

sheet after sheet.

When it finished we we looked at the output. I would like to tell you what it said, but this is a family newsletter. Let's just say that we had about fifteen pages that the

scouts couldn't take home.

Teen aged boys—don't you love them. Well they loved the /360.

## Hollerith - 1890 Census and the "Rough Count"

JIM STRICKLAND

When I am giving a tour, I start at the Hollerith machines because to me, they represent the start of stored, mechanically processable data. I often say, "And, they got the results, 62 million people, in just six weeks. Then, all the mechanical processing was completed in two years." (Actually the count was 62,947,714.)

But how did they get that preliminary data, the "rough count" so quickly?

The answer lies in the slide show that runs continuously in the Hollerith display. Next time you are at the exhibit, note the picture of the woman at the Hollerith Tabulator. (It is also on the reader rail.) Especially note the keyboard that she is using. It's not the "waffle press" card reader like the one in our replica. Rather it is a special keyboard that inputs directly to the tabulator. Quoting from Truesdell <sup>[1]</sup>:

The initial count of population and families.—The first count of the population returned in the 1890 census, termed ... the "rough" count, was made through the use of a special setup of the Hollerith dial board in which the "press" was replaced by a small keyboard comprising two rows of keys, the first row numbered from 1 to 10, the second from 11 to 20, ...

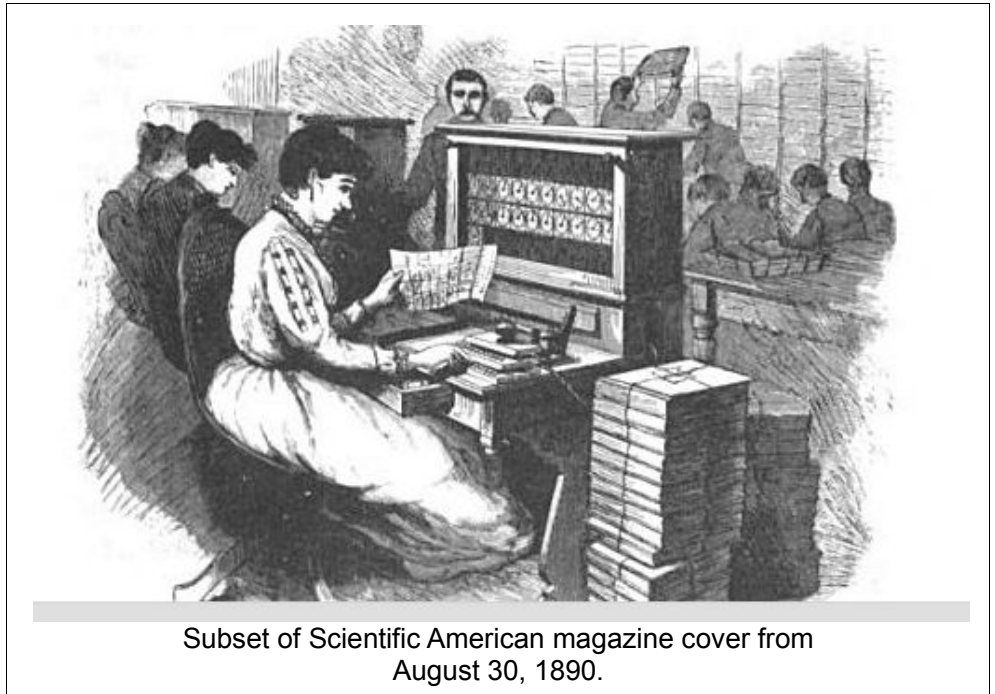
This arrangement provided a count of families classified according to the number of persons in the family. The numbers of families in each group (1-person families, 2-person families, etc.) were recorded on two rows of counters on the standard dial board, with an additional counter in the row below which recorded the total number of families in the area, against which the sum of the several groups was checked. The total population of each was then obtained by multiplying the number of families in each group by the number of persons per family in that group.

The operation of this device was simple, since each

sheet of the schedule (except for an occasional overrun for a family of more than 10) represented a family and the number of persons in this family had been entered by the enumerator in a space in the heading of the schedule. (See figure 25.) All the operator had to do was to note this figure and press the corresponding key. It was noted in a contemporary article,<sup>1</sup> already referred to, that some operators handled in a single day schedules representing as many as 50,000 persons (9,200 families); and that the entire census (comprising 12,690,151 families) was counted in a period of little more than 6 weeks. At any rate, the count was completed in time for a preliminary announcement of the population of the country on October 28, 1890.

So, before or probably concurrent with card punching, tabulators were fitted with special keyboards to determine the preliminary count. Not a keyboard as we think of it today, but one developed for that purpose.

There is more detail on the operations that led to the preliminary count but the bottom line is that this is an example of the myriad of modifications, changes and improvements, that Hollerith made as he developed the equipment and the company that changed the world.



Subset of Scientific American magazine cover from August 30, 1890.

[1] [The Development of Punched Card Tabulation in the Bureau of the Census 1890 -1940](#)  
Leon E Truesdell