

Hat Cameras

Bill Jay

During the 1880s the collodion wet-plate process, which had been the predominant system of negative-making for the previous 30 years, was being rapidly superseded by the new gelatine dry-plate and film emulsions. This changeover had two important effects which irrevocably altered the photographer's working methods and led to far-reaching repercussions on the future aesthetics of picture-making with a camera:

1. The photographer was liberated from the darkroom tent and its chemicals. No longer was the travelling photographer burdened with the additional baggage and inconveniences of solutions and equipment for the coating, sensitising and processing of the plate immediately surrounding the moment of exposure. He was free to set up the camera, expose the store-bought plate and move on to the next location, leaving the processing for his return to a convenient darkroom. Without the darkroom tent, the photographer was less conspicuous.

2. The increase in speed of the new gelatine emulsions considerably shortened the required exposure times. Also, the smaller negative formats and the availability of enlarging, meant that lenses with shorter focal lengths could be employed, which meant that apertures could be increased, which also reduced exposure times. A view which previously demanded an exposure of 10–20 seconds could now be exposed for less than 1 second. Obviously these short exposure times were not practical for even the most dexterous photographer by the removal and replacement of the lens cap. Mechanical shutters replaced the manual lens cap system. The photographer was now freed from his tripod. "Hand cameras" became the rage, and photographers vied with each other in taking "snapshots" of rapidly moving objects.

At this point it is important to insert a note about terminology. The term "hand cameras" denotes all types and sizes of cameras which were fitted with mechanical shutters and which could be used off the tripod as well as on it. But other terms were used synonymously, including "snapshot cameras," "pocket cameras," "detective cameras," and so on. Although each of these terms had specific connotations, 19th century writers often mixed the terms indiscriminately.

For example, the term "pocket camera" should have denoted a small instrument, one capable of being carried in the pocket, as you might expect. In fact, cameras taking glass plates, size 3 1/4 x 4 1/4 inches, in individual holders or dark slides, and intended to be used on a tripod, were often referred to as "pocket cameras."

The term “detective camera” was originally coined for equipment designed for a very specific function. As its name implies, the “detective” camera was used by the police and prison authorities in order to take pictures of recalcitrant prisoners without their knowledge. Thomas Bolas in 1881 had introduced two disguised hand cameras for taking snapshots of criminals in custody who refused to sit patiently for their identification-portraits. One of these cameras looked like a wooden box, the other resembled a book.

The idea was immediately adopted – by the public who used detective cameras for surreptitious snapshots of strangers. The term “detective camera” quickly denoted any camera which was designed to look like something else, and which could be used in public without the object being aware that he or she was being photographed. Incidentally, the craze for disguising the true nature of an object or instrument was not confined to cameras. The late Victorians loved such gadgets, and the craze included music boxes that looked like books and boats that looked like giant swans.

The idea of disguising the camera to look like something else was not new even to the history of art and photography. Camera obscurae were available for sketching in the 18th century which were built into the top of walking sticks or made to look like books. Also both Etienne Jules Marey, in France, and Thomas Skaife, in England, had previously introduced cameras which looked like rifles.

Cameras appeared on the market, and in the streets, in a bewildering variety of disguises. They took the form of binoculars, books, watches, purses, parcels, walking sticks, revolvers and rifles, alarm clocks, spyglasses, and so on.¹ Some of the most popular types of detective cameras were hidden behind cravats or waistcoats, a string from the shutter was pulled in the pocket in order to make the exposure. One of the most famous snapshot photographers of the 1890s, Paul Martin, used a Facile camera which was manufactured to look like a parcel tied with string²; it was operated by carrying it under one arm, like a ghost’s head. A serious use for detective cameras, with comic undertones, was found by the German war department. It needed pictures of military establishments in France. The authorities became suspicious of a young couple endlessly pushing their baby in its perambulator outside these locations. When questioned, the man turned out to be a spy and: “What seemed to be a sleeping baby was in reality a large doll that hid a photographic apparatus for taking views of the new forts and the positions commanding them.”³

My favourite detective camera, however, was the “Soda and Brandy Glass Camera”:

A large tumbler ... is provided with a double bottom, space being thus found for the lens, the sensitive plate, and so on. When you wish to photograph, you fill up your “camera glass” as usual, and begin to drink. By regulating your imbibition of the fluid you can keep the bottom of your glass at any angle you wish, and proceed to take the photograph whilst in the very act of drinking. 4

There is no record, as far as I have been able to look, of the Brandy and Soda Glass Camera being used in practice by anyone other than its inventor. Most of the detective cameras were almost useless for serious photography. They were fitted with cheap lenses and produced such small negatives that the pictures were too tiny for comfortable viewing, unless they were enlarged. Enlarging, although possible, was impractical for most amateurs.

The most popular, and practical, version of the detective camera was also the disguise which, in retrospect, seems the most ludicrous: hat cameras. There is something ridiculous about a camera sitting on top of the head. Perhaps this is true today because the hat itself has become an anachronism for most men. In the 19th century every man wore a hat in public: not to do so would make the person feel incompletely dressed. No respectable gentleman would be seen on the street without his top-hat. The bowler, which was introduced in the 1860s when it was also known as a billycock, was for 50 years the headgear of the lower classes. Boys wore caps.

Because hats were an intrinsic part of the Victorian's daily life it was inevitable that photography and hats should produce associations. For example, several hat and cap stores in the 1860s began to offer free portraits of the buyers. This was not only a sales ploy; it also had a very practical use. In restaurants or clubs, where hats would be removed, the correct owner could be re-established by glancing at the portrait inside the crown.⁵ Correct identification was very handy because one top-hat looks very much like another.

The first hat which actually incorporated a camera for taking pictures surreptitiously was invented in 1856 by a shy photographer who wanted to pursue his hobby "concealed from public gaze."⁶ A small camera was inserted in the crown of the hat, with the lens poking through a small hole. The shutter was operated by a long cord which travelled from his hat, down the inside of his coat, into his pocket. With this neat apparatus, he could photograph buildings and views around London without attracting a crowd of intimidating watchers, particularly street urchins who would have heckled him unmercifully. The readers who have been paying attention will spot a puzzle in the previous paragraph. You may pause at this point and find the anomaly. I will wait.

The inconsistency is this: at the beginning of this article I stated that tiny cameras with shutters, which could be used without a tripod, were introduced in the 1880s after the introduction of dry plates. In 1856 the shy Englishman must have been using the collodion or wet-plate process. He was. The problem is solved by understanding that the smaller camera (this one weighed only 3-4 ounces), the shorter the focal length of the lens. The shorter the focal length of the lens, the wider the maximum practical aperture. The wider the aperture, the shorter the exposure. This tiny camera meant that hand-held, or head-held in this case, exposures were possible even with the collodion process. But this fact does not explain the absence of the darkroom tent which would have been evident to "vulgar gaze" even if the camera was concealed. Here again the shy Englishman solved the problem with ingenuity. He carried the wet plate chemicals

in his pockets; the sensitising bath was in one breast pocket of his coat and the developing bath, fitted with yellow glass so that it was “safe,” was in the other pocket. This was not a hypothetical idea by a mere eccentric. The prominent photographer and writer Vernon Heath assured us that “with such means he succeeded in obtaining pictures.”⁷

In spite of his success, the idea did not catch on with other photographers. When dry-plate cameras became common in the early 1880s, the hat camera idea was “reinvented,” and was regarded as a startling novelty. Several hat cameras were introduced before 1885, but the one which received the most publicity was designed by J. DeNeck, “a well known amateur residing in Brussels.”⁸ DeNeck’s hat camera housed a magazine of several plates each 13/4 inches square, and the lens poked through a hole in the hat’s fabric. A cord ran from the shutter into the photographer’s pocket. No focusing was necessary as the Steinheil apparatus lens of 2 1/4 inch focal length was set at its hyperfocal distance which meant that all objects beyond a minimum distance were rendered with acceptable sharpness. One of the major problems associated with hat cameras, and most other detective cameras, was that they did not include viewfinders. The photographer was forced to aim in the general direction of the subject, and hope.

DeNeck solved the problem by dangling from the hat’s brim a piece of metal with a square opening which corresponded to the field covered by the lens. However, as this strange object hung in front of the wearer’s eye I would have thought it would have made the photographer more, not less, conspicuous. I wonder how he explained this dangling object to the curious or how he coped with the helpful who said “Excuse me but you have something hanging from your hat” as they ripped off the finder!

In the same year, 1905, another hat camera was introduced by a German photographer with the name of Luders. Although he patented the idea, his hat camera did not differ in any way from previous models. The camera was inside the hat’s crown, with the lens poking through a hole, and the shutter was operated by a string in the pocket. In fact; Luder’s photographic hat would probably not have received much attention at all, except that it was immortalized by Punch *9* in its own inimicable fashion:

*If they knew what I wear when I walk in the street,
I should be quite a terror to people I meet;
They would fly when they saw me, and ne’er stop to chat,
For I carry a camera up in my hat.*

*A Herr Luders, of Gorlitz, has patented this,
And I think the idea is by no means amiss;
With a hole in my hat for the lens to peep through,
And a dry plate behind, I take portrait or view.*

*Should I meet, when I chance to be taking the air,
With a lady who looks so surpassingly fair,
If I wish to preserve her sweet face by the sun.
Why, I just pull a string, and the photograph's done.*

*I admire, say, a sea-scape, or else chance to look,
With the eye of an artist, on picturesque nook;
There are plates in my hat, if I poise it with skill,
That will take any beautiful view at my will.*

*If I'm stopped in the street – that may happen, you know-
By a lobster whose manners are not comme il faut,
His identification should never be hard,
There's my neat little photograph in Scotland Yard.*

*So, we'll all wear the hat made by Science complete,
With a camera, lens, and a dry-plate en suite;
And take views in the street with its bustle and traffic,
By the aid of this German's strange hat photographic.*

1885 was a big year for hat cameras.

The French science journal, *La Nature*, published a lengthy article extolling the virtues of the do-it-yourself photographic hat. It suggested that its readers obtain a round-crowned hat with a ventilating top. Apparently this was a small eyelet hole which allowed the head to “breathe.” The instructions continue:

A piece of tissue paper, well oiled to render it transparent, is attached by drawing pins to the hat-brim, the head is enveloped with an overcoat, a travelling rug, or a table-cloth, and the folds grasped tightly against the brim to shut out the light. Thus provided the experimenter goes to the window, and points his hat at the view outside; whereupon he will see depicted upon the oiled paper a diminished representation, upside down, of whatever lies beyond – and thus, in fact, be placed in possession a camera which can be used either “at home or abroad.”¹⁰

In case the point was missed, I should mention that the ventilating eyelet hold acts like a pinhole lens. If such a hat was not available (English hats were recommended) then the aspiring photographer “has nothing to do but make a nail red-hot” and “stick it relentlessly through the crown of his hat.” It is thoughtfully added that a punch might do as well. The hole is then protected with a blackened brass eyelet.

The more serious hat photographer is recommended to use a top-hat of chimney-pot shape. A hole is then made, relentlessly no doubt, in the top. This time a real lens is placed in the hole, covered when not in use by a conical button “such as decorates an Indian helmet. (Again, it is interesting to imagine the effect of a Victorian, so fastidious

in his correct mode of dress, walking in public with a large blob on the top of his hat.) In use, the hat is taken off and attached to a walking stick, which doubles as a tripod once two wires have anchored it solidly to the ground. The focusing screen and plates are thrust into the hat, the lining of which, turned inside out, doubles as a black cloth, obviating the use of a table-cloth or overcoat. Unfortunately, the photographer will have to suffer the social consequences of working bare-headed.

The writer and originator of these hat-cameras concluded with this sentence: "Between ourselves, I believe the idea to be original, if not very practicable." He was wrong on both points.

Hat cameras were practical, as the following account from one of the "victims" demonstrates. A Belgian holiday maker, O. Campo, wrote to a magazine:

When staying in a seaside resort In August 1886, I received a letter one day and, upon opening; it, found to my amazement that it contained three photographs in which I had no difficulty in recognising myself. But what photographs they were! Certainly not such as might be calculated to tickle my vanity. In the first photograph, I was shown at the very moment of entering the water, and my face reflected all too clearly the sensation of the first contact with the cold sea-water. Really, one would not approach a lady with such gestures on the shore.

The second picture had been taken while I was blowing out a mouthful of water which I had involuntarily gulped in, while my facial expression made it obvious that my taste buds had been stimulated in a far from pleasant way. In the third picture, I resembled a bedraggled poodle rather than a civilised man. I emerged from the sea, dripping wet.

It cannot be denied that the three exposures were a true reflection of what had happened two days before. On investigation, I found that a good friend had availed himself of the opportunity of making several photographs of me while I was bathing, and had done so with the aid of a photographic hat.¹¹

One indication that the hat camera was both practical and popular was the fact that a large and respected manufacturer decided to market its own version in 1891. The Adams and Company's "Hat" Detective Camera was an improvement over the previous camera with the lens sticking out the top and covered with "a conical button." The Adams hat was sold with a removable lens in a bayonet fitting. The folding camera was extended for use until it occupied the whole of the hat, which meant that it could use more practical, larger format plates, size 3 1/4 x 4 1/4 inches. Of course, this arrangement also meant that the camera could not be used while wearing the hat. The camera was held in front of the stomach and the shutter fired with a short plunger alongside the lens. This was a "useful instrument," said Adams, and not to be confused with "so-called cameras" like the vest, purse or button-hole types. The Adams camera included a free fitting of the hat. When not in use the camera folded into the crown, leaving room for the wearer's head.

This was one of the most practical designs for the hat detective camera, even if the Victorian must suffer the ignominy of appearing bare-headed. Greater sacrifices were made for art.

Admittedly, all of these hat cameras were used by the amateur “snapshot” photographers who were making public nuisances of themselves by their mania for picturing people unawares. Around this time, hundreds of articles appeared in the photographic and lay press expressing outrage at these “camera fiends” and “public nuisances.” One article suggested that carrying a camera in public should be made a capital offence! But that is another article ...

One professional photographer who used a hat camera for a more serious purpose was Arthur Barrett. In October 1908 he cut a hole in his top hat, in which he had secreted a camera, and secretly took several historic photographs of suffragette leaders in the dock of Bow Street Magistrate’s Court, London. The pictures created a sensation because photography is forbidden in British law courts. Barrett had scooped his rivals with a hat camera.

It is possible that Erich Salomon, the photojournalist who was called “the king of the indiscreet,” had heard of Barrett’s success with the hat camera. Twenty years later, Salomon wanted photographs of the trial of Johann Hein, a notorious safe-cracker who was charged with killing three policemen. It was illegal to take a camera into court, but Salomon’s pictures of the trial, like Barrett’s, created a sensation. In later years he explained: “Don’t you remember that I took a hat with me? I cut a hole in the crown and hid the camera in the hat.”¹² The success of these images decided Salomon on the future direction of his photography.

Today the hat is out of fashion, and any photographer would find his hat more conspicuous than any camera. It may not always be so and the sudden return of hats worn by everyone, everywhere might give the following prophecy a little more credence. In 1876 the well-known American Photographer, J.H. Fitzgibbon, wrote to a magazine:

*Shall I prophecy the future of photography? ... a hundred years hence ... all an operator will have to do will be to carry his chemicals and finishing materials in his hat, and by the force of brain power he will produce the perfect likeness of any friend, and no fault finding; all the manipulating he will have to do will be to say, Hold my hat! while he bring forth from it, at will, any quantity of brain pictures.*¹³

Perhaps it is an idea whose time has come, again. The photographic technology is available in the form of the digital camera; a high-crowned cowboy hat would be suitable for the disguise; as for “brain-power,” you are on your own ...

References

1. For more information on these detective cameras, see *The History of Photography*, Helmut Gernsheim, pp. 417-419.
2. Described in detail in *Victoria Candid Camera*, Bill Jay, pp. 20-24.
3. *The Photographic News*, 21 December 1888, p. 808.
4. *The Photographic News*, 23 November 1888, p. 744
5. For example: *The Photographic News*, 27 September 1867, p. 472.
6. *The Photographic Journal*, 21 November 1856, p. 167.
7. *The Photographic Journal*, 15 May 1861, p. 187
8. *The Photographic Journal*, 17 April 1885, p. 242.
9. *Punch*, 27 February 1886, p. 97; quoted in *The Amateur Photographer*, 5 March 1886, p. 112.
10. Translated and quoted in *The British Journal of Photography*, 13 March 1885, p. 163.
11. *De Natuur*, 1887, p. 172.
12. Erich Solomon: *Portrait of an Age*, Canada, 1967.
13. *The Photographic News*, 29 September 1876, p. 468.