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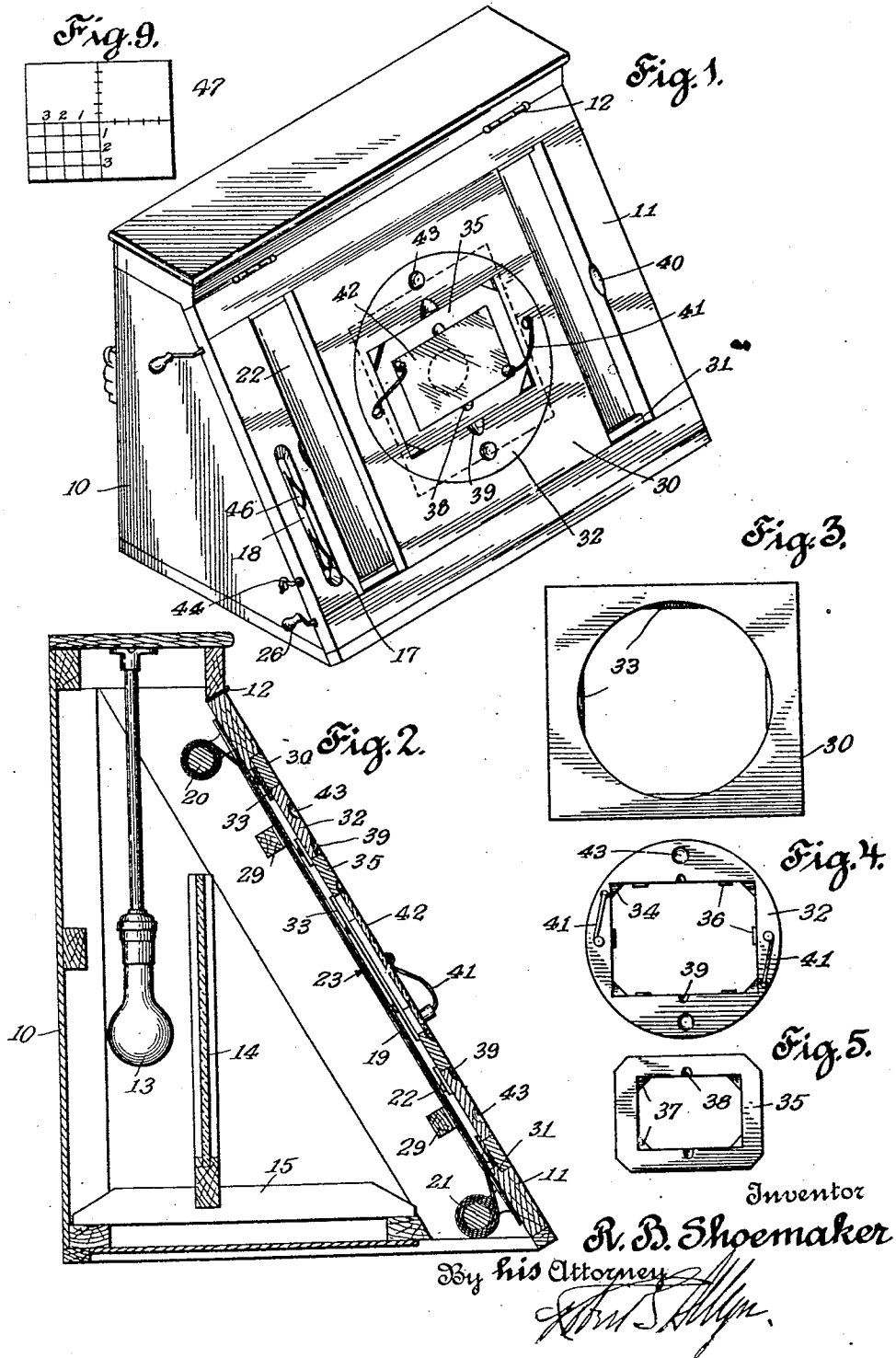
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EXAMINING AND RETOUCHING CABINET

Filed April 30, 1925

2 Sheets-Sheet 1



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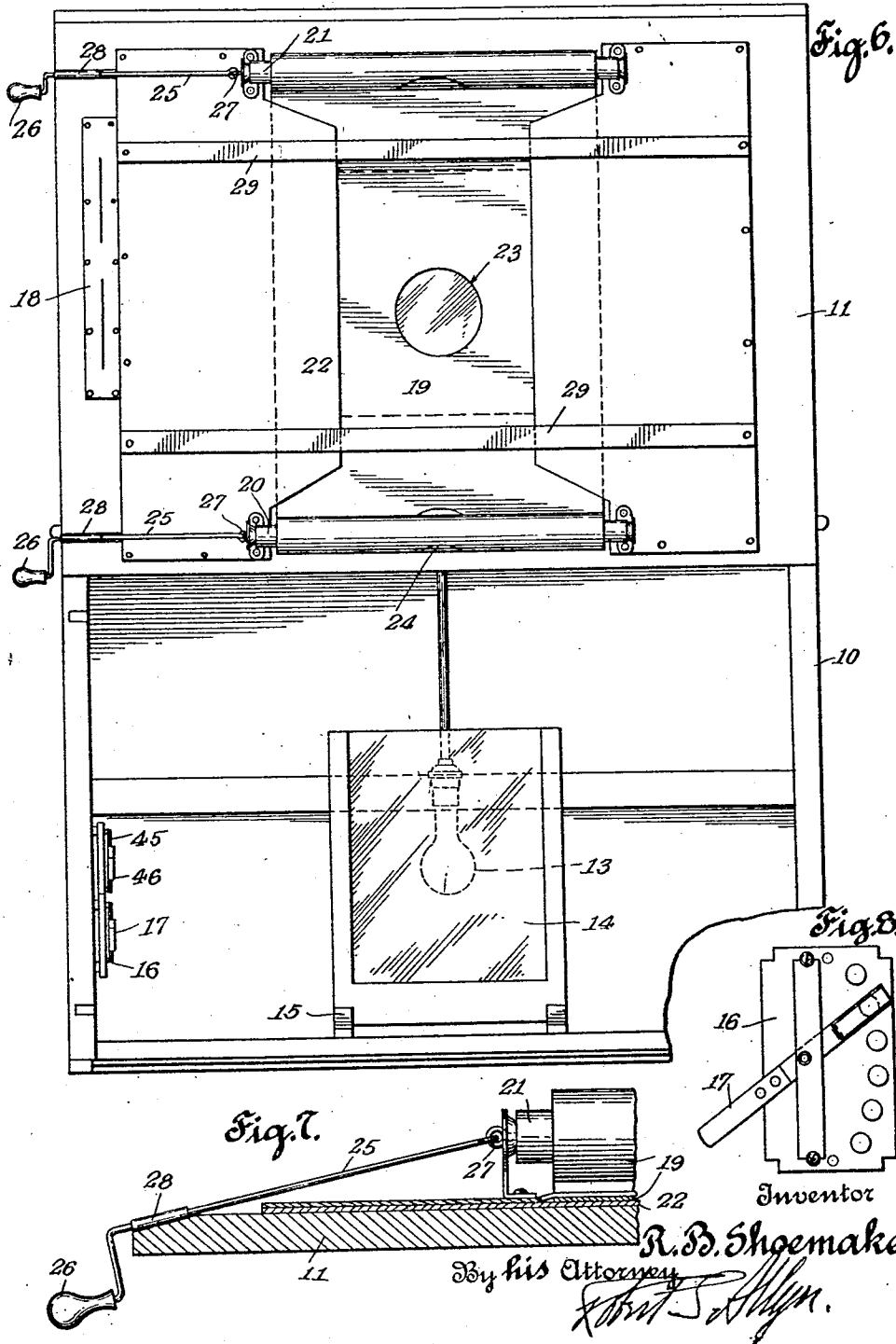
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2 Sheets-Sheet 2



Patented Dec. 7, 1926.

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UNITED STATES PATENT OFFICE.

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EXAMINING AND RETOUCHING CABINET.

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My invention relates particularly to means for facilitating the examination and retouching of photographic plates, pictures, etc. The main object is to provide a construction which is adapted to hold a plate in any position convenient for the operator and provide proper illumination for the same.

Another object is to provide convenient means for adjusting the intensity of the light transmitted through the plate.

Another object is to provide means for changing the point at which light is applied to the plate.

Another object is to provide means for handling plates of different sizes.

In the accompanying two sheets of drawings I have illustrated one form of mechanism for carrying out all of these objects. In the preferred form I provide a cabinet or box-like structure, preferably with an inclined front, in which is mounted one or more adjustable plate-holders. Inside the box I provide an illuminating device such as an electric lamp together with means for decreasing or increasing the brilliancy of the light. Between the light and plate-holder I provide an adjustable diaphragm or curtain for regulating the position through which light is transmitted to the plate and the size of the transmitted beam of light.

Fig. 1 is a perspective view of a cabinet embodying the improvements of my invention.

Fig. 2 is a vertical sectional view of the same.

Figs. 3, 4, and 5 are front views of the various parts of the plate-holder.

Fig. 6 is a front view of the cabinet with the cover open.

Fig. 7 is an enlarged detail sectional view showing the method of supporting and operating one of the curtain rollers.

Fig. 8 is a detail of one form of rheostat or switch.

Fig. 9 is a detailed view of a transparent support for films.

The body 10 of the cabinet may be formed of any suitable material and preferably has an inclined front for supporting the front plate or cover 11. This front plate is preferably hinged at 12 along its upper edge so that it may be conveniently lifted for permitting access into the interior of the cabinet.

Inside of the cabinet I mount a source of

light such as an electric light bulb 13. In front of this bulb I also prefer to provide a diffusing plate 14, for instance, of opal glass. This plate may be suitably supported in the cabinet and, if desired, may be adjustable forward and back on the supports 15. For the purpose of regulating the intensity of the light, I prefer to provide a rheostat 16 of any suitable form having, for instance, switch arm or regulating member 17. This rheostat is preferably mounted in the body of the casing near one side and the cover is provided with a flexible or yielding strip 18, for instance, of rubber or leather which is slotted to allow the handle 17 of the switch to extend through, as shown in Fig. 1, when the cover is closed. This yielding strip permits the switch arm 17 to be moved up and down for regulating the light without leaving any hole through which light would pass adjacent the handle.

The opening in the cover is normally closed by a curtain 19, which has its opposite ends wound on the rollers 20 and 21. The edges of the curtain are guided between the layers 22, for instance, of fibre so as to hold the curtain flat and yet allow it to be rolled back and forth on the rollers 20 and 21. This curtain is provided with a series of openings such as 23 and 24 of various sizes. This acts as a diaphragm so that different sizes of holes can be presented in order to regulate the size of the beam of light which is transmitted to the plate. This construction also permits the opening to be adjusted up and down or vertically to any desired position. The rollers 20 and 21 are mounted on the inside of the cover so that the curtain moves with the cover. For convenience in rotating the rollers I provide a shaft 25 and a handle 26. The swivel joint 27 permits the rotation of the shaft to be transmitted to the roller at an angle. The shaft may be supported in a sleeve 28 in one edge of the cover 11. The fibre plates 22 and the curtain 19 may be reinforced and supported by cross-bars 29 in the back cover.

In the front of the cover I mount a slide 30 which may be supported in grooves 31 in any suitable manner so as to permit the slide to be moved from side to side of the cover. The holder 32 is rotatably supported in the slide 30, for instance, on shoulders 33 at the back of the slide 30. This holder

32 is provided with shoulders 34 adapted to support the corners of a photographic plate or the like. I also preferably provide an inner holder 35 which is adapted to be supported on the shoulders 36 in the opening in the holder 32. This holder 35 is provided with shoulders 37 in the corners for supporting a smaller plate. These holders and the slide may be formed of any suitable material. I have found fibre to be particularly useful in that it is sufficiently strong to withstand more or less rough handling and heavy enough so that it stays in position and is not easily dislodged accidentally. It is also well adapted to stand considerable temperature changes without warping. For convenience in picking out the plates from the holders 35 and 32, I may notch the edges as shown by 38 and 39. Similarly, the inner edges of the cover 11 may be notched at 40 to facilitate the engagement of the edge of the slide 30 when it is at one side or the other. The holder 32 is provided with oppositely disposed spring clips 41 which are adapted to be seated as shown in Fig. 4 or as shown in Fig. 1 so as to hold the plate 42 in position. It will also be seen that the dimensions of the parts are such that the clips 41 can hold a plate in position on the shoulders 34. For convenience in rotating the holder 32 I may form recesses or depressions 43 in its outer surface.

The cover may be detachably held in place, for instance by means of the catch 44. This apparatus is useful for retouching plates by the ordinary pencil or by power-driven pencils or retouching, etching and blocking out instruments such as are sometimes used. In case a power-driven pencil is used, it is desirable to regulate the speed and for that purpose I may provide an additional rheostatic switch 45 with a handle 46 located conveniently adjacent the handle 17 so that both the intensity of the light and the speed of the retouching instrument are adjusted by similar movements. These switches are preferably located at the left of the cabinet so that they can be operated by the left hand while the operator is working on a plate by the right hand, which, of course, is the more usual method of operation. For a left-handed operator, the cabinet might be provided with switches at the right hand side instead of at the left.

By the use of this apparatus it will be seen that various sizes of plates may be handled. The plate can be readily rotated through any angle desired, it can be moved back and forth from right to left to bring the desired spot in line with the opening in the curtain, and the curtain itself can be moved up and down so as to bring the opening opposite the most convenient spot on the plate, depending upon the circumstances

of each case. The opal glass plate 14 serves to diffuse the light and produce that soft quality necessary for retouching work. The light 13 may also be adjustable up and down if desired.

By changing the intensity of the light and making other adjustments as herein set forth, it will be seen that the operator can obtain any and every effect necessary for the most accurate work in the most convenient manner.

In using the term photographic plate it should be understood that so far as my invention is concerned it is immaterial whether this plate be a positive or negative. The material of which this plate is composed is also unimportant as the invention is equally applicable to the retouching of flexible plates or films as well as glass plates.

While I prefer to use opal glass as the diffuser 14 it should be understood that some grades of ground glass can be used instead although the effect is not quite as satisfactory as when opal glass is used.

It should also be understood that while glass is preferable for this diffuser satisfactory results may also be obtained from the use of material having similar translucent and diffusing characteristics such as certain grades of celluloid, bakelite and the like.

My improved apparatus makes it possible to retouch plates, films, etc., without the necessity of handling them in the process. It will be understood that this is a considerable advantage when it is realized that frequently, and especially in warm weather, any perspiration or the slightest amount of grease on the fingers is likely to leave an indelible mark upon the sensitive emulsion. It should also be understood that I have used the term retouching in the broad sense as including the blocking out, etching and filling in of back ground.

The apparatus may also be used for holding photographic plates or pictures commonly termed radiographs and X-ray photographs. It enables the specialist to regulate the quantity and position of light to the finest degree and also makes it possible to turn the plate or picture about so as to bring it into the most convenient position for minute examination.

When flexible plates or films are used it will usually be desirable to employ an inflexible transparent support, for instance of glass, and this support may have scales or charts etched or printed to facilitate measurement or comparative locations of things seen on the film.

Fig. 9 shows such a support 47 which may be of glass or other transparent material and provided with any suitable scale or scales. This support can be made to fit in the frame 32 or in the frame 35, as desired,

and the film may be held in place by the spring clips 41.

I claim:

1. A plate cabinet comprising a body, a source of light within said body, means for varying the intensity of the light within said body, means for diffusing the light, a rotatable and transversely movable plate-holder, and an adjustable diaphragm device located between the plate holder and said diffusing means.

2. A plate cabinet having a main body, a light-emitting means within the body, a hinged cover, a plate-holder carried by the cover, a rheostat switch mounted in the body for regulating the amount of light, and having an adjusting handle adapted to project through the cover.

3. A plate cabinet comprising a body having light-emitting means, a cover for said body having a plate-holder, rollers carried by the upper and lower edges of said cover, a diaphragm curtain adapted to be wound on said rollers, and handles projecting through the edges of said cover for rotating said rollers.

4. A plate cabinet comprising a body, a source of light enclosed therein, means for diffusing the light, an inclined transversely movable plate holder in front of said source of light and a diaphragm having a series of openings mounted to move between said diffusing means and said plate holder.

5. Apparatus of the character described comprising a cabinet having an inclined front, a slide carried thereby and slidable across the front, a diaphragm behind the slide having a series of holes of different sizes, a plate carried rotatably mounted in said slide and a lamp inside said cabinet.

6. A cabinet comprising a body, a cover hinged at its upper edge to said body, a diaphragm carried by said cover, said cover having transversely extending guide ways, and a plate-holding slide movable in said guide ways.

7. A cabinet comprising a body, a cover supported thereby, rollers carried by said cover, a diaphragm curtain carried by said rollers and having a series of openings of different sizes, an electric lamp mounted in said cabinet behind said curtain, guides

for said curtain, and a plate holder removably mounted in front of said curtain.

8. A plate cabinet having a main body, an electric lamp within the body, a cover, an adjustable plate-holder carried by the cover, a rheostat for regulating the intensity of the light from said lamp, a handle for said rheostat projecting outside of said cabinet, a diaphragm, and an adjusting handle for said diaphragm projecting from the cover.

9. A plate cabinet comprising a body having light-emitting means, a cover for said body having a rotatable and slidable plate-holder, a diaphragm curtain carried by said cover, and a handle projecting from the edge of said cover for moving said curtain.

10. A cabinet including a movable diaphragm, a slide, supporting means for said diaphragm and for said slide, said diaphragm and slide being movable in directions at right angles to each other, a plate holder carried by and movable with said slide, and a source of light behind said diaphragm.

11. Apparatus of the character described comprising a cabinet having an inclined front, a diaphragm curtain adjustable inside the front of said cabinet, a rotatable and transversely movable plate holder supported in front of said curtain, and a lamp inside said cabinet behind said curtain.

12. A cabinet having a hinged cover, a movable diaphragm carried thereby, a transversely movable slide carried by said cover in front of said diaphragm, and a holder rotatably mounted in said slide.

13. A plate cabinet having a lamp, an adjustable plate holder in front thereof, a cover for said cabinet serving to support said plate holder and an adjustable rheostat within said cabinet having an operating member extending through the cover for controlling the speed of a retouching instrument.

14. A cabinet having a hinged cover, a movable diaphragm carried thereby, a transversely movable slide carried by said cover in front of said diaphragm, a holder rotatably mounted in said slide, and a smaller plate holder detachably mounted in said rotatable holder.

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