

Mar. 27, 1923.

1,449,532

A. MOORE

CONTAINER FOR ELECTRIC BULBS AND THE LIKE

Filed Aug. 29, 1921

2 sheets-sheet 1

Fig 1

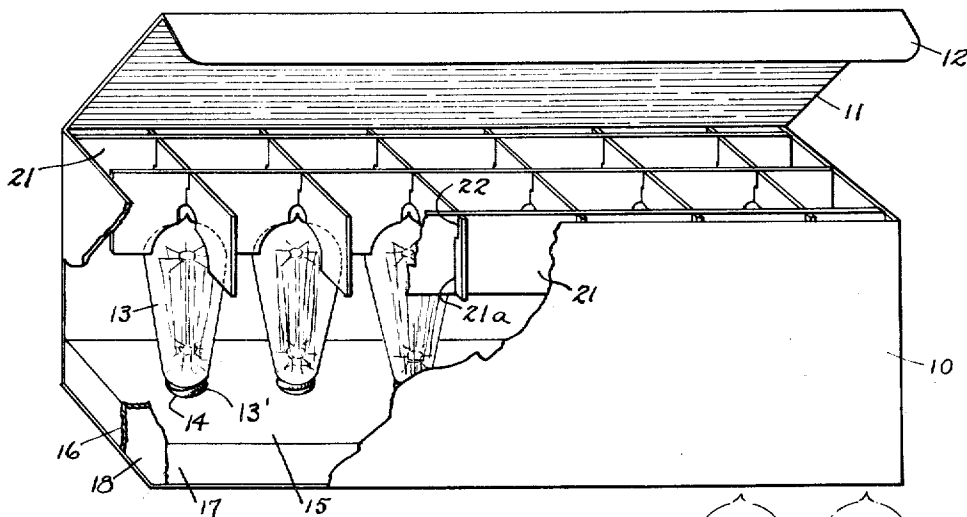


Fig 2

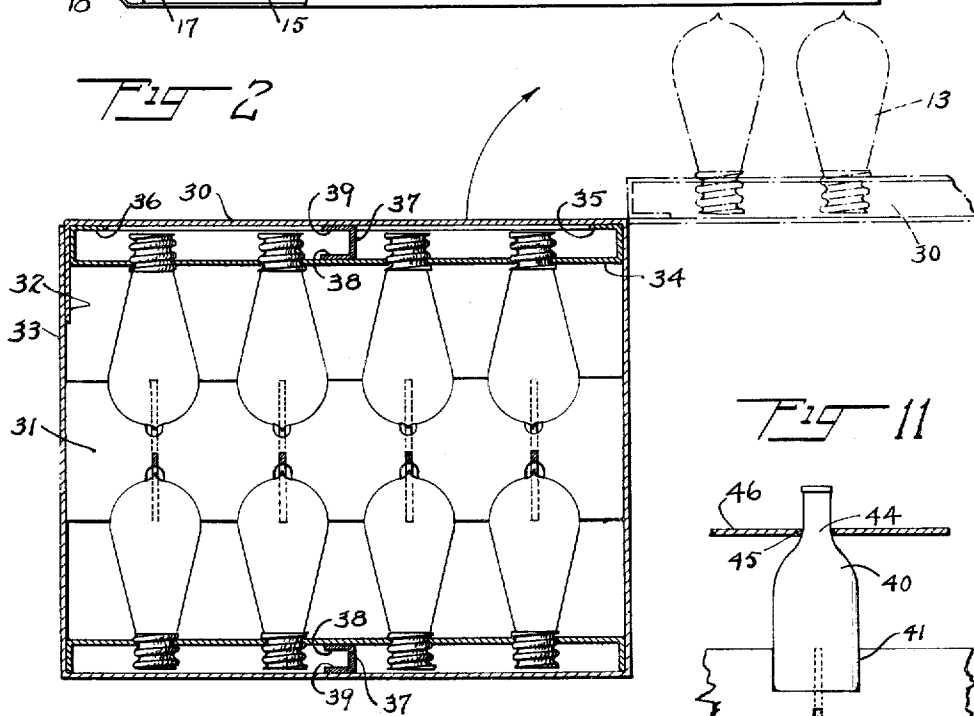
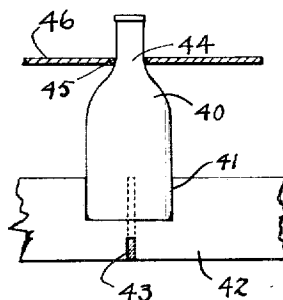


Fig 3



Fig 11



Inventor
Arlington Moore
By Attorney
H. H. Dyke

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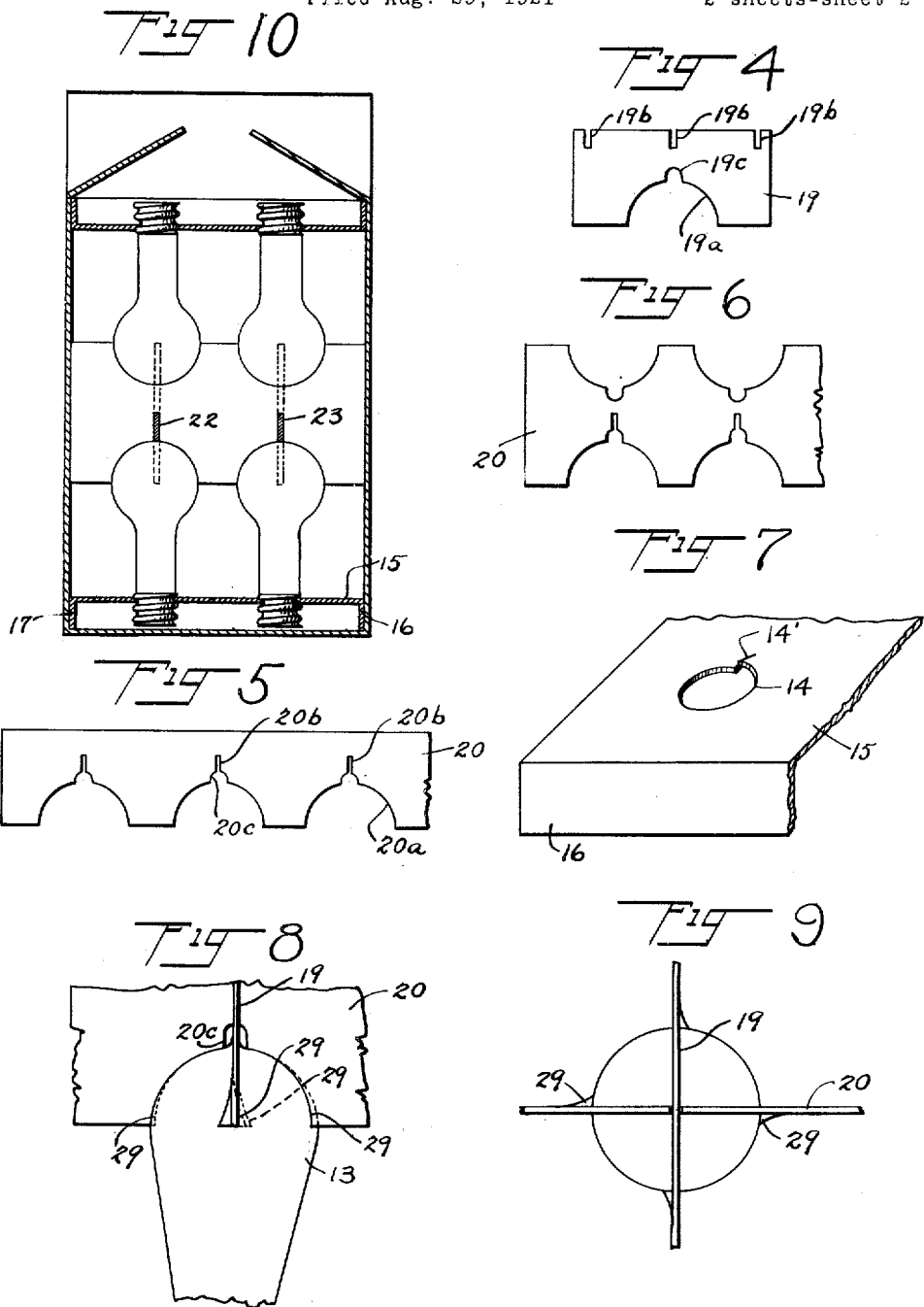
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2 sheets-sheet 2



Inventor
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UNITED STATES PATENT OFFICE.

ARLINGTON MOORE, OF NEW YORK, N. Y., ASSIGNOR TO MOORE INVENTIONS CORPORATION, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

CONTAINER FOR ELECTRIC BULBS AND THE LIKE.

Application filed August 29, 1921. Serial No. 496,475.

To all whom it may concern:

Be it known that I, ARLINGTON MOORE, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented a new and useful Improvement in Containers for Electric Bulbs and the like, of which the following is a specification.

My invention relates to containers for electric bulbs and the like and has for its principal object to provide a container and holders therein adapted to hold electric bulbs, bottles and similar breakable articles in such manner as to prevent breakage by insuring that all shocks and strains transmitted to the bulb or other article are exerted in the direction of its greatest strength and power of resistance.

These and related objects are attained in a container for electric bulbs and the like by providing a set of holders for the enlarged or outer ends of the bulbs or for the bottoms of bottles or the like made up of strips of material such as pasteboard, newsboard, chipboard or the like, set edgewise crossing one another and having recesses formed in their edges at the crossing axis which provides seats for the outer ends of the bulbs or other articles, and by providing holders for the threaded base of the bulb or for the bottle neck or the like comprising a flat plate of similar, but preferably somewhat stiffer material in which the threaded end of the bulb or the bottle neck is received and held. In the case of electric bulbs the openings in such plate are adapted to have the threaded ends of the bulb screwed therein in order to support the bulb in upright position with the bottle necks or threaded ends of the bulbs supported in this manner and their opposite ends supported in the seats formed in the edges of the crossing strips, so that the bulb, bottle or the like is supported between its opposite ends and is thoroughly protected from injury in handling, shipping or the like. With the foregoing and related objects in view my invention consists in the forms of construction and combinations herein set forth.

In the accompanying drawings Fig. 1 is a perspective view with parts broken away of an electric bulb container for a single row of bulbs. Fig. 2 is a cross sectional view of a container for a double layer of bulbs, the holder for one of the layers of

bulbs being secured to the lid of the container. Fig. 3 is a diagrammatical view showing how the holders for the outer ends of the bulbs can be folded or collapsed to lie flat. Fig. 4 is a side view on enlarged scale of a strip forming one of the cross pieces of a holder for a single row of bulbs. Fig. 5 is a view similar to Fig. 4 of one of the longitudinally notched and recessed strips of a holder. Fig. 6 is a view similar to Fig. 5 but showing one of the strips of an intermediate or double sided holder. Fig. 7 is a perspective view of a supporting board or plate in which an electric bulb can be screwed by its threaded end. Fig. 8 is an enlarged fragmentary detail view showing how the outer end of an electric bulb is held in place in its seat. Fig. 9 is a detail view taken at right angles to Fig. 8. Fig. 10 is a transverse sectional view of a modified form of container adapted for two sets or layers of bulbs and Fig. 11 is a sectional view showing the application of the invention to the packaging of bottles.

Referring first to the container for electric bulbs, reference character 10 designates the container which may be a box, carton or the like. The container 10 may have lids of various forms. A folding lid 11 with fastening flap 12 is illustrated in Fig. 1. The electric bulbs 13 are supported in upright position within the container 10 by the threaded portion 13' being screwed in openings 14 in the bottom board or plate 15. Said bottom board or plate 15 is elevated from the bottom of the container 10 by means of its downwardly extending flanges 16, 17. Openings 14 for receiving the threaded ends of the bulbs 13 by being screwed therein are preferably of a diameter substantially equal to the root diameter of the threads upon the base of the bulbs, so that in order to insert or remove a bulb it is necessary to screw the same in or out of the openings 14 in the plate 15. Said plate 15 is made of moderately heavy material such as strawboard, for example, and in order that the bulb may stand erect with its longitudinal axis at substantially right angles to the plate 15, the material of the plate is preferably provided with a slot or cut 14' (see Fig. 7) at one side of the openings 14 therein, so that as the bulb is screwed in place the material of the holding plate can yield to form substantially a screw

thread, as will be readily understood from the showing of Fig. 7, and such yielding in both directions being substantially equal, the bulb when firmly screwed in place in the plate will stand up or hang straight with its longitudinal axis substantially vertical. The distance between the plate 15 and the bottom 18 of the carton is such that when the bulb base is screwed in place in plate 15 the end thereof does not extend quite to the adjacent wall of the carton, as shown for example in Fig. 2.

The opposite end of the bulb is supported in a holder having seats making contact therewith along four lines radiating from the center of the seat. Such holding means are obtained by the provision of a plurality of strips set edgewise and crossing one another and notched out at their intersections to form seats for the ends of the electric bulbs.

In the form shown in Fig. 1 for a single row of bulbs, the holder for the large outer ends of the bulbs is made up of transverse strips 19 (see Fig. 4), and longitudinal strips 20 (Fig. 5). The strips 19 are provided with cut-out portions 19^a and the longitudinal strips 20 with cut-out portions 20^a. These strips are provided at their crossing points with slots 19^b and 20^b formed partly in each strip so as to permit the strips to be readily put together to make up the holders and also to permit the collapsing of the holders as shown in Fig. 3, thereby providing for convenient storage or shipment of the holders. The strips when put together stand edgewise engaging one another at the slotted portions forming substantially a lattice work with the strips at right angles to one another. Small recesses 19^c and 20^c may be provided at the bottoms of the cut-out portions 19^a and 20^a, if desired, for receiving the small teat or point of the electric bulb. Where a single row of bulbs is packed in a container, I preferably provide side strips 21 parallel to longitudinal strips 20, but without cut-outs similar to 20^a for forming seats therein. These strips are provided with slots 21^a so that they can be assembled with the transverse members 19 by means of slots 19^b formed in such transverse members, as shown clearly in Fig. 1. In this manner the transverse strips 19 are held parallel to one another and do not readily get out of place. While two of the longitudinal strips 21 are shown, one at each side of longitudinal strip 20 containing the seats, it may be sufficient to make use of a single strip 21 dispensing with one of the strips 21 and the transverse strips 19 may be held parallel in various other manners. Where a plurality of rows of bulbs are packed in a container as shown in Fig. 10, for example, such additional longitudinal strips for holding the transverse strips parallel to one another

may be entirely dispensed with since where a plurality of longitudinal strips is provided having the cut-outs for seats therein, as for example strips 22 and 23, Fig. 10, no additional means for holding the transverse strips parallel is required.

The holder provided for the outer ends of the electric bulbs as above described may be referred to as substantially cruciform since the seats are made up of the edges of the strips extending radially in four lines away from the center of the seat, and the outer end of the bulb or the bottom of a bottle or the like may be securely held therein in a manner somewhat similar to the holding of a round stone or pearl in a jewelry setting.

The strips 19 and 20 are preferably of material such as pasteboard, newsboard or chipboard which are adapted to support the bulbs but can yield more or less when subjected to moderate pressure applied to the bulb in its seat. The seats are preferably made smaller in one or more dimensions than the corresponding dimension of the bulb to be held therein, so that when the bulb is in place the material of the strips adjacent to the seats can yield somewhat and conform to the contour of the bulb. In this way bulbs of varying contours can be firmly held and substantially no movement of the bulbs in their seats is permitted and breakage of the bulbs is prevented. In the form shown, the transverse diameter of the rounded recess making up the seats is made somewhat undersized as compared with the bulb, as is shown clearly in Figs. 8 and 9, so that when the bulb 13 is put in place therein the edges or corners 29 may yield and be displaced, for example, as shown in Fig. 9, though the compression instead of being entirely lateral may take place more or less in the edgewise direction of the strips as will be understood. The material of the strips is sufficiently elastic so that its tendency to return to normal position results in the bulb being firmly held and prevented from rattling around or getting out of place and this feature of the device also permits use of bulbs of various sizes although preferably as is customary the bulbs packed in a single container are substantially uniform in size and contour.

Fig. 2 shows a modified form of a container, similar to Fig. 10, but with the holder for the threaded portions of the top layer of bulbs being hingedly attached to one wall of the container and constituting the cover of the container. When the lid 30 is closed, the top portions of the bulbs screwed thereinto fit into the seats in the top edges of the intermediate or separating holder 31. Flap 32 fitting snugly against the adjacent wall 33 of the container, serves to hold lid 30 securely in place. Holder 34 for the threaded ends of the top layer of bulbs and which

forms the lid, is constructed substantially like bottom holder 15, but has additional flanges 35, 36 at right angles to flanges 16, 17, fitting closely against lid 30 and glued or otherwise secured thereto, so that when lid 30 is opened, holder 34 and the bulbs screwed thereinto will open out with it and can be easily removed. The removal of the separating holder 31 exposes the bottom layer of bulbs. Where containers are constructed adapted to hold four or more parallel rows of bulbs, an upright support 37 made of suitable material, such as strawboard, folded three ways, is interposed between the holder for the threaded portions of the bulbs and the adjacent wall, in the center and running preferably lengthwise of the container, (see Fig. 2.) This is to prevent sagging of the holders when the bulbs are inserted or removed. Flanges 38, 39 of the upright support 37 are glued to the adjacent walls, so as to hold the upright support in place.

To pack a container such as shown in Fig. 1, the bottom holder 15 is inserted in the container, with the flanges 16, 17 resting on the bottom of the container. The bulbs are screwed into place, and the top holder, consisting of cross members 19 and longitudinal members 20, 21, if collapsed, is straightened out, so that the cross members are at right angles to the longitudinal member, and the holder is placed into the container so that the seats formed at the crossing points or axes fit over the top portions of the bulbs. The seats are preferably spaced a sufficient distance apart so that there is no lateral contact between adjacent bulbs. The act of closing the container serves to compress its contents to the extent that the top holder projects beyond the top of the container when the bulbs are in place.

Containers as shown in Figs. 2 and 10 are packed similarly to those of Fig. 1, but an intermediate or separating holder having seats on both sides at the crossing points or axes, is used, and the bulbs of the upper layer are screwed in their holder or lid before insertion in the container.

When the package is completed in the manner described, it will be seen that the bulbs are held firmly by pressure applied to their opposite ends, that the bulbs are held apart and prevented from coming into lateral contact with one another, and that when so packed the containers may be subjected to rough usage without danger of breaking the bulbs.

While electric bulbs are a good example of articles packed and supported as described, the invention may be applied to other fragile articles adapted to be held at one end in openings in a plate or board and seated at the other end in cruciform seats formed in a lattice work holder made up of crossing strips set edgewise, and in Fig. 9 I

have shown for illustration of such uses a bottle 40 having its bottom received in a seat 41 formed of substantially square notches in strips 42 and 43 and having its neck 44 received in an opening 45 in the board or plate 46. Lattice work holders with seats such as herein described are claimed broadly in my co-pending application Serial No. 496,476, filed August 29, 1921, and the present case is intended to cover such holders only in combination with an apertured plate holder for the opposite end of the articles supported.

It is to be understood that the forms shown are for illustration only and are not to impose limitations upon the invention, and that modifications and changes may be made, within the scope of my claims, without departing from the principle of my invention.

I claim:

1. A container for fragile articles comprising a carton, a holder therein comprising a plate provided with openings in which one end is received, and a holder for the opposite ends of the articles comprising a lattice work of strips set edgewise and having seats therein at the strip intersections.

2. A container for electric bulbs comprising a carton, a holder therein comprising a plate provided with openings into which the bases of electric bulbs can be screwed, and a holder for the opposite ends of the bulbs comprising a lattice work of strips set edgewise and having seats for the ends of the bulbs at the strip intersections.

3. A container for electric bulbs comprising a carton, a plate in the carton and elevated from the base thereof, said plate being provided with holes for receiving the threaded portion of the bulbs by being screwed therein, and a holder for the opposite ends of the bulbs comprising notched strips set edgewise and crossing at the notches and provided with bulb seats formed in the edges of the strips and having their centers at the crossing axes.

4. A container for electric bulbs comprising a sheet or plate provided with downwardly extending flanges whereby said plate is supported and elevated at a distance above the bottom of the carton, said plate being provided with holes into which the threaded ends of electric bulbs may be screwed, and a holder for the opposite ends of the bulbs comprising a plurality of crossed strips having notches in each for passage of the other and provided at their crossing with intersecting recessed portions forming seats for the larger end of the electric bulbs, said seats being substantially over the openings in said plate.

5. A container for electric bulbs comprising a carton and its lid, a plate in the container and having flanges extending downwardly therefrom whereby said plate is ele-

vated above the bottom of the container, said plate being provided with a plurality of holes for receiving the threaded portions of the bulbs by being screwed therein, and
 5 a holder for the opposite ends of the bulbs comprising notched strips set edgewise and crossing at the notches and provided with bulb seats formed in the edges of the strips, said seats having their centers at the cross-
 10 ing axes of said strips, and said holder being adapted when electric bulbs are in place therein to normally extend somewhat beyond the top of the carton, whereby said holding means are adapted to be compressed
 15 upon the bulbs when the lid is closed.

6. In an electric bulb container, a holder plate into which the threaded portions of the bulbs are screwed and held in upright position, a holder having flexible four edged
 20 seats for the opposite ends of the bulbs, said seats being located at a distance apart to keep the bulbs out of contact and having a transverse dimension smaller than the corresponding dimension of bulbs to be placed
 25 therein, whereby the parts of the strips forming the seats may yield somewhat under pressure to conform to the contour of the bulbs.

7. A holder for the threaded ends of electric bulbs comprising a plate having an opening therein of diameter substantially
 30 equal to the root diameter of the threaded portion of the bulbs, and the material of said plate being slotted on one side of such openings whereby the material of the plate
 35 will conform to the screw threads and hold a bulb screwed therein with its longitudinal axis substantially at right angle to the plate.

8. In an electric bulb container, a carton,
 40 a plate supported above the bottom of the carton and being provided with holes slotted at one side whereby electric bulbs screwed therein are supported with their longitudinal
 45 axis substantially at right angles to the plate, and holders for the opposite ends

of the electric bulbs comprising a lattice work of crossed strips having seats for the ends of bulbs formed therein by recessing the strips at their intersections, such seats
 50 corresponding in number and position to the number and position of the openings in the plate into which the electric bulbs are screwed.

9. In an electric bulb container, a carton and a lid hinged to said carton, holding
 55 means within the carton for resiliently supporting electric bulbs by their ends, a plate secured to the lid and spaced away therefrom, said plate being provided with openings of a diameter substantially equal to
 60 the root diameter of the threads on the threaded end of the electric bulbs and having cuts formed in the plate at one side of the openings therein whereby electric bulbs
 65 screwed into said openings are maintained with their longitudinal axis at substantially right angle to the plate and the lid of the carton may be opened and closed with the
 70 bulbs screwed in place in the openings in such plate and supported thereby.

10. In a container for electric bulbs, a carton and its lid, a plate in the bottom of the carton and spaced away therefrom and
 75 provided with openings into which the threaded portions of bulbs may be screwed, a lattice work of cross strips set edgewise and provided with recesses in their opposite
 80 edges forming seats for the ends of electric bulbs and adapted to be placed upon a series of bulbs secured in said plate, a plate secured to the lid and spaced away there-
 85 from and having holes into which the electric bulbs may be screwed by being screw-threaded therein, said lid when closed being extending downward and received in
 90 seats in the upper face of the double faced intermediate holding member.

In testimony that I claim the foregoing, I have signed my name hereto.

ARLINGTON MOORE.

Certificate of Correction.

It is hereby certified that in Letters Patent No. 1,449,532, granted March 27, 1923, upon the application of Arlington Moore, of New York, N. Y., for an improvement in "Containers for Electric Bulbs and the Like," an error appears in the printed specification requiring correction as follows: Page 4, line 85, claim 10, before the word "extending" insert the words *adapted to bring a series of bulbs in place therein with their ends*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of May, A. D., 1923.

[SEAL.]

KARL FENNING,
Acting Commissioner of Patents.