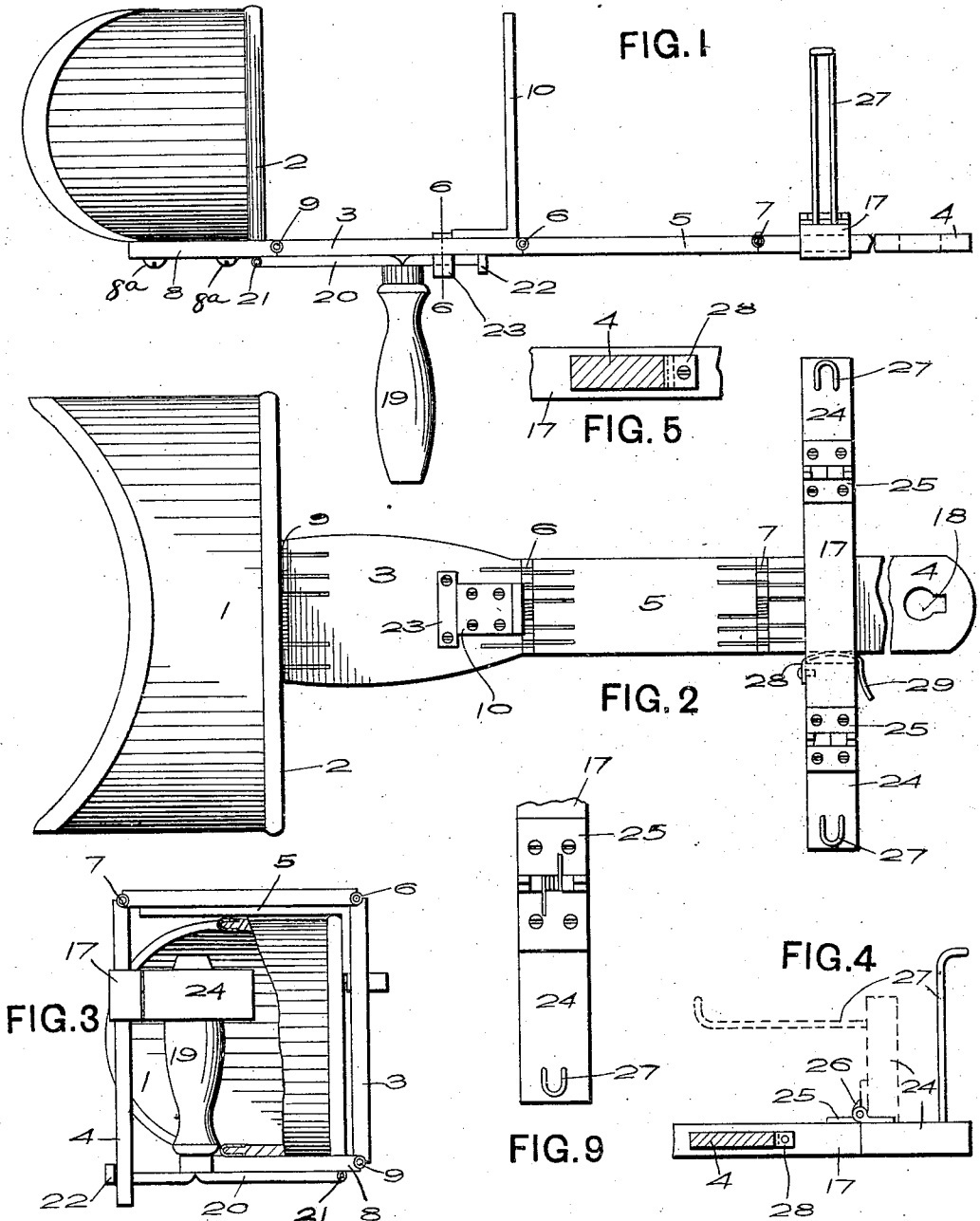


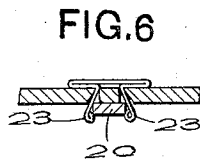
T. J. STOCKDALE.
STEREOSCOPE.
APPLICATION FILED APR. 30, 1909.

945,631.

Patented Jan. 4, 1910.
2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

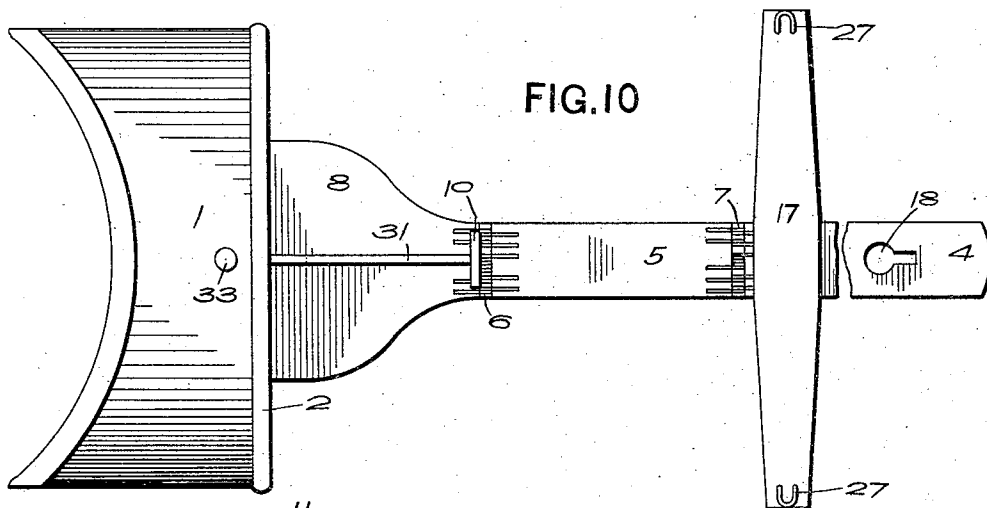


FIG. 10

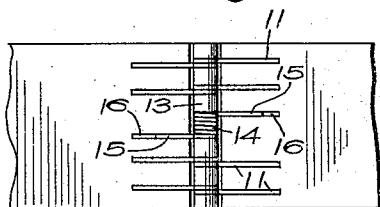


FIG. 7

FIG. 12

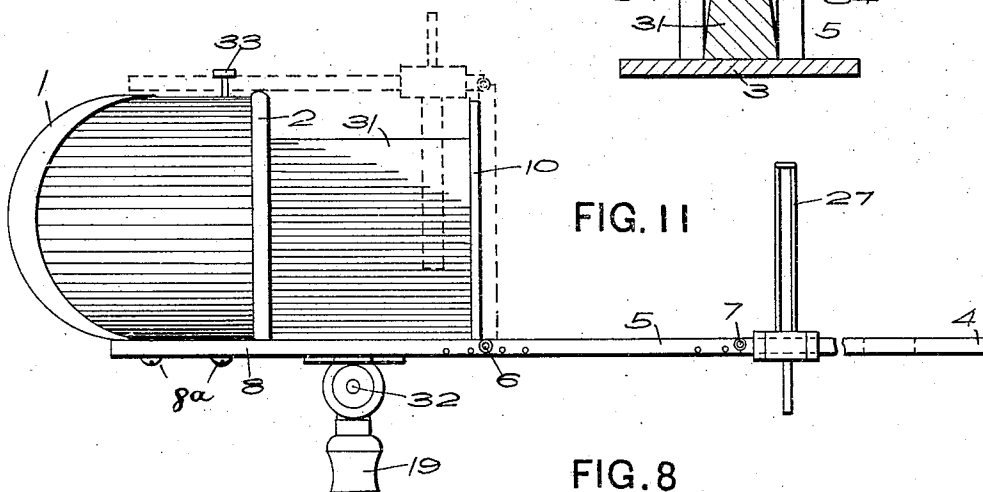
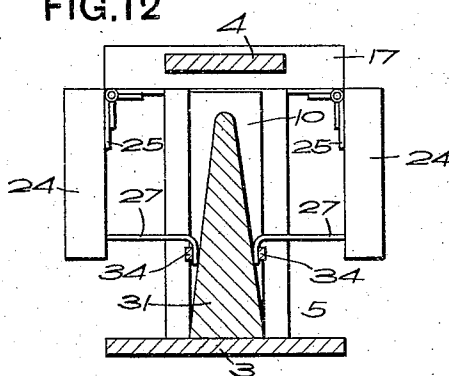


FIG. 11

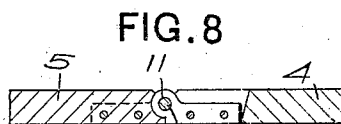


FIG. 8

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UNITED STATES PATENT OFFICE.

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STEREOSCOPE.

945,631.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS J. STOCKDALE, a resident of Dubois, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Improvement in Stereoscopes, of which the following is a specification.

This invention relates to stereoscopes and the object is to provide a jointed and folding focusing bar for stereoscopes upon which a sliding view holder is mounted, and so constructed as to enable the bar to be folded, preferably around the hood, and thereby reduce the stereoscope to compact form for storing in a box or carrying case only slightly larger than the hood or main body portion of the stereoscope.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawings Figure 1 is a side elevation of a stereoscope embodying the invention; Fig. 2 is a plan view of the same; Fig. 3 is a side elevation, partly in section, showing the stereoscope when folded; Fig. 4 is a detail vertical cross-section through the focusing bar showing a folding view holder; Fig. 5 is a detail section showing the frictional connection between the sliding view holder and the focusing bar; Fig. 6 is a cross-section on the line 6-6, Fig. 1; Fig. 7 is a detail plan view of one of the joints of the focusing bar; Fig. 8 is a longitudinal section through the same; Fig. 9 is a detail plan view of a spring hinge for use with a jointed view holder; Fig. 10 is a plan view of a stereoscope having a modified form of focusing bar and view holder; Fig. 11 is a side view of the same showing in dotted lines the manner of folding; and Fig. 12 is a cross-sectional view showing means for fastening the end portions of the view holder.

Referring to the drawings, 1 designates the hood of the stereoscope which may be of any usual or preferred form, being open and curved on its front as is usual and provided with the usual back 2 in which the lenses are mounted. The focusing bar comprises an inner folding section 3, an outer section 4, and an intermediate section 5, the intermediate section being hinged to the adjoining ends of the inner and outer sections by the hinges 6 and 7 respectively. In addition to the three folding sections enumerated, the bar also comprises a fixed section

8 which is rigidly secured to the bottom of the hood as shown in Fig. 1 in any suitable way, such as by screws 8^a and having the section 3 hinged to its outer end at 9. The section 8 does not fold but remains in the same relation to the hood. This section 8 may be omitted entirely and the section 3 of the focusing bar jointed directly to the hood by means of hinge joint 9. The sections 3, 4 and 5 are adapted by reason of the joints 6, 7 and 9 to be folded from the longitudinally alined position shown in Figs. 1 and 2 to a position around the hood as shown in Fig. 3.

With the folding focusing bar the usual dividing board projecting out from the hood to the standard to divide the vision is omitted, as it would interfere with the folding of the focusing bar. To secure the same result,—to-wit, to divide the vision, I provide a dividing standard 10 which is shown secured to the outer end of folding section 3 and held in upright position. If desired, this standard may be made of stiff wire secured to a section of the focusing bar and bent upwardly and covered with any suitable material.

The joints 6, 7 and 9 may be any form of hinge whatsoever, but preferably are constructed so as to be folded in one direction only and be flush with the top and bottom faces on the focusing bar, and of spring hinge construction. Figs. 7 and 8 illustrate a form of hinge well adapted for this purpose. As here shown the adjacent ends of the sections are provided with projecting, overlapping knuckles 11 formed of thin strips of metal united by pivot pin 12. The joints shown are similar to an ordinary rule joint being arranged to flex in one direction only and being flush with the top and bottom faces of the focusing bar. Any number of knuckles may be provided to afford the requisite stiffness and strength, these being separated by spacing washers 13. Arranged approximately centrally of the joint is a coiled spring 14 which is coiled several times around the pivot pin 12 with the ends extending oppositely and forming arms which are secured in grooves 16 formed in the upper faces of the adjoining sections. The spring 14 is so arranged that its tension normally holds the sections in longitudinal alinement with each other, but permits said sections to be folded from the position illustrated in Fig. 1 to that shown in Fig. 3.

While any form of hinge construction can be used the construction above described is preferred as it is perfectly flush with the focusing bar and hence leaves no projections which would interfere with the movement of the view holder 17 which slides on the focusing bar in the usual way. The terminal or outer section 4 of the focusing bar is provided with a key-hole slot 18 which may be formed directly in the bar or in a metal or other suitable portion attached to said bar, or said section 4 may be provided with any suitable clasp or fastener to secure it when in folded position. The handle is shown at 19, this being secured to a bar 20 which is hinged at 21 to the section 8 of the focusing bar, or directly to the hood, either by means of an ordinary or a spring hinge so that the bar 20 can be folded from the position shown in Fig. 1 to that shown in Fig. 3. At its free end the bar 20 is provided with a projection or head 22 which when the parts are folded as shown in Fig. 3 is inserted through the key-hole slot 18 in the end of the focusing bar, thereby forming an interlocked connection between the outer section 4 of the focusing bar and the extremity of the bar 20. This interlocked connection may, however, be made by means of any suitable clasp or fastener. When the handle 19 is in its operative position, shown in Fig. 1, the end of the bar 20 is held between a pair of spring fingers or jaws 23 which project downwardly from the focusing bar and serve to lock the end of bar 20 to the focusing bar, as shown in Fig. 6. Various other forms of clasps may be used in place of the spring jaws 23.

The view holder 17 may either be a rigid bar, as shown in Fig. 10, or may be of the jointed construction shown in Figs. 1 to 4 and 12, in which latter case it is shown as having end sections 24 connected to the intermediate portion of the view holder by hinges 25, which may be either simple hinges as shown in Figs. 2 and 4, or spring hinges as shown in Fig. 9. Preferably these hinges are provided with shoulders 26 which contact when the section 24 is brought at right angles to the intermediate portion of the holder. The ends of the view holder are provided with the upstanding wicket shaped view holding fingers 27 of the usual construction. When the focusing bar is folded around the hood the terminal sections 24 are folded inwardly onto the intermediate portion of the view holder so that the entire view holder enters into the open front side of hood 1, as shown in Fig. 3.

To provide for the sliding adjustment of the view holder longitudinally of the focusing bar I provide a spring 28 which is fastened to the view holder and extends through the opening therethrough and is arranged to frictionally bear against the edge of the focusing bar, as shown in Figs. 4 and 5, and

has its end 29 bent outwardly and extending along the outer edge of the view holder bar, at which point it can be readily pressed by the fingers of the user so as to release its frictional engagement against the focusing bar and allow the view holder to be slid lengthwise of the focusing bar to properly focus the view.

The focusing bar described may be adapted for attachment to existing stereoscopes. There is a form of stereoscope in use in which the focusing bar can be detached from the hood to permit storing in a small space but the focusing bar itself is rigid. The focusing bar above described can be made for ready attachment to the hood in the same manner as the rigid focusing bars above described, by merely sliding the inner section into the place usually provided on the hood of this form of stereoscope. In case such stereoscopes are provided with a rigid dividing board 31 the inner section of the focusing bar will be made sufficiently long to extend out to the end of said dividing board, as shown in Figs. 10 and 11 in which case one of the sections, such as the section 3 of the focusing bar, can be omitted. In this case the handle 19 is connected to the focusing bar or hood by a simple hinge connection shown at 32. This form of apparatus permits the focusing bar to be folded as shown in dotted lines in Fig. 11, but not to such small or compact form as the preferred form shown in Figs. 1 to 3. With the form of focusing bar shown in Figs. 10 and 11 I can use either a rigid view holder as shown in Fig. 10, or the folding view holder shown in Figs. 2, 3 and 4. When the latter is used the ends of the wicket shaped fingers 26 can be inserted in loops or staples 34 projecting from the sides of the dividing board 31, as shown in Fig. 12. The terminal section of the focusing bar for this form may be secured in place when folded by any suitable clasp or fastener, Figs. 10 and 11 showing for this purpose a stud 33 on the hood entering the key-hole slot 18 in the terminal section of the focusing bar.

The construction described permits the focusing bar together with the view holder carried thereby to be folded around the hood and when a jointed view holder is used this may be folded so as to permit its entrance into the hood through the open front thereof. When the outer section of the focusing bar is interlocked with the extremity of the folding handle bar all the parts are secured together and the stereoscope is in such small compact form that it can be placed in a comparatively small box or case for storing or carrying.

While the spring hinge joints described and illustrated are preferred because they provide practically for the automatic opening of the stereoscope by bringing the focus-

ing bar into rigid alined position when the interlocked connection is released, I wish it understood that the invention is not limited in this particular, as any form of hinge joint can be adapted for the purpose.

What I claim is:

1. A sectional focusing bar for stereoscopes comprising a plurality of sections having their adjacent ends connected by hinge joints arranged to permit the bar to be folded around the body of a stereoscope, the inner section of said bar being constructed for attachment to the body of a stereoscope.

2. A sectional focusing bar for stereoscopes comprising a plurality of sections having their adjacent ends connected by flush hinge joints arranged to permit the bar to be folded around the body of a stereoscope, the inner section of said bar being constructed for attachment to the body of a stereoscope.

3. A sectional focusing bar for stereoscopes comprising a plurality of sections having their adjacent ends connected by hinge joints constructed to permit the sections to be folded in one direction but limiting the movement in the other direction to hold the sections in alinement, the inner section of said bar being constructed for attachment to the body of a stereoscope.

4. A sectional focusing bar for stereoscopes comprising a plurality of sections having their adjacent ends connected by spring hinge joints constructed to permit the sections to be folded in one direction but limiting the movement in the opposite direction to hold the sections in alinement, the inner section of said bar being constructed for attachment to the body of a stereoscope.

5. A sectional focusing bar for stereoscopes comprising a plurality of sections having their adjacent ends connected by flush spring hinge joints constructed to permit said bar to be folded around the main portion of a stereoscope, the inner section of said bar being constructed for attachment to the body of a stereoscope.

6. The combination of a stereoscope body, and a sectional focusing bar therefor comprising a plurality of sections having their adjacent ends connected by hinge joints arranged to permit the bar to be folded around the body of the stereoscope, the inner section of said bar being attached to the stereoscope body.

7. A stereoscope comprising a body including a hood, a focusing bar embodying a plurality of jointed and folding sections adapted to be folded around the body of the stereoscope, a handle bar having a jointed connection with reference to the body and a handle on said bar.

8. A stereoscope comprising a body including a hood, a focusing bar embodying a plurality of jointed and folding sections adapted to be folded around the body of the stereoscope, a handle bar having a jointed connection with reference to the body, a handle on said bar, and means on the focusing bar for holding the handle bar in operative position.

9. A stereoscope comprising a body including a hood, a focusing bar embodying jointed and folding sections adapted to be folded around the body of the stereoscope, a handle bar having a jointed connection with reference to the body, and a handle on said bar, the handle bar and outer section of the focusing bar being adapted to interlock when folded.

10. A stereoscope comprising a hood, a focusing bar embodying jointed and folding sections adapted to fold, and a view holder embodying spring jointed and folding terminal sections adapting the view holder to be folded within a compass less than the width of the hood.

11. A stereoscope comprising a hood, a focusing bar embodying jointed and folding sections adapted to be folded, a view holder provided with a mortise therethrough slidable on the focusing bar, a right angle spring lying in the mortise and arranged to bear against the focusing bar and having its free end projecting substantially parallel to the axis of the view holder in position to be engaged by the hand to release said spring from frictional pressure against the focusing bar.

12. The combination with a stereoscope, of a sectional focusing bar on which the view holder slides, the sections of said bar having hinge joints adapting the bar to be folded, and a vision dividing standard attached to one of said sections.

In testimony whereof, I have hereunto set my hand.

THOMAS J. STOCKDALE.

Witnesses:

JET KEARNS,
ROBERT C. STOCKDALE.