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PATENTED APR. 9, 1907.

C. L. PAPPENHAGEN.  
STEREOSCOPE.

APPLICATION FILED FEB. 15, 1905.

2 SHEETS—SHEET 2.

Fig. 8

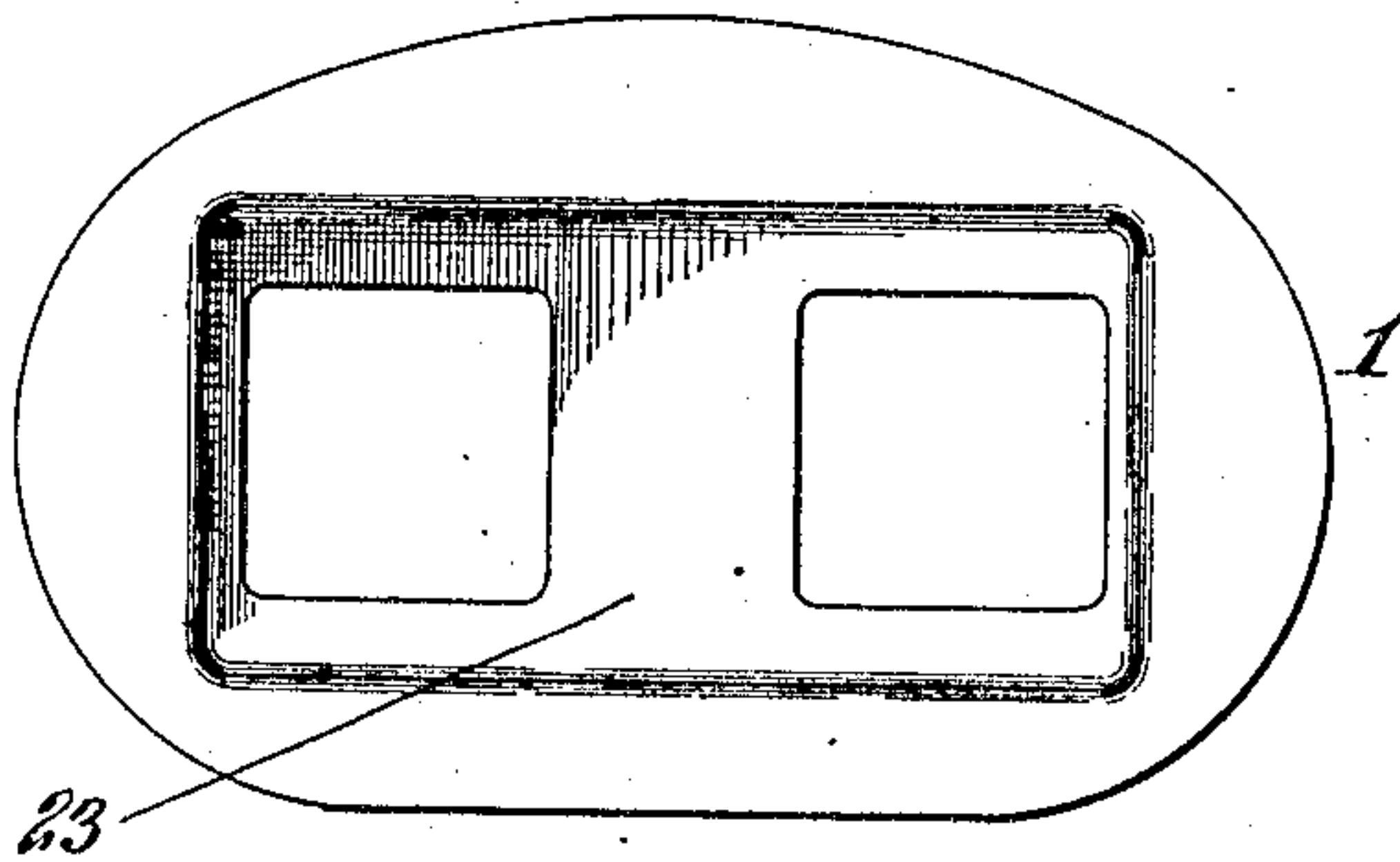


Fig. 9

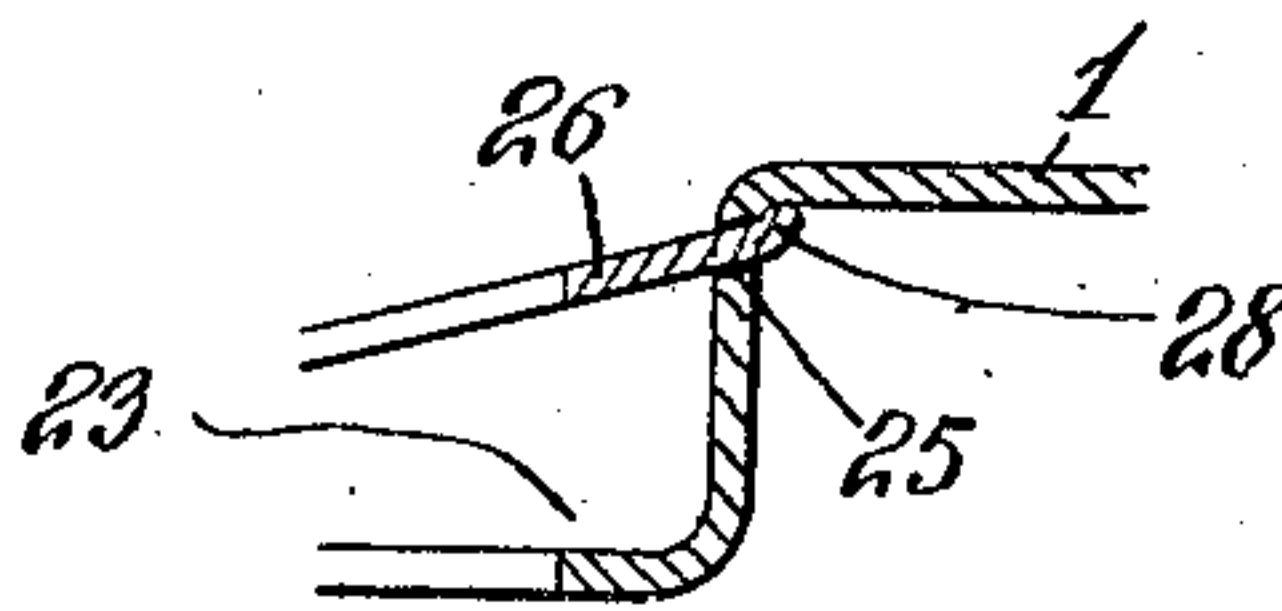
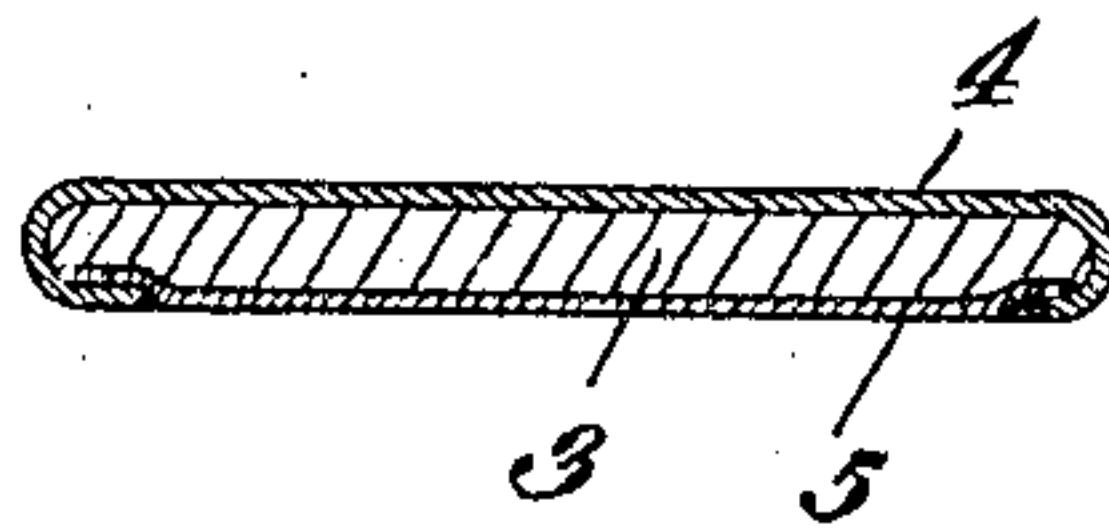


Fig. 10



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## STEREOSCOPE.

No. 849,747.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed February 15, 1905. Serial No. 245,669.

*To all whom it may concern:*

Be it known that I, CHARLES L. PAPPENHAGEN, a citizen of the United States of America, and a resident of Meadville, Crawford county, Pennsylvania, have invented certain new and useful Improvements in Stereoscopes, of which the following is a specification.

This invention relates generally to stereoscopes, its particular features being more specifically set forth in the following description and claims.

I have in this invention produced a new septum of metal, preferably aluminium, and I have overcome the difficulties hitherto met in properly forming such a septum and securing it to the other constituent parts of the stereoscope, particularly the shaft and lens-frame.

I have further improved upon the lens-frame shown and claimed more broadly in my Patent No. 756,692, of April 5, 1904, and have also improved upon prior view-holders and their clamps.

Further objects will appear as the specification proceeds.

For the purpose of illustration I have shown my invention in the accompanying sheet of drawings, like parts being designated by like numbers of reference in the several figures thereof. My invention, however, is not limited to the specific arrangement or construction or union of parts there shown and hereinafter described, but only by the scope of the claims.

In these drawings, Figure 1 is a side elevation of a stereoscope employing my invention, with parts broken away. Fig. 2 is a bottom view of my novel septum, the shaft of the stereoscope being removed. Fig. 3 is a sectional view taken on line 3 3 of Fig. 1. Fig. 4 is a sectional view showing my novel method of securing the lenses in position. Fig. 5 is a perspective view showing the view-holder with its central portion broken away in such manner as to disclose my novel clamp. Fig. 6 is a detail view showing the bridge. Fig. 7 is likewise a detail view showing the wings provided with slots and spurs for retaining the pads on the wings. Fig. 8 is a front elevation showing the lens-frame with pockets. Fig. 9 is a detail view show-

ing the method of securing the spring plate or member 26 in the pocket 23. Fig. 10 is a cross-section view on line  $x x$  of Fig. 1.

While many of the other parts of the stereoscope have been successfully made of aluminium or other metal, I am not aware that the septum or view-holder has yet been so made. I have preferred to make these constituent members of the stereoscope of one piece of suitable material, such as aluminium or tin, although they of course could be made of any number of parts properly joined without departing from the spirit of my invention.

In the drawings, 1 indicates the lens-frame of the stereoscope, about which is fastened the hood 2 in any approved manner.

3 is the shaft enveloped by an upper plate 4 and a lower plate 5, properly joined at their edges. The upper shaft-plate fits snugly against the lens-frame, while the lower shaft-plate is joined to the hood by a transverse seam 6 at the lower portion of its surrounding edge.

7 is the metal septum having the side faces 8 and 9. At the bottom the faces are provided with flanges 10 and 11, formed to overlap each other, as best seen in Fig. 2. At the rear edge in like manner I provide flanges 12 and 13. Suitable fastening means are provided to act with the flanges to secure the septum at its bottom and rear with the shaft and lens frame, respectively. Either the flanges at the bottom or the flanges at the rear may manifestly be omitted and sufficient rigidity of the septum still provided by the remaining flanges and the fastening means connecting therewith.

The flanges may be variously secured to the lens frame or shaft. For instance, I can have the apertures 14 and 15 in the bottom flanges and 16 in the rear flanges, and since there is a double thickness of metal I am able to thread them to receive the screw joining them to their proper parts. Indeed, I find that the screw itself will, in going through this double thickness of metal, form its own thread sufficiently to hold securely. 17 indicates the screws joining the bottom flanges to the shaft, while the screw 18 joins the rear flanges with the lens-frame.

The side faces of the septum should be



held securely together and an attractive appearance given to the forward end of the septum. I have therefore flanged the forward edges of the septum, as at 19, and over this I fit the member 20 as a strip of metal flanged at its side edges 21 to engage with the forward flanged edges of the side faces of the septum and flanged at its bottom, as at 22, to fit over the lapped bottom flanges of the side faces. This secures the parts firmly together and by properly forming the member 20 enhances the attractive appearance of the septum.

The lens-frame 1 I provide with a rearwardly - extending recess forming a single pocket 23, having its rear face 24 flush. In the side walls of this recessed portion I provide openings 25. The lenses are properly positioned in this pocket 23 and are secured in position by the member 26, having a forwardly-extending bridge 27 in its central portion and having the portions 28 adapted to engage in the openings in the side walls of the pocket to hold the spring-plate securely in position. At the base of this bridge I form the rearwardly-indented portions 29, which preferably are indented sufficiently to contact with the rear face of the pocket, so as to hold the lenses against lateral displacement.

My view-holder I form out of a strip of sheet material having its ends 30 flanged and bent first inwardly and then outwardly, as best shown in Fig. 5. In the bent portion of these ends I form the slots 31, which are adapted to receive the edges of the picture to retain the latter in its proper position. At the base of these slots I form out of the flanged ends of the view-holder the pockets 32, which taper downwardly and are adapted to guide the picture to its proper position. The view-holder is preferably so formed as to provide tubular beads along its edges, which enhance the attractive appearance of this member as well as give it increased rigidity.

Properly secured to the view-holder is my spring-clamp, which consists of the bridge 33, bent downwardly in such manner that the shaft enveloped by the plates 4 and 5 may be received and the clamp and view-holder thrust forward or backward along the same for focusing the picture in the well-known manner. Extending at right angles to this bridge are wings 34, preferably formed of an elastic non-abrasive substance, such as hard rubber, celluloid, or papier-mâché. These wings may of course be formed of spring metal, and if so formed are preferably provided with pads of non-abrasive material, such as plush, secured to their tips and contacting with the under side of the plate 5 when the view-holder is manipulated for focusing. To secure the plush to the wings, I form indentations or spurs 35 in the tips

thereof to engage with the plush and to hold it securely. To join the wings and bridge, I form slots 36 and 37 in their central portions, and through these slots I bend a strip of metal 38 in such manner that the bridge and wings are joined rigidly together and the faces of the strip presented to the thrust of the fingers—that is, the faces of this binding-strip extend at right angles to the long axis of the shaft.

What I claim is—

1. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their bottom, and fastening means adapted to act with said flanges to secure the septum to the shaft.

2. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their rear, and fastening means adapted to act with said flanges to secure the septum to the lens-frame.

3. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their bottom and rear, and fastening means adapted to act with the flanges to secure the septum to the shaft and lens-frame.

4. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their bottom and rear, the flanges being provided with apertures, and fastening means adapted to engage with said apertures to secure the septum to the shaft and lens-frame.

5. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their bottom and rear, the flanges being provided with threaded apertures and screws adapted to engage therewith to secure the septum to the shaft and lens-frame.

6. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having at their bottom overlapping flanges, fastening means adapted to act with said flanges to secure the septum to the shaft, the said side faces being flanged at their forward edges, and a member adapted to engage with the forward flanged edges of the side faces to hold them securely in position.

7. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having at their bottom overlapping flanges, fastening means adapted to act with said flanges to secure the septum to the shaft, the said faces being flanged at their forward edges, and a strip of metal flanged at its sides and bottom to en-



gage with the flanges of the forward edges of the side faces and to fit over the overlapping bottom flanges of the latter.

8. In a stereoscope, the combination with  
5 a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their rear and bottom, fastening means adapted to act with the flanges to secure the septum to the shaft and lens-frame,  
10 said side faces being flanged at their forward edges, and a member adapted to engage with the forward flanged edges of the side faces to hold them in position.

9. In a stereoscope, the combination with  
15 a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their rear and bottom, fastening means adapted to act with the flanges to secure the septum to the shaft and lens-frame,  
20 said side faces being flanged at their forward edges, and a strip of metal flanged at its sides and bottom to engage with the flanges of the forward edges of the side faces and to fit over the overlapping bottom flanges of the latter.

25 10. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping flanges at their bottom and rear, the flanges being provided with apertures, fastening  
30 means adapted to engage with said apertures to secure the septum to the shaft and lens-frame, the side faces being flanged at their forward edges, and a member adapted to engage with the forward flanged edges of the  
35 side faces to hold them in position.

11. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping  
40 flanges at their bottom and rear, the flanges being provided with apertures, screws adapted to engage with said apertures to secure the septum to the shaft and lens-frame, the side faces being flanged at their forward  
45 edges, and a member adapted to engage with the forward flanged edges of the side faces to hold them in position.

12. In a stereoscope, the combination with a shaft and lens-frame, of a metallic septum consisting of side faces having overlapping  
50 flanges at their rear and bottom, the flanges being provided with apertures, screws adapted to engage with said apertures to secure the septum to the shaft and lens-frame, the side faces being flanged at their forward edges,  
55 and a strip of metal flanged at its sides and bottom to engage with the flanged forward edges of the side faces and to fit over the overlapping bottom flanges of the latter.

13. In a stereoscope, a lens-frame having a  
60 recessed portion extending rearwardly and having a flush lens-engaging face, a member conforming to the angles of the lenses having a forwardly-extending bridge and a rear-

wardly-indented portion at the base of said bridge serving to properly space the lenses, 65 and means for securing the member to the recessed portion of the lens-frame.

14. As a constituent member of a stereoscope, a view-holder composed of a strip of sheet material having its edges formed into  
70 tubular beads and its ends flanged and bent in a curved form first inwardly and then outwardly, the said bent portion being provided with a slot adapted to receive the edges of the picture, and a pocket formed out of the flanged  
75 ends and at the base of said slot adapted to guide the picture to its proper position.

15. As a constituent member of a stereoscope, a view-holder composed of a strip of sheet material having its ends flanged and  
80 then bent inwardly and then outwardly in a curved form, said bent portion being provided with a slot adapted to receive the edges of the picture to retain the same in proper position, and pockets formed in the flanged  
85 end at the base of said slot and tapered downwardly adapted to guide the picture to its proper position.

16. As a constituent member of a stereoscope, a view-holder composed of a strip of  
90 sheet material having its end flanged and bent inwardly and then outwardly in a curved formation and provided in its curved portion with a slot adapted to receive the edges of the picture to hold the same in  
95 proper position, and a pocket formed in the flanged end and at the base of said slot adapted to guide the picture to its proper position.

17. In a stereoscope, a clamp comprising a bridge adapted to receive the shaft, wings  
100 extending at right angles to said bridge, said bridge and wings being slotted in their central portion, a strip of material passing through said slots adapted to bind together the wings and the bridge. 105

18. In a stereoscope, a clamp comprising a bridge adapted to receive the shaft, wings  
110 extending at right angles to said bridge, said bridge and wings being provided with slots in their central portion, and a strip of material bent through said slots and having its sides presented at right angles to the long axis of the shaft, said strip being adapted to bind together the bridge and the wings and to serve as a finger-thrust for the said clamp. 115

19. In a stereoscope, a spring-clamp comprised of a bridge adapted to receive the shaft, wings extending at right angles to said  
120 bridge and having their tips provided with pads to bear against the shaft, spurs formed in said tips adapted to hold said pads in position, said bridge and wings being provided with slots in their central portion, a strip of material adapted to be bent through said slots to bind together the bridge and wings. 125

20. In a stereoscope, a clamp comprised of

a bridge adapted to receive the shaft, wings  
extending at right angles to said bridge and  
having their tips provided with pads, spurs  
adapted to retain said pads in position, said  
5 bridge and wings being provided with slots in  
their central portion, a strip of metal adapted  
to be bent through said slots to bind together  
the bridge and wings, and having down-  
wardly-extending faces extending at right

angles to the long axis of the shaft and adapt- ed to serve as a finger-thrust.

Signed at Meadville, Pennsylvania, this  
31st day of January, 1905.

CHARLES L. PAPPENHAGEN.

Witnesses:

K. M. SHUSTER,  
L. A. LEBERMAN.