

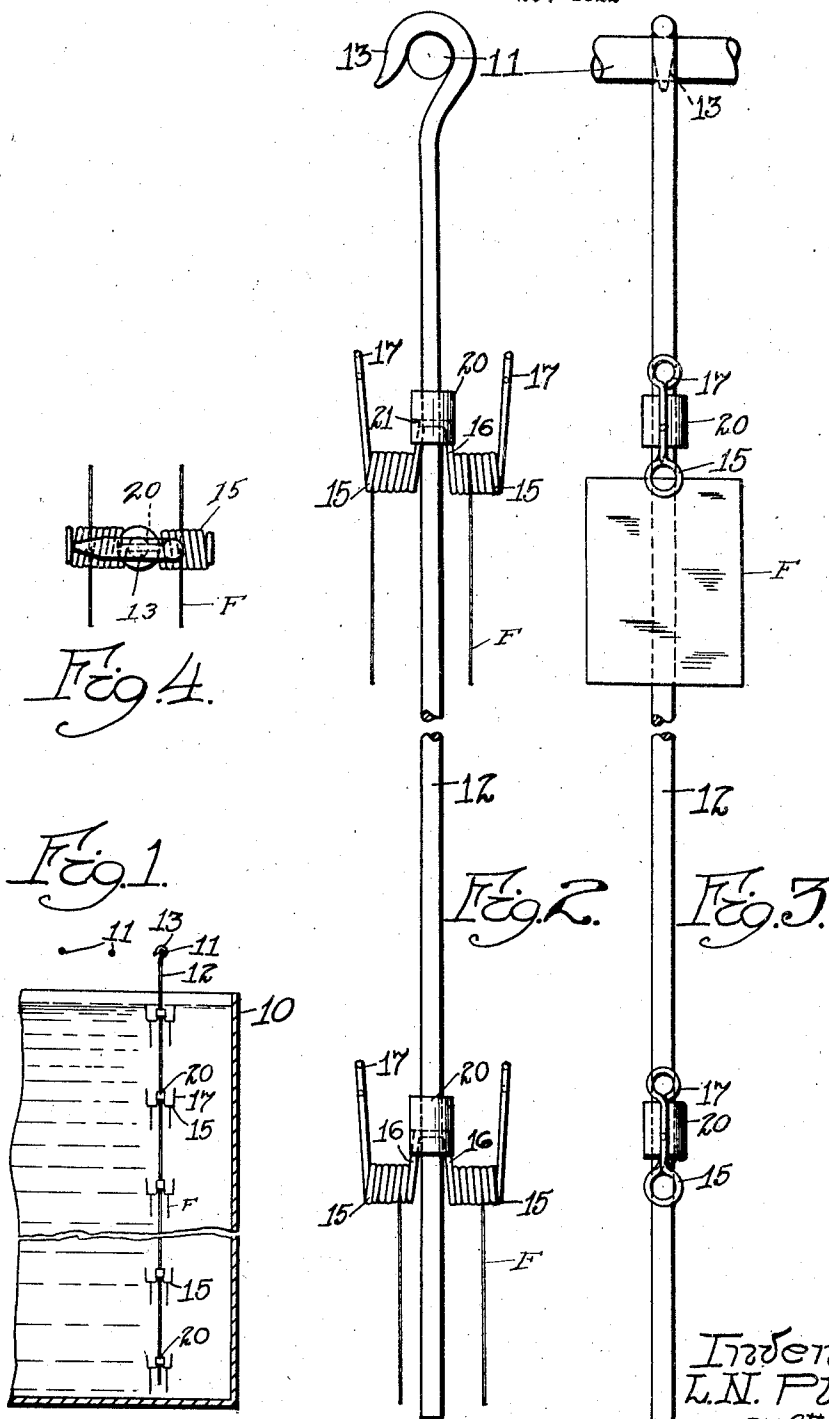
Aug. 28, 1923.

L. N. PLANTE

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FILM CARRIER

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UNITED STATES PATENT OFFICE.

LEVI N. PLANTE, OF WORCESTER, MASSACHUSETTS.

FILM CARRIER.

Application filed June 20, 1922. Serial No. 569,628.

To all whom it may concern:

Be it known that I, LEVI N. PLANTE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Film Carrier, of which the following is a specification.

This invention relates to a film carrier for the general purpose for which the one set forth in my Patent No. 1,362,136 patented December 14, 1920, was designed.

The principal objects of this invention are to provide a device for this general purpose which will be capable of holding films in a small space and will be of such a nature that the spring holders can be opened for the reception of the films very readily and that the holders themselves will guide the films into place in the coil so that the user will not have to feel around for the place to put them.

Another object of the invention is to provide a device which will be exceedingly durable and can be manufactured and sold at reasonable cost.

Reference is to be had to the accompanying drawings, in which—

Fig. 1 is a side view of a preferred form of the invention, showing it as holding films in a tank;

Fig. 2 is a similar view on an enlarged scale, showing only a part of the device;

Fig. 3 is an end view of the same; and

Fig. 4 is a plan.

As in the other case, the device is intended to be used in connection with a tank 10 having a series of parallel rods 11 over its top. The device in use, as in the other case, comprises a rod 12 having a hook 13 at the top by which it can be suspended from any one of the rods 11.

For the purpose of providing for holding the films F in vertical position so that they will hang down near the rod 12, I provide the rod with transverse perforations at intervals and insert through these perforations wires. These wires are placed in position so that they extend equally on both sides and are then coiled to form two coils 15 located in alignment with each other on opposite sides of the rod and supported by an upwardly extending arm 16 constituting, of course, a part of the wire. Each coil has at the end a handle or operating device 17 with a loop at the end. These loops project upwardly parallel with each other at a dis-

tance from the rod 12 on opposite sides thereof and are at a convenient distance apart. This wire coil is formed of some metal which will not corrode or deteriorate in the kind of bath used for developing films, as for example, Monel metal.

The wires are firmly fixed in position by means of metal collars 20 pressed on the rod and each one having a slot 21 therethrough for receiving the upwardly extending arms 16. The rod and collars can be made of brass, if desired. If so, it will be found in practice that the developing solution will coat them with silver after a little use.

In operation, the user presses on the two loops 18 with thumb and finger to force them inwardly toward each other and toward the rod 12. This spreads the coils 15 below and the films are stuck in at any point along the bottoms of the springs. Then the operator lets go of the loops and the springs swing back to their normal position and the coil firmly grips the tops of the films F.

This constitutes a very simple, convenient and durable device for this purpose and holds two films hanging downward vertically parallel with each other, so that they take up very little room and a very large number can be held in the tank.

Although I have shown and described only one form of the invention and described it as used particularly for holding films, I am aware of the fact that modifications can be made therein by those skilled in the art and that the device can be used for holding other thin articles without departing from the scope of the invention as expressed in the claims.

Therefore, I do not wish to be limited to the details of construction or the particular use herein described, but what I do claim is:—

1. As an article of manufacture, a film carrier comprising a rod having at intervals pairs of springs supported thereon, the coils of which are adapted to be forced apart at the bottom for the reception of the tops of the films to be supported thereby.

2. As an article of manufacture, a film carrier comprising a rod having at intervals pairs of springs supported thereon, the coils of which are adapted to be forced apart at the bottom for the reception of the tops of the films to be supported thereby, and means on said springs for use in forcing apart the coils of both springs of a pair.

3. As an article of manufacture, a carrier for supporting thin articles comprising a rod having thereon a pair of coil springs located opposite each other with the axes of the springs in alignment with each other and with the center of the rod and located transverse to the axis of the rod itself.

4. As an article of manufacture, a carrier for the purposes described having pairs of opposite springs thereon for gripping between their coils the articles to be carried, said springs having opposite arms projecting therefrom for spreading the coils of the springs when forced toward each other.

5. As an article of manufacture, a carrier or support of the character described having two yielding devices for clamping the tops of films or the like located opposite each other on the carrier and arranged to hold the two films or the like, spaced apart in parallel relation.

6. As an article of manufacture, a carrier of the type described comprising a rod provided with a spring secured to the rod at one end and extending transversely from the rod and adapted to have its coils spread apart at the bottom to take the top of an article between them.

7. As an article of manufacture, a carrier of the type described comprising a rod

adapted to be suspended to hang down from the top and provided with a spring secured to the rod at one end and extending transversely from the rod and adapted to be spread apart at the bottom to take the top of an article between its coils, and provided with an arm extending upwardly parallel with the rod which, when moved toward the rod, will spread the spring apart at the bottom to admit a thin article between its coils.

8. As an article of manufacture, a supporting device of the character described comprising a rod adapted to be suspended from above and having a series of collars arranged at intervals thereon, a wire passed through the rod and bent downwardly on opposite sides of the rod, said collar having a slot receiving the bent portions of the wire, said wire being coiled in the form of a spring on each side of the rod, said springs extending from the rod in opposite directions and being adapted to hold thin articles between their coils in planes parallel to each other spaced from the rod on opposite sides thereof.

In testimony whereof I have hereunto affixed my signature.

LEVI N. PLANTE.