

Animated Portrait Photography

by Stephen Herbert

What is so sad in this transient world of ours as the remorseless on-sweep of the years and the evanescence of youth? 'Dust to dust; ashes to ashes,' is the pitiless cry of old Father Time as he gathers us in with his unceasing sickle, mowing down beauty and ugliness with the same grim impartiality. It was with the perpetuation of the youthful and the beautiful that the metaphysicians of old were chiefly concerned, but where their alchemic arts were failures modern science has achieved a notable triumph.

(from a review of the 'Biofix' system in *The Bioscope*, 26 October 1911)

The 'triumph of modern science' here so floridly trumpeted was the photographic portrait flick book. This article will concern itself with the various motion picture systems (other than the conventional amateur cine camera-projector combination) that have been developed specifically to provide animated photographic portraits. Most of these systems were based on the flick book or miniature mutoscope.

The concept of the flick book – also known as the flicker book, flip book, thumb book and penny book – is so familiar and so simple that it comes as a surprise to find that it was actually patented. In 1868 Linnett was granted a British patent for the 'kineograph',¹ which made use of drawings produced in a sequence of varying positions so as to simulate movement when flicked, the effect being similar to that of the then current phenakistoscope and zoetrope toys. The engraving (figure 1) is from Hopwood's *Living Pictures*.² In 1882 H. Van Hoevenbergh took out an American patent (258,164) for a flick book, also consisting of drawings.

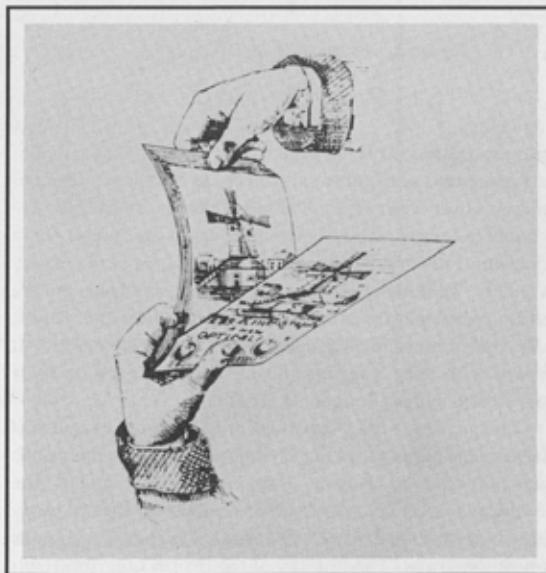


Figure 1. Linnett's 'windmill' flick book, from Hopwood's *Living Pictures* (1899).

In the chronophotographic era, Marey, Friese-Greene and others conducted experiments in the photographic recording and synthesis of facial movement.

With the development of cinematography it became possible to use frames from photographically-produced motion pictures as source material for flick books. Half-

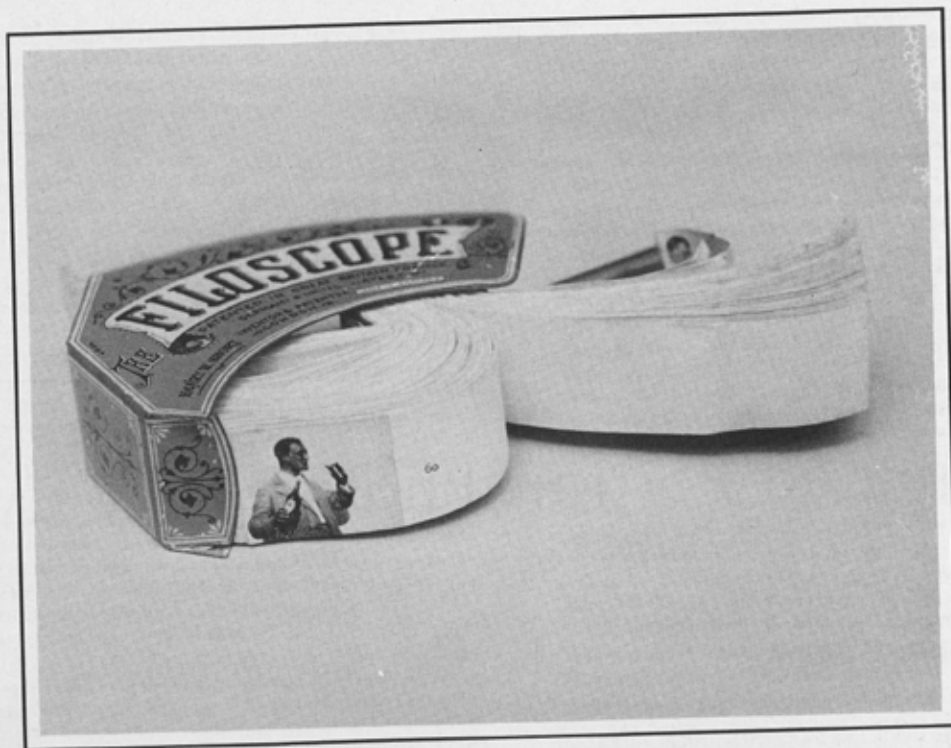


Figure 2. An example of Henry Short's Filoscope. Archives of the Barnes Museum of Cinematography.

tone reproductions were used in the Pocket Kinetoscope, and presented such famous subjects as Edison's *The Kiss*, among other vignettes. The possibilities of personally-produced family motion pictures were envisaged by a reviewer of the first Lumière Cinématographe performance in 1895: 'When these cameras become available to the public, when all are able to photograph their dear ones, no longer merely in immobile form but in movement, in action, with their familiar gestures, with speech on their lips, death will no longer be final'.³

The idea of professional photographers/cinematographers providing 'living portraits' for the public had occurred to Robert Paul very early on in the development of cinematography. When Paul, justly described by John Barnes in his book *The Rise of the Cinema in Great Britain* as 'The founder of the British film industry', formed a limited company, 'Paul's Animatographe, Ltd.' in 1897, one of its intended fields of operations was to be 'The Manufacture and Sale of Animated Portraits of Individuals.' As John Barnes explains:⁴

'It was intended to open studios in London and the principal provincial towns for the express purpose of taking these portraits of the general public and to license country photographers to take negatives to be printed in the company's factory.' A correspondent of the *British Journal of Photography* had reservations about the idea:

'I find it difficult to understand how this idea

is to be profitably carried out. The taking of these animated portraits is easy enough, but how are they to be utilised by the sitters? Are the latter expected to possess a projection system, lime-light, screen, and all, for the purpose of showing their friends how they look when animated? If so, the idea is surely calculated to be a somewhat costly luxury.'

Perhaps it was Paul's intention to issue these portraits in book form, so that the leaves could be flicked over to give the illusion of movement, like the pictures in the common 'flick book'. The pocket kinetoscopes were then coming into vogue, and Paul's friend Harry Short was already in the process of forming a company to market his Filoscope. His plans may thus have included arrangements for issuing these portraits, as well as selected extracts from Paul's regular films.

A Filoscope is shown in figure 2. It was, in a sense, an intermediate step between the flick book and the mutoscope. When the lever was pushed the leaves flicked past a metal lip. The cinematographic frames were half-tones printed from the original negatives of Paul's early dramas and news reports.

In Germany, in the 1890s, cinema pioneer Max Skladanowsky was making use of his own films to print up flick book versions. A photograph of Skladanowsky in *Der Weg des Films*⁵ shows him demonstrating the flick book

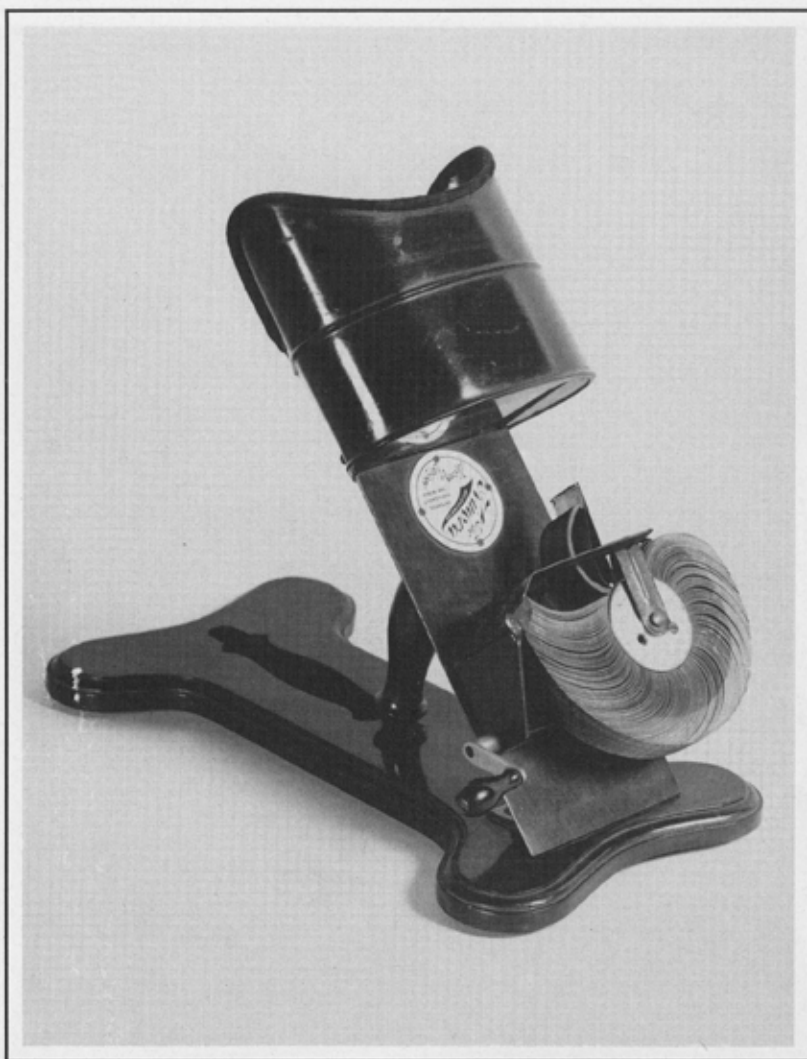


Figure 3. A typical Kinora viewer. Author's collection.

to a number of interested onlookers. Reproduced in the same book is a page from Skladanowsky's catalogue of May 1898, and this actually advertises a suitable camera and 'Living Portraits in book form'. The camera is described as 'Max Skladanowsky's photographic series apparatus for photographing live portraits in the studio. Simple and reliable construction, easy to operate . . . "living portraits" lively family scenes and groups in full motion, in bright studios with a studio length of only 5 metres, are achieved.' The catalogue description also gives an indication of the number of pictures used in the resulting flickbook; 'This . . . "Schnellsehbuch", runs at 10 photos/second, and in a period of 5 seconds one obtains a pretty, lively scene'.

Variations on the flickbook/mutoscope principle were

used by several companies before World War I to provide 'living portraits' of customers. The Kinora system, devised in 1896⁶ by the Lumière brothers, and consisting of approximately 640 photographic leaves bound together into a reel and viewed in a machine (many models of which superficially resembled a stereoscope), was originally intended as a method of enabling short episodes from 'star attractions' to be viewed in the home. The system was later expanded to include an amateur cine camera, and arrangements were made to take 'living portraits' of sitters in professional studios in London and elsewhere.⁷ Figure 3 shows a typical Kinora viewer (author's collection) and figure 4 is a leaf from a Kinora motion portrait reel. The Kinora was by far the most successful motion portrait system.



Figure 4. A leaf from a Kinora motion portrait reel. 19 x 55 mm. Author's collection.

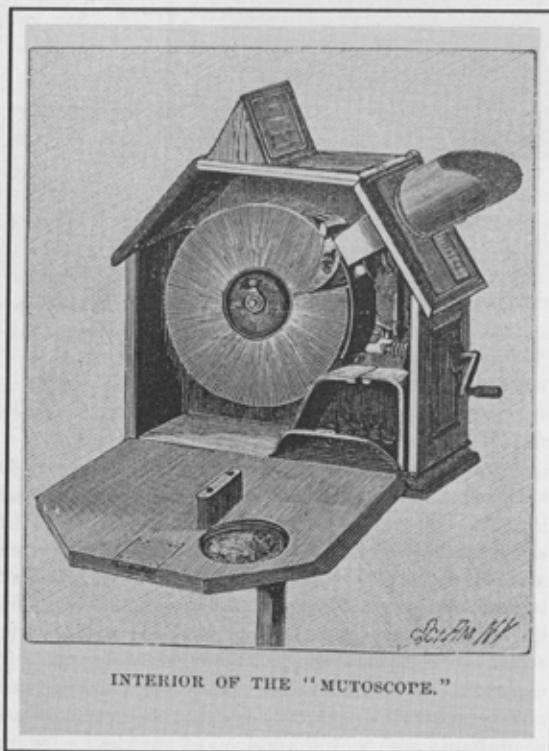


Figure 5. Casler's Mutoscope, from Hopwood's Living Pictures (1899).

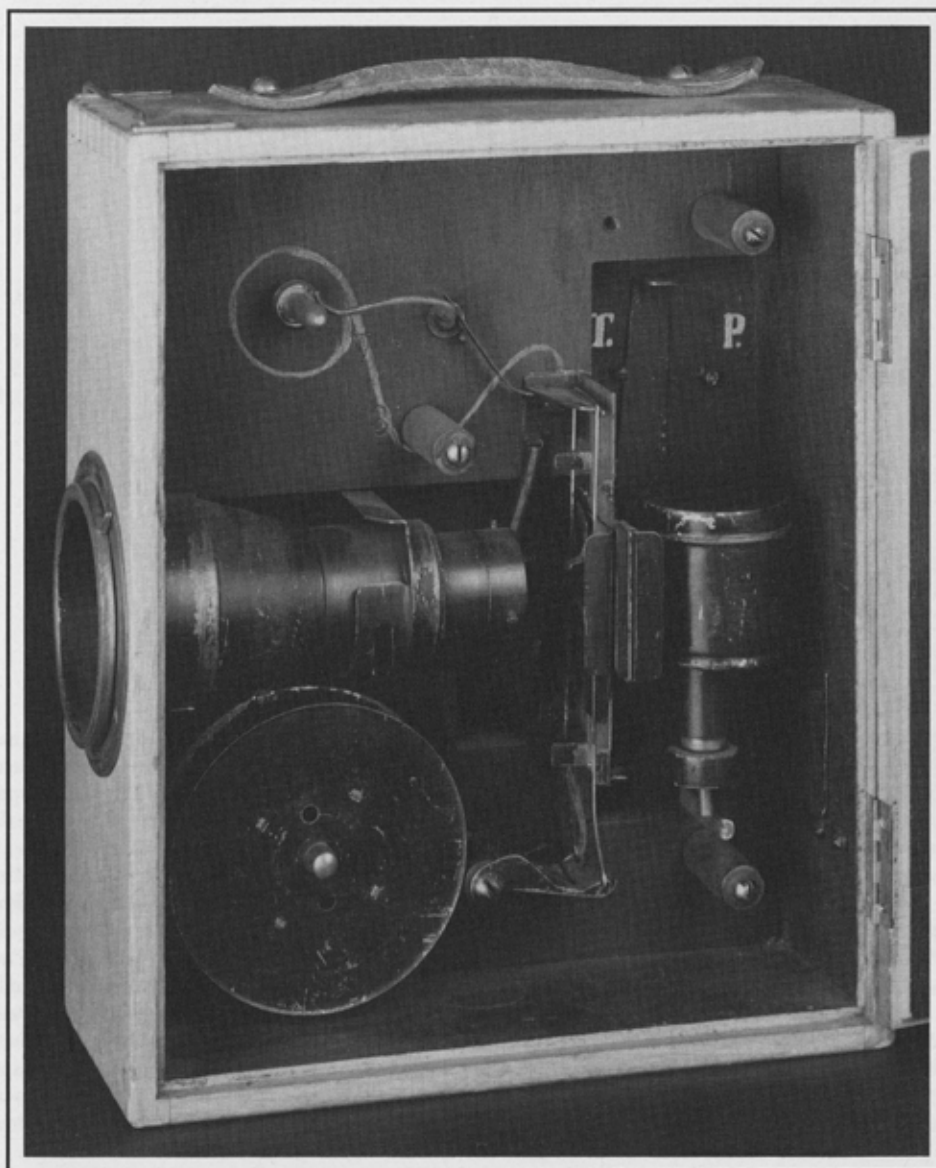


Figure 6. Duoscope motion picture camera for 17.5 mm film, 1912. Double perforations between each frame. Objective lens by H. Meyer, focal length 35 mm. Kodak Museum, National Museum of Photography, Film and Television, Bradford.

The full-size Mutoscope, on which the Kinora was based, had been invented in America in 1894 by Herman Casler (figure 5). This was a penny-in-the-slot machine, soon to gain notoriety in amusement arcades as the What-the-Butler-Saw.⁸

The Biofix system, which possibly originated in Germany and appeared in Britain in 1911, could provide the public with professionally-produced flick book portraits, (eliminating the Kinora system's necessity for a viewing machine). At £3 a sitting, Kinora motion portraits were

expensive; the Biofix system was considerably cheaper. 'The "Biofix" Company are now offering immortality to everyone at a shilling a time', proclaimed the *Bioscope* journal for October 26, 1911. 'Tender this humble coin at No. 15, Strand, and you will immediately be transfixed within the confines of a paper booklet, to wriggle for ever at the will of whomsoever applies his thumb thereto . . .' The writer of the *Bioscope* article, which was entitled 'How to Become Immortal', continues to expound the possibilities of the Biofix, but with tongue firmly in cheek.

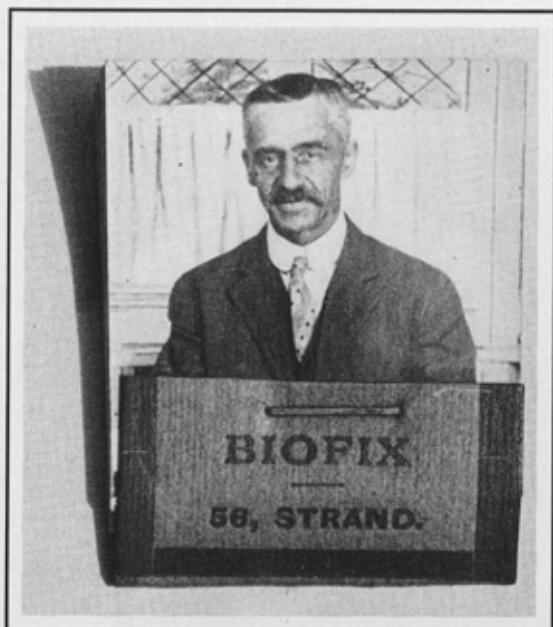


Figure 7. Biofix flick book Type A. 24 leaves, 42 x 53 mm. ABMC.

... It opens up an almost illimitable [sic] prospect to everybody. Think of the happy lovers who will be able to render immortal their first kiss (and, at the same time, secure documentary evidence against a possible breach of promise). Think of the bairns who will still toddle their first *pas seul* in the 'Biofix' long after they, themselves, have passed into hoary old age. Think of the bewitching young ladies who will be able to send 'glad eyes' by post and effect a conquest in three volumes. All this, and more, may be done by the 'Biofix'. The photographs are clear and extremely lifelike, whilst their price renders them accessible to everyone. One can hardly imagine any more charming Christmas gift to friends in far countries than this dainty little personal booklet, and we think it will have the greatest vogue. In fact, before long, we shall hear all London ringing with the query, 'Have you been Biofixed?'

Biofix Enterprises Ltd. was registered in February, 1912, 'To carry on the business of photographers, takers and exhibitors of moving pictures.'⁹ That same month the *Bioscope* noted that 'The "Biofix" Company, whose clever little invention has been the talk of London, have opened new offices at 2, Conduit Buildings, Floral Street, W.C., where they will be pleased to welcome all their friends. The Company still retain their showroom at 56, Strand, W.C.' (not 15 Strand, where the *Bioscope* had previously noted them as being at). Floral Street was also the address of the Duoscope Company, and examination of a Biofix flick book (figure 5) clearly shows that it was produced from a film negative having a double central perforation, so it seems that the Biofix living portraits were taken with a Duoscope

17.5mm camera. According to Michel Auer,¹⁰ this camera projector, with its distinctive side-by-side twin claw pulldown mechanism, was made by Duoscope Ltd. of Floral Street London in 1912. Auer notes that an identical camera, with the name 'Malma Familien Kinematographen' (Maltheser Maschinenbau GmbH. Berlin SW61) is in the Photo-Historama, Leverkusen. The Duoscope took 66 feet of film (figure 6). (The Matthews/Tarkington paper in Fielding's *A Technological History of Motion Pictures and Television*¹¹ includes an illustration of a clip with two central perforations and identified as 'Duoscope, 1912'. However the perforations on this example are spaced much wider apart than those on the sample illustrated in Coe's *The History of Movie Photography*,¹² and the Biofix flick book illustrated in figure 9).

The March 28, 1912 edition of the *Bioscope* included a notice that 'Biofix (Southend) Ltd. was registered on March 15th, with a capital of £2000 in £1 shares to acquire and turn to account licences for using the "Biofix Novelty"'.¹³

There were at least three types of Biofix flick books. Type A (figure 7) had the pictures stapled together in a card cover. Type B (figure 8) had the pictures stapled together and enclosed in a paper wallet, and Type C (figure 9) had the pictures fastened in a metal holder. An example of Type B in the archives of the Barnes Museum bears the address 53, rue de la Madeleine, Bruxelles. Biofix motion portraits were also available mounted as a reel, and viewed in a small pressed-metal drum. The effect was similar to the Kinora, but the pictures were arranged to be viewed with the reels mounted vertically rather than horizontally, the pictures being bound at the bottom instead of the left-

Figure 8. Biofix flick book Type B. Subject: lady seated between two men. Reverse reads: 'The New Craze.' 27 leaves. 41 x 53 mm. ABMC.



hand edge, in what was effectively a miniature version of the seaside Mutoscope. At least two different models were made. Figures 10 and 11 represent an example from the Barnes archives. An identical machine, from the Herman Bollaert collection, was exhibited at the 1986 Convention of the Magic Lantern Society of Great Britain, and is shown on page 43 of *The Ten Year Book*.¹³ A slightly different model is illustrated by Ariel (ACR 816).¹⁴

'Portraiture by Cinematography' was discussed in the *Amateur Photographer's* 'Cinema Notes' column on July 14, 1913:

A correspondent to the *Daily Telegraph* has discovered that portraiture by cinematograph is the most faithful method - by photography - of 'giving a true likeness of anyone'. We are told that the most rapid single-plate snapshot camera gives an almost instantaneous record of the facial expression at the moment of releasing the shutter. But, as a matter of fact, the human eye never sees the face in this manner. The eye has time to reflect a few of the never-ceasing changes that pass over every face; changes of which the individual is often unconscious. In carefully examining an old daguerreotype it is remarkable how life-like we find it. At this time longer exposures had to be given, and this in a great measure accounts for their truthfulness. The cinema camera is still more accurate in its portrayal. A sitter posing before its lens for eight minutes has 7,680 distinct portraits taken if the camera is operated at the usual speed. The film, when projected, gives an exact

reproduction of all the sitter's facial characteristics. Perhaps all of the 7,680 pictures will not be accurate when examined individually, but when the series is shown in rapid motion on the screen the faithfulness is apparent. Some day, perhaps, cinema portraiture may become one of Dame Fashion's whims, but the fastidious reader should bear in mind that retouching is at present almost an impossibility with cinema work. *Verb. sap!*

Systems for motion portraits other than flick books and mutoscopes were developed and launched before the First World War. Living portraits could be produced by the 'raster-stroboscopic' method, patented in Britain in 1890 by L. Brennan.¹⁵ A transparent picture, specially produced from two slightly differing masters, was positioned on top of a piece of paper printed with a pattern of lines. 'Special Apparatus and Mounts' for producing one version of these 'Living Portraits' were advertised by Cinema Traders Ltd. in 1917. Sample portraits were available at 1/- (one shilling) each.¹⁶ By applying pressure on the left and right edges alternately, a moving picture effect was obtained. The *Amateur Photographer's* humour columnist 'The Magpie' commented sarcastically on a newspaper report of this novelty in 1916.¹⁷

It is quite a time since the last most wonderful invention in the photographic line was recorded. Quite a fortnight at least, if not three weeks. I really began to think these wonderful inventions were slackening off . . . Could it be that the vein was being worked out? Then, all of a sudden, the *Evening News* brought us back to the good old times. 'A



Figure 9. Biofix flick book Type C. (Type designations by John Barnes). 50 leaves. 41 × 62 mm. Author's collection.

friend of mine', said an *Evening News* reporter the other Friday, 'was showing me the most wonderful invention in the way of portraiture that I have ever seen'. Unhappily, such details as could be given at the moment in the *Evening News* were restricted to half a dozen lines, and when I had assimilated them, such is my obtuseness, I had a much poorer idea as to what it was all about than I had at the beginning. It had something to do with living portraits, so I gathered, but this new photography, we were told, was not yet on the market, 'and the secret of the process is too precious to reveal'. The unholy eyes of inquisitiveness must not profane such a shrine . . . And on Tuesday the *Evening News* sent a galvanic shock of disappointment right down into your boots. 'Concerning my note about a process of photography', the same tantalising writer began (just as though everybody had not been all on the *qui vive* about it for half a week), 'a reader tells me that the photographs are as old as tea on the other side. He sends me an example which was taken at a movie picture studio in Chicago'. What a come-down! The secret of the process which was too precious to reveal has been exploited, goodness knows how long, at a movie picture studio in Chicago . . .¹⁸ The bubble having once been

pricked, the *Evening News* spared us none of the details of the collapse. In his brief note on Friday the writer had said that 'by an almost imperceptible manipulation of the portrait at one side, the eyes suddenly alter their expression'. This is graceful and intriguing. An almost imperceptible manipulation may mean anything, preferably something poetic. But on the Tuesday, having disillusioned us, the writer goes on to be brusque; if not crude. 'By waggling a tab at the side of the photograph', he says, 'you make the man seem to wink, talk and smile'. The imperceptible manipulation of Friday becomes the waggling of a tab by Tuesday, and the alteration of the expression of the eyes becomes a wink. What we imagined to be a breathing, blushing, palpitating portrait becomes a Jack-in-the-box arrangement, where you get the required movement by the unelusive process known as waggling.

The 'Magpie' then comments: 'Let me add that I believe it quite probable that these second thoughts of the *Evening News* do rather less than justice to the ingenuity of the actual process, but that is neither here nor there.' An example of this type of novelty, which was produced in mounts of several different sizes by different companies, is shown as figures 12 and 13. This particular design does indeed work

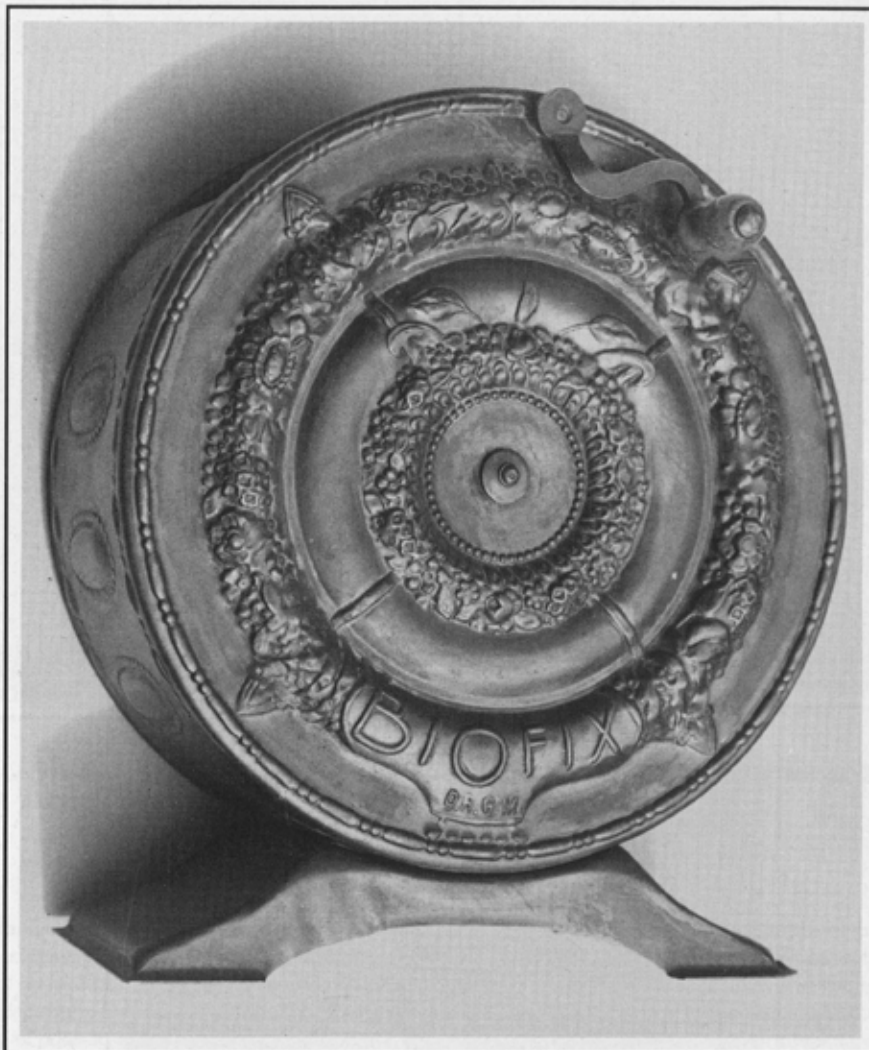


Figure 10. Biofix mutoscopic viewer. ABMC.

by an 'imperceptible manipulation' rather than a 'waggle'.¹⁹

An entirely novel system was outlined in the *Bioscope* for November 4, 1909 under the heading 'Moving Pictures in the Home.'

The part which the moving picture is destined to play in the home is probably a very important one. We have already had the Mutoscope and the Kinora, the moving picture book and other obvious modifications of the underlying principle of moving picture making . . . There is one development of the idea to which reference is often made both in print and by word of mouth; namely, the production of portrait photographs by moving pictures. In other words, the use in a photographer's studio of a moving picture camera

for making 'living' instead of still portraits or groups. From time to time I hear that this is being done in Paris. I don't know whether this is so or not: at any rate, it is well worthy of practical trial. I have had by me for some time the translation of a short article, which describes the method of carrying this out. I here append it, as it will probably be of interest to many who desire to experiment with the subject:-

'We all know how difficult it is to seize the true expression of the face, that which gives the characteristics of the subject. Generally one is photographed in a formal pose, with a forced smile, which betrays the sensation of uneasiness felt on hearing the traditional "Don't move!" A wooden expression, which is rarely lifelike, appears on the

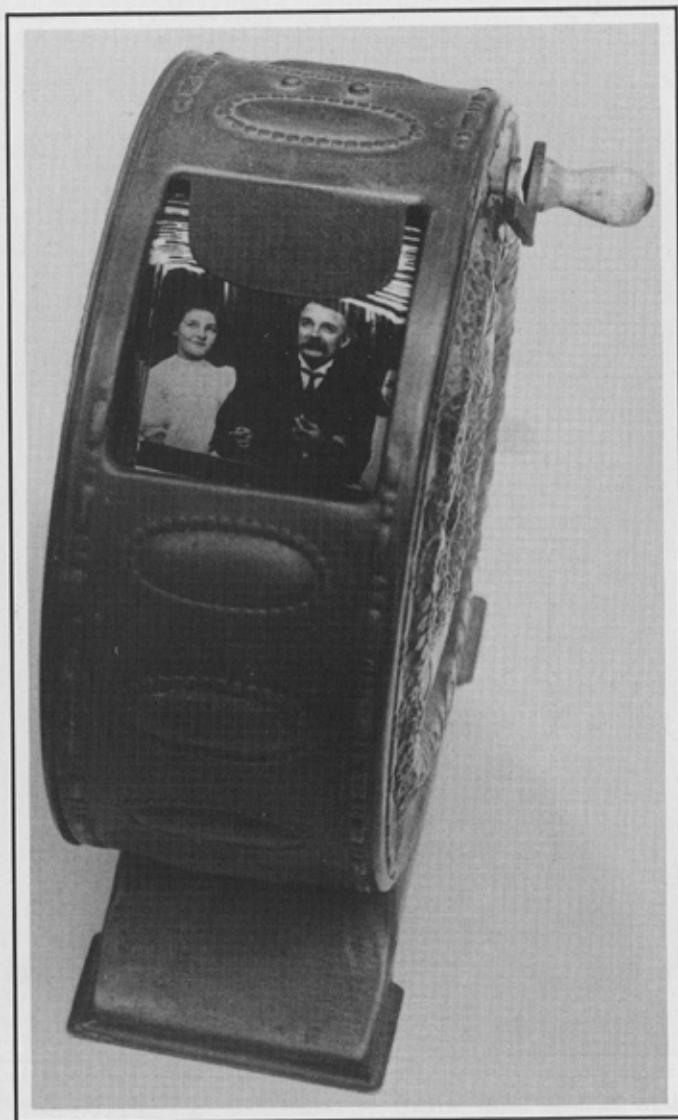


Figure 11. Biofix mutoscopic viewer. ABMC.

face. Therefore, when you examine a score of portraits, especially of ladies, you will hardly find two that are satisfactory to the subjects; they generally think their friend's photographs are successful, but never their own. In fact, when we consider a friend's face, it is not a single expression that we see, but a series of expressions which succeed each other rapidly and are blended by the eye as the photographic objective cannot do: and it is this series of expressions that gives us the real physiognomy. The thing to do is evidently to take a cinematographic portrait, which will be still more clear if we add the stereoscopic relief. In order to

effect this, Mr Reynaud has designed a new praxinoscope in which the successive images, taken from points of view sufficiently removed to satisfy the laws of stereoscopy, are placed respectively at right and at left, in the interior of two dish-like receptacles turning together about a horizontal axis. Plane mirrors are placed at the centre, as in the original praxinoscope, but with a new arrangement, which, by displacing the images sideways, enables the observer to view them under normal conditions with the aid of a pair of stereoscopic prisms. They may also be projected on a screen by replacing these prisms with two object lenses. Moreover, the two

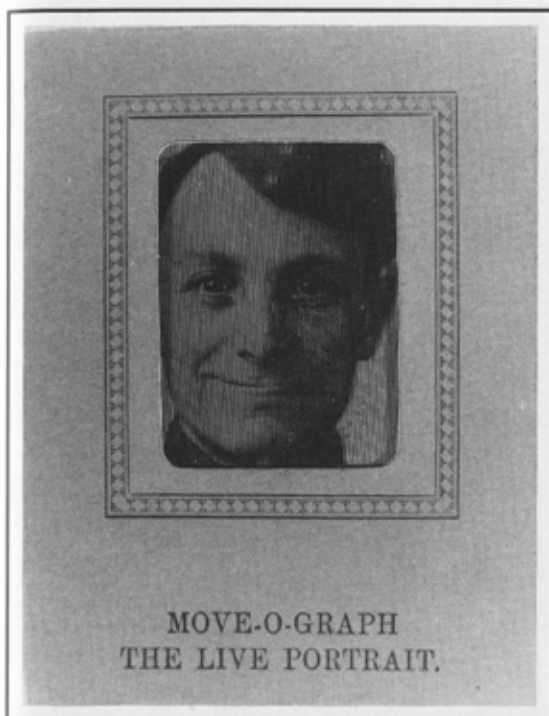


Figure 12. Raster-stroboscopic living portrait. 'MOVE-O-GRAPH'. 1st. position. 78 x 100 mm. Author's collection.

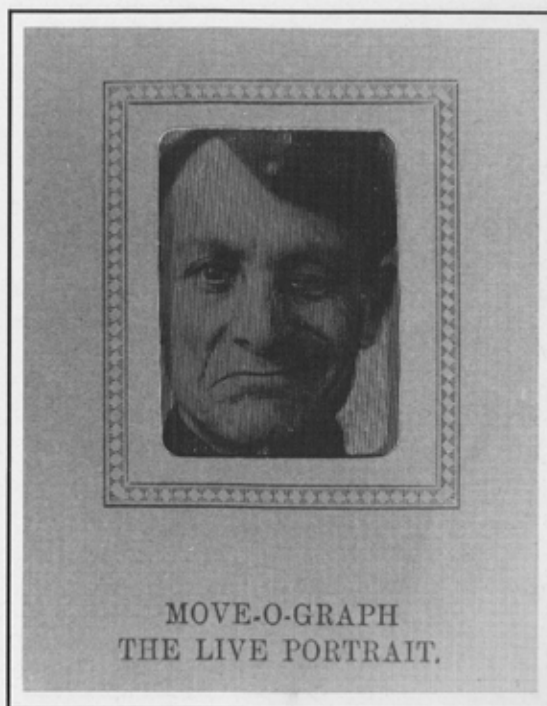


Figure 13. Raster-stroboscopic living portrait. 2nd position.

series of images are so arranged that they are presented successively to the eyes without any cessation of continuous vision in the case of either eye. This disposition has the advantage of doubling the number of poses from the cinematographic point of view . . .

Mr Reynaud makes his negatives himself, either at his studio or at the subject's home, and prints his positives on bands of paper that fit easily into the wheels. The device is then turned toward the window . . . or a lamp . . . and the crank is turned, whereupon the observer sees before him a living and moving image of the person represented.'

An example of Reynaud's machine is on display in the Musée National des Techniques, Paris, and is illustrated in Auer & Ory's *Histoire de la Camera Ciné Amateur*.²⁰

Although the Biofix and Kinora systems do not seem to have survived the First World War, the idea of a portrait flick book has been revived on a number of occasions in the decades since then, with the difference that most later systems involved the user taking the negative.

The (unidentified) device shown in figure 14 was acquired in Paris, and appears to date from about 1930. The series of photographs (53 in this example) have two holes at the bottom of each, re-inforced with metal eyelets. They are mounted loosely on two metal rings fixed to a

central wooden core. The photographs in this example are irregularly trimmed and appear to have been amateur-produced and printed. They show two young children who approach the camera blowing kisses. (At the beginning of the sequence the children are out of focus; they walk into focus as they approach the camera.) Figure 15 shows the machine with the front cover and top glass diffuser removed. It is of sheet metal construction. There is a viewing aperture without lens. An engraving of a rather similar earlier amateur mutoscopic device is shown as figure 16. A description of this system appears in *Histoire de la Camera Ciné Amateur*.²¹

A paragraph in the *Amateur Photographer* for May 23, 1924, under the heading 'Motion Portraits While You Wait' notes:

From a news paragraph . . . we learn that the latest thing in portrait photography in the United States is the while-you-wait motion-picture portrait, which is said now to be produced by the beach photographer. Further information is annoyingly scanty. It is stated that lengths of film up to 100 ft are exposed and converted into positives suitable for projection with a speed that 'retains the while-you-wait element' - a careful description this, and one which is further qualified by the intimation that most sitters find it preferable to do the waiting in

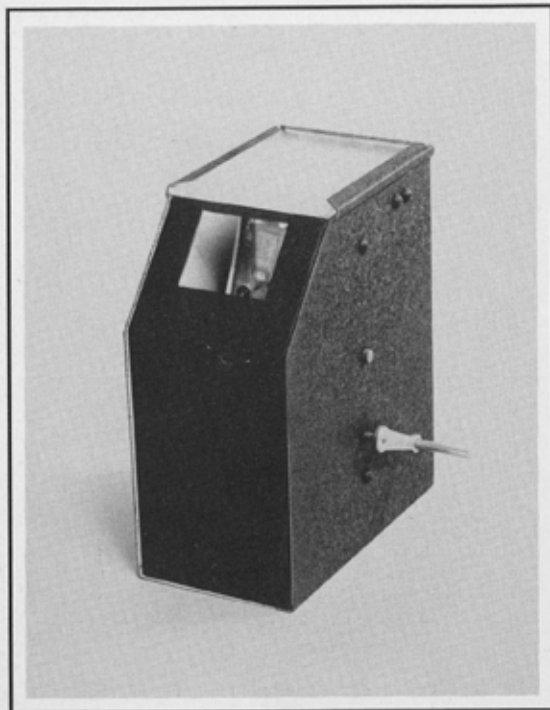


Figure 14. Small mutoscope, maker not known. Author's collection

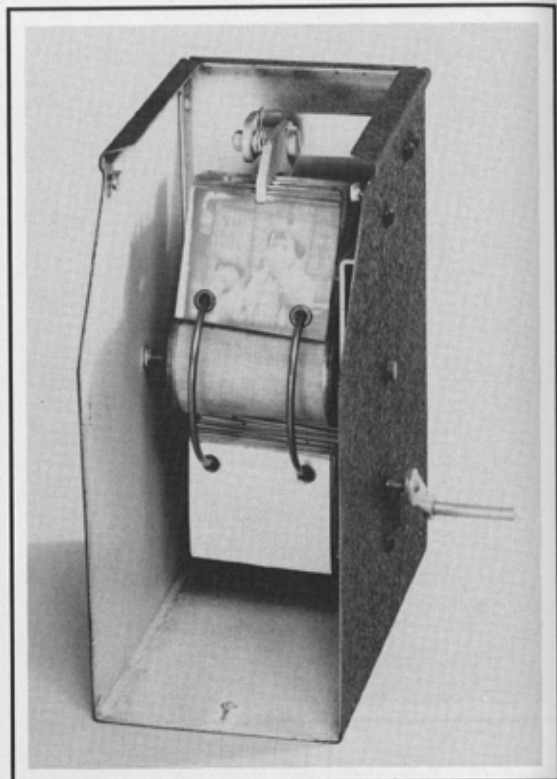


Figure 15. Small mutoscope, cover and diffuser removed. 52 leaves, 35 x 40 mm.

a café. There is a suggestion here that the film which is exposed is that which subsequently is supplied to the customer, but it is very doubtful whether a beach photographer can provide the facilities for obtaining a technical result by the reversal process adopted for the Ciné-Kodak 16 mm film, even supposing that that process is available for him.

What seems even more unlikely is that a beach photographer in 1924 would find enough ciné-projector owners to make a success of the venture. Despite references to a 'positive for projection' perhaps a flick book was the end product of this arrangement, though if this was the case only a fraction of the 100 ft of film mentioned would have been required.

In 1933 Bernard Brown noted in his book *Amateur Talking Pictures and Recording*²² that

At the present time the book type of moving picture has received further impetus from the work of amateur cinematographers. It is now possible to have a strip of film made into a book suitable for carrying in the waistcoat pocket, so that one can carry a permanent record of a particularly good shot. This enables one to 'show off' to one's friends

without the necessity of taking them home and setting up the projector.

In the USA, in 1937, various models of the Moviematic 16 mm ciné camera were available.²³ This camera was designed to take a cassette containing just three metres of 16 mm negative film, which was then processed and printed up as a flick book. The example illustrated by Ariel²⁴ is a litho-printed sample intended to give an impression of the effect obtained with the Moviematic system. The subject is a full-length shot of a mother and father with their young child. The genuine example illustrated here (figure 17) is a rather charming semi-closeup of a young girl kissing her doll.

Another, similar system was reviewed in *Amateur Ciné World* in October 1951, under the heading 'FLICKY MOVIE PORTRAITS'.

Many readers will be aware of the cost . . . of having frame enlargements made from their films. Have 40 of them done (each measuring 3¼ x 2¼"), have them bound into a booklet and hazard a guess at the cost. If the booklet is the *Movie Portrait Filmograph*, the answer is 10s.6d., which seems to us remarkably cheap . . . You send a strip of 8, 9.5

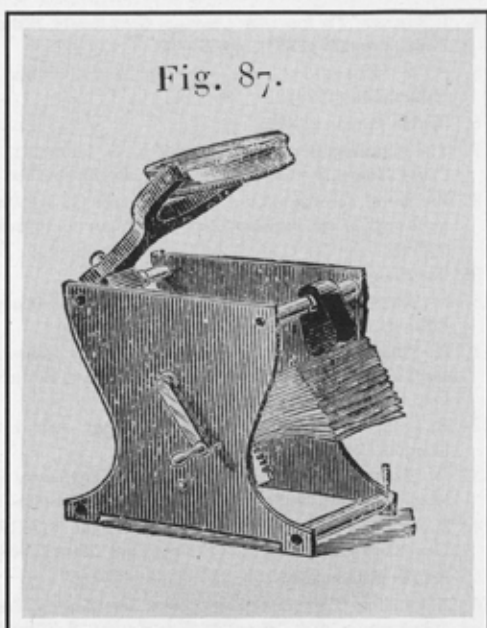
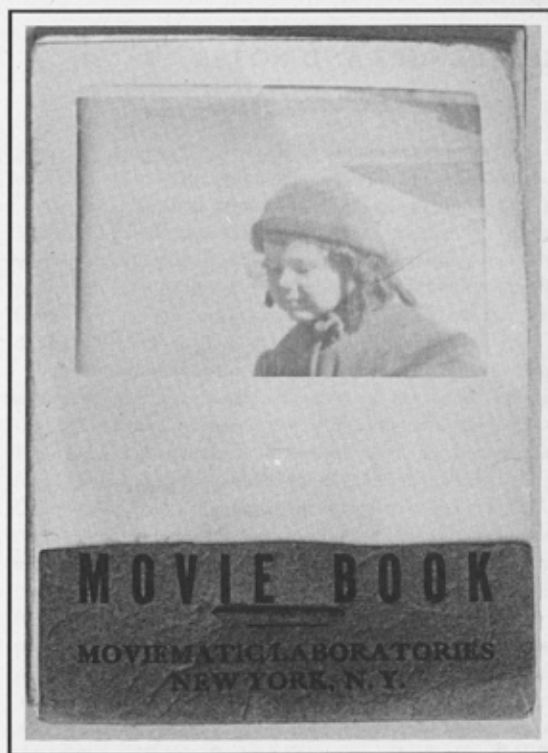


Figure 16. Cinebiblioscope. from E. Trutat's Photographie Animée, Paris (1899) p. 101, Figure 87.

Figure 17. Moviematic flick book. Moviematic Laboratories, New York, NY. 35 leaves. 1937. 51 x 70 mm. Author's collection.



or 16 mm film (monochrome or colour) containing reasonably clear and defined action . . . and get back a series of frame enlargements bound together . . . The quality of the enlargements is very satisfactory . . . As a memento of a treasured sequence, as an animated record of a person or incident, as a trailer to your film, the Movie Portrait offers most interesting possibilities. Even a portrait can be animated, providing there is movement in the original strip, but obviously clearly defined action (diving, walking, riding, sports) offers the best prospects. Prices: (16 mm) 40 enlargements: 10s.6d.; 56, 15s.6d.; 80, 21s.6d.; 100 27s.6d.

Fifteen years later, in the October 6, 1966 issue, *Amateur Ciné World's* columnist John Chittock remarked on an automated version:

The latest gimmick in self-portrait booths is, I read, a camera that takes 25 pictures of a customer in a very brief time (probably about 4 seconds). The customer (who operates the machine by inserting a coin) waits until 25 processed photographs are then emitted from the automatic equipment. Bound together these make a moving flicker book – which is, of course, as old as photography itself ●

ACKNOWLEDGEMENTS

I am grateful to John Barnes for allowing me access to the Flick-book and Mutoscope items in his archives, and to Martin Durrant for his assistance in producing the illustrations.

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16. A Cinema Traders advertisement for 'Living Portraits' appears on p.33 of *Leisegang* (Ed. Hecht), *Dates and Sources*, Magic Lantern Society of Great Britain, London (1986).
17. *Amateur Photographer & Photographic News*, Vol. 64 (July 3, 1916), p. 4 (Supplement).
18. *Dates & Sources* notes on p.33 that 'A. S. Spiegel and Rob. Glendinning of Chicago took out a German patent (251,624) in 1911 for the use of the method for projection.' A 'Magic Moving Pictures' novelty in the author's collection includes the information: 'M'd under A. S. Spiegel's Patent, Aug 28, 1906 / G. FELSETHAL & CO., CHICAGO.'
19. A 'Move-o-Graph' living portrait in the author's collection bears the address 'MOVE-O-GRAPHS, LTD. 56/58 Eagle Street, London, W.C.1.', and the Patent no. 114173/17.
20. AUER and ORY, *Histoire de la Caméra Ciné Amateur*, p.23.
21. AUER and ORY, *Histoire de la Caméra Ciné Amateur*, p.56.
22. B. BROWN, *Amateur Talking Pictures and Recording*, Pitman Press, London (1933), pp. 213 – 214.
23. ARIEL, *Cinematographica Register Vol. 3*, (ACR 664/665/666).
24. ARIEL, *Cinematographica Register Vol. 3*, (ACR 665).