

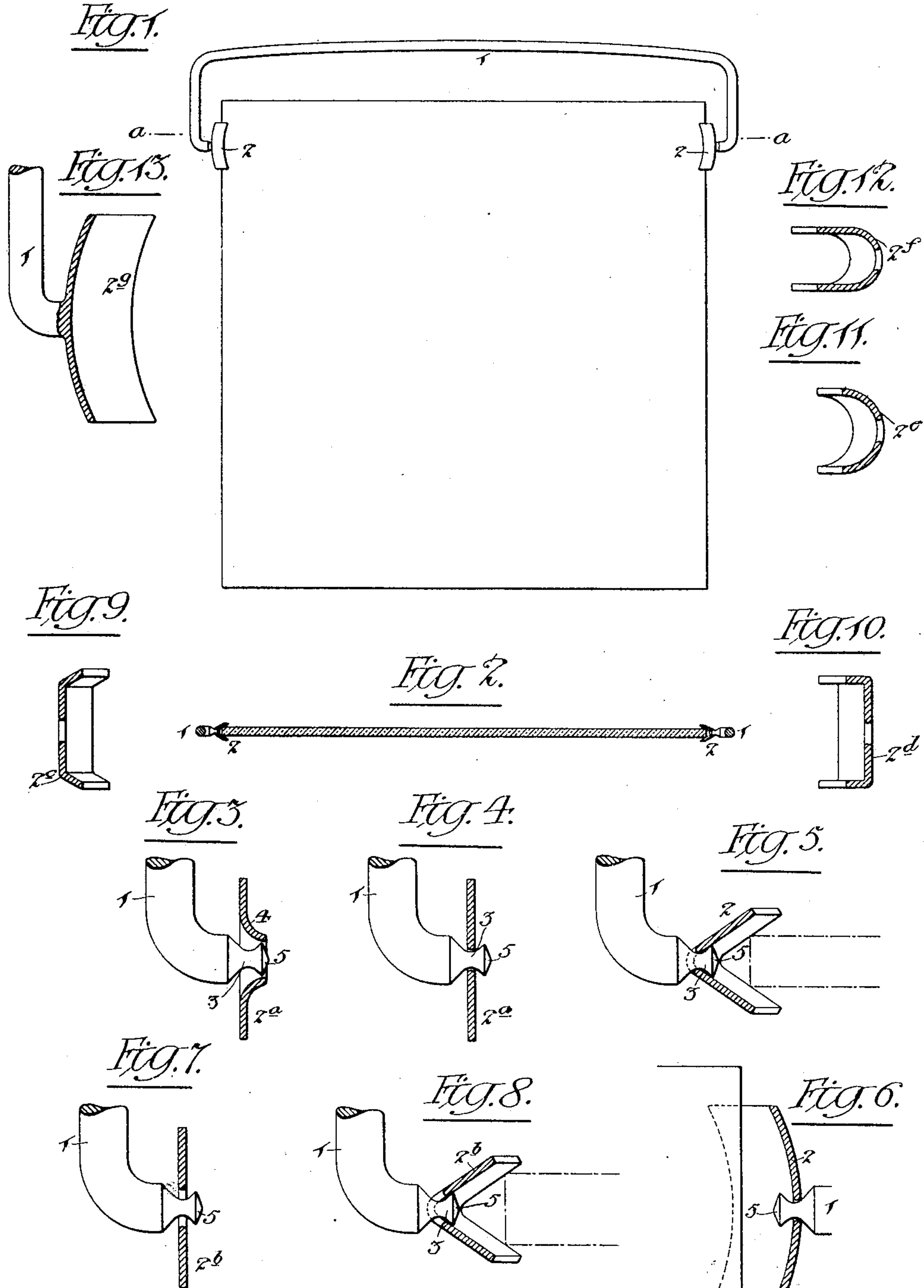
No. 684,730.

Patented Oct. 15, 1901.

H. F. SHINDLE.  
PHOTOGRAPHIC PLATE HANDLE.

(Application filed Sept. 29, 1900.)

(No Model.)



Witnesses:-  
Samuel D. Turner  
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# UNITED STATES PATENT OFFICE.

HARRY F. SHINDLE, OF READING, PENNSYLVANIA.

## PHOTOGRAPHIC-PLATE HANDLE.

SPECIFICATION forming part of Letters Patent No. 684,730, dated October 15, 1901.

Application filed September 29, 1900. Serial No. 31,531. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY F. SHINDLE, a citizen of the United States, and a resident of Reading, Pennsylvania, have invented certain Improvements in Photographic-Plate Handles, of which the following is a specification.

My invention consists of certain improvements in the photographic-plate handle forming the subject of my application for patent filed October 30, 1899, Serial No. 735,263, the objects of my present improvements being to facilitate the manufacture of the handle, to insure such a firm hold of the same upon the plate or film holder as will prevent slipping, and to provide for the snug clamping of the edges of the plate or film holder, irrespective of the thickness of the same.

In the accompanying drawings, Figure 1 is a side view of my improved photographic-plate handle, showing the same applied to a plate. Fig. 2 is a transverse section on the line *a a*, Fig. 1. Figs. 3, 4, and 5 are sectional views, on an enlarged scale, illustrating the method of forming the clip and applying the same to the handle. Fig. 6 is an enlarged longitudinal section of the clip, and Figs. 7 to 13 are views illustrating certain modifications of my invention.

My improved handle is intended to serve as a convenient means of manipulating a photographic plate or film holder when developing or fixing the same or as a means of suspending the plate or film holder for draining or drying purposes. Although applicable with equally good results to glass plates or film-holders and although intended to be claimed as a handle for either, I will for convenience in the specification and claims refer to it simply as a "plate-handle."

The handle consists of a yoke 1, of wire or other suitable material and of a width proportioned to the width of the plate for which it is designed, the inwardly-bent ends of the yoke carrying clips 2, which nip the edges of the plate and serve to secure the handle thereto. My present invention relates to the construction of these clips and to the means adopted for attaching them to the handle.

It will be observed on reference to Figs. 1 and 6 that the clip is curved or bent longitudinally, so that it engages only at its opposite

ends with the edge of the plate, these ends providing sharp points of contact, which prevent slipping of the clip on the edge of the plate. Furthermore, the longitudinal curving or bending of the clip provides ample room at the center of the same and beyond the edge of the plate for the inwardly-projecting portion of the handle, and thus prevents the latter from coming into contact with the plate and interfering with the proper hold of the clip thereon. Besides being curved or bent longitudinally the clip is curved or bent transversely in order to form a tapering opening for the reception of the edge of the plate, and thus insure the nipping of said edge by the clip, irrespective of the thickness of the plate, a thin plate being overlapped by the clip to a greater extent than a thicker plate, as will be understood on reference to Figs. 5 and 6. The preferable transverse section of the clip is that of a **V**, although a semicircular shape, such as shown at Fig. 11, a **U** shape, such as shown at Fig. 12, or other flaring form may be adopted.

The method of applying the clip to the handle will be understood on reference to Figs. 3, 4, and 5, in which 3 represents a reduced neck, and 5 a beveled head at the bent end of the handle, the strip 2<sup>a</sup> representing the first stage in the formation of the clip. The strip has formed in it, in the first instance, a central opening with tapering walls in the form of a truncated cone, as at 4 in Fig. 3, the aperture at the apex of the said truncated cone being just sufficient to permit of the passage of the head at the outer end of the contracted neck 3 of the handle. The strip 2<sup>a</sup> is first slipped over the end of the handle to the position shown in Fig. 3, and the tapering walls 4 are then flattened down, as shown in Fig. 4, so as to contract the opening in the strip to a diameter less than that of the head upon the bent end of the handle. The strip is then bent to the desired transverse sectional form, as shown in Fig. 5, the side walls of the clip preferably conforming to the angle of the inner side of the head 5, so as to have a smooth bearing thereon. Instead of adopting this plan, however, a strip 2<sup>b</sup>, as shown in Fig. 7, may in the first instance have formed in it an opening of a diameter great enough to permit the



strip to be slipped over the head 5 on the bent end of the handle, reliance being placed upon the bending of the strip into V form, as shown in Fig. 8, to so contract the diameter of said opening as to prevent the clip from being pulled off of the head. In either case the expense of riveting is avoided and a neater joint results.

Instead of adopting the curved longitudinal form for the clip I may adopt angular forms for the same, the central portion of the clip being straight and the end portions only bent inwardly, as shown, for instance, at 2° in Fig. 9 and 2<sup>d</sup> in Fig. 10.

Certain features of my invention may also be adopted in connection with a clip forming part of the metal of the yoke, as shown, for instance, in Fig. 13, instead of a separate clip pivoted thereto.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A photographic-plate handle consisting of a yoke with end clips for engaging the edges of the plate, said clips being bent longitudinally so as to contact with the plate only at their ends, substantially as specified.

2. A photographic-plate handle consisting of a yoke terminating in clips for engaging the edges of the plate, said clips being bent transversely so as to form a tapering opening for the reception of the edge of the plate, substantially as specified.

3. A photographic-plate handle consisting of a yoke terminating in clips for engaging the edges of the plate, said clips being pivoted upon the ends of the yoke and being bent longitudinally so as to prevent contact of the inwardly-projecting ends of the yoke with the edges of the plate, substantially as specified.

4. A photographic-plate handle comprising

a yoke with heads and reduced necks at its ends, and transversely-flaring clips pivoted upon said reduced necks, substantially as specified.

5. A photographic-plate handle comprising a yoke with reduced necks and beveled heads at its ends, and transversely-flaring clips pivoted upon said reduced necks and conforming to the beveled heads, substantially as specified.

6. A photographic-plate handle consisting of a yoke terminating in clips for engaging the edges of the plate, said clips being bent longitudinally so as to contact with the plate only at their ends and also bent transversely so as to form a tapering opening for the reception of the edge of the plate, substantially as specified.

7. A photographic-plate handle consisting of a yoke terminating in clips for engaging the edges of the plate, said clips being pivoted upon the ends of the yoke and being bent transversely so as to form a tapering opening for the reception of the edge of the plate, substantially as specified.

8. A photographic-plate handle consisting of a yoke terminating in clips for engaging with the edges of the plate, said clips being pivoted upon the ends of the yoke and being bent longitudinally so as to contact with the plate only at their ends, and being also bent transversely so as to form a tapering opening for the reception of the edge of the plate, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY F. SHINDLE.

Witnesses:

GEO. M. MILLER,  
IRVIN P. FESSLER.