

A. W. BUCK.
CONTAINER FOR X-RAY FILMS.
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1,293,323.

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Fig. 1

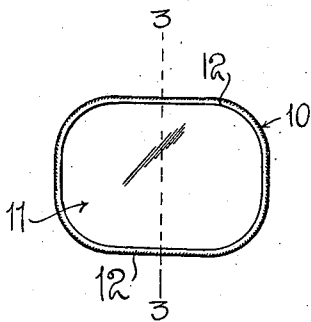


Fig. 2

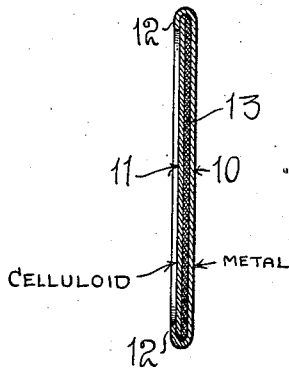
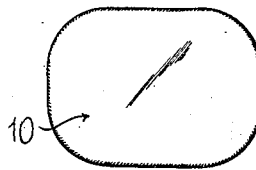


Fig. 3

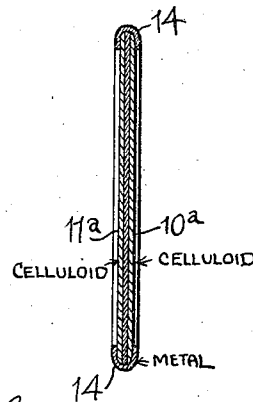


Fig. 4

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CONTAINER FOR X-RAY FILMS.

1,293,323.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ARTHUR W. BUCK, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Containers for X-Ray Films, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to the art of photography, and more particularly to the use of sensitized films which are used for the purpose of making röntgenograms, or, in other words, X-ray negatives, the invention being particularly designed to be used in making röntgenograms of the teeth.

At the present time, in making X-ray photographs of the teeth, the sensitized film is wrapped within an envelop of paper or like material, which is lightproof, and this little packet of paper is very liable to gag the patient when it is placed in the mouth. Furthermore, the packet of paper is rectangular in form and, therefore, forms sharp corners which tend to cut the patient's mouth. Again the sharp corners of the paper packet make it difficult to use the packet for making X-ray photographs of the molar teeth. The paper wrapper for the film being absorbent, soaks up the saliva and is thus unsanitary and the packet being of paper pliable but resistant and therefore will not retain any curvature or bend which may be given to it, and, therefore, cannot be fitted to the mouth or teeth.

The general object of my invention is to avoid inconveniences of this nature by the provision of packet including a container or envelop which is of lightproof material but which is very thin, is not absorbent, and which is made of soft metal which is impressionable, that is, flexible or pliable without elasticity so that it may be bent under very slight pressure to take any desired curvature or conformation and will retain the bend given to it, thereby causing it to conform to the shape of the mouth. I will hereafter denote this quality by the term "impressionable."

A further object is to provide a device of this character which thoroughly protects the sensitized sheet from being affected by ordinary light rays, and which more thor-

oughly protects the sheet than is possible where the sheet is wrapped in photographically opaque paper.

Still another object is to provide an envelop of such form that a photographic film may be held in close contact with a metallic back, thereby greatly adding to the speed and quality of the X-ray photograph.

A further object is to provide an envelop of such cheap construction that it may be discarded after use, thus avoiding the necessity of sterilizing and reloading a holder after each patient, the envelop, however, being so formed as to secure the advantages previously set forth.

Still another object is to so form the envelop within which the film is contained that there will be no overlapping of two sheets or thicknesses of metal across the face of the film.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein one form of this container is illustrated.

Figure 1 is a face view of my light proof container for photographic films;

Fig. 2 is a rear view thereof;

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

Fig. 4 is a transverse section through a modified form of container.

It will be seen from these figures that the envelop of my improved film packet comprises a thin metallic back of relatively soft impressionable metal, designated 10, and a front plate designated 11, which may be made of celluloid or which may be made of any other suitable material which will be photographically opaque to ordinary light rays. The marginal edges of the back 10 are bent over at 12 upon the plate of celluloid 11 and bent down tightly so that the celluloid sheet 11 and the back plate 10 are held in close contiguity. Previous to the bending over of the edge of the plate 10, there is disposed between the plate 10 and the front plate 11, one or more disks or sheets of sensitized film, designated 13. Inasmuch as the celluloid 11 is capable of being bent or flexed, and inasmuch as the back 10 of the case is made of metal which is pliable but not elastic, it follows that the

case as a whole is bendable and that because of this pliability the case may be bent and will retain its form.

It is to be understood that while I have referred to the sheet or plate 11 as being formed of celluloid, or like material, yet I do not wish to be limited to this, as it may be made of any substance that offers resistance to either light, moisture, or both. I may use paper for the front plate or sheet of the envelop, or I may use any other material which is opaque to ordinary light rays. It is obvious also that it matters not, from an effective standpoint, whether the back clenches over the front or the front clenches over the back, or whether, as in Fig. 4, a mere rim of metal 14 is used with a back 10^a of celluloid and a front 11^a of celluloid or paper. In this case the rim 14 will hold the container in proper shape. By the term "impressionable" as used in the specification and the claims appended, I mean to designate the quality of being bendable or flexible and retaining the bend or conformation given to the article.

I am aware that prior to my invention film holders have been designed which are intended to be used for holding a film within the mouth of a patient. The holder as proposed consists of a flat capsule of material which is not impressionable in the sense that the material can be bent and will retain the bend given to it and the shape of the capsule or box being such that it could not, as a holder, be bent to conform to the shape of the mouth except under great pressure. Furthermore, such capsule or holder was of such form that if a bend were given to it, the container would no longer be light proof.

Furthermore, holders of the character above stated have the form of a box, the body of which is open at one end and which is closed by a sliding cap. The suggested holder has a thickness of metal over the front, a certain thickness over the back, but at the front and the back there will be an extra thickness caused by the overlapping of the cap upon the body of the holder. If the holder is made of aluminum as thin as .006 of an inch, the two thicknesses at the joint would have a thickness of .012 of an inch. Furthermore, these carriers, as made, had a length of 1½" and a width of 1". It will be obvious, therefore, that the holder could not be bent as a whole under ordinary pressures, even though the sheet metal might be pliable in itself. The metal used by me is relatively soft, and inasmuch as there is only one thickness of this metal, the envelop so formed may be readily bent to conform to the shape of the teeth or mouth, without any breaking of the joints.

Furthermore, the margin of the metal

back is forced down tightly upon the celluloid front so that the inclosed film is held in tight engagement with the back. These envelops are loaded by special machines and the back clenches over the front and after a photograph has been taken the envelop is designed to be thrown away and not to be used a second time.

It is to be understood that while I have illustrated in the drawings only one disk or sheet of sensitized film disposed within my container that ordinarily two pieces or disks of film are usually disposed within the container and that it is within my invention, of course, to use either one piece of film, or a plurality of pieces, as found desirable. Furthermore it is to be understood that by the term "photographic film" as used in the specification and claims, I wish to include any thin sheet of photographically sensitive material.

Having described my invention, what I claim is:—

1. An X-ray film packet including an envelop having a front and a back, the front being of thin flexible material photographically opaque to visible rays, but permeable by invisible rays, the back being of soft impressionable metal, and a photographic film disposed between the back and front.

2. An X-ray film packet comprising a back of soft flexible and impressionable metal, and a front of thin flexible material photographically opaque to visible rays, but permeable by invisible rays, and a photographic film disposed between the back and front, the back and front being held in close contiguity with each other, whereby to press the film into contact with the metallic back.

3. An X-ray film packet comprising a back formed of relatively soft, impressionable metal, a front formed of thin, flexible material photographically impervious to visible rays, but permeable by invisible rays, the back having light tight engagement with the front, and a sensitized film disposed between the back and front, the back being clenched over upon the front.

4. An X-ray film packet comprising a back and front formed of flexible material, both the back and front being photographically impervious to visible rays, the front being permeable by invisible rays, and a photographic film disposed between the front and back, the back being connected to the front by a band of soft, impressionable metal, whereby the packet as a whole may be forced to take a desired curvature and will retain this curvature.

5. An X-ray film packet comprising a back of thin impressionable material and a front of thin flexible material impervious to ordinary light rays but permeable to invisible rays, the back and front being bound

together at their edges and containing between them a strip of sensitized film.

6. As an article of manufacture, a thin, impressionable envelop entirely inclosing
5 a strip of photographic film, the envelop being opaque to ordinary light but having a portion thereof permeable by invisible rays.

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

ARTHUR W. BUCK.

Witnesses:

C. A. HECKELMAN,
JOSEPHINE B. RYAN.