

Protected by Royal Letters Patent.

W. C. HUGHES,
PATENTEE AND INVENTOR:

THE many Lanterns, constructed with a view to obtaining their illuminating power from mineral and other oils, have for some time past caused considerable interest to be taken in this particular branch of optical amusement by connoisseurs, most of whom have come to the conclusion that, without the slightest shadow of a doubt, the mineral oils have proved to be a fit and proper illuminating agent, securing perfect safety when used in a properly arranged and reliable Lantern.

It has been estimated that all Lanterns, having either single or double condensers, should have the light brought into a concentrated form at a short focal distance from the lens, so that the rays of light shall be thoroughly absorbed

by them ere they are transmitted to the screen. In fact, the more rays that can be concentrated at the proper angle for the condensor to take in the higher the illuminating power. The light should always converge to the centre of the lens, all outside rays being completely lost. Thus, flat wicks placed parallel with the condensor, causes them to lose much of their power in collecting the rays; but when placed so as to form a T with the condensor their potency is wonderfully increased.

The correctness of this theory has been verified in the use of the duplex wicks, which became so popular as an illuminating medium in the Lantern, and undoubtedly have given considerable satisfaction to all exhibitors who depend upon an oil light for producing their effects upon a screen.

NOTICE.

THE PAMPHENGOS GIVES A LIGHT ALMOST TWICE THAT OF THE TRIPLEXICON.

See opinions of Sir Antonio Brady, Varley, Dr. Croft, Professor May, Shellard Latham, Esq., &c., and Hundreds, of other reliable Testimonials, to show that if such testimony were given as to the merits of the Triplexicon, what an intense light the PAMPHENGOS must be.

THE PAMPHENGOS is the only Oil Lantern that will show a Plain or Coloured Photograph on the screen 12 feet in diameter, as it should be, the picture being perfectly distinct, and the light nearly approaching the power of the limelight.

THE PAMPHENGOS is extremely portable, and will pack in a case 16 inches long, 7 inches wide, and 13 inches deep, and weighs about 15 lbs.

THE PAMPHENGOS is made in an artistic and substantial manner, and will bear any amount of rough usage, every part being rivetted.

THE PAMPHENGOS burns with a brilliancy, unknown before in the history of Oil Lanterns.

THE PAMPHENGOS has a burning surface of EIGHT LINEAL INCHES OF WICK, arranged in such a form as to allow all the rays to be caught within the absorbing radius of the condensers.

THE PAMPHENGOS is perfect in combustion, casting a beautifully white and flat field, entirely shadowless. The condensers are 4 inches in diameter, and achromatic with special curves, the front objective lenses 2 inches in diameter, are double combination, consisting of four distinct lenses, so arranged as to prevent loss of light, and which for definition are unequalled.

THE PAMPHENGOS is so constructed that the oil in the cistern remains quite cool in consequence of an abundance of cold air continually rushing through the perforated parts to the flames, the heated air passing off by the chimney with a completeness that causes the body of the lantern to remain much cooler than the ordinary Lantern.

THE PAMPHENGOS is the prettiest Lantern in the market.

THE PAMPHENGOS must be seen to be appreciated.

THE PAMPHENGOS has all the recent Improvements, and the carefully and scientifically Annealed Blown Glasses, which have been proved beyond question the only medium that will resist the heat.

It is well to observe that many retailers of Magic Lanterns make assertions that are apt to mislead with regard to the sizes of the discs of light thrown by their Lanterns. All Lanterns will throw 12-foot pictures, but with varied results; some scarcely to be seen. The point to consider is the brilliancy as well as the size of the discs.

Price of Pamphengos.

The Pamphengos Lamp, fig. 5, with all its advantages, fitted in new and handsomely designed beautifully japanned body, with extra metal lining, having the improved spring slide holders, which admit of the slides being inserted at the top as well as the sides, hinged door at the back, with blue glass sight hole fixed in brass screw flange to enable the operator to observe and regulate the flame while exhibiting. To the fronts are attached elegant solid brass draw tubes, which can be extended from 4 to 7 inches, with solid brass screw flange for adapting the front lenses, which are double combination, 2 inches in diameter, specially curved, &c., to allow of more light to be transmitted to the screen, and giving a beautifully flat field. The lenses are mounted in brass screw cells, and are of medium focus, to enable them to be used at suitable distances in various sized rooms. To the outer jacket are fitted our improved rackwork, with double pinions for working either side, which is a great convenience when limited to area; also 4 inch improved double achromatic condensers, fixed in brass screw cells, with openings top and bottom, to allow air to pass between to prevent condensation of steam on the lenses, which keeps them much cooler, and so lessens their liability to crack. In addition, there is a limelight tray and rod to receive any form of jet, also a groove for it to run in, and extra metal chimney when using the same. The whole is packed in black japanned case, with leather handle, having the appearance of a small travelling portmanteau. This Lantern and Lamp will produce a beautiful 12 feet picture, either square or circular, similar to Single Lantern as fig. 6. ... **£8 6s. 0d.**

Handsome polished mahogany bodies, bound together with brass screws, for hot climates, with doors either side, having blue glass sight holes fixed in pretty brass circular flanges, white porcelain door knobs and brass buttons for fastening same. Price extra, ... **£0 15s. 0d.**

The Pamphengos Dissolving View Apparatus consists of two Lanterns and Lamps as described above placed side by side with mechanical dissolver, packed in black japanned case, with partition and leather handle, having the appearance of a portmanteau, fig. 6. ... **£12 12s. 0d.**

Mahogany bodies to above as described. Price extra the pair **£1 10s. 0d.**

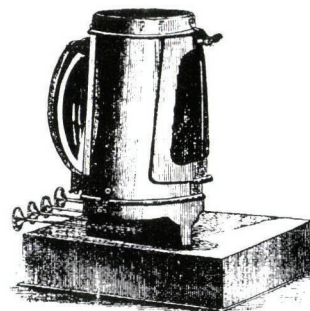


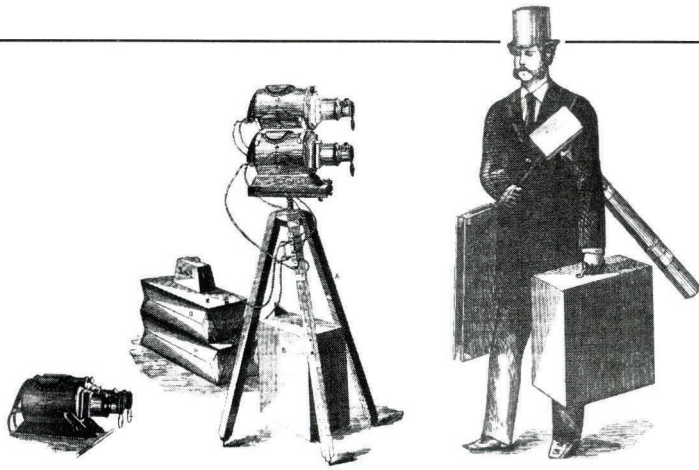
Fig. 8.

Price
of

Pamphengos
LAMP.

With full-sized wicks, 2-in. wide, highly finished, including metal chimney and all the recent improvements, according to patent and registration **£2 10s. 0d.** Those having the Triplexicon Front Lenses and Condensers can have them fitted with a Pamphengos Lamp and Lantern Body as specified, including a beautifully japanned case. Price extra ... **£4 4s. 0d.**

THIS IS VERY IMPORTANT. — The Lamp being larger, and differently constructed to the Triplexicon, must only be confined in a suitably arranged Lantern Body, otherwise the best result will not be obtained, or the oil in cistern allowed to remain cool.

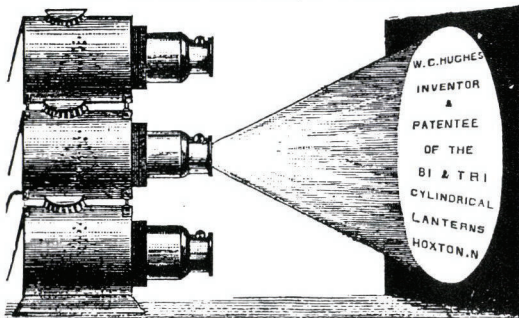


HUGHES' BI-CYLINDRICAL DISSOLVING VIEW LANTERN.

In describing the formation of this beautifully constructed instrument, like its predecessors in build, it is similar, but in proportion and shape it is dissimilar, being much smaller, and for real portability, beauty and strength, is undeniably the sort of thing that has been required for some time for the benefit of exhibitors when travelling, &c. The superiority of this Lantern to the other is simply in the form it assumes and the small compass of the body. This elaborate Lantern is built on entirely new principles, which has been universally admired and approved of by numerous scientific men and exhibitors. When I tell my readers that its dimensions are only 7 inches in diameter, and 7 inches in length, each Lantern forming a cylinder, they will be surprised to know how it can be used on such a small scale, and yet have the full sized lenses. In the first place this Lantern has an inner lining with outlets intermediate with the outer case, to pass the hot air through. The holes that are seen on the body, are for keeping up a good draught, thereby causing the Lantern to be comparatively cool, which it does much more so in this than the ordinary; each Lantern is quite separate from the other, therefore the heat passes off quite distinctly from the upper and in the lower, instead of passing through the entire Lantern and then out at the chimney, as in the regular kind, which really cannot escape fast enough, but causes a large amount of heat to collect; but not so with these. Each Lantern carries off its own hot air, and by the internal fittings and arrangements keeps very much cooler than the others, besides being less cumbersome. (Fig. 1) is the Lantern mounted on its stand ready for use, at the top front of each Lantern there is a brass register screw for lowering the front down to a proper angle to get one disc within the other, it does not require much, as the two nozzles are much closer together than in the ordinary kind. There are screws in the brass cradle pieces on which the body of the upper Lantern rests, which will also allow the body to shift to any angle, so that you can register one disc within the other to such a nicety and exactness that cannot be done by any other Lantern.

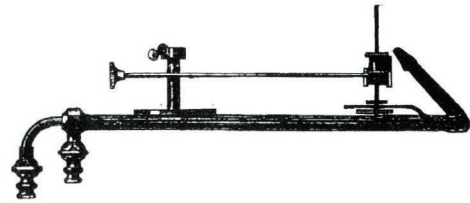
The Lanterns themselves are most exquisitely finished, and will bear the strictest scrutiny, see reports, &c., every part is screwed, rivetted and cast, no soldering whatever about them, as we have before remarked, they can be taken to pieces like a watch. The sliding tray that holds the jets pulls in and out under spring pressure which gives great steadiness; they have also sliding fronts and spring slide holders; in fact, the brass Lanterns are so artistically got up that it is impossible to surpass them. Every care and attention has been paid to make their appearance and portability all that can be desired, and with our improved gas bags, to have all the characteristics of the most modern pretensions in whatever capacity they may be necessitated to assume, whether as a single, double, or side by side Lantern. I scarcely think the matter requires further explanation from me, as the drawings fully illustrate the object of our improvements. For those who wish to produce very artistic results we can recommend

THE TRI-CYLINDRICAL DISSOLVING VIEW LANTERN FOR MARVELLOUS EFFECTS.



This Lantern, like the previous, is most substantially and elegantly constructed, which can be had either in brass or tin, each Lantern acting separately and made to form either a single, double, or triple Lantern, everything being carried out in strict accordance with the most modern principles so much studied by Mr. H. The particulars given will fully convey its utility without further comment.

THE MELDON OXY-HYDROGEN SAFETY JET (Registered.)



This splendid little Jet was originally manufactured under the direction of Chas. Meldon, Esq., Q.C., M.P., Dublin. With the object of having a Jet combining the greatest amount of light with the least possible amount of cumbersomeness, Mr. Meldon has given Mr. Hughes the benefit of his improvements. The special advantages that this Jet proclaims is the very simple and perfect manner in which the gases are brought to bear upon the lime. The ordinary Safety Jet was not a perfect one by any means, their being a clumsiness about it which prevented it giving out great illuminosity. Mr. Hughes, after repeated trial and experiment, has by a few additions, also great care in manufacture, brought this new invention to such perfection that it will produce a picture equal in brilliancy almost to the Oxy-hydrogen Chamber Jet, and will give a splendid 20-feet picture under good pressure. Their is such perfect ignition and combustion that no great power is the result, and in this as in the Chamber Jet there is no unnecessary flow or waste of hydrogen. It has the special advantage of perfect freedom from danger, inasmuch as the gases do not mix in a chamber, therefore there cannot possibly be any return of the gases. Only one gas bag is required to be used, the ordinary gas taken from the chandelier will answer all the purposes of the other. The Jet itself is extremely portable, which is one of its special features, as the oxygen supply tube runs down the centre of the hydrogen tube, thus doing away with the cumbersomeness of those constructed with two distinct tubes. The taps that supply the gases are extremely minimum, and consequently all is brought within easy reach of the operator. A child may work this Jet with perfect safety; no failure can arise. The Jet has a sliding lime-holder, with a beautiful arrangement for turning the limes, consisting of rack-wheel and endless screw. This arrangement is far more effective than the ordinary cog-wheel contrivance or even the spring application. Every part of this Jet is screwed and cast; nothing can come to pieces as is the case with the soldered Jets which are generally sold.

Price highly finished, £1 1s. With rack motion and endless screw to turn the limes, 4s. 6d. extra.

They are made various lengths to suit either the smallest or largest Lantern made

A pressure of from 28 to 200lbs. can be put on these Jets, according to the size of the picture and brilliancy of the disc required.

LA PETITE SAFETY JET,

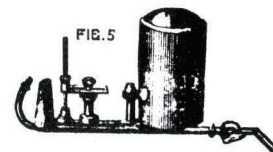
Price 18s. 6d. and £1 1s.

Next to this in point of brilliancy is

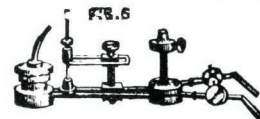
LA PETITE SPIRIT, or OXY-CALCIUM JET.

Price 17s. 6d. Second Quality 12s. 6d.

which is superior in detail to the regular jet. Figure 5 will give the explanation. The spirit runs from the cistern into a large chamber filled lightly with cotton wicks. This is ignited, and a large volume of flame



is given out. The oxygen tap being turned on, the oxygen plays on the lime, and a beautiful light is the result without any difficulty or trouble; whereas the ordinary jet and ordinary wicks were always a continuous anxiety and disappointment. This jet is specially adapted for buildings where no gas can be obtained, and where the oil light is not powerful enough. Should a greater illuminating power be required, say for giving from 20 to 30 feet pictures, recourse must be had to



LA PETITE OXY-HYDROGEN JET

Price £1 10s. Second Quality, £1 1s. Novel arrangement to turn the limes, extra 4s. 6d.

which requires the aid of two gases, viz. hydrogen and oxygen burnt under pressure; nothing better will be required than the improved Safety and Oxy-calcium Jets, which will give a good 12 or 14 feet picture, large enough perhaps for all purposes.

This Jet has the button handle, and can be used with perfect safety by a child, and I need not say the light is brilliant in the extreme, we have paid special attention to the construction of this Jet, and I will guarantee that there is nothing to equal it in brilliancy of illuminating power when in use.

NOTICE—To those who are at all timid we supply safety valves which can be put on the taps of the bags, price 5s. each.

The above are made various lengths to suit either smaller or larger Lantern at no extra charge.