



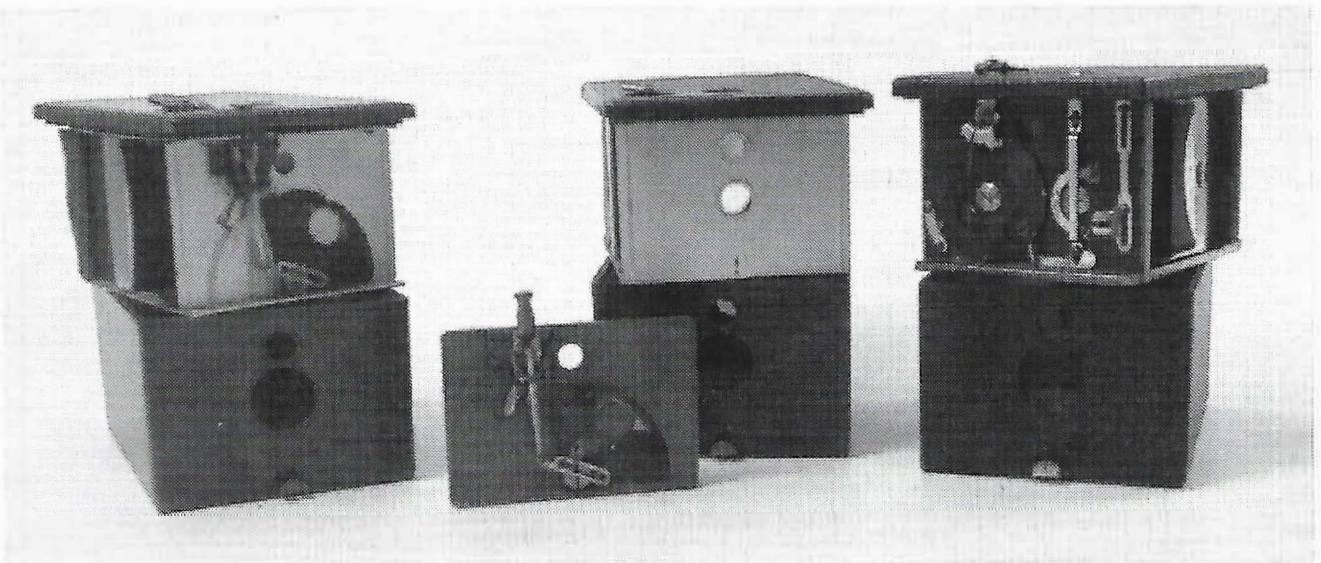
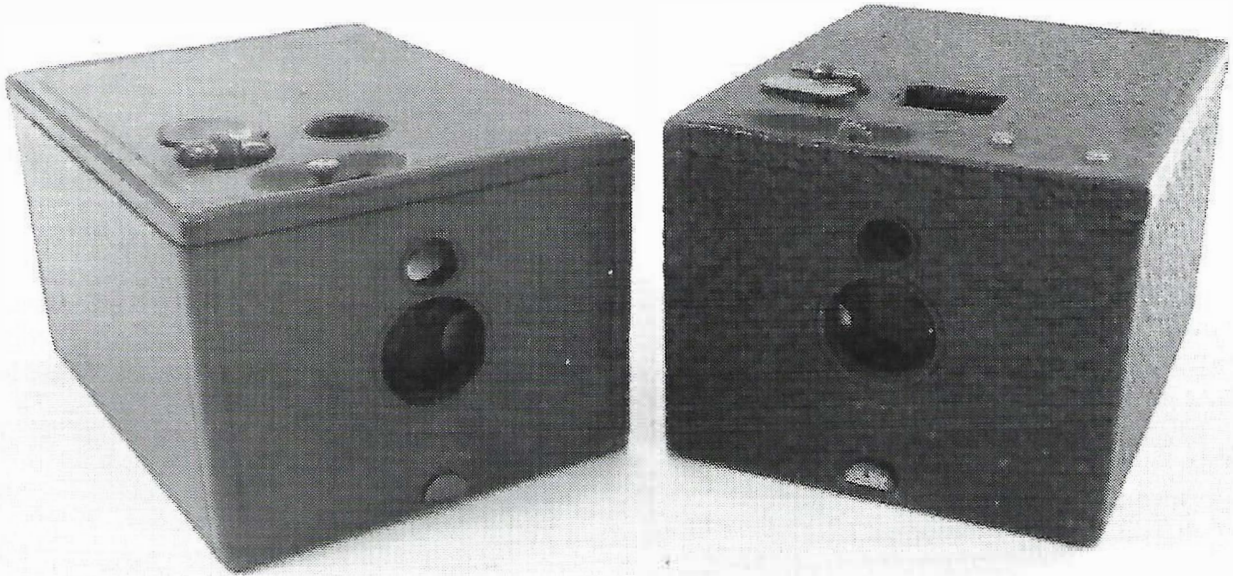
The Photogram

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Pocket Kodak Cameras and Shutters

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	October 2, 2011	Michigan Photographic Historical Society (MiPHS) 40th Annual Photographica Show & Sale 10:00 AM - 3:00 PM, Royal Oaks Elks Lodge; 2401 E. Fourth Street, Royal Oak, MI (two blocks south of Eleven Mile Road, just west of I-75 service drive). http://www.miphs.org
	October 2, 2011	Photographic Historical Society of Canada (PHSC) Fall Fair 10:00 AM - 3:00 PM, The Soccer Centre in Woodbridge (North edge of Toronto just south of highway 7 on Martin Grove Road). http://phsc.ca/
	October 9, 2011	The Second Sunday Shows 10:00 AM-3:00 PM Moose Lodge, 24601 5 Mile Rd. Redford, MI (Intersection of I-96 & Beech Daly, SE corner). Admission \$5.00, Student w/ID, \$2.00 http://www.cameraconnectiononline.com/

<p>The MICHIGAN PHOTOGRAPHIC HISTORICAL SOCIETY is an organization dedicated to advancing an understanding and appreciation of the history of photography through membership meetings, special events and publications, and through shared endeavors with other organizations and the general public. The MiPHS is a 501(c)3 non-profit corporation chartered by the State of Michigan.</p> <p>The MiPHS welcomes new members. Dues are \$35 per year (January 1 - December 31), \$15 for students with valid ID. For information or application form call 248-549-6026, visit us online at www.miphs.org or write to:</p> <p>MiPHS P.O. Box 2278 Birmingham, MI 48012-2278</p> <p>BOARD OF DIRECTORS: Cynthia Motzenbecker - President Andee Seeger - President Emeritus Doug Aikenhead - Treasurer Doug Price - Secretary Dietmar Haenchen - Editor William Becker - Member at Large Robert Graichen - Member at Large Thomas Halsted - Member at Large Leonard Walle - Member at Large</p> <p>ADVISORS TO THE BOARD: Nancy Barr and Elayne Gross</p> <p>WWW.MIPHS.ORG Barbara Bauer - Webmaster</p>	October 12-16, 2011	Leica Historical Society of America, Pittsburgh, PA http://www.lhsa.org
	October 21-23, 2011	PhotoHistory XV The 15th Symposium on the History of Photography, Rochester, New York http://people.rit.edu/andpph/TPHS-XV/TPHS-XV-symposium.html
	October 27-30, 2011	DAGUERREIAN SOCIETY 2011 SYMPOSIUM: The 23rd Daguerreian Society Symposium will be held in St. Petersburg, Florida. It will be hosted by the Museum of Fine Arts, St. Petersburg. daguerre.org
	November 20, 2011	The London Photograph Fair - Holiday Inn, Coram Street, Bloomsbury WC1N 1HT (Ten minutes walk from King's Cross/St. Pancras and Euston stations) photofair.co.uk

MESSAGE FROM OUR PRESIDENT

Hello MiPHS members. Hope your summer has gone well and you're healthy. How did the corn grow so high so fast, especially in this heat? The tomatoes love it! Anyway, we must welcome and THANK our new Photogram editor, Dietmar Haenchen for stepping up to take up the reins. Without an editor, we would have no Photogram and no visual MiPHS. Now it's YOUR turn to help him and ALL of us by writing an article for publication. We also have a couple of spaces open on the board, if you want to come and mingle AND help out. Please consider it and let me know, OK? If you're not up to being on the board, there's always envelope stuffing. Come on over to help and we'll swap a few lies.

You may be wondering why the odd reference to corn in the opening comments. Well, I've had the luck (my spouse wouldn't call it that...) to meet Dan Hausman, the president of the Ohio Camera Collectors Society

(<http://historiccamera.com/club/occs/>)

at Jim Crosby's Second Sunday Camera Shows (www.cameraconnectiononline.com). He and a past president, Tim Carrig, have purchased a LARGE photographic collection out of Pennsylvania. They moved it to a storefront in Kenton, Ohio, 27 miles directly south of Findley,--where that wonderful Jefferies Antique Mall is located. The first time I went with an image collecting friend. We had a blast and I certainly dropped some money on images and a lovely camera I could use for wet plate work. We marveled at the wonderful mid-1800's architecture we saw once we got off of I-75. There was LOTS of corn in the farmer's fields too. We found our way to downtown, Kenton and grubbed around for at least three hours and only scratched the surface of all the boxes. The second time I went w/a camera buddy and a non-photographic friend. (I warned her to bring a book.) We were going to shop and it was going to take some time! After 4 plus hours and a lunch, we negotiated our purchases and did the drive back north, very happy as we had new "stuff" and had made some new photo-friends. These two Ohio guys are still sorting things out and would welcome any shoppers. The photographica is in a variety of conditions and be prepared to get a tad grubby if you're serious. You can also contact them for information and/or "visiting rights". Plus, if you ask nice, Tim could possibly show you some of his collection, located in a nearby building. Their emails are: Dan Hausman: occs@insight.rr.com, Tim Carrig: tim@golden-graphics.com. I only seem to have Tim's phone, which is 1.419.633.6260.

Last thing... The Photographica Show & Sale is on deck for the second of October. I know it's early, but the dates we had in mind were already taken. Plus PhotoHistory, in Rochester, NY, starts on October 21st. We certainly don't want to interfere with that! I understand there's a Nikon convention someplace too? (Check the Photogram calendar) So PLEASE plan on attending the Photographica Show, OK?

Be there or be square!

Cindy MotZ

Patents for Pocket Kodak Film and Cameras

by Ralph London

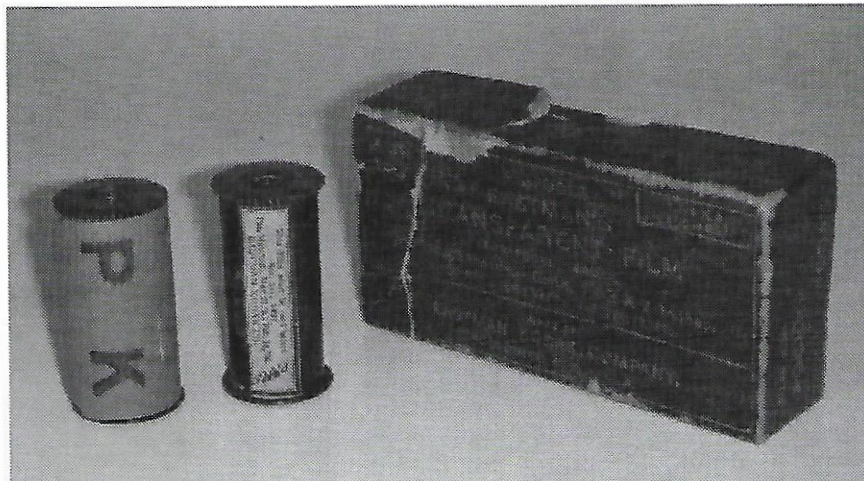
The Pocket Kodak camera played a significant role in the development, popularity and wide availability of amateur photography. Its very successful selling is an important link between the 1888 Original Kodak and the 1900 Brownie. Examining various models of the Pocket Kodak and rolls of its film reveals numerous patent dates on the camera and film. What are the corresponding patents and inventions?

Using Google Patents Advanced Patent Search, I found most but not all of the patents for this article. It is possible I missed a relevant patent for a date because, for example, the database of patents has some garbled names and words, and worse, entire patents apparently are not in the database. Nevertheless, I feel confident the patents I found are the relevant ones.

We start with the film patents, then explore patents for the different models of the camera. Attributes of these patents appear in a table for reference. Note that the dates of patent filing and issuing could be before or after a product is introduced. Also, some people misinterpret the patent date on an item. It means only that the item could not have been made before that date.

Patents on Film

My earliest roll of Pocket Kodak film states it “must be used before Nov. 1st, 1897,” and shows three patent dates from 1885 to 1896. The very early first date, May 5, 1885, refers to the Eastman-Walker Roll Holder or another roll holder. The second, May 21, 1895, is for Samuel Turner’s invention of backing paper with frame numbers and the red viewing window. The third, February 18, 1896, is for Frank Brownell’s film spool itself including the ratchet teeth on one end. The same three patent dates appear on a box for four spools of Pocket Kodak film. A later Pocket Kodak film roll has two patent dates, December 27, 1904 and December 19, 1905. The relevant patents in the early 1900s are for William Cline’s improvement to the roll film cartridge and a separate, later contribution by Harry Gray.

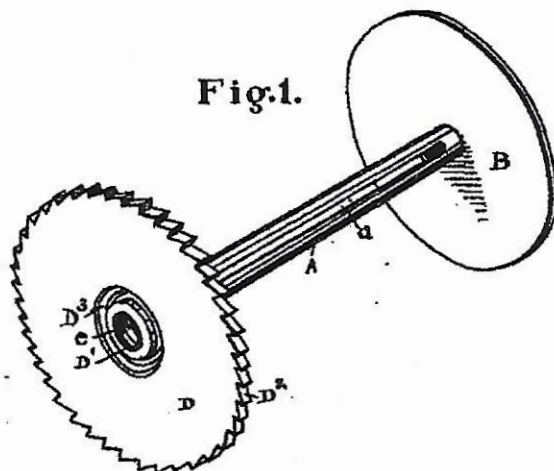


Two Pocket Kodak film spools and box for four spools. One spool has the Nov. 1st, 1897 date and three patent dates. London Collection

Some of the patents refer to a film cartridge, meaning a roll of film on a spool. The cartridge system puts a light-tight roll of film on a spool that may be loaded and unloaded in broad daylight. Light-tightness is achieved by the backing paper and the flanges on the spool.

Two patents for the roll holder invented by William H. Walker and George Eastman (both May 5, 1885) include claims involving flexible film and spools on which it is wound. The inventors state the second patent, 317,050, has improvements and disclaim (some) matters in the previous application for 317,049. An Eastman Company ad from June, 1891 warns manufacturers and users about patent infringements of their roll holder, curiously citing patent 317,049 but not 317,050. The ad also mentions another May 5, 1885 patent, this one for a roll holder by Willis A. Bannister and Louis H. Bannister who also make claims involving flexible film and spools on which it is wound. These claims seem enough to justify including one or more of the ten to fifteen year old patents on all Pocket Kodak models and on at least some of its film.

Turner, originally the founder of Boston Camera Company and later affiliated with Blair Camera Company, invented a daylight loading film cartridge. The celluloid film had black backing paper attached on which were numbers to indicate how much film to advance for the next exposure. These numbers could be seen through a red window on a camera's back. The backing paper also had marks to indicate where to cut each exposure. [Jenkins, pp. 142-43] In late June 1895, shortly before the introduction of the Pocket Kodak, George Eastman obtained a license from Turner to use his invention. In early August Eastman bought Turner's entire company, including Turner's patent. [Jenkins, p. 158] In a final irony, when Eastman sued Anthony & Scovill for infringing Turner's patent, the United States Court of Appeals in 1906 declared the patent null and void because its features had been anticipated. [Brayer, p. 101]



Brownell's film spool features the ratchet teeth on one end, which in conjunction with a pawl (not on the spool) prevent the film from unwinding. There is a threaded opening for the winding knob, a slotted spindle and details of attaching the spindle to the flanges.

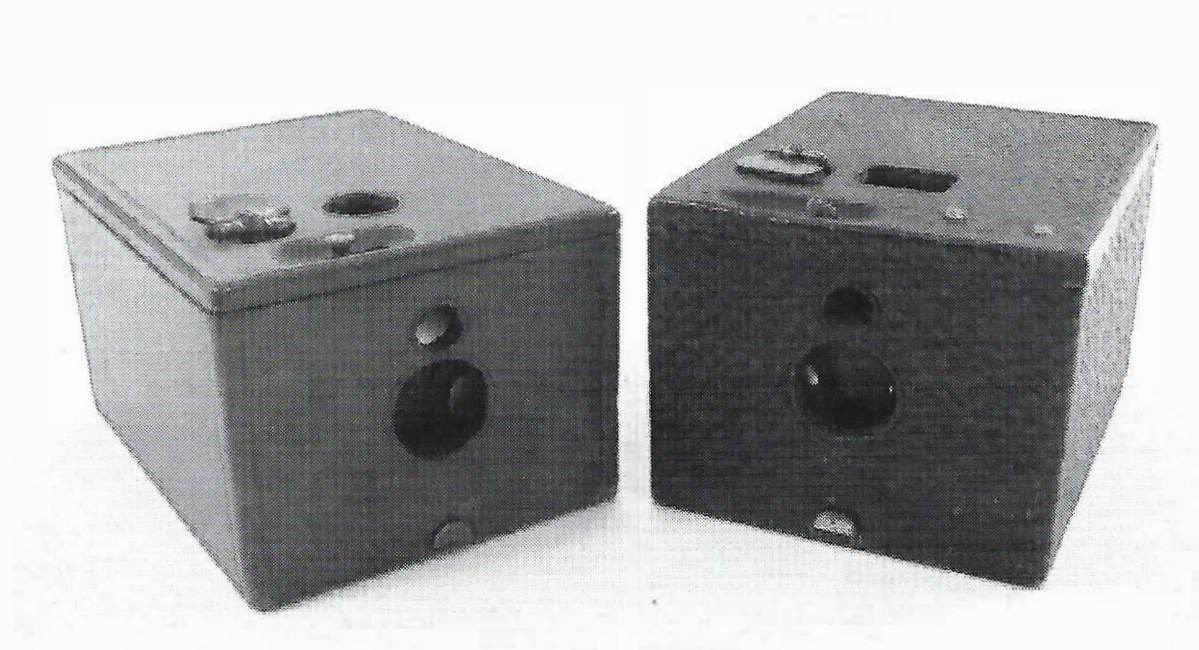
Figure 1 showing film spool from Brownell's patent, February 18, 1896.

Cline's improvement is adding a strip (or tab) to the unattached end of the film so that when using machines to develop the pictures, the film can be easily and safely separated from the backing paper. Incidentally, one of the two witness to the written specification of the patent is Alice K. Whitney, George Eastman's personal secretary.

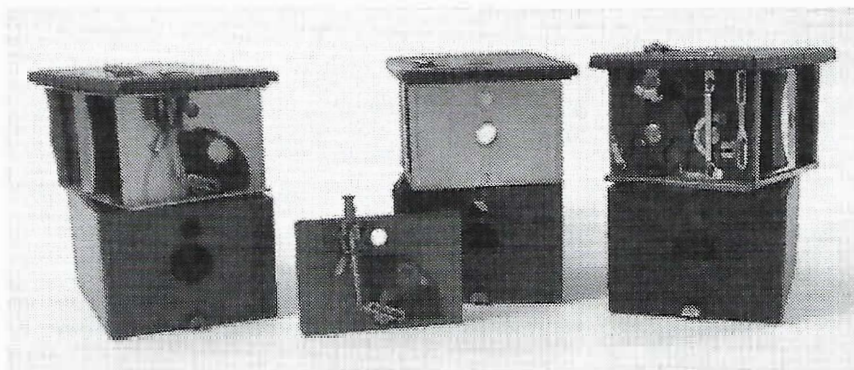
Gray's contribution uses a backing paper of two layers. One layer is black as in Turner's patent, but the second is a lighter color, such as red, on which the markings are printed in black or color. The change corrected a problem, because with all black backing paper using a white ink, the developed negatives showed traces of the white ink numbers.

Patents on Cameras

A short review of the Pocket Kodak camera will help in understanding the camera's patent information. The Pocket Kodak was introduced in July 1895 and discontinued about mid-1901. All Pocket Kodak cameras have "Pocket Kodak" printed on the bottom inside. The 1895 models, from July 1895 until June 1896, have no year identification printed on them. They have a round reflecting viewfinder, a single round shutter control and a self capping sector shutter. Beginning June 1896, the 1896 and later models all have a rectangular reflecting viewfinder, a rectangular shutter control, two pull-up strips (one for aperture settings, one for time or instant exposure) and a self setting rotary shutter. Yearly model designations are printed on the bottom inside as '96 Model, '98 Model, '99 Model and Model D (for 1900). No '97 Models are known. The 1895 and 1896 models do not correspond to calendar years. The others may or may not. [London, pp. 10-11]

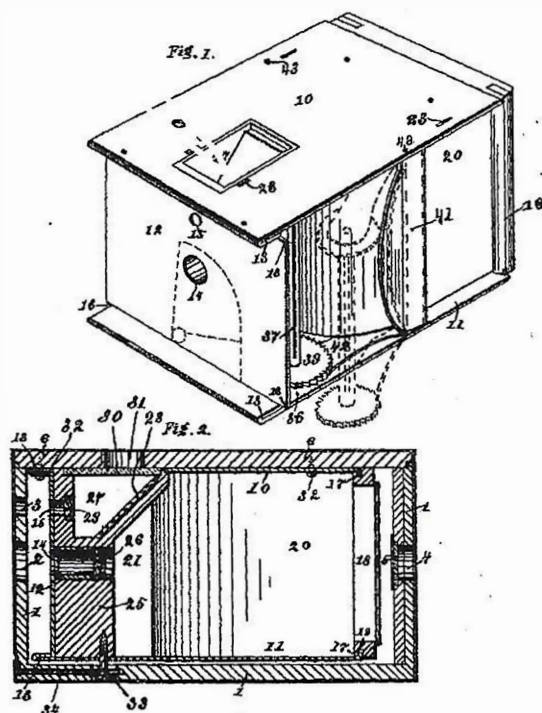


Pocket Kodak 1895 model (left) and 1896 (or later) model. London Collection



Three shutters on various Pocket Kodaks: 1895 model with sector shutter attached to the top half of the camera (left), 1895 model with sector shutter on a removable wooden board (center) and 1896 (or later) model with rotary shutter attached to the top half of the camera. London Collection

The 1895 models seem to be covered by two patents filed on May 11, 1895 by Brownell, the camera's designer. One is for a roll-holding camera granted on April 6, 1897, and the other is for a photographic shutter granted one week later on April 13, 1897. The camera and shutter together are essentially the 1895 model. But neither of these two patent dates appears as one of five dates from 1885 to 1897 on Pocket Kodaks. [London, p. 10] The corresponding patents include the Eastman-Walker or Bannister roll holders again (May 5, 1885), the No. 1 Kodak patented by George Eastman (August 6, 1889), Abner Tisdell's Shutter (December 1, 1891), David Houston's two patents for placing the film spools in front of the film plane (both September 25, 1894), and another Brownell camera that includes a rotary shutter (January 12, 1897). A table is included showing which patent dates appear on which models of my numerous Pocket Kodak cameras.



Figures 1 and 2 showing the Pocket Kodak camera from Brownell's patent, April 6, 1897.

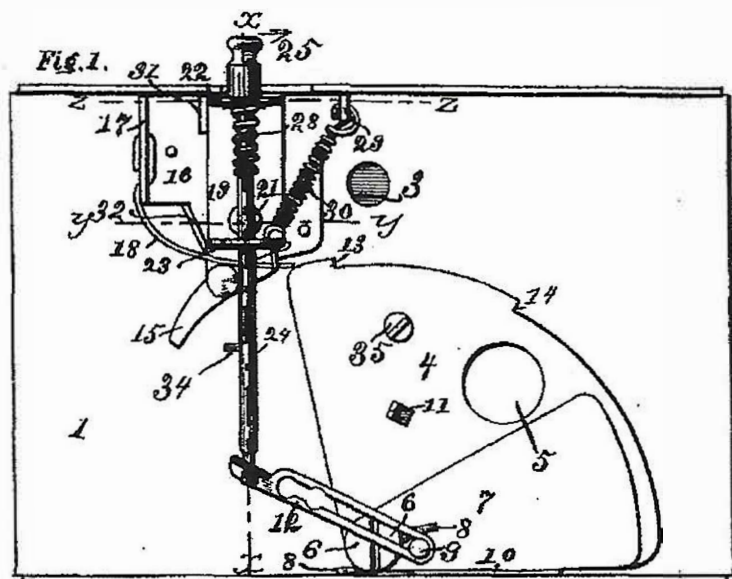


Figure 1 showing Pocket Kodak sector shutter from Brownell's patent, April 13, 1897.

The three roll holder patents of May 5, 1885 have been covered with the film patents.

The August 6, 1889 patent date for the No. 1 Kodak may be on Pocket Kodaks for the frame which holds the lens, or it may be for some parts of the sector shutter. Other aspects among the 27 claims may apply. This patent date appears only on 1895 models. Note that George Eastman's September 4, 1888 patent (388,850) for the Original Kodak does not appear on Pocket Kodaks, which seems proper.

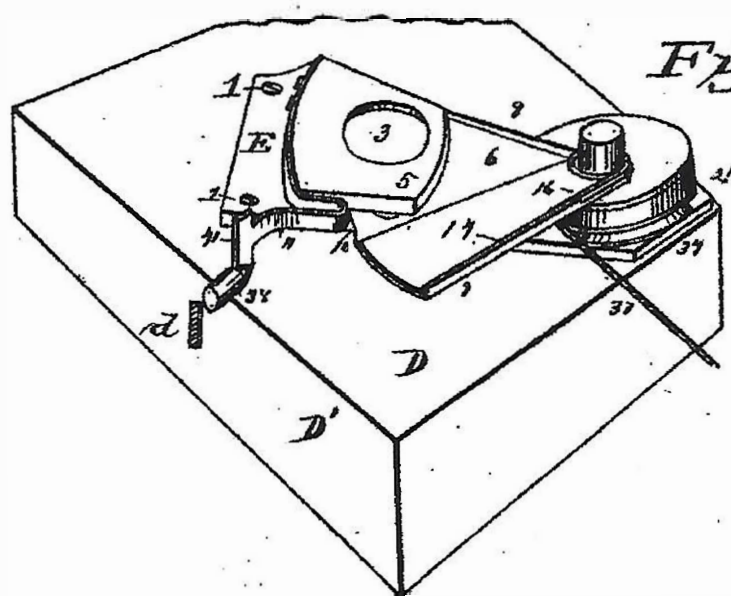


Fig. 4.

Figure 4 showing sector shutter from Eastman's patent, August. 6, 1889.

The essential features of the Tisdell Shutter patent of December 1, 1891 apply to the spring-operated, rotary shutter on all Pocket Kodak models 1896 and later. It is appropriate that this patent date appears on all such models. The shutter is always set, making one exposure moving in one direction and a second exposure moving in the other direction. Presumably, George Eastman obtained a license to use this patent, or he bought or otherwise controlled this patent in order to be able to put the patent date on Pocket Kodaks. I have no further information.

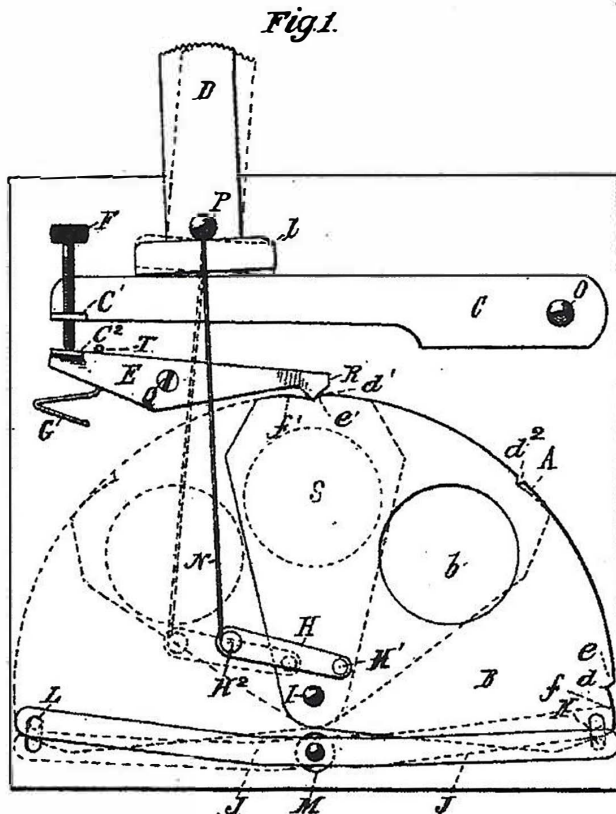


Figure 1 showing rotary shutter from Tisdell's patent, December 1, 1891.

Significant efforts in George Eastman's patent strategy concerned Houston's two patents for film spool placement in front of the film plane, as on the Pocket Kodak. This is in contrast to the spool placement behind the film plane in the roll holders. Eastman had hoped to acquire Houston's patents as part of buying Turner's company. When that did not happen as part of the purchase, Kodak continued as if it controlled the patents. [Jenkins, pp. 158-59] To obtain the Houston patents, Eastman ended up acquiring in December 1897 all of American Camera Manufacturing Company, a company founded by Thomas Blair in 1896. That was still not enough, however, as three problems remained. First, the Blair Camera Company continued to infringe the Houston patents. Second, there was a pending suit by American against the Blair company over the Houston patents. Third, Blair owned other patents in which Eastman was interested. Eastman's successful solution to all three problems was to buy Blair Camera Company in April, 1899. [Jenkins, pp. 190-91] This 1894 patent date appears on 1898 and later models.

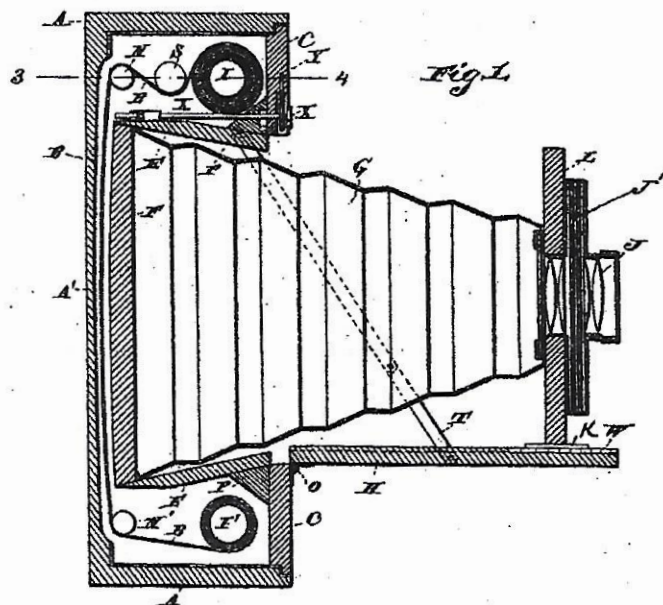


Figure 1 showing forward spool placement from Houston's patent 526,445, September 25, 1894.

The final patent referenced in the camera is for the Kodak Bullet camera, also designed by Brownell, which is similar to the Boston Camera Manufacturing Company's Bull's-Eye camera. [Jenkins, p. 158] The potential conflict was resolved with the acquisition of Turner's Boston company in August 1895. The January 1897 patent includes a rotary shutter that is essentially identical to the rotary shutter on all Pocket Kodak models 1896 and later. Given the issue date, the date could not be included on early 1896 Pocket Kodaks, but it does appear on later 1896 models and on subsequent models. So the later 1896 models were actually made in January 1897 or afterwards but continued to be marked as 1896 models. In June 1898 an internal light guard was added to the Pocket Kodak. [London, p. 11] Perhaps if at this time, the model designation also changed to '98 Model, that might explain the absence of a '97 Model.

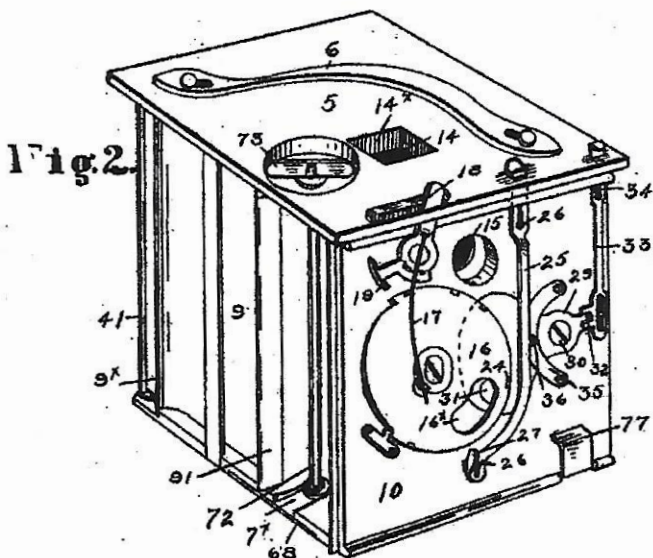


Figure 2 showing rotary shutter from Brownell's patent, January 12, 1897.

George Eastman's strategy and business success included firm control of relevant patents. The Pocket Kodak is just one instance of that policy, and the patents are, of course, relevant to other films and cameras. A bigger camera related to the Pocket Kodak is the Falcon Kodak, introduced in 1897 and discontinued in 1898, that shows only the May 5, 1885 date.

Perhaps Eastman's patent policy influenced which patent dates appeared on Pocket Kodak items. There may have been an emphasis on patents covering the film cartridge, including forward spool placement, that were added as they became available and then remained. Patents for rotary shutters were noted when the rotary shutter was used beginning in 1896. Some of the camera and sector shutter patents were dropped or never included at all.

References

Elizabeth Brayer, *George Eastman, A Biography*, The Johns Hopkins University Press, 1996.

Reese V. Jenkins, *Images and Enterprise: Technology and the American Photographic Industry, 1839 to 1925*, The Johns Hopkins University Press, 1987 (paperback).

Ralph London, "The Pocket Kodak: A Popular Little Box Camera," *The Photographer*, No. 100, Winter 1993-94 [appeared August 1994], 8-15.

Tables

Table showing which patent dates appear on which models of my numerous Pocket Kodak cameras.

Note that no '97 Models are known.

Models Patent Dates	1895	early 1896	later 1896	1898 1899 1900
May 5, 1885	✓	✓	✓	✓
August 6, 1889	✓			
December 1, 1891		✓	✓	✓
September 25, 1894				✓
January 12, 1897			✓	✓

Table of patent dates and related information on the patents. A convenient way to see a patent, given a patent number, is to use www.pat2pdf.com.

After searching for the patents, I discovered in an 1897 Kodak catalog a list of patents owned by the Eastman Kodak Company with corresponding dates from October 11, 1881 to January 12, 1897. The list confirms the patents I found with two exceptions: No patents for September 25, 1894 are included because the two Houston patents of that date were not acquired until either December 1897 or April 1899; and there is a second previously unknown but not relevant patent (539,557) for May 21, 1895.

Date Issued	Date Filed	Patent No.	Inventor	Patent Title	Assigned to (Acquired)
May 5, 1885	October 13, 1884	316,933	Willis A. Bannister and Louis H. Bannister	Roller Holder for Photographic Films	Eastman Dry Plate and Film Company
May 5, 1885	August 8, 1884	317,049	William H. Walker and George Eastman	Roller Holder for Photographic Films	Eastman Dry Plate and Film Company
May 5, 1885	December 12, 1884	317,050	William H. Walker and George Eastman	Roller Holder for Photographic Films	Eastman Dry Plate and Film Company
August 6, 1889	January 4, 1889	408,596	George Eastman	Camera	Eastman Dry Plate and Film Company
December 1, 1891	October 30, 1890	464,260	Abner G. Tisdell	Photographic Camera Shutter	None (Not known)
September 25, 1894	April 1, 1891	526,445	David H. Houston	Folding Roll Holding Camera	None (Purchases)
September 25, 1894	April 1, 1891	526,446	David H. Houston	Roll Holding Photographic Camera	None (Purchases)

Date Issued	Date Filed	Patent No.	Inventor	Patent Title	Assigned to (Acquired)
May 21, 1895	April 21, 1892	539,713	Samuel N. Turner	Photographic Film Roll	None (License, then purchase)
February 18, 1896	December 16, 1895	554,769	Frank A. Brownell	Photographic Roll Holder Spool	Eastman Kodak Company
January 12, 1897	June 27, 1896	575,208	Frank A. Brownell	Photographic Camera	Eastman Kodak Company
April 6, 1897	May 11, 1895	579,949	Frank A. Brownell	Roll Holding Camera	Eastman Kodak Company
April 13, 1897	May 11, 1895	580,595	Frank A. Brownell	Photographic shutter	Eastman Kodak Company
December 27, 1904	January 12, 1903	778,403	William B. Cline	Photographic Film Cartridge	Eastman Kodak Company
December 19, 1905	March 20, 1905	807,458	Harry Le B. Gray	Photographic Film Cartridge	Eastman Kodak Company

Author Biography

MiPHS member Ralph London (London@imagina.com) collects mainly early wood and brass cameras from the 1840s to the early 1900s plus relevant catalogs and ads. A retired computer scientist living in Portland, Oregon, he contributes frequently to photohistory publications. For many years he edited the *Cascade Panorama* for the Cascade Photographic Historical Society. He also maintains an extensive topical collection of postage stamps on cameras and photography.