

Hollerith and the "Punched Photograph"

JIM STRICKLAND

When I give a tour, I start with the Hollerith machine because it represents a "game changer," the first use of "stored, mechanically processable data." And I often cite the fact that Hollerith got his idea from the "punched photograph" used by railroad conductors to prevent use of a ticket by anyone other than the purchaser.

I had always thought that this was an informal process, that it was used by individual conductors sometimes and in a sort of ad hoc way.

But in a recent email discussion, that topic came up. Dick Weaver reminded us of a Hollerith quotation.

One thing that helped me along in this matter was that some time before I was traveling in the west and I had a ticket with what I think was called a punch photograph. When the ticket was first presented to a conductor he punched out a description of the individual, as light hair, dark eyes, large nose etc. So you see I only made a punch photograph of each person.

But Dick later sent some illustrations of tickets used in that time. See the images on this page.

So, the punches were not ad hoc or informal descriptions but were planned by the railroad's management to solve what must have been a significant problem.

The system was not without its problems. Dick also sent this extract from The Railway News, Vol. XLVIII, No. 1234 (Aug. 27, 1887); Page 360, column 2:

<http://books.google.com/books?id=MQs1AQAAIAAJ&pg=PA360#v=onepage&q&f=false>

The PUNCH PHOTOGRAPH -- Much complaint has been made in consequence of the introduction of a new ticket system on overland roads to California. The trouble all arises from the fact that the ticket given at the Missouri River contains what is called a "punch photograph" of the holder. This is supposed to be a complete description of the passenger. Along the margin of the ticket is printed, in a straight column, the following words in small black type: Male – Female; Slim – Medium – Stout; Young– Middle-aged – Elderly;

Eye: Light – Dark; Hair. Light – Dark; Beard – Moustache – Chin – Side – None.

The passenger is photographed on the ticket bearing his signature by punching out all the words that are not descriptive of him. If for a male, the word "female" is cut out by the punch; if he is slim, the words "medium" and "stout" are punched; if his eyes are light, the word "dark" is stricken out; and if he wears no beard, the word "none" is left standing, while "moustache," "chin" and "side" are punched.

Now, it is readily seen how a train agent passing hurriedly through a crowded car is likely to make errors in describing his passengers on their tickets, and so far being a "photograph" of the holder, the marginal sketch often becomes a rank caricature. Even where the punch-marks faithfully portray the features and figure, the female passenger cannot always preserve her good temper on looking at the picture drawn for her. A well developed lady of an uncertain age is not likely to consider it a compliment to be labeled in cold type as "stout" and "elderly."

Tourist passengers on the overland trains often derive great amusement from a comparison of notes, or, rather of tickets, but their fun is turned to disgust when they are told that they cannot secure return passage on the tickets when they have been wrongly portrayed by the train agent.

So, the "punch photograph" used by railroads was much more than an informal system. It was formal and complete with glitches.

Binghamton R. R. Co.

Good only for this current trip, from point of transfer, on next car over the line punched after time canceled. Subject to Rules of Company.

TRADE-MARK, PICTURE PUNCHED INDICATES TYPE OF PASSENGER.

Issued by Conductor No. **47**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
X	X	ROSS	VILLE	LESTER	SHIRE	ASY	LUM								
O	HOME	GLEN	WOOD	P. DICK	INSON	DEP	OTS								
C	C	WEST	MAIN	NO. CHE	NANGO	S. FO	REST								
		BROAD	AVE	LEROY	STREET										

IF BLACK PORTION PUNCHED TIME IS P. M.

MINNEAPOLIS STREET RAILWAY CO.
TRANSFER FROM
4th Ave. S. & 6th Ave. N.
At Transfer Point Punched Only.

Issued by Conductor No. **2755**

SUBJECT TO RULES OF THE COMPANY.

Going NORTH
6th St and 4th Ave So.
4th St and 4th Ave So.
3d St and 4th Ave So.
3d St and 1st Ave So.
3d St & Henn
3d Ave No. & Washington

Go. SOUTH
6th Ave No. & Wash.
3d St & Henn.
3d St and 1st Ave So.
4th St and 4th Ave So.
6th St and 4th Ave So.

Use WASHBURN-CROSBYS "BEST" FLOUR.

Good on that car leaving transfer point punched and only at point of intersection on date and after time punched on any line designated at corresponding transfer point on back of ticket.

JAN FEB MAR APR MAY JUN JUL AUG SEPT OCT NOV DEC

Do Not Fold Spindle or Mutilate

JIM STRICKLAND

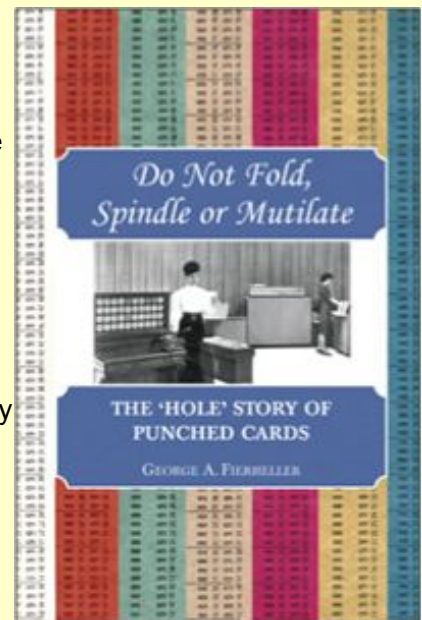
This is not so much a book review as it is a recommendation.

George Fierheller, a former IBM'er from Canada has written an excellent little book which is available on the internet as: ["Do Not Fold Spindle or Mutilate."](#)

Memories and personal experiences add to the readability, but this is primarily a story of the punched card and the many machines that utilized it. He starts, as one must, before punched cards, covers Hollerith and the 1890 census, then on to the punched card era. Early computers, then later computers and supercomputers, all are covered. The demise of the punched card due to the emergence of terminals is discussed and there is a considerable picture of the IBM culture of the day. In short—an excellent story of the punched card era—hardware and people, by a man who lived it.

Robert Garner discovered this book and asked a number of CHM people to review it. Reviews by Robert, Jim Strickland, Ed Thelen, Richard Weaver, Dave Bennet and Bill Worthington helped make this little volume an even more accurate depiction of the time and equipment.

It is well worth the reading.



Please contribute to the Computer History Museum Volunteer Information Exchange

Share your stories, your interesting facts (and factoids) and your knowledge
Send them to Jim Strickland (Jlstrick@aol.com)

Coming Events [\(Click for details\)](#)

Date	Day	Time	Event
Feb 20	Thurs.	6:00 – 9:00 PM	NextGen Advisory Board Presents Ninja Innovation and Startup Culture
Mar 03	Mon	12:00	The New Digital Age: Authors Eric Schmidt and Jared Cohen in Conversation with Facebook's Sheryl Sandberg
Mar 04	Tues.	6:00 PM Member Reception 7:00 – 8:30 Program	MLB (Major League Baseball) Advanced Media's Robert A. Bowman in conversation with Museum CEO John Hollar
Mar 12	Wed.	2:30 Check-in 3:00 – 4:30 Program	Technion's President Peretz Lavie in conversation with Museum CEO John Hollar
Mar 15		10:00 AM	Education Event for Kids: Pop-Up Pi Day: Make, Learn and Play with the World's Simplest Computer Kit!
Mar. 27	Thur.	6:00 PM Member Reception 7:00 – 8:30 Program	The Art & Technology of Cirque du Soleil
April 10	Thur.	6:00 PM Member Reception 7:00 – 8:00 Program	Game Changers: Sony Computer Entertainment's Shuhei Yoshida in conversation with Mark Cerny
May 8	Thurs.	6:00 PM Member Reception 7:00 – 8:30 Program	Creativity, Inc: Author Ed Catmull in Conversation with Museum CEO John Hollar
June 11	Wed.	6:00 PM Member Reception 7:00 – 8:30 Program	DARPA Director Arati Prabhakar in Conversation with The New York Times' John Markoff