

## SOURCES:

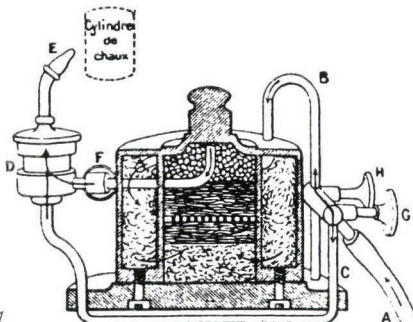
In the second of our occasional series on sources from which lantern information can be obtained, Stephen Herbert draws our attention to a little-known French periodical and offers a selection of extracts to illustrate the sort of information provided. The translations have been made by Brendan Taylor.

# NOUVELLES SCIENTIFIQUES

Between the years 1891 and 1907 the French journal *La Nature* – the well-known source for historians of pre-cinema and photographic-related studies – included a supplement, *Nouvelles Scientifiques*, which described and illustrated (with engravings) recent inventions in many fields, including, for example, domestic utensils, children's toys and photographic gadgets. Many of these items will be of interest to MLS members, and a selection of them is reproduced here.

A number of illuminants were described. The issue dated 5th June 1897 included a long letter from M. Molteni, in which he stated that:

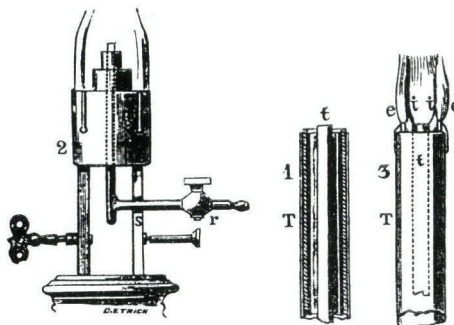
At first one is frightened when thinking of using a device working on a mixture of ether vapour and oxygen. But ... this mixture is only explosive in certain proportions. When the oxygen is in a smaller proportion in relation to the ether, the mixture doesn't detonate. . . but there again it is necessary that the mixture detonates to bring the lime to incandescence. The problem is summarised thus: build an atomiser which only produces a non-explosive mixture and add to it when it has left the device, that is, when it is outside, the small quantity of oxygen needed to make it ignite. . .



He then went on to describe the operation of the device illustrated in Figure 1. Another issue described an oxy-oil lamp (Figure 2):

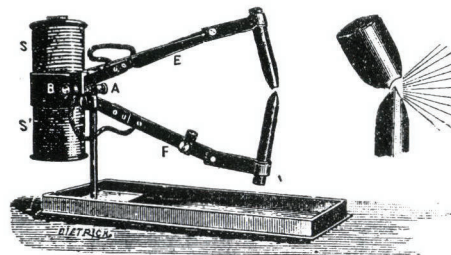
In this system the lighting power of rapeseed oil is augmented by the flow of oxygen in the centre of the wick. The tap 'r' of the lamp allows a current of oxygen to flow into the centre of the flame. The control is made very easily and the light is very bright. With a consumption of 20 litres of oxygen per hour, one obtains a light suitable for projection. The type most easy for the amateur to modify is certainly the adjustable lamp with a reservoir underneath, a spring-loaded rack and which one can find in any household. For lanterns that are not able to take this sort of lamp, one can install a model with a lateral reservoir and a constant level. It would also become necessary to use this form if one wanted to burn a more viscous oil. The oil to use is the ordinary rapeseed oil of good quality, which is usually found in the home. The oxygen is available in a rubber bag, as for the oxy-hydrogen projectors. For complete details of this projector, enquire of M. L. Courtois, engineer, President of the North of France Photographic Society, Aubry, nr. Douai (north).

The use of the electric arc (Figure 3) was increasing: M. Borland has worked out a very ingenious new design for arc lamps for projection. Two vertical solenoids S and S' are placed one in series in the circuit and the other in parallel, and are connected by an iron bar. This bar is hinged to a horizontal lever F which drives a toothed wheel placed between the knobs A and B. A second lever E carries another toothed wheel which meshes with the first one. All the movements of the bar are also transmitted to the levers E and F which support



2.

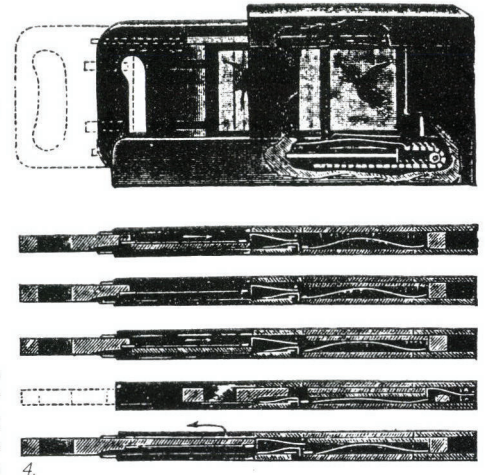
the carbons. The mobile bar is supported by bronze rings and the ends of the solenoids are closed – in order to form a cylinder of air to dampen the rapid movement of attraction at the moment of the circuit closing. The operation of the lamp is based on the well-known principle of 'differential arc lamps'. One remarks, in this new model, of the great simplicity of the parts and the really advantageous placing of the carbons for projection. . . The inset figure shows the crater formed by the arc in the positive carbon; by following the angle of the levers, this crater is itself inclined and allows the light to be sent out horizontally. The Borland lamp can work in twos at 110 volts or singly at 55 volts for DC or AC. It is built for currents from 4 to 20 amperes; it gives very good results for projection. . . available from MM. E. H. Cadiot and Company, 44 rue Taitbout, Paris.



3.

A novel slide carrier (Figure 4), similar to the Beard *Eclipse* model, was the subject of a report on 1st October 1904:

All projection amateurs know the inconveniences that slide carriers usually have; those indispensable accessories necessitating for their operation two operators positioned at left and right of the lantern. When a single person assumes the duty of putting in and taking out the slides, they prove an annoyance. M. Gillon has recently developed a new model slide carrier of very reduced dimensions, which has the precious advantage of needing only a single operator. This device consists of a grooved cradle in a wooden frame. . . The cradle supports a metal frame against which, when it is pushed, one applies the slide to be projected. In sliding the cradle, one introduces the slide in front of the lantern's condenser and, when one pulls out the aforementioned cradle to put in a second slide. . . the first is held back by wedges and sent to the back of the instrument. At the repetition of this set of manoeuvres, the second slide is sent in its turn behind the objective while the first, held by two spring wedges fixed on the metal frame. . . is then able to be lifted out. Thanks to this simple device, all the operations are easily accomplished from one side of the lantern and by a single operator who doesn't cause any untimely



4.

shadows. At the moment of the change of views, the two slides are superimposed for an instant, giving an indistinct image from which the new projected image emerges. This slide carrier is at the home of M. Gillon, constructor, 22 rue Beautreillis, Paris.

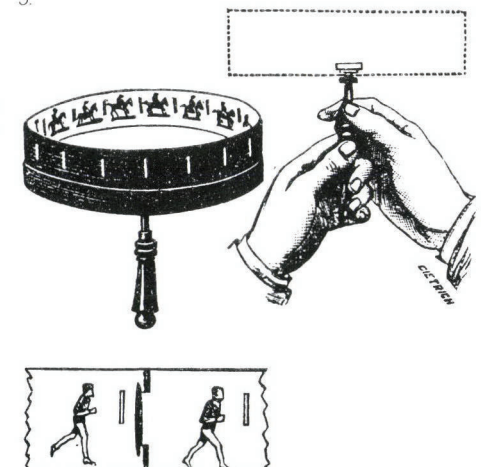
Several optical toys incorporating movement were described, including what appears to be an Anschütz tachyscope (Figure 5):

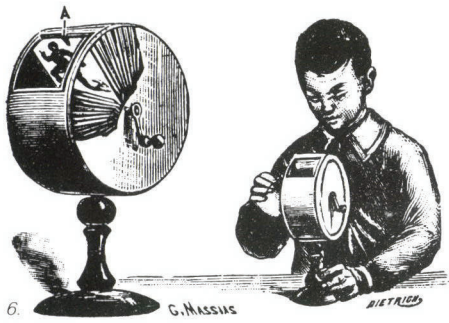
The Zoetrope is a very curious instrument and one that has attained great success in the last few years, but the machine is cumbersome and, when not being used, takes up a lot of room. The model which we show here is dismantlable. It is formed of a round box containing the images and the handle, which forms an axle of rotation. When dismantled, it appears to be a cardboard box. It is at MM. Stransky Brothers, 20 rue de Paradis, Paris.

A contemporary variation on the Kinora was also featured (Figure 6):

The Mechanical Folioscope. In issue no. 1190 of 21st March 1896. . . we presented to our readers, under the name of 'folioscope', a very curious pocket cinematograph; it was a little book carrying on each of its pages an image of a 'de-composed' movement. . . M. Watilliaux uses for his folioscope images drawn by hand, but it is understood now that M. G. Demyen, the well-known chronophotographer, has truer images of movement and he has transformed a little the manner of looking at them. Instead of mounting them in a book, they are mounted around an axle placed horizontally in

5.





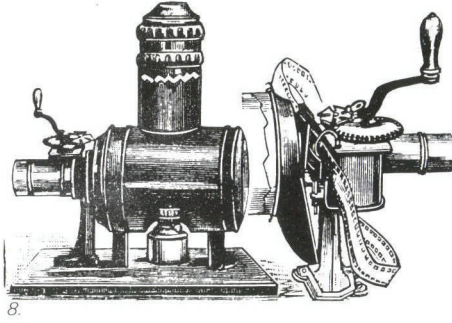
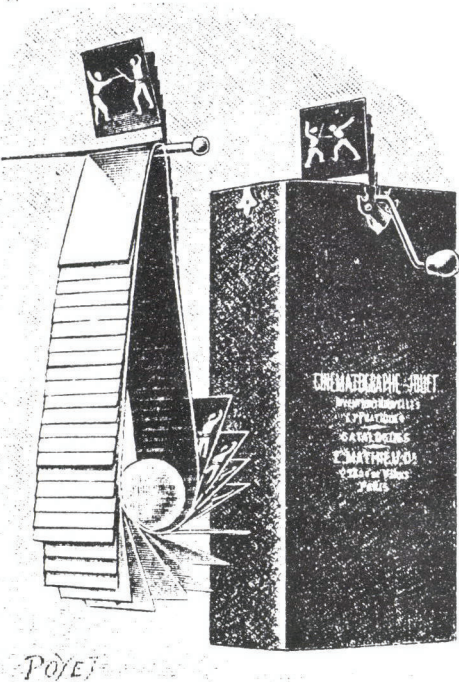
6. a box and furnished with a handle. . . As a different subject has been presented on the front and back of each card, it follows that each machine allows the viewing of two images in movement depending on which way you turn the handle. The mechanical folioscope is constructed by M. Watilliaux, 110 rue Vieille-du-Temple, Paris.

Examples of the 'Simplified Cinematograph' (Figure 7) exist in private collections and museums. The issue of 13 December 1902 describes it as follows:

This little toy is one of the better successes of the year. The mechanism is of remarkable simplicity - this makes it charming and cheap. The device is composed of a strip of black parchment paper measuring 30cm in length, on which is glued, one beside the other, at a distance of 2mm, photogravures of all sorts of scenes taken cinematographically and representing about 50 successive positions. The two ends of the band are joined, forming a loop. In this band is put a single big marble. Then the band is suspended from a handle which goes through a little square of wood of 2mm thickness corresponding to the intervals left between the images. Then the band descends into a big rectangular wooden box holding the extremities of the handle in the two little slots reserved for them. On the front of the box is fixed a little metal hasp which strikes against each image as it passes. One needs only to turn the handle from left to right to see animated all the figures which pass successively. One sees a duel, a dancer, clever dogs, clowns, a train travelling, etc., etc. The marble imprisoned and rolled along by the little lever gives the necessary tension to the band, following the rotating movement. This little cinematograph is an ingenious toy, amusing and very interesting. The cinematograph is at the house of M. Mathieu, 29 rue de Valois, Paris.

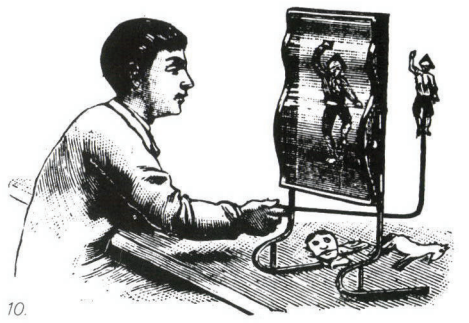
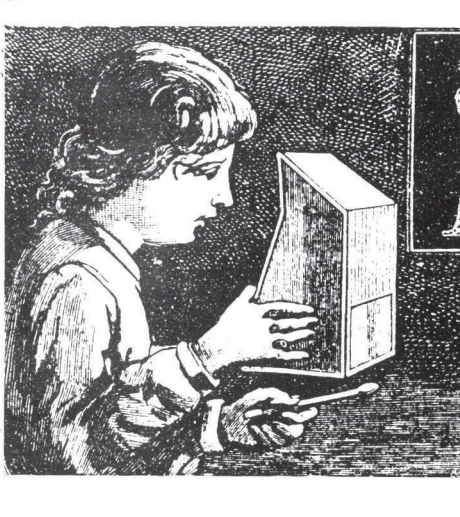
The Bing toy lantern/cinematograph mentioned in *NMLJ* Vol. 5 No. 2 (p.11) is represented by a different engraving to that generally known, in the issue of 23rd April 1898 (Figure 8):

The cinematograph has, to a very high degree, grabbed



8. the attention of the public. The extraordinary effect of these marvellous projections has impressed the spectators in a lively manner. Consequently, it was desired to build machines which, by their simplicity of design and operation, would instruct children and young people in the mechanism and use of the cinematograph. The problem was quite difficult. The new machine which we announce gives very interesting results; it is simple, robust and of a very reasonable price. It comprises a magic lantern illuminated by a simple petrol lamp placed in the centre of a drum. . . the light is projected by a reflector forming the hinged cover. . . on the right side of the machine is installed the cinematograph mechanism of which the essential part is a handle by which, by a very ingenious device, turns an eccentric of which the lever enters the slot of a Maltese Cross and advances the image, then makes a turn to enter the following slot. This same movement turns a drum provided at each end with a toothed wheel and, under the machine, a shutter which places itself automatically in front of the objective for the changing of the image. . . The films are endless bands of gelatine; they have small holes that fit the teeth on the drum. Be careful that the films don't get crumpled or bent. If they do, hang them from a reel with a weight at one end for a few hours. Check that the splice is good and not coming apart. This projector comes complete with five films of interesting subjects - the French concessionaire is M. Kratz-Boussac, engineer, 3 rue Saint-Laurent, Paris.

Even simpler toys were still being presented as 'new', including the 'Magic Theatre' (figure 9): Here is a charming toy that will not fail to surprise and amuse the children. It's a little theatre closed on all sides: you look in at the front, facing a transparent cloth and take care to place the theatre in front of a well-lighted window or lamp. With a stick, you hit the bottom of the theatre as though it were a drum. You then see inside, two little wrestlers to which each blow of your stick gives the very diverse attitudes of wrestling; but, further than that, these wrestlers in changing positions, change colour. They are sometimes blue, sometimes red and sometimes white. The wrestlers are drawn on thin perforated cardboard and slide in two grooves; the bottom of the box is formed of a tri-coloured and translucent membrane; when a puppet passes in front of the blue part of the base it appears blue. . . and it appears red in front of the red holes. This little optical



10. amusement is at the Comptoir des Spécialités Brevetées, 86 Faubourg-Saint-Denis, Paris.

Rather more unusual was the 'Optical Theatre for Living Tableau' (Figure 10):

When one regards any subject, a puppet for example, by means of a lens with many curves and one moves this puppet in all directions, one sees its body and limbs move as realistically as if it were alive. Our picture shows this lens behind which one imparts to the puppet the movements in accordance with the type of exercise it does. A clown with dumbbells appears to make efforts to lift them up. If he balances his hat on his nose he will make the movements of arms and torso to maintain his equilibrium. A dancer will make jumps while agitating the legs, then his chest will raise itself as if he were breathless. A print of a ship on the sea imitates the movement of the waves. In a bouquet one will see the leaves lengthen as if they were passing before the eyes. One can, beyond the samples which come with the toy, make oneself a collection of subjects by means of chromos, prints and photographs and imagine little theatrical scenes appropriate to the character. The lens, of 25 square centimetres, is mounted on two legs, between which one passes the rod which supports the puppet. The lens is formed of two sheets of glass, one plain, the other curved, fixed on a copper frame, thus forming a reservoir which is filled with water. This device is at M. T. Munier, 24 rue Rochebrune, Paris.

And finally, anyone with an interest in Stanhope viewers and similar devices will find such novelties as 'The Panorama Watch' (Figure 11):

One knows well the spectacles and tiny rings that contain microscopic views that are improved with a magnifying glass. The watch in our figure is internally formed of a disc around which are circularly mounted twelve photographic views. The disc turns in the watch around its axis. You only have to take the watch in the hand, hold it up to the light and look through one of the tiny holes which contain the view and the magnifying glass. When one has considered the countryside or the subject, one turns the disc and passes onto the next subject. One has twelve views to look at. The Panorama Watch is at the house of M. L. Bienfait, 7 Place de la Nation, Paris.

For anyone interested in further research, the bound volumes of *La Nature* in the Science Museum Library include the relevant supplements.

