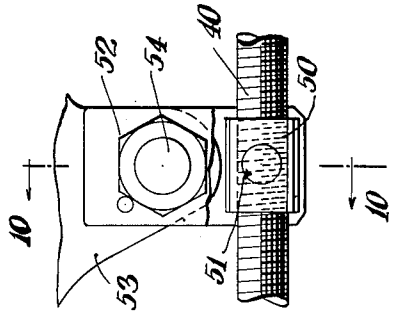


Fig. 7.

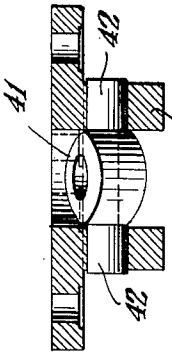
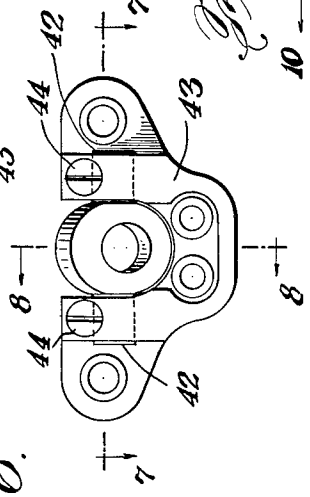


Fig. 6.



INVENTORS
Louis S. Frappier
Ewald Boecking
BY
Howard W. Dix
ATTORNEY

Patented June 14, 1932 1,863,369

UNITED STATES PATENT OFFICE

LOUIS SIMON FRAPPIER AND EWALD BOECKING, OF BROOKLYN, NEW YORK, ASSIGNORS TO INTERNATIONAL PROJECTOR CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

ADJUSTABLE SUPPORT FOR MOTION PICTURE PROJECTION MACHINES

Original application filed April 22, 1929, Serial No. 356,996. Divided and this application filed February 1, 1930. Serial No. 425,088.

This invention relates to projection machines, and more particularly to a new and improved base and supporting mechanism therefor.

This application is a division of the copending application of Frappier and Boecking Serial No. 356,996 filed April 22, 1929 for Adjustable Support for Projection Machines.

An object of the invention is to provide for rigidly supporting the projection apparatus and for permitting the necessary adjustment thereof to obtain the required line of projection.

Another object is to provide an improved foot for the base of the projection machine.

Another object is to provide a cheap, simple, compact and efficient device of the type above indicated.

Various other objects and features will be apparent as the nature of the invention is more fully disclosed.

The invention further consists in the new and novel features of operation and the new and original arrangements and combinations of steps in the process hereinafter described and more particularly set forth in the claims.

Although the novel features which are believed to be charactertistic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, the mode of its operation and the manner of its organization may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part thereof, in which

Fig. 1 is a side elevation of the supporting mechanism constructed in accordance with the present invention;

Fig. 2 is a section taken on the line 2—2 of Fig. 1 showing the base and pedestal in plan;

Fig. 3 is a section taken on the line 3—3 of Fig. 1 showing the pedestal lever and adjusting screw;

Fig. 4 is a section taken on the line 4—4 of Fig. 1;

Fig. 5 is a section taken on the line 5—5 of Fig. 2 showing the adjustable foot;

Fig. 6 is an enlarged detail of the pivoted collar for supporting the adjusting screw;

Fig. 7 is a section taken on the line 7—7 of Fig. 6;

Fig. 8 is a section taken on the line 8—8 of Fig. 6;

Fig. 9 is an enlarged detail of the threaded collar for the adjusting screw; and

Fig. 10 is a section taken on the line 10—10 of Fig. 9.

Like reference characters denote like parts in the several figures of the drawings.

In the following description and in the claims parts will be identified by specific names for convenience, but they are intended to be as generic in their application to similar parts as the art will permit.

Referring to the drawings more in detail, the invention is shown as applied to a supporting mechanism for a projection machine including base 10, pedestal 11 and pedestal lever 12. Projection head 13 is mounted upon pedestal lever 12 in any convenient manner as is well known in the art. Pedestal lever 12 is extended rearwardly to support a lamphouse (not shown) and is provided with a downwardly extending web 14 which supports the driving motor and lower film magazine as will be described.

Pedestal 11 includes a casing 15 and a top member 16 which is supported thereby. A plurality of rods 17 are extended through base 10 and top 16 for clamping said elements in fixed relationship. Pedestal lever 12 is pivoted to the forward portion of top 16 by pin 20 and adapted to be moved about said pin as an axis for adjusting the vertical angle of the line of projection.

The rear portion of web 14 is formed as an arc of a circle drawn about pin 20 as a center. This portion of the web is adjustably clamped to top 16 by wedge blocks 21 which are seated in suitable apertures in said top and are provided with flattened surfaces bearing against the arcuate edge of web 14. The wedge blocks are secured in top 16 by bolts 22 which are passed through said wedge blocks and threaded into said top.

The lower portion of web 14 is provided with an L extension 25 supporting a self aligning thrust bearing 26 on which shaft 27

of motor 30 is mounted. The forward portion of web 14 is provided with a bracket 31 on which motor 30 is adjustably mounted. Shaft 27 extends upwardly into the projection head and constitutes the drive shaft for the projection mechanism (not shown). The lower film magazine (not shown) is mounted in bearing 32 of web 14 and is driven from shaft 27 through a suitable gear train comprising gear 33, shafts 34 and 35 and gears 36. The particular drive for the lower film magazine, however, forms no part of the present invention. The adjustable self aligning thrust bearing 26 permits shaft 27 to be suitably adjusted with respect to the projection apparatus and with respect to motor 30. Motor 30 may also be adjusted on bracket 31 to properly align the various elements.

For angularly adjusting pedestal lever 12 about pin 20 there is provided a threaded rod 40 which passes through a pivoted collar 41 (Figs. 6 to 8) having ears 42 which are carried in suitable slots in yoke 43. Screws 44 (Fig. 8) carried in yoke 43, are inserted after the pivoted collar has been positioned and prevent the latter from being removed. Yoke 43 is secured to the under-side of top 16 by any convenient means such as bolts 45 (Fig. 4). Fixed collars 46 are carried on rod 40 on opposite sides of pivoted collar 41 and may be rigidly secured to said rod by convenient means, such as set screws 47, thereby preventing longitudinal movement of rod 40 with respect to said pivoted collar.

The lower portion of rod 40 is threaded into threaded collar 50 (Figs. 9 and 10) having ears 51 which are pivotally mounted in suitable bearings in straps 52. Said straps are clamped to a lug 53 carried on web 14 and may be secured thereto by bolt 54. Hand wheel 55 is secured to rod 40 and provides for manual operation thereof whereby threaded collar 50 may be moved longitudinally of rod 40 for causing the desired pivotal movement of pedestal lever 12.

An arcuate brace 60 is secured to base 10 by bolts 61 and is provided with an upstanding flange 62 (Fig. 3) which slidably engages a groove in the lower portion of web 14. Said web may be clamped to flange 62 by set screws 63. Base 10 is provided with a circular hole 65 and with an elongated arcuate slot 66 which are adapted to receive stationary bolts secured in the floor of the projection room whereby the machine may be rigidly secured thereto. Slot 66 is curved about hole 65 as a center whereby the entire base may be adjusted about a vertical axis as desired.

Base 10 is provided with legs 70 extending outwardly therefrom and terminating in supporting sections 71 (Fig. 5) in which feet 81 are adjustably secured. Said feet include a curved supporting surface and threaded rods 72 which are mounted in threaded sleeve 73. Sleeve 73 is provided with a bottom flange 74 and is inserted in a suitable bore in supporting section 71 and is secured therein by cap 75 and set screw 76. Pin 77 is secured to feet 81 and extends into a suitable bore in said supporting section. Pin 77 is provided with a flattened surface 78 which bears against flange 74 of sleeve 73 and prevents rotational movement of foot 71. Shoulders 79 and 80 of pin 77 prevent the foot from being entirely withdrawn from leg 70. Nut 82 is formed on cap 75 and provides means for rotating said cap and sleeve 73. Rotation of sleeve 73 varies the longitudinal position of rod 72 with respect thereto and controls the adjustment of feet 81.

In the supporting mechanism above described the entire machine is clamped to the floor by the bolts extending through slots 65 and 66 in the base and may be angularly adjusted as desired. The base may be suitably leveled with respect to the floor by adjusting the elevation of feet 81. This is accomplished by turning nuts 82 thereby causing feet 81 to slide vertically with respect to sections 71 of legs 70. The vertical adustment of the pedestal lever is then obtained by loosening bolts 22 and clamping screws 63. Hand wheel 55 may then be turned for pivotally moving the pedestal lever about pin 20 as an axis. When the lever has been properly positioned clamping screws 63 may be again tightened thereby securely clamping the lower portion of web 14 against arcuate brace 60 and bolts 22 are tightened for forcing wedge blocks 21 into engagement with the upper portion of web 14. The pedestal lever is thus supported at three separated points, namely, pin 20, wedge blocks 21 and arcuate brace 60. The entire projection apparatus including the driving motor is secured to web 14 of the pedestal lever and is accordingly moved as a unit thereby preventing the movement of the lever from disturbing the justment of the moving parts. The entire device is mounted in a particularly rigid manner by reason of the widely separated feet, as well as the means for clamping the base to the floor of the projection room and the three point support for the pedestal lever.

While certain novel features of the invention have been shown and described and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes in the forms and details of the device illustrated and its operation may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. In combination with a base, a supporting foot therefor comprising a supporting element, a threaded rod carried thereby, a sleeve in threaded engagement with said rod,

means for securing said sleeve against longitudinal movement, a pin secured to said supporting element and engaging a bore in said base, said pin being adapted to secure said supporting element against rotational movement.

2. In combination with a base, a supporting foot therefor comprising a supporting element, a threaded rod carried thereby, a sleeve in threaded engagement with said rod, means for securing said sleeve against longitudinal movement, a pin secured to said supporting element and engaging a bore in said base, said pin having a flattened surface in sliding engagement with a portion of said sleeve and being adapted to prevent rotational movement of said supporting element.

3. In combination with a base, a supporting foot having a threaded rod associated therewith, a threaded sleeve having a shoulder mounted in said base and engaging said rod, a cap secured to said sleeve and cooperating with said shoulder to prevent longitudinal movement of said sleeve, and means for preventing rotational movement of said foot comprising a pin carried by said foot and slidable in a bore in said base.

4. In combination with a base, a supporting foot having a threaded rod associated therewith, a threaded sleeve engaging said base and having a flange, a cap secured to said sleeve and cooperating with said flange to prevent longitudinal movement of said sleeve, and means for preventing rotational movement of said foot comprising a pin carried by said foot and slidable in a bore in said base, said pin having a flattened surface engaging said flange and having shoulders cooperating with said flange to limit the vertical movement of said foot.

LOUIS S. FRAPPIER.
EWALD BOECKING.