

THE OPTICAL MAGIC LANTERN

JOURNAL

AND

PHOTOGRAPHIC ENLARGER.

A Magazine of Popular Science for the Lecture-room and the Domestic Circle.

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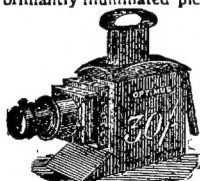
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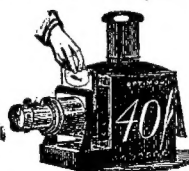
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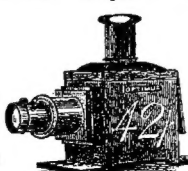
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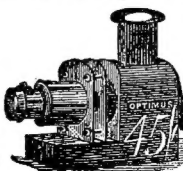
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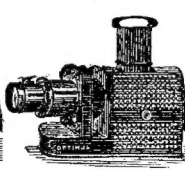
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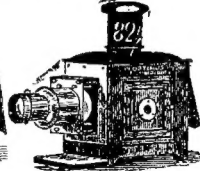
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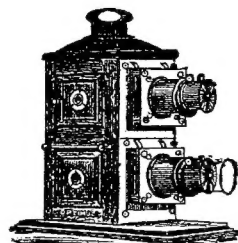
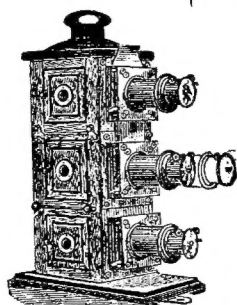
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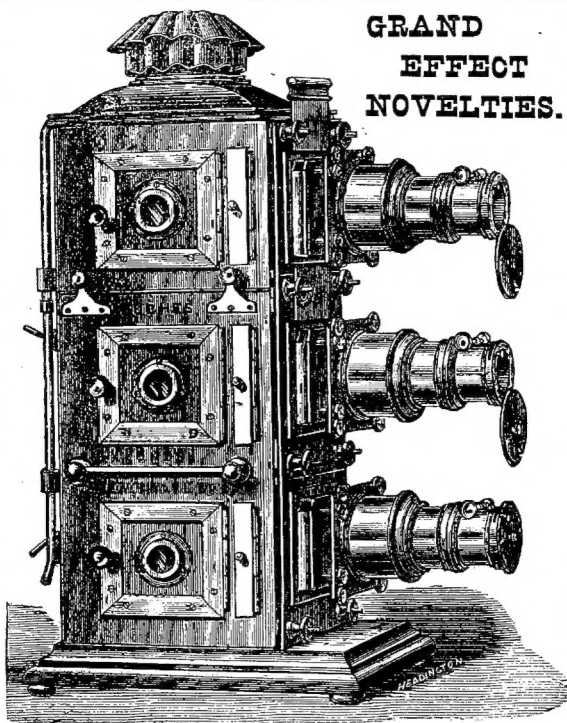
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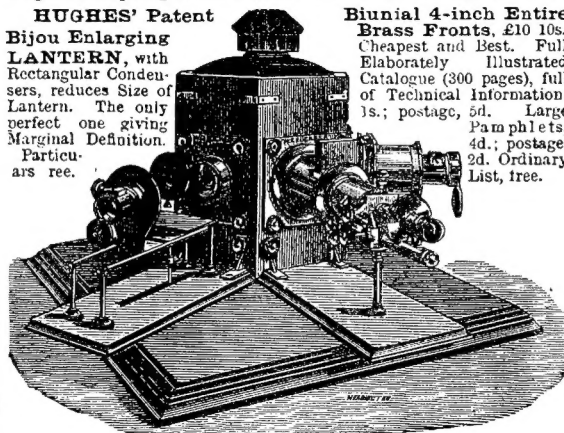
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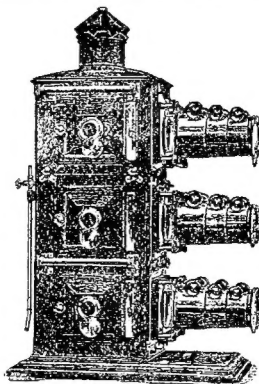
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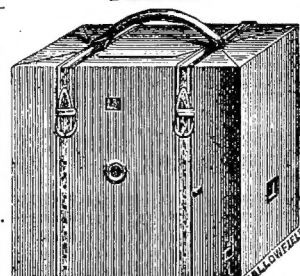
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THE OPTICAL MAGIC LANTERN JOURNAL AND PHOTOGRAPHIC ENLARGER.

Vol. 1.—No. 4. [Entered at Stationers' Hall.]

SEPT. 15, 1889.

Price One Penny.

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Notices.

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Editorial communications must be addressed, The Editor; advertisements and business communications to Taylor Brothers, care of the Publishers, Dorset Works, Salisbury Square, Fleet Street, London, E.C.

Notes.

At the Convention of Photographers of the United Kingdom, recently held at St. James's Hall, London, the lantern formed one of the special features. The pictures were exhibited as dissolving views upon a twenty-five screen. The effect on the opening night was much marred by the names of the subject having been marked upon the foreground in such a manner as to attract unfavourable attention. Next year the Convention is to meet at Chester.

IN the interesting article by Mr. George Smith, in another page, he alluded to slide carriers having a traversing band on which the picture reposes. It may not be generally known that panoramic slides, adapted for using with this class of carrier, may be made from a slip cut from a 12in. by 10in. negative, a large portion of the foreground and sky being, of course, cut away. The effect of such a panoramic view, when passed through the lantern with a slow uniform motion, is truly astonishing to those who are aware of its real length, for it seems as if it never was to come to an end. One experienced lanternist, who witnessed a slide of this kind, hazarded a guess that it could not have been less than two feet in length.

MR. ALFRED WRENCH has recently made some improvements in the form of telescopic front for the optical front, the tubes of which are capable of adjustment without the intervention of racks and pinions. They are fixed relatively to one another by clamping the outer end of each tube upon that sliding within it. By this means the elongated front is rendered as steady as if it were made of one firm piece of tubing.

A NEW publication, *The Photographic Quarterly*, by the Editor of *The Amateur Photographer*, is shortly to be published.

Photographic Scraps, four-page monthly periodical, has just made its appearance. It is issued free by post in the interests of the Ilford Plate Company.

The Magic Lantern : Its Construction, Illumination, Optics & Uses.

CHAPTER IV.—THE LIGHT.

THE lamps originally employed in the magic lantern were so premature as to raise a feeling of surprise how any of the wonder-working projections of which we read could have been made by such a smoky, dingy, yellow light. It was not till in 1789, when Ami Argand made his great discovery and invention, that a light at all worthy of the name was made known to the world. It consisted, in brief, in supplying air in large quantities to the interior as well as the exterior of the ring of flame, and creating a fierce draught by means of a chimney, which caused the combustion of the carbon, which otherwise would have escaped unconsumed into the atmosphere. The best lanterns soon had this principle of lighting applied to them, and except in the matter of the form of the wick, remain so up to the present time—that is when they are lighted by oil of any nature.



FIG. 10.

In all oil lamps the oil is drawn from the reservoir below up to the burning point by means of the capillary attraction residing in a cotton wick not too tightly woven.

ARGAND BURNER.

The solar fountain lamp, constructed on the Argand principle, is useful for viscid oils—the colza, for example. This, although not possessing anything like the intensity of modern three or four wick lights has the advantage of being easily worked, and of giving a uniformly lighted disc. Paraffin oil or petroleum is now found to prove a better oil than those of the colza type, and in consequence it is most generally used.

Circular burners having two or more concentric wicks have been tried for the lantern, but unless made large, as in some lighthouse lamps, they have not been found to possess any particular advantage for the lantern; the trouble of keeping the wicks properly trimmed has also proved very great. But, for the production of a photographic enlargement, a small Argand paraffin lamp, or one in which the flame is contracted

to a small diameter, either by an indentation around the glass chimney just above the wick, or by a cup-shaped diaphragm of brass (Fig. 10), will be found superior to most other forms, on account of the small size of the flame. This, if stopped off above and below by an opaque piece of metal with a hole in it, will be no larger than a lime-light, the greatest sharpness being thus attainable. Of course such a light will prove insufficient for illuminating a large screen for the spectacular projection of a picture, but for enlarging purposes it only entails the giving of a longer exposure. The resulting picture will prove to be much sharper than if it were made by a large flame, no matter how intense it might be.

CAMPHORATED OIL.

The quality of the flame is greatly improved, whatever oil is used, by saturating such oil with camphor. This should be shredded into small fragments and added to the oil, which should be carefully warmed in order to dissolve it. Let those who are doubtful as to the illuminating powers of camphor take a bit the size of a pea, and holding it stuck on to the point of a pin, inflame it by a match, and they will see how beautiful and pure is the light it gives.

SCIOPTICON LANTERN.

It is to Mr. L. C. Marcy, of Philadelphia, that we are indebted for the greatest improvement that has ever been effected on the construction of lamps on Argand's idea. In his sciopticon he converted quantity into intensity of light, by the flattening out of the circular wick, and placing two or more of these side by side with the requisite air supply spaces between, with their edges in the axis of the optical system. The flames are thin, very intense, and are close together. This is the class of lamp which is fitted to all the best oil lanterns of the present day. Modifications of the original Marcy lamp have been made by various makers, but none of these are of such a nature as to even becloud the merit which must ever attach to Mr. Marcy's ingenuity.

It is of great importance that the wicks of the Marcy lamp are properly trimmed, the slightest inequality in one of them affecting the excellence of the lighting; even a minute tag at one end will operate most prejudicially. A little instrument like a pair of pincers (Fig. 11), with a flat sliding blade, having a guillotine action, has been in

vented in America, which effectually supersedes the use of the sharpest pair of scissors, or even a razor, for this purpose. It costs only a small sum, and no one who wishes to experience comfort in using the oil lamp should be without one.



FIG. 11.

THE LIMELIGHT.

Soon after Newman of London invented the oxy-hydrogen blow-pipe, it was found by Sir Humphrey Davy, that while many hitherto infusible substances were melted by its great heat, lime emitted a light of intense brilliance; and later, Lieutenant Drummond, R.E., recommended in 1826 an application of it in distant signalling, whence a name formerly applied to it—the *Drummond Light*. Its application to the magic lantern soon followed, and it is the most beautiful and powerful system of lighting we now possess.

OXY-CALCIUM.

Relative to the forms of burner for utilizing oxygen as applied to the incandescence of lime, the simplest and—for those who reside at a distance from a supply of house gas—the most convenient burner is the oxy-calcium, shown below in Figure 12. In this there is a reservoir

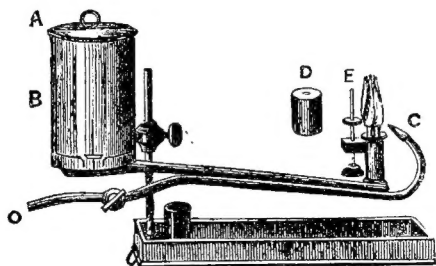


FIG. 2.

(A B) of spirits of wine, constructed on the principle of the fountain lamp, which keeps a steady supply to the wick at a uniform level; a blowpipe (C), connected with a bag or other reservoir of oxygen, sends a fine jet of this gas through the spirit flame, causing it to impinge on the lime cylinder (D, supported on E), which thus becomes luminous. This light is quite safe, and with methylated spirits, very economical, while if properly managed it illuminates a disc with sufficient power to serve in a small hall or school-room.

BLOW-THROUGH JET.

The blow-through or safety jet, much employed at present where house gas is laid on, is similar to the above, only instead of a spirit lamp, the common gas takes its place. This form is shown in Figure 13. As the taps for both oxygen and hydrogen are placed adjacent to each other, it is

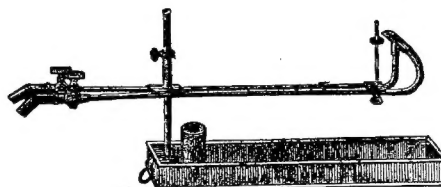


FIG. 13.

usual to have a distinguishing mark so that no mistake may occur as to which gas is being regulated, in some cases the handles are made of different sizes, and in others of different shapes.

OXY-HYDROGEN.

In the case of the oxy-hydrogen burner, the gases are allowed to mix before being emitted from the jet Fig 14. This admixture of gases, in conjunction with the lime, gives an exceedingly intense light.

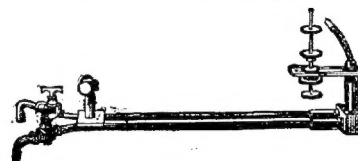


FIG. 14.

A convenient means by which the lime can be turned consists in a pair of cog-wheels and an extended handle, as will be seen by Fig. 15.

In the mixed gas-jet it is necessary that the pressure from both gases be uniform.

To provide a bye-pass for the hydrogen, and thus to prevent the light from going altogether out, Messrs. Newton constructed for Mr. Pringle

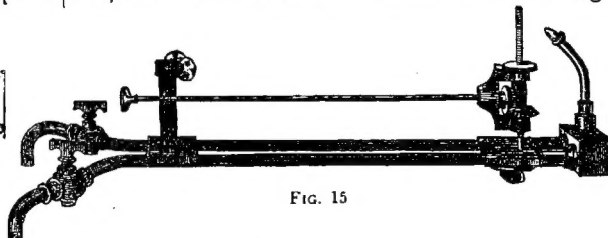


FIG. 15

the form shown in the cut Fig. 16. The latter writing concerning it, says:

"In lectures there is often a long interval when

the light is not wanted at all and the gases are merely being wasted, unless the light is turned right down as before. I accordingly devised the addition to the jet figured here. The tubes of an ordinary jet are cut, and two extra taps fitted anywhere in front of the usual taps, but preferably pretty near the middle, between the upright pin and the lime pin. The hydrogen tap has a small bye-pass; the oxygen is a complete cut-off. The two taps are turned equally and simultaneously by two toothed wheels working into each other and of equal diameter, so that the gases, when the wheels are turned, are lowered proportionally,

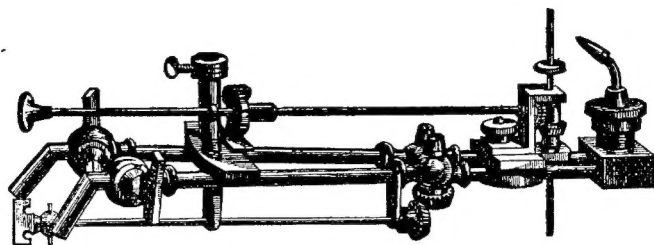


FIG. 16.

and the light is only lowered without losing quality.

"The manner of using the jet is simple. The extra taps are turned full on, and the usual taps worked so as to get the best possible light. When desired, the extra taps can be turned lower at will by the milled head, and again turned full on by the same means, without any interference with the 'normal' taps. When the light is not wanted at all on the screen the oxygen is cut right off, while the bye-pass allows a sufficient quantity of hydrogen to pass, not only to keep the lime hot, but to allow of a full relighting at a moment's notice."

About forty years ago Canon Beechey employed for his trinoptic lantern a light which, although not so powerful as the limelight of the present day, yet served very well for illuminating a twelve foot disc. It consisted of a circular wick fed by oil. A lime ball was suspended in the flame by a platinum wire, and a stream of oxygen was made to play up the centre of the circular flame, which was rather of small diameter. This imparted so great a degree of heat to the oil flame as to illuminate the ball equally on all sides.

For any kind of lantern in which the light has to be directed in more ways than one, such as in

that for which it was originally adapted, a system of this sort would necessarily be more useful than where one of the more modern forms of burner is employed, because in the latter the rays of light are emitted from the front of the lime only, whereas in Mr. Beechey's lamp the lime-ball is luminous in every direction. Instead of an oil lamp it is evident that a spirit lamp with a circular wick, a Bunsen burner, or even an ordinary gas Argand burner can be made to serve the purpose equally well.

Gelatine Lantern Slides.

FOR architecture, plans, diagrams, engravings or part of an engraving, a rough and ready way of preparing a transparency for the lantern is as follows.

Procure a sheet of colourless gelatine about the substance of thick writing paper, and place it directly over the subject to be copied. Fix the corners with drawing pins to prevent any slipping, and then go over all the

lines with a sharp-pointed tracer. A large needle fixed in a wooden handle will do, but the point should be lightly ground on a stone to take off the polish. Now take a small quantity of black-lead or lamp black on the tip of the finger and rub over the tracing, and you will then have an exact copy of the original. It may, if necessary, be coloured with moist water-colours, using the transparent ones only. The gelatine should be then mounted between two glass plates.

By coating a piece of glass with dissolved gelatine the same effects may be obtained, but the subject to be copied and the surface to be traced being a greater distance apart you may not get so truthful a transcript. Instead of using a tracing needle a copying ink pencil will answer, or a very fine pointed pen, with Indian ink or lamp-black (water colour), strong in pigment. This last is perhaps the most satisfactory as regards intensity.

JOSEPH PHILLIPS.

Lanterns and Accessories.—II.

(Continued from page 14.)

THERE was also, some twelve years since, another form of slide-carrier, known as "The Panoramic," which had a measure of success. It had a mechanical movement, consisting of a stout tape, arranged as an endless band, working in suitable grooves in the bottom rail, the tape being stretched pretty tightly—at one end over a little roller, at the other over a little corrugated drum, to which a handle was firmly attached; thus the slides were passed with a more

even movement across the field of view, and were easily stopped at the proper place. It had its defect, too, for as many slides are extremely thin, and, of course, the grooves had to be made wide enough to take a very thick slide, it was impossible to fit springs to keep the slides upright, so the thin ones were very liable to suffer in definition, either at the top or bottom of the screen.

It is only comparatively recently that $3\frac{1}{4}$ in. by $3\frac{1}{4}$ in. has been decided to be the standard. Now no slide is admitted for competition at any of the photographic exhibitions unless it is of this size; and, moreover, it must also have two white spots, one on each of the top corners, when the slide is the right way up (*i.e.*, so that if writing were there it would read). The two spots may be replaced by a white line of any width, so as to be clearly seen. The object of this marking is to ensure the slide being put on the screen the right way up. It is known as the Photographic Club Standard.

I have myself adopted the system of so placing the title on the bottom edge of the slide, that when that can be read by holding it at the right hand side, the slide is in the position that it must take to go into the lantern.

As soon as this standard size of slides was definitely established, a good many slide-changing systems for one lantern were brought out. The only one in existence before this time was one invented by Mr. B. J. Edwards, of dry plate renown, and which would take the various sizes then in use and register them on the screen. It was a charming effect. The picture dissolved away into darkness, and a new picture appeared on the screen, as if changed by a magician's wand. But the strange part was that the audience if asked separately how they liked the way the pictures were changed, they invariably replied, "I never noticed anything about it." Now this was a very great compliment to the apparatus. The slight interval of darkness was totally unnoticed; but it had the effect of allowing all kinds of shapes of pictures (*i.e.*, the masks of the shape best fitting the slide, cutting off unnecessary sky and foreground), the shape of the previous picture being completely obliterated by the slight interval of darkness not exceeding half a second. To make the change, which was perfectly noiseless, the simple revolving of a half turn of a handle sufficed. I have frequently exhibited by it, to a mixed audience of both sexes and all ages, several hundred slides in an evening, and not one of them felt the least fatigue.

I remember an exhibition at the Society of Arts, John-street, Adelphi, some three years or so since, where, with a three thousand candle-power light, a series of the most perfect slides that were ever collected together, and a most efficient slide-changing apparatus; and yet it was the most painful lantern-slide exhibition I had ever seen. In the first place,

the light was so brilliant, and from a point, or nearly so (being, of course, the arc electric light), and from such a point, therefore, everything on the screen was extremely sharp. The sharpest things were necessarily the dust spots; and I, for one, at any rate, could not keep my eyes away from them, and so could not see the picture. Secondly, although the changing apparatus would, if described in writing, sound very well—thus, two curtains, starting from the top of the centre, gradually obscure the first picture, rising again in the reverse order from the bottom upwards—the rising again, however, occupied fully fifteen seconds. It was a shock to the eyes from the intense darkness, and a second shock to them again when the curtains again rose. I vowed I would never go to an electric light lantern entertainment again—that is with the arc light. With the incandescent light it is less sharp and less blinding.

GEORGE SMITH.

(To be continued.)

Flashes on Lantern Topics.

IN turning my light along with a friend over the pages of last month's "Optical Enlarger," No. 3, he remarked that there was not a single word or line relating to that special subject in the number. By that *special subject* HE must have meant optical enlargements for studio purposes, he being a photographer. This must have arisen as a consequence of the recent Convention or the dog-days, or of some of the many high and holidays still studiously kept up on banks of Thames.

To remedy this in the next, or No. 4, perhaps a note concerning a comparatively simple method, which, while it cannot be called new, yet has proved very serviceable, and is available in most studios where more elaborate arrangements have not been fitted up, for enlarging may be noted.

An optical lantern, fitted with any kind of good light, suits, and with the usual adapting slide for transparencies, fitted, however, in a rather different way, being intended for another kind of work than simply throwing the effect of transparency on screens, is necessary. How shall I throw such light on it as to make it quite clear? Let me try. To an ordinary lantern for exhibition purposes is added a telescopic front tubing, capable of being shortened or elongated to suit lenses of varied foci, and on the end of this is fitted an arrangement such as is on most cameras, and capable like them of receiving moveable fronts, carrying the flanges suited for the different objectives which may be found necessary in working. It may be mentioned that till that much-to-be-desired millennium, when all lenses within a given number of inches focus will suit a single flange, this is the only perfect way I have found capable of overcoming the

difficulty of fitting all, or rather many, lenses to one instrument.

I need not describe the lantern itself, for of it there is a never-ending variety, but this arrangement can be made to suit any one I have yet seen.

This forms the first half of the instrument. The second is any long, large camera of the outside size proposed to be used, say up to twenty-four inches in height, by the same in width, and this expanding to about six feet from objective to focussing glass will be sufficient to speak of, but any lantern may be fitted to any sized camera which will extend sufficiently, and can be made to do. Into the space where the lens should be in the camera place the lens of the lantern, making it firm and steady, and perfectly light-tight. Then, according to the size of the picture needed, be it positive or negative, focus from the lantern end roughly for size only, and from the focussing glass end of the camera bring the image to the finest possible focus.

There has always been division of opinion as to the position of the objective in relation to the negative or positive in the optical lantern, that is, as to which end of the lens should look at the transparency or small negative, but until the *savans* have settled the question, it will be found that perfectly good work can be done by screwing the lens into the lantern as described, and thus having the front of that instrument pointing to the enlargement.

I need not here go into the minutiae of the work afterwards necessary, as each operator generally has his own style of working, but this I may say, that if the enlargement is to be taken on paper or other media and developed, and if, in order to get perfect flatness, the image is taken through glass, as in the days of the old paper negatives, then the glass should be of the purest, and free from scratch, speck, or bubble, and be absolutely clean.

If our worthy Editors should think the subject fitted for more minute exposition, or that anything I could say could make it clearer in any way, they may command another flash from

Novel Use for the Lantern.

FOR some years past the lantern has now and then been used as a means of advertising, but not to any recognised extent, although occasionally one sees a disc displaying various advertisements high up on some building. This business, although young, is destined to become one of the principal means of advertising at night-time; and we think that the time is not far distant when such advertising centres will be located in various parts of our principal towns. The mode of working would, on a large scale, have to be operated from a central office, where all business transactions would take place; there also the preparation of the slides would be attended to. This central agency would arrange with its branches to exhibit an advertisement a given number of times in a certain list of towns. The slides are sent out to the agencies by the central office, to be in turn sent to the other agencies. They must be highly coloured. This in the case of fancy labels is exceedingly attractive.

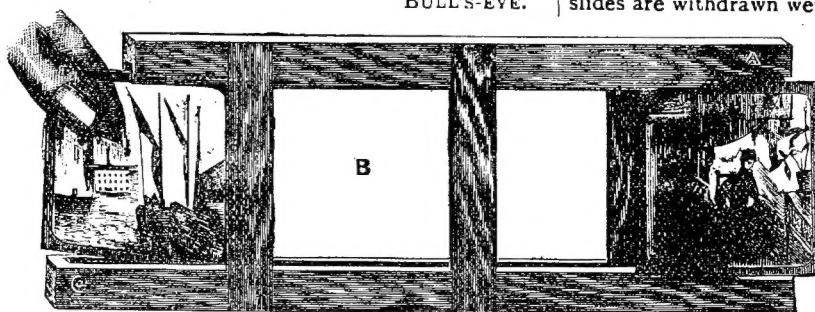
Through the kindness of Messrs. Wilkinson and Co., of Sunderland, we have been enabled to inspect some very pretty and original lantern transparencies for advertising purposes, some of which are reproductions of labels, others freehand drawings, letterings, &c., all artistically coloured. In one instance, where a *fac-simile* of the label of *The Golden Sunlight Pale Ale* is reproduced, the effect is very pleasing.

There is every promise that advertising at night will become a prominent feature, and that when the housewife is out in the evening doing the shopping her attention will be arrested by a brilliantly-illuminated disc, exhibiting "Good evening, have you—?" and "not having," a purchase is forthwith made; and in this manner the various parties who wholesale, retail, advertise, exhibit, and purchase are all satisfied.

Editorial Table.

MR. RAMSDEN, of Leeds, has recently introduced and registered a lantern slide carrier, which bears his name. Hitherto, both arms at the end of which the slides are withdrawn were made of the same length, and the slides were in danger of falling out. The accompanying illustration shows how the carrier is used. The slide is inserted at A, where a portion of the moulding is cut away in order to allow of the slide being placed in the carrier with a greater degree of certainty, whence in turn by the insertion of the next slide it assumes the position shewn at B. On a third slide being placed in the

BULL'S-EYE.



Ramsden's Carrier

carrier, the first abuts on a stop at C, thereby centring that which is being exhibited at B, as will be seen from the cut. The withdrawal of the slide is a matter of ease, as it is simply lifted out without causing any disturbance to the one being exhibited.

WE have received a book of labels which fulfils all requirements of the photographic worker. It contains in all 386 gummed and perforated labels, on many of which are provided space for the date and from whom purchased. Several of the labels are devoted to the requirements of lantern transparencies, such as developers, binders, &c., and at the end of the book will be found a series of numbers, from 1 to 200, the uses for which are manifold. This collection has been compiled by Mr. G. Wheeler, of Manchester. Price 6d.

Lantern Slide Competition.

THE following rules and regulations are to govern the Lantern Slide Competition, to be held in connection with the Newcastle and Northern Counties Photographic Association:—(1) Application to the secretary on or before Friday, September 20th, 1889; (2) all slides must be delivered, carriage paid, on or before Monday, 30th Sept., 1889, addressed to the secretary, and bear in a distinct manner the name and address of the sender; (3) all slides for competition must be $3\frac{1}{4}$ inches square, and they must be properly mounted with glasses and mats for use in optical lantern, and be marked on the face of the lower side, which is to be placed next the condensers, with white spots; (4) exhibitors in section A must send not less than 24 slides; exhibitors in section B must send not less than six slides; each competitor in section B may send not more than 12 slides; (5) the committee reserve the right to call up the negative of any slide in competition, should the judges so require, and the whole of the operations of making the slides must have been carried through by the exhibitor; this does not apply to the preparation of the plates; (6) no slides coloured by artificial or mechanical means will be admitted; (7) reasonable care will be taken to protect exhibits, but the committee will not be responsible for any loss or damage arising from fire, accident, or any other cause; (8) from the decision of the judges there shall be no appeal; (9) all correspondence and inquiries to be addressed to the hon. secretary, Edgar G. Lee, 11, Beverley Terrace, Cullercoats, Newcastle-on-Tyne. Section A.—Open to all professionals and amateurs in the world; one silver and one bronze medal, presented by the president, A. S. Stevenson, Esq., J.P., Tynemouth, for not less than 24 slides. Section B.—Open to amateur members only of the Newcastle-on-Tyne and Northern Counties Photographic Association; one silver and one bronze medal, presented by J. P. Gibson, Esq., Hexham, vice-president, for the best 6 slides; each competitor may not send more than 12 slides.

MR. WALTER TYLER has introduced a variety of transparent colours prepared for lantern transparencies; they are contained in flexible tubes, and supplied in a neat tin japanned case at a moderate price.

Applications for Patents, 1889.

No. 12439.—August 6, F. W. Baker, "Improved photographic camera."

No. 12440.—August 6, C. H. Murrell, "Improved camera stand."

No. 12450.—August 6, T. E. Enjalbert, "Improvements relating to apparatus for receiving coin and for producing and delivering photographs in exchange."

No. 12593.—August 9, F. Hoffman, "Cameras for dry plates."

No. 12860.—Aug. 14, A. Wrench, "Improvements applicable to optical or magic lantern."

No. 12913.—Aug. 15, H. C. Newton, "Improvements in projecting lanterns."

No. 12922.—Aug. 15, Sharp and Cheffins, "Improvements in or pertaining to magic lantern slides."

No. 12972.—Aug. 16, J. H. Steward, "Improvements in magic or optical lanterns."

Correspondence.

INTERESTING EXPERIMENT.

[To the Editor.]

SIR,—I notice in your most useful and practical journal an interesting experiment with blue glass and uranium glass. Here is another: Cover a window with the ordinary orange-coloured paper, in which make a pin-hole; now, when the sun shines on it, hold a sheet of white paper behind to receive the image of the transmitted rays, when it will be seen as a beautiful greenish-blue, probably the true complementary colour to the paper. I have not yet had time to try other coloured papers.—Yours, &c.,

F. W. HART.

8, Kingsland Green, N.

LANTERN FLANGE SCREWS.

[To the Editor.]

SIR,—There has been a good deal said of late about the desirableness of assimilating the flange screws of photographic lenses. This might advantageously be applied to the lantern lenses, and owing to the general similarity of their sizes it could be done with much greater ease than those for photography. I do not know whether your leading London manufacturers have amongst them sufficient *entente cordiale* to enable them to meet together for the purpose of determining upon a definite flange screw for the object glass, but in the interests of that now numerous body who use lanterns, and who desire to use interchangeable lenses, I would beg of them to consider the propriety of adopting a universal screw. I have myself three objectives; in all of them the lenses are of the same diameter, although of different foci, but no two have screws alike. The inconvenience of this I need not dilate upon.—Yours, &c.,

GEO. B. COURTENAY.

Manchester.

LANTERN DIAGRAMS.

[To the Editor.]

SIR,—The method given in your earliest number of writing with Indian ink on a glass varnished with damarin benzole is the one usually given and is doubtless efficient. There is, however, a plan far superior, I think, which does not seem to be so generally known. I refer to the method first published by Dr. Dallenger, who uses it for illustrating lectures on microscopical subjects. A square of finely ground glass is used, and the drawing or diagram is made with an ordinary lead pencil. The most delicate shading or the simplest outline can be made on the roughened surface with equal facility, and then a coating of clear spirit or benzole varnish is applied. This makes the ground glass quite clear and transparent. There is the great advantage that any error may be wiped out with a wet rag during the process of drawing. Finely ground glass is not very readily obtainable, but Messrs. S. Fry and Co., who use it largely for negative plates, would perhaps supply it in lantern size.—Yours truly,

Hereford.

ALFRED WATKINS.

Selections.

TRANSPARENCIES upon collodion cannot match those in albumen in any way. The film is so fine that even in the deepest shadows there is a transparency, and, as it were, detail, which would have been blocked out, or lost, in a collodion film.—*Prof. E. Stebbing.*

A PHOTOGRAPHIC printer is worth his price just in proportion as he uses care in his work. If he understands his work he is invaluable. If he does not understand it he had better turn his attention to something else for I assert that the photographic printer is the most important man in a gallery.—*J. B. Webster.*

It would seem that the only method of making enlargements is by means of solar or sun light, but such is not the case. The ordinary magic lantern may be made to serve in place of the sun, and provide artificial light of sufficient intensity to answer every purpose.—*Ed. L. Wilson.*

THE transparency is so far superior to the print in brilliancy and in perfection of detail, that it is surprising that so few are produced by amateur photographers. Fortunately we do not need for this work a copying camera, but may produce excellent results by the method of contact. The negative and transparency plate are pressed close together, film to film, and exposed to an ordinary gas flame. The time of exposure varies, of course, with the density of the negative and the sensitiveness of the plate.—*Randall Spaulding.*

I THINK the practice of retouching the negative a sad thing for photography.—*O. G. Reylander.*

To my mind there is nothing that is produced by photography to equal a transparency on glass if properly made.—*Wm. Brookes.*

THE simplest form of jet, and that which requires least apparatus and care in use, is the safety or open blow-through jet, which is, therefore, for the purpose of the enlarger or exhibitor, a general favourite.—*A. Pumphrey.*

THE magic lantern has of late been so much improved, and produced at such reasonable prices, that one is almost inclined to the belief that whoever can afford a camera can also afford a Sciopticon, which may be worked with its powerful oil lamp for home use, and with the limelight, when charitably engaged at our Sunday-schools.—*W. J. Chadwick.*

IN a lecture-room, where from fifty persons or upwards constitute the audience, the screen must be at least ten feet square, and well illuminated. It will be better if it be twelve or fourteen feet square. Although a large screen may not always be needed, yet, on the other hand, a screen ten feet square will look insignificant in a large hall.—*Henry Cooper.*

Notes and Queries.

W. writes:—"That table which you gave in last number is perfectly invaluable as a means of readily determining the distance at which to place the lantern in front of the screen. So as not to spoil my set I have had a second copy of the Journal containing it, and have cut out the table and pasted it inside of the lid of my lantern case, so as to be always at hand for ready reference."

Geo. Kennedy.—Most certainly procure bags of a wedge

shape in preference to square ones. The latter have been tried, but in every instance of which we have heard have been found to entail a great deal of trouble and dissatisfaction in their working.

W. S.—(1) An article on construction of the screen and frame will be given in due course. (2) It is possible to make a transparency of a picture at one operation by the use of a bromised collodion film developed by the alkaline process, and then without fixing it treating it with dilute nitric acid to dissolve out the silver. But such a proceeding is attended with trouble and requires great skill. Much the easier way is to make a negative and print from it. (3) The angle of light shown is not necessarily correct, and is intended only to indicate the general position of the lamp. (4) Thanks for sketch of rising table.

W. F. Dixon writes:—"I want to enlarge a picture without the inconvenience of taking a transparency or negative—i.e., enlarge direct on a paper 30 by 50. If you can give me any information with respect to this apparatus I shall deem it a favour." Answer.—Photographically it cannot be done, but you can, by throwing a powerful light upon the picture and using a large lens, project it upon the paper, and thus be enabled to make a sketch. Probably under the circumstances a pantograph would be the simplest means.

P.—Yes, a copy of this Journal will be found in the reading-room in your town.

Garrett J.—The india-rubber tubing is evidently saturated with the gas, hence the disagreeable smell. Better replace it by a new one.

M. M.—It is not a separate book, but a series of chapters on lantern slide painting, contained in "Amateur Work," published by the firm mentioned.

Wilkinson.—No, it was an error. See reply to M. M.

D. Goodfellow asks:—" (1) What size of rapid rectilinear lens would be the most suitable as an object glass for enlarging and exhibition purposes? (2) Are the Optimus reliable?"

Reply.—(1) Generally speaking, a half-plate lens is the most desirable size. (2) We have only tried one lens of the make you mention and found it reliable.

Angler.—It is a matter of taste which colour of mat you use.

C. C. Vevers.—Thanks for your catalogue; it is very neat and comprehensive.

Amateur.—We replied to you by letter.

Interior.—A lens possessing wide angle and short focus properties will be found the best for general interior work.

C. F. Smart.—Your query is not very lucid, but if you refer to a print being in optical contact with the glass which covers it, you have merely to gelatinise the surface of the print and attach it to the glass. Care must be taken that all the air bubbles are squeezed out.

A. R. writes to say that the slide about which Mr. W. Miles Barnes inquired in last issue is not obtainable in this country, but may be had in America.

Les writes:—"I should be grateful if you will tell me how to find the focus of lens of my lantern, as I should like to know how to work with the tables given in your last month's journal?" Answer.—An easy and simple method is to pin a piece of white paper on a wall opposite a window, and to hold the lens in front in such a manner as to allow objects (say, a house across the street) to be depicted upon the screen; by moving the lens to and fro, it will be found when the image is sharp. The distance between the lens and the screen will be the focus of the lens, measuring, if a single lens, from the lens itself, or if a combination, midway between the front and back lenses.

A. H. B. writes:—"Will you kindly tell me what is the object of the small diaphragm of blue glass which is supplied with Watson's Enlarging Lantern? Is it to increase rapidity of exposure?" Answer.—There is no blue glass diaphragm in connection with the lantern mentioned, but sometimes a non-actinic cap is supplied with the lens.

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(HAES' PATENT.) CANDLE LAMP.

The Best Lamp for
Dark-Rooms.

The Best Lamp for
Lantern Lectures.

With a change of
glass it forms an ele-
gant Reading Lamp.



Gives great light
with little heat.

Free from smell.

No Chimneys to
break.

Can be used at
varying heights as
it has a telescopic
stand.

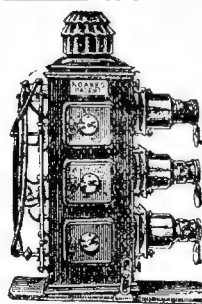
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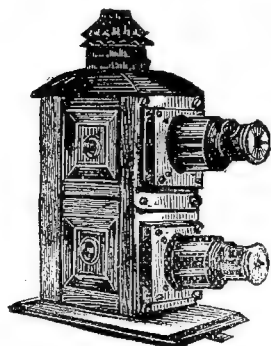
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Moderate Prices, that none of the so-called Manufacturers, or Stores are able to
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from 30s. to £200, enables Walter Tyler to dispatch orders immediately on receipt.

Most of the Comic Sets of Slides have been reproduced at great expense.

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February, 1888.

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My Camera is no longer a machine for
spoiling dry plates."—E. J. BRADEN.

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"I have found it of almost inestimable value, and I now give up all idea of reckoning an exposure by any other means."—E. J. WALL.

See also his DICTIONARY OF PHOTOGRAPHY.

YORK'S OPTICAL LANTERN SLIDES.

New things for this season—Paris Exhibition, South Africa (including Diamond and Gold Mines, Isle of Wight, Ticket of Leave, Bunch of Primroses and Magic Wand, by Sims, Marvellous Cure, Harry's Donkey Ride, Look at the Clock, Betsy and I are out, the Wreck of the Hesperus, the Village Blacksmith, a large number of Double Comics called the Catastrophe Series, these are quite new and original.

YORK & SON,

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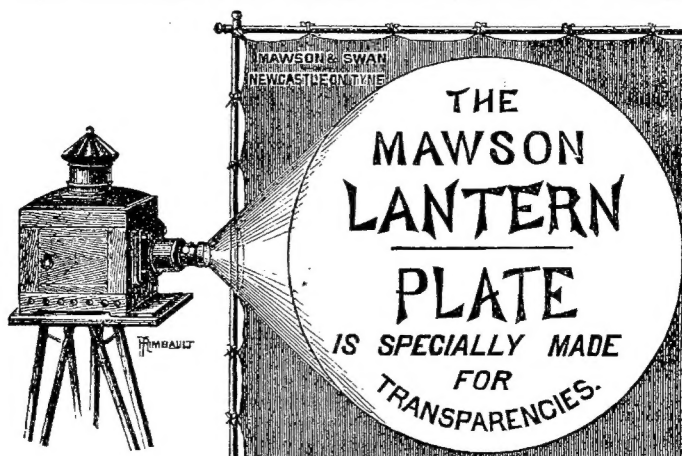
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