A. C. ROEBUCK.

ANGLE ADJUSTING MECHANISM.

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1,293,553.

Patented Feb. 4, 1919.

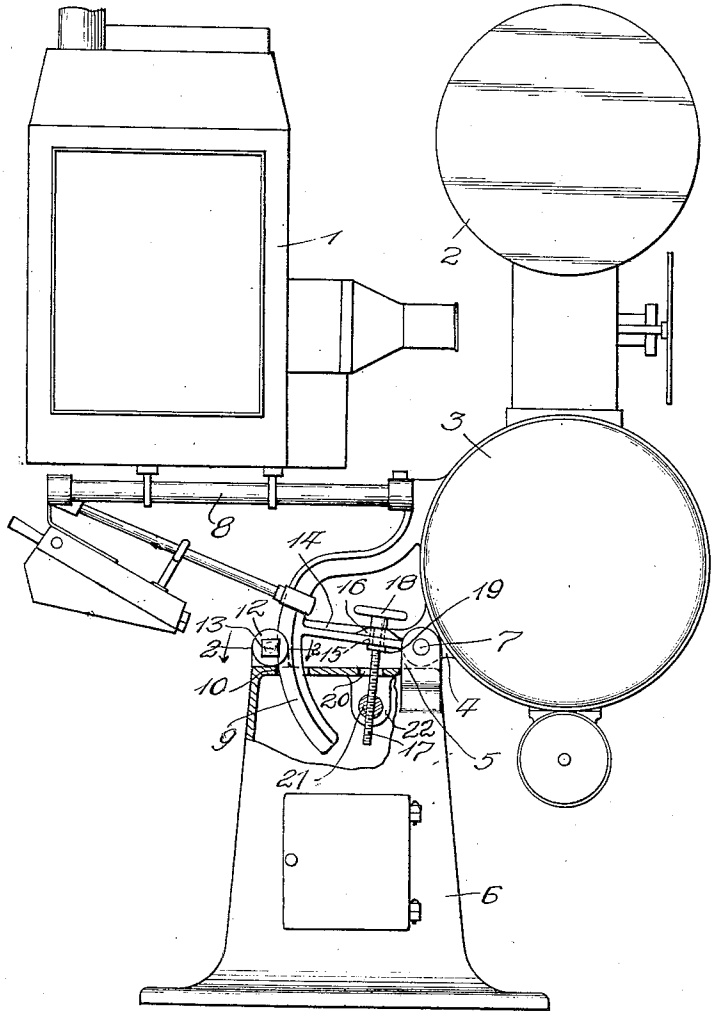
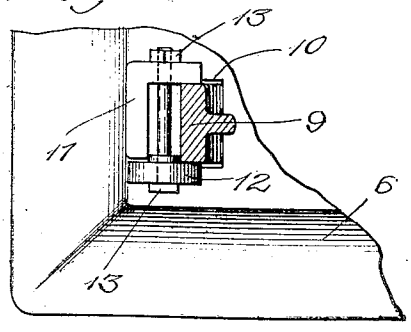


Fig. 1.

Fig. 2.



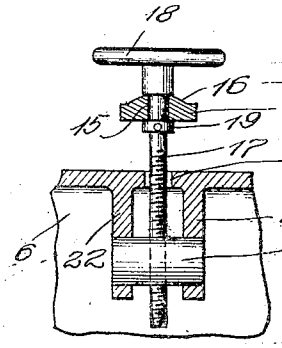


Fig. 3.

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UNITED STATES PATENT OFFICE.

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ANGLE-ADJUSTING MECHANISM.

1,293,553. Specification of Letters Patent. Patented Feb. 4, 1919.

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To all whom it may concern:

Be it known that I, ALVAH C. ROEBUCK, a citizen of the United States, residing at Crystal Lake, in the county of McHenry and State of Illinois, have invented certain new and useful Improvements in Angle-Adjusting Mechanism, of which the following is a specification.

This invention relates more particularly to a motion picture machine and to the adjusting mechanism thereof by which the angle of projection can be varied and set.

The invention consists in the novel construction, combination and arrangement of the parts.

In the accompanying drawing—

Figure 1 is a side elevation of a motion picture machine with portions of the angle adjusting mechanism shown in section,

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1, and

Fig. 3 is another sectional view of the adjusting screw.

Motion pictures are seldom projected upon a screen in a direct horizontal line and it is therefore necessary to provide an adjustment by means of which the angle of projection can be varied above or below the horizontal as desired, the more frequent practice being to locate the machine above the screen upon which the picture is projected so that the motion picture machine must be inclined at an angle below the horizontal. The present invention is for the purpose of providing an easily adjustable and a well-balanced mechanism by which the angle of projection may be quickly and accurately varied and held in the adjusted position.

In the accompanying drawing the motion picture machine, comprising in general a lamp housing 1, an upper film case 2 and a lower film case and housing 3, is mounted together by means of ears 4 projecting from the lower film housing 3 in corresponding ears 5 of a supporting base 6 upon a pivot pin 7 which passes through the ears 4 and 5. The ears 4 are preferably located at the edge of the circular housing 3 about half-way from the bottom between the horizontal and vertical diametric lines thereof, and the housing tilts about a horizontal axis formed by the pivot pin 7. This makes a well balanced structure that is easily movable. Extending from the housing 3 are supporting bars 8, and also extending from the housing 3 is a bracket 9 of which the lower end is curved about the axis of the bearing pin 7 as a radius. The ears 5 are located at one side of the base 6 and the bracket 9 is spaced from the bearing pin 7 so that the curved portion thereof extends through a slot 10 at the rear of the base 6, adjacent which is an upright clamping lug 11 preferably angular in form and positioned to engage one side of the bracket 9 while the other angular portion is of substantially the same thickness as the bracket, so that a clamping washer 12 may be placed against the lug 11 and the opposite side of the bracket 9 and a clamping bolt 13 inserted through it and the lug 11 for clamping the bracket 9 in position between them.

Extending between the bracket 9 and the ears 4 is a brace 14 in which is a slot 15 adjacent a portion 16 rounded upwardly on the upper side of the brace. A screw 17 extends through this slot and has a hand wheel 18 disposed above the brace and resting on the rounded portion 16 with a collar 19 below the brace for holding the screw with respect to it. The screw extends through a slot 20 in the top of the base 6 and is threaded through a cylindrical member 21 mounted for free rotation in depending lugs 22 at the sides of the slot 20.

Whenever it is necessary to adjust the angular inclination of the picture machine, the bolt 13 is loosened and the screw 17 is rotated in the proper direction by means of the hand wheel 18. This accurately varies the angular position of the machine and rotates it about the base upon the pivot pin 7, the curved portion of the bracket 9 being at all times engageable by the washer 12, so that it can be clamped between the washer and the lug 11 by means of the bolt 13. This prevents vibration of the machine and pictures and taken the strain from the adjust-

ing screw 17 but enables the operator to make and maintain accurate adjustment of the angular position of the machine as desired. By pivotally mounting the motion picture machine at the front side of the base 6, the adjusting means is adjacent the rear side of the base where it is freely accessible to the operator for ready adjustment. With this construction the picture machine is also well balanced so that it is easy to make adjustment whenever it is necessary.

I claim:

1. An angle adjustment for motion picture machines comprising a supporting base with pivoting ears at one side of the top thereof and a slot in the top at the other side, a housing pivoted in the ears having an extending bracket which freely enters the slot, and clamping means in connection with the base adjacent the slot for holding the bracket in different positions therein.

2. The combination with a supporting base, of a motion picture machine comprising a housing pivoted about its side to one side of the base, means comprising a bracket extending from the housing, and a clamping means at the opposite side of the base for engaging the bracket, and rotatable adjusting mechanism intermediate the bracket and the pivotal mounting for varying the angular position of the machine upon the pivot.

3. The combination with a supporting base having a bearing support at the front and a clamping device at the rear of the support, of a motion picture machine pivotally mounted in the bearing support and having an extension therefrom engaged by the clamping device, and means intermediate the bearing support and the clamping device for varying the angular position of the machine upon the bearing support.

4. The combination of a supporting base having a bearing support at the front and clamping means at the rear of the top thereof, with a slot in the top adjacent said clamping means, and a machine pivotally mounted in the bearing support having an extension with a portion curved about the bearing support axis as a center and adapted to be inserted in the slot at the rear of the base and to be engaged by the clamping means.

5. In angle adjusting mechanism for a motion picture machine, the combination with a pivotally mounted housing and a bracket extending therefrom, of means for engaging the bracket and clamping it in adjusted position, said means including a brace extending from the bracket to the housing, an adjusting screw extending through the brace, a hand wheel secured to the screw on top of the brace, a collar secured to the screw below the brace, and a member through which the screw is threaded rotatable about an axis transverse to the axis of the screw.

6. In angle adjusting mechanism, the combination with a housing having an extending curved bracket and a connecting brace, of supporting means therefor pivoted to the housing and having a perforation through which the bracket extends, means to engage the bracket, the said supporting means having an intermediate slot with depending perforated lugs, a threaded member rotatable in the perforations of the lugs, and an adjusting screw attached to the brace extending through the said intermediate slot and through the rotatable member mounted in the lugs for varying the angular position of the housing with respect to its pivotal support.

7. In angle adjusting mechanism for motion picture machines, a pivotally supported member having a curved bracket extending therefrom in fixed relation thereto, a clamping device for the bracket comprising an angular lug to engage one side of the bracket and extending parallel with the outer face thereof, a washer bearing against the other side of the bracket and against the said angular portion of the lug, and a fastening bolt for clamping the bracket between the washer and the lug.

8. In angle adjusting mechanism for motion picture machines, the combination with a pivotally mounted member having an extending bracket, of means to adjust the angular position of the bracket with respect to the mounting, a clamping device for the bracket comprising a lug extending beyond the bracket and engaging one side thereof, and a fastening device to engage the other side of the bracket binding it against the lug.

9. An angle adjusting mechanism for motion picture machines, comprising a supporting housing with pivoting means at one edge near the bottom thereof, a base member to which the housing is pivoted, means for minutely varying and adjusting the angular position of the housing upon its pivot, and independent means for clamping the housing in any pivoted position.

10. The combination with a supporting base having pivoting means, a slot, and clamping means adjacent the slot; of a machine pivoted in the said pivoting means having an integral extension movable in the slot and engageable by the clamping means; and an independent setting device for minutely varying the angular position of the machine on the base before the engagement of said clamping means.

11. In angle adjusting mechanism for a motion picture machine, a pivoted housing

with an extending bracket fixed thereto, means for engaging and clamping the bracket, an adjusting hand-screw in connection with the bracket, and means including a pivoted member through which the hand-screw is threaded, for adjusting the bracket and said housing with respect to said clamping means.

In testimony whereof I have signed my name to this specification on this 5th day of October, A. D. 1917.

ALVAH C. ROEBUCK.

Witnesses:
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B. BROWN.