

G. M. DYE.
 FILM CLIP AND ORDER TAB HOLDER.
 APPLICATION FILED MAY 5, 1919.

1,398,423.

Patented Nov. 29, 1921.

2 SHEETS—SHEET 1.

Fig. 1

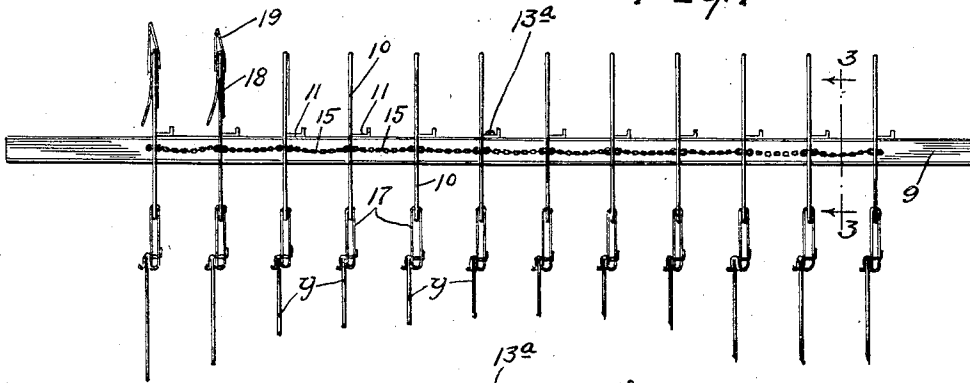


Fig. 2

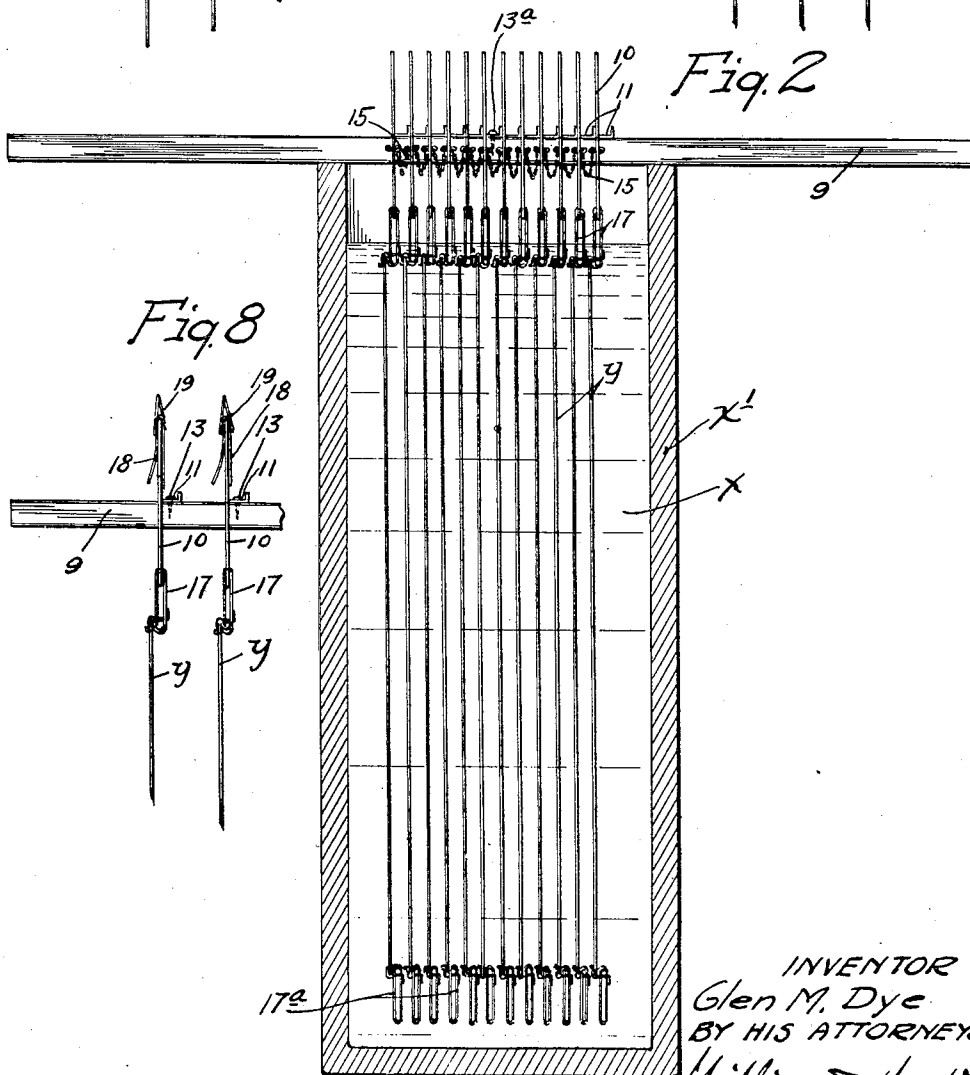
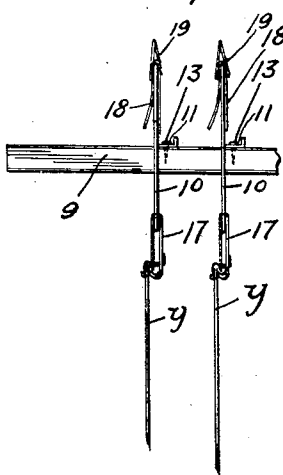


Fig. 8



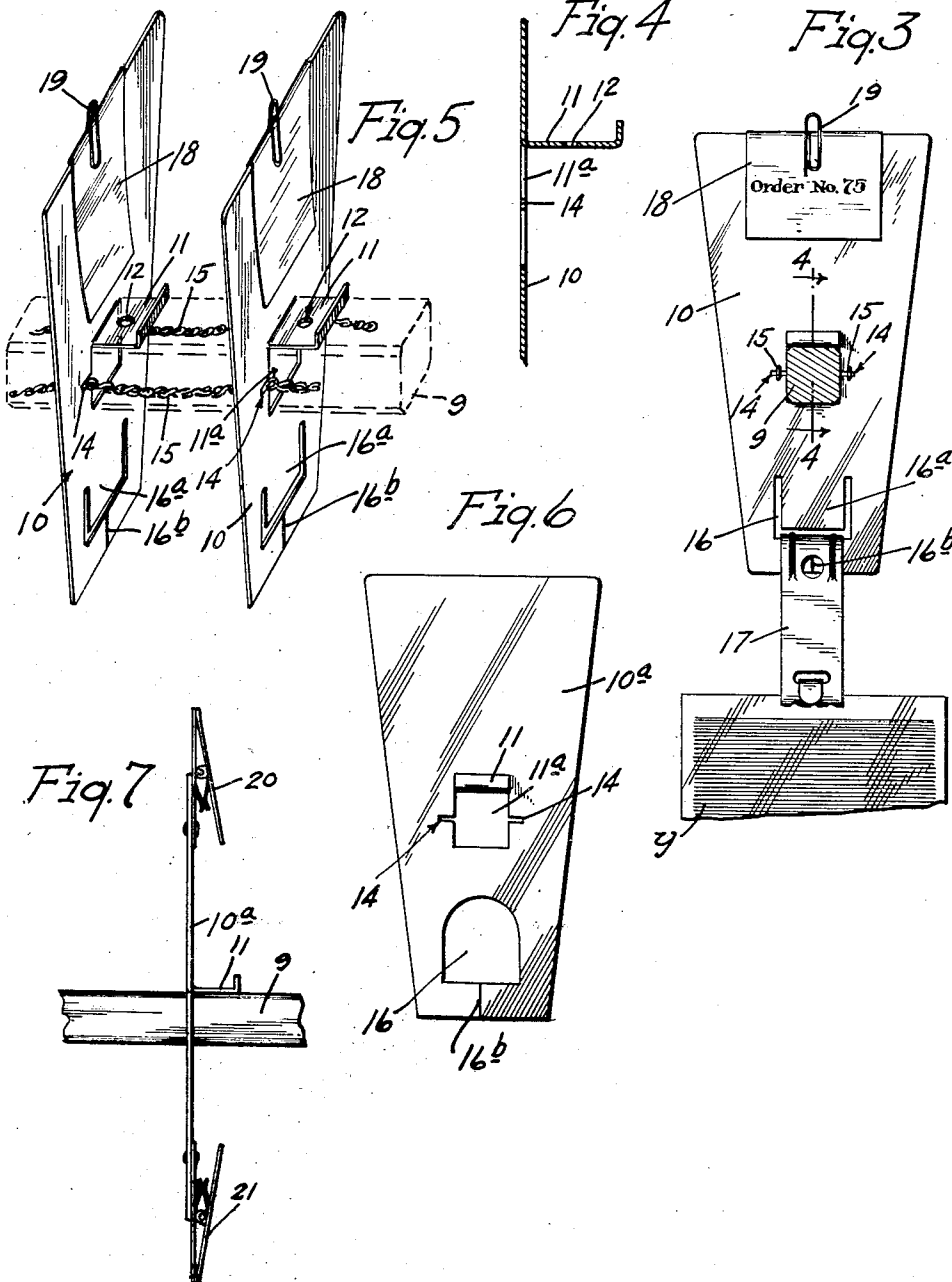
INVENTOR
 Glen M. Dye
 BY HIS ATTORNEYS
 William M. Mudgett

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GLEN M. DYE, OF MINNEAPOLIS, MINNESOTA.

FILM-CLIP AND ORDER TAB-HOLDER.

1,398,423.

Specification of Letters Patent.

Patented Nov. 29, 1921.

Application filed May 5, 1919. Serial No. 294,673.

To all whom it may concern:

Be it known that I, GLEN M. DYE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Film-Clip and Order Tab-Holders; 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 has for its object to provide a simple and highly efficient device in the nature of a multiple film clip and order tab holder; and to such ends, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In developing, fixing, washing and drying photographic films it is the common practice to mark the order number thereon and then to suspend the films by various devices, such as rods or bars. Marking of the films with the order number is objectionable, because, frequently, the films are ruined by extending the order mark onto an exposed part of the film, and moreover, it is not desirable that the order number remain permanently on the film, since the same means nothing to the owner of the film and is only a temporary device for identifying the films by the order number when they are being developed in large quantities and liable to be mixed and their identification lost.

My invention provides an extremely simple and very highly efficient device whereby a large number of films may be suspended, side by side, and order number tabs secured in definite association therewith during the processes of developing, fixing, washing and drying of the films.

The claims in the present application are directed to the combination broadly of the combined film and order tab holders supported for limited sliding movement toward and from each other. The specific structure of the film holders and supporting plates is claimed in my co-pending application, S. N. 473,027, filed May 27th, 1921, which is a division of this application.

Several forms of the invention are illustrated in the accompanying drawings wherein like characters indicate like parts throughout the several views. Referring to the drawings:—

Figure 1 is a side elevation of a complete film clip and order holder;

Fig. 2 is a side elevation of the clip and order holder shown the same in use in connection with a tank for either developing, 60 fixing, or washing the films;

Fig. 3 is an enlarged section on the line 3—3 of Fig. 1;

Fig. 4 is a fragmentary section on the line 4—4 of Fig. 3 the supporting bar being re- 65 moved;

Fig. 5 is a perspective view with some parts shown by dotted lines only, showing several of the holders of the device illustrated in Figs. 1, 2 and 3, but with the film 70 holding clip removed;

Fig. 6 is a face elevation showing a slightly modified form of one of the film clip and order holders;

Fig. 7 is a side elevation illustrating a 75 modified form of the order in which the clips are permanently attached thereto; and

Fig. 8 is a side elevation of the same construction illustrated in Fig. 1, but with the film holding plates rigidly secured on the 80 spacing bar.

The preferred construction illustrated in Figs. 1 to 5, inclusive, is as follows:

The numeral 9 indicates a supporting bar preferably of wood, made rectangular, or 85 approximately so in cross section. The numeral 10 indicates sheet metal combined film clip and order tab holders preferably made from quite thin sheet metal and mounted to slide on the supporting bar 9, 90 and for that purpose, being provided with rectangular openings 11^a formed by rectangular lips 11 cut loose on the lower and side edges and turned upward into horizontal positions so as to ride on top of the bar 9. These lips 95 11, as shown, are provided with screw holes 12, through which, when desired, screw 13 may be applied, as shown in Fig. 8 to rigidly secure the said holder plates on the bar 9. Preferably, however, the said holder plates 100 are mounted to slide on the bar, such being the construction illustrated in Figs. 1 to 5, inclusive. However, even when the holder plates are mounted to slide on the bar so as to be vertically spaced, the lip 11 of the cen- 105 tral holder plate will preferably have a screw 13^a passed through its screw hole 12 and into the bar to secure this one holder plate against lateral sliding movements on the bar. The outer edges of the lips 11 are 110

preferably upturned, so that the said lips form spacing devices to limit the movements of the several holder plates toward each other into compact form shown in Fig. 2. As an extremely simple and efficient means for limiting the spreading movements of the holder plates, they are provided with slits 14 extending from the sides of the rectangular passages 11^a; and certain of the links of small spacing chains 15 are inserted into these slits so that the chains will then limit the separating movements of the holder plates to positions shown in Figs. 1 and 5, but will permit the said plates to be assembled closely together, as shown in Fig. 2. Attention is here called to the fact that the chains 15 can be interlocked in the slits 14 only when the plates are removed from the bar 9 and that when the plates are applied on the bars they will be held thus interlocked.

With this arrangement, the central holder plate 10 being fixed on the bar, it will be impossible to move any of the holder plates off from the ends of the bar 9.

For connecting the upper ends of the films γ to the lower ends of the holder plates 10 the latter are formed with clip receiving perforations which are preferably made approximately U-shape, so as to leave tongues 16^a, as best shown in Figs. 3 and 5. The lower ends of the plates 10 at approximately their transverse centers, are formed with slits 16^b leaving prongs which, when sprung laterally apart, afford an entrance passage in the bowed upper portion of the film holding portion 17. The photographic film clip employed is preferably of a well known commercial type, made of flat spring metal with the lower ends of its prongs adapted to firmly clip and securely hold the upper edge of the film γ . Similar clips 17^a may be applied to the lower ends of the film γ , as shown in Fig. 2, to serve as spacing devices and sinkers or weights to hold the films stretched in vertical position when submerged in the liquid X of the tank X¹, such as shown in Fig. 2.

The order bar tab 18, which will usually be a paper tab, is adapted to be secured to the upwardly projected edge of the holder plate 10 by any suitable means, such, for example, as a spring wire paper clip 19 shown in Figs. 3 and 5. In the construction illustrated in Fig. 7, however, the holder plate 10^a is provided at its upper edge with a permanently secured spring clamp or clip 20 for holding the order tab, and at its lower end with a similar permanently secured spring clamp or clip 21 for holding the upper end of the film.

The form of holder plate shown in Fig. 6 is like that shown in Figs. 1 to 5, inclusive, except that the clip receiving passage 16^a is not provided with the retaining tongue

16^a. The purpose of the tongue 16^a is to prevent accidental separation of the clip from the holder plate, even under rough handling, such as with the construction illustrated in Fig. 6, might throw the clip edge-wise through the entrance slit 16^b.

In the use of this device, the upper ends of the film may be quickly and easily gripped by the clips 17 while the holder plates are separated far enough to prevent the film from coming into contact, even when being handled or moved from place to place.

When the films thus attached are brought, first to the developing tank, they may be moved into closer relation by sliding the holder plates into packed form shown in Fig. 2. This assembles the films so that a large number thereof may be immersed in the liquid of a comparatively narrow tank, that is, into a tank much narrower than would be required if the plates were to be spaced, always as far apart, as shown in Fig. 1.

From the developing tank, the film may be carried bodily to the fixing tank, and from the latter to the washing tank, and in all of these operations, the bar 9 serves as a support for the several films and tab holding devices and serves as a very convenient device for carrying the films from place to place, so that at no time during the developing period is it necessary to place the hands on the films. After the films have been washed and when they are to be hung up to dry, it is desirable to again secure the holder plate so that the films will be thrown farther apart, as shown in Fig. 1, and the films thereby so spaced that they will be dried rapidly and not be liable to come into contact while drying.

After the films have been dried, and they are to be sent to the printer, the respective order number tabs may be fastened thereto by the use of the clips on the lower ends of the films; or, if desired, the upper end clips may be removed from the holder plates and used to fasten the order clips to the films.

What I claim is:

1. A device of the kind described comprising a supporting bar and a plurality of combined film and order tab holders spaced thereon.

2. A device of the kind described comprising a supporting bar and a plurality of combined film and order tab holders spaced thereon, the said holders being capable of limited sliding movements toward and from each other.

3. A device of the kind described comprising a supporting bar and a plurality of combined film and order tab holders spaced thereon, said holders being capable of sliding movements on said bar and having projecting spacing means riding on said bar.

4. A device of the kind described comprising

ing a supporting bar and a plurality of combined film and order tab holders spaced thereon, said holders being capable of sliding movements on said bar and having projecting spacing means riding on said bar, and a flexible spacing means limiting the separating movements of said holders on said bar.

5 5. In a device of the kind described comprising a supporting bar, and a plurality of flat sheet metal holder plates having perforations through which said bar is passed, the upper edge portions of said plates serving to hold identification tabs, and film holding clips applied to the lower portions of said holder plates.

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

GLEN M. DYE.

Witnesses:

CLARA DEMAREST,
BERNICE G. BAUMANN.