No. 712,410. Patented Oct. 28, 1902.

H. M. REICHENBACH.

KNOCKDOWN STEREOSCOPE.

(Application filed Apr. 5, 1902.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

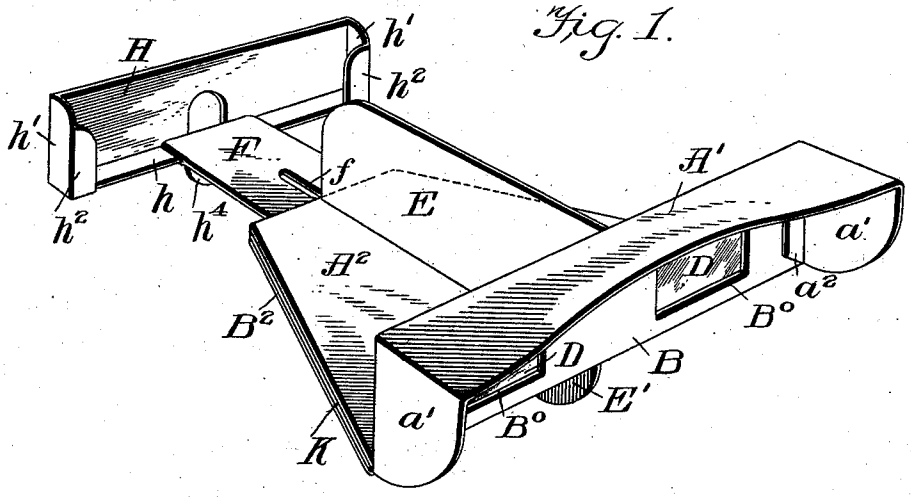


Fig. 2.

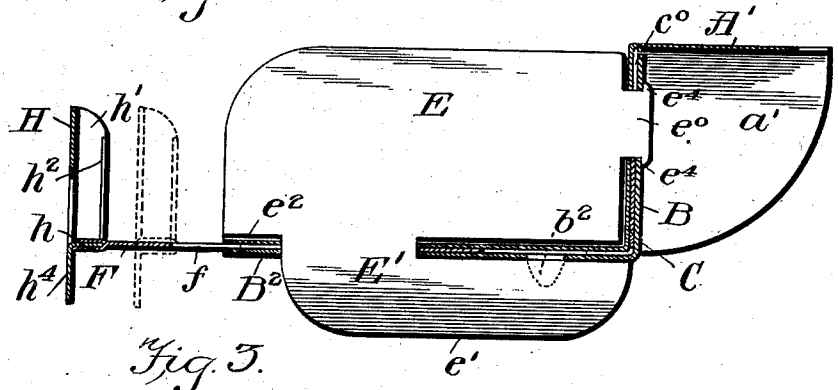
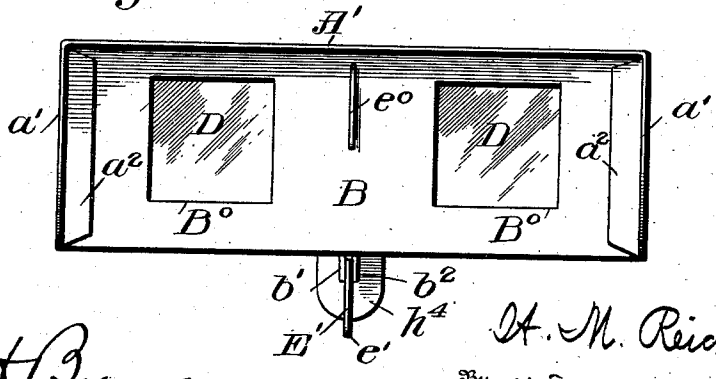


Fig. 3.



Witnesses

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Fig. 4.

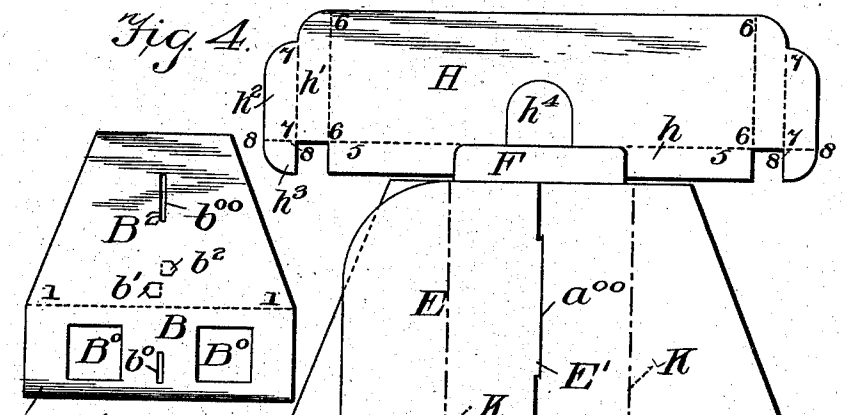


Fig. 5.

Fig. 6.

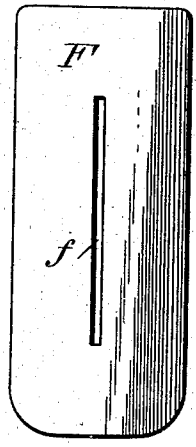


Fig. 7.

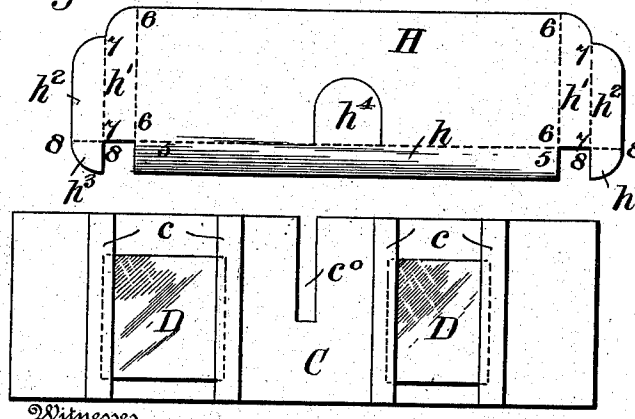
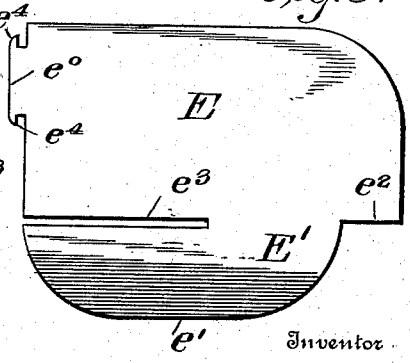


Fig. 8.

Fig. 9.



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UNITED STATES PATENT OFFICE.

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KNOCKDOWN STEREOSCOPE.

SPECIFICATION forming part of Letters Patent No. 712,410, dated October 28, 1902.

Application filed April 5, 1902. Serial No. 101,560. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. REICHENBACH, a citizen of the United States of America, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Knockdown Stereoscopes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in knockdown stereoscopes; and it consists in providing an instrument which may be folded up in a small space and packed in an envelop or other flat receptacle, the parts of which may be readily assembled when desired.

The invention consists, primarily, in providing several forms or blanks of cardboard or other suitable material which may be conveniently folded and then so fitted together as to constitute a stereoscope-frame adapted to hold suitable lenses.

The invention is intended to provide a cheap and simple stereoscope-frame capable of being readily transported through the mails and adapted for use more especially with small stereoscopic views or photographs.

My invention will be understood by reference to the accompanying drawings, in which the same parts are indicated by the same letters throughout the several views.

Figure 1 represents a perspective view of the stereoscope ready for use. Fig. 2 represents a central longitudinal section through the device shown in Fig. 1. Fig. 3 is an end view as seen from the right of Fig. 1. Fig. 4 is a plan view of the device before the parts are folded and before the lens-piece is put in. Fig. 5 is a plan view on a smaller scale of the bottom-blank before it has been folded. Fig. 6 shows the adjustable slide that carries the holder for the pictures. Fig. 7 is a detail showing the blank which is afterward folded into the shape of the holder. Fig. 8 shows the lens-piece carrying the lenses, and Fig. 9 is a detail showing the vertical tie-piece which binds the several parts together and at the same time serves as a stiffener for the apparatus.

A, B, C, E, F, and H are blanks made of cardboard or other like material, which blanks are folded and secured together as will be hereinafter described.

D D are the lenses, preferably of cheap manufacture, which are secured to the blank C, as by means of the strips *c*, pasted thereto. The several blanks are preferably made flat for shipment, or the parts may be folded over along the dotted lines indicated by the Arabic numerals. The several blanks and the lens-pieces may all be laid flat in a package and placed in an envelop or in a flat pasteboard box or shipped in any other convenient way.

In order to assemble the parts, the bottom piece B (shown on a reduced scale in Fig. 5) is pasted over the spacing-pieces K, (shown in Fig. 1 and outlined in broken lines in Fig. 4,) which spacing-pieces are pasted to the bottom of the blank A, as indicated in Fig. 4.

The blanks A and B have openings A^0 and B^0 for the passage of light in the wake of the lenses D. The blanks A and B being secured together, as indicated, are bent up about the dotted line 1 1, and the blank C is inserted with the slot c^0 projecting upward and registering with the slots a^0 and b^0. The flap A′ of the blank A is now bent up about the line 2 2, and tips a^2 are bent up about the line 3 3, and the wings a' are bent about the lines 4 4, and these parts are pasted together to form the eyepiece of the stereoscope, as shown in Figs. 1, 2, and 3.

The diaphragm E has its tongue E′ inserted through the openings a^{00} in the tailpiece A^2 of the blank A and through the opening b^{00} in the tailpiece B^2 of the blank B, and this tongue E′ is held in the position shown in Fig. 2 by means of the flaps b^2, stamped out of the blank B and pasted on either side of said tongue E′. The bottom e' of said tongue E′ forms a support for the instrument when not in use.

The diaphragm E has a smaller tongue e^0, projecting forward and provided with lugs e^4, which are worked through the openings a^0 and b^0 in the blanks B and also through the slot c^0 in the blank C, which carries the lenses D, and thus this tongue e^0 holds the eyepiece against being bent forward and

maintains the lenses at the proper angle. This completes the construction of the eyepiece or main body of the stereoscope.

The picture-holder is carried on a slide F, which is slotted, as at *f*, and is inserted between the blanks A and B, between the spacers K, before the tongue E′ of the holding-piece E is put in place, as shown in Fig. 2. This slot *f* in the slide allows a slight travel of the picture-holder H for the purpose of focusing, but at the same time prevents the slide from falling out of the apparatus. To the rear of this slide F the holder H is attached, preferably by pasting. This holder is originally in the form of a blank, as shown in Figs. 4 and 7, which blank is bent about the lines 5 5, 6 6, 7 7, and 8 8 to the form shown in Fig. 1, the flap *h* being pasted to the slide F and the flaps h', h^2, and h^3 being pasted together, as shown in Figs. 1 and 2. The thumb-lug h^4 is stamped out of the blank H and serves as a convenient grip for moving the slide F to focus the apparatus.

It will thus be seen that I provide a cheap, simple, and efficient stereoscope in which the parts are securely connected together, which may be focused to suit the eyes of the observer, and which may be shipped in the knockdown condition and set up with very little trouble when desired. It thus affords not only an efficient instrument when set up, but also a source of amusement to children and others in assembling the parts, and may be produced and shipped at very little expense.

It will be obvious that numerous variations in fitting together the parts might be made which could be used without departing from the spirit of my invention.

In the claims I use the phrase "cardboard" for the sake of brevity, meaning by it all equivalent flat thin material which can be folded and manipulated by hand along indicated lines, and yet is stiff enough to stand firm when in use. Thin sheets of aluminium, celluloid, skin, or parchment would be suitable for the same purpose.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A knockdown stereoscope, comprising a body portion carrying the lenses made of a plurality of blanks of cardboard folded and secured together, a slide having a limited play in said body portion, and a holder for the photographs made of a blank of cardboard provided with flaps and having said flaps bent over and secured to the body portion of said holder, said holder being secured to said slide, substantially as and for the purposes described.

2. A knockdown stereoscope, comprising a body portion carrying the lenses made of a plurality of blanks of cardboard secured together and bent at right angles below said lenses, a slide having a limited play in said body portion, a diaphragm having tongues holding said body portion in the bent position and holding said slide against falling out, and a holder for the photographs secured to said slide, substantially as and for the purposes described.

3. A knockdown stereoscope comprising a plurality of blanks of cardboard, one of said blanks having the lenses mounted therein, the said blanks being secured together to form a frame, a slide, a picture-holder mounted on said slide, and a diaphragm holding said slide in said frame, and holding the frame in the desired position, substantially as and for the purposes described.

4. A knockdown stereoscope, comprising a body portion carrying the lenses made of a plurality of blanks of cardboard folded and secured together, a slide mounted in said body portion, a diaphragm having tongues holding said body portion in the bent position, and limiting the motion of said slide, and a holder for the photographs made of a blank of cardboard having flaps bent over and secured to the body portion of said holder, said holder being secured to said slide, substantially as and for the purposes described.

5. The combination with the blanks of cardboard or like material A and B, with the interposed spacers K, said blanks being bent, of the slide F made of a blank of cardboard or like material slotted and passing between said spacers K, the diaphragm E having tongues holding said blanks A and B in the bent position, one of said tongues projecting through said slot, the blank C having the lenses D mounted thereon registering with the openings A^0 and B^0, and the holder H for the photographs having flaps bent over and secured to said slide, substantially as and for the purposes described.

6. The combination with the blanks of cardboard or like material A and B, with the interposed spacers K, said blanks being bent, of the slide F made of a blank of cardboard or like material slotted and moving between said spacers K, the diaphragm E having tongues holding said blanks A and B in the bent position, one of said tongues projecting through said slot, the blank C having the lenses D mounted thereon registering with the openings A^0 and B^0, and the holder for the photographs secured to said slide, substantially as and for the purposes described.

7. A knockdown stereoscope, comprising a blank of cardboard with openings therein for the lenses and lenses secured over said openings, and a plurality of blanks of cardboard slotted and provided with flaps or projections adapted to lie flat with the blank for the lenses and to form a flat package in transmission, the said blanks being also adapted to be secured together by means of the said flaps, slots and projections to form a complete stereoscope when assembled, substantially as described.

8. A knockdown stereoscope, comprising a flat sheet or blank of cardboard having the lenses mounted therein, and a plurality of flat sheets or blanks of similar material adapted to be folded and secured together, substantially as and for the purposes described.

9. A knockdown stereoscope, comprising a body portion carrying the lenses made of a plurality of blanks of flexible but stiff material folded and secured together, a slide having a limited play in said body portion, and a holder for the photographs made of a blank of similar material provided with flaps and having said flaps bent over and secured to the body portion of said holder, said holder being secured to said slide, substantially as and for the purposes described.

10. A knockdown stereoscope, comprising a flat sheet or blank of flexible but stiff material having the lenses mounted therein, and a plurality of flat sheets or blanks of similar material adapted to be folded and secured together to form a frame, a diaphragm, a slide, and a picture-holder, substantially as and for the purposes described.

11. A knockdown stereoscope, comprising a body portion carrying the lenses made of a plurality of blanks of flexible but stiff material secured together and bent at right angles below said lenses, a slide having a limited play in said body portion, a diaphragm having tongues holding said body portion in the bent position and holding said slide against falling out, and a holder for the photographs secured to said slide, substantially as and for the purposes described.

12. A knockdown stereoscope, comprising a plurality of sheets or blanks of flexible but stiff material, one of said blanks having the lenses mounted therein, the said blanks being secured together to form a frame bent at right angles below said lenses, a slide, a picture-holder mounted on said slide, and a diaphragm holding said slide in said frame, and holding the frame in the bent position, substantially as and for the purposes described.

13. A knockdown stereoscope, comprising a body portion carrying the lenses made of a plurality of sheets or blanks of flexible but stiff material folded and secured together, a slide mounted on said body portion, a diaphragm having tongues holding said body portion in the bent position, and limiting the motion of said slide, and a holder for the photographs made of a blank of similar material having flaps bent over and secured to the body portion of said holder, said holder being secured to said slide, substantially as and for the purposes described.

14. A knockdown frame for a stereoscope, comprising a plurality of flat blanks of flexible but stiff material adapted to fold flat and lie flat upon each other in transhipment, and provided with flaps, slots and projections by means of which the several blanks may be assembled together to form a complete stereoscope-frame, substantially as and for the purposes described.

15. A knockdown stereoscope, comprising a blank of flexible but stiff material with openings therein for the lenses and lenses secured over said openings, and a plurality of blanks of similar material slotted and provided with flaps or projections adapted to lie flat with the blank for the lenses and to form a flat package in transmission, the said blanks being also adapted to be secured together by means of the said flaps, slots and projections to form a complete stereoscope when assembled, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY M. REICHENBACH.

Witnesses:
B. RUPEGGER,
J. C. ABEL.