

STRING BOARD GRAPHICS<sup>1</sup>By PERCY S. BROWN<sup>2</sup>

THE mechanisms which I shall describe have been given the name string board graphics through lack of a more descriptive term. These graphics must not be confused with those of a permanent nature, though used in the same manner and for obtaining the same kind of information. Through their very nature they are for periodical control rather than for permanent data, inasmuch as the strings are moved back and forth either daily, weekly or for such other periods as one may desire to cover. All information of an historical nature is lost, except when it may be desirable to photograph the boards previous to each posting; in such instances records of a permanent nature might be secured, limited only by the inability to reproduce colors in cases where strings of various colors are used on the same board.

The idea of using a string board for graphic control occurred a few years ago to Mr. Edward J. Keller, then in active charge of our first planning board in the Route Division of the Planning Department. In the late summer of 1921 Mr. Keller, then planning engineer in charge of all planning work in the factory, was confronted with the need of more accurately controlling inventories. While considering various mechanisms whereby closer control could be established, it occurred to Mr. Keller to again experiment with his string board idea. Immediately upon seeing the small board which he prepared, its outstanding advantages were apparent to me and I authorized the construction of four boards  $6\frac{1}{2}'$  high and  $7\frac{1}{2}'$  wide. After these boards were installed and in operation, we proceeded to build a number of smaller boards for the use of executives. We are also experimenting on small control boards in certain of the manufacturing departments. Those that I use are 45" long by 16" wide, and on the one described in Fig. 4 I attach the monthly production schedule sheet with thumb tacks and post in the production

figures each day. When it is removed at the end of the month, it may be kept as a permanent record.

*Mechanisms*

The string boards may be of whatever size and shape the designer desires, depending on the number of parts, operations or other data he may wish to show. No matter what the size or shape, the same plan is followed: First, notches or grooves are cut along the top of the board, spaced as desired, and exactly parallel notches or grooves are cut along the bottom of the board. It may be desirable in some instances to substitute grooved rollers for the notches, particularly in the cases of very high boards where freedom of string motion may be impaired unless assisted mechanically. Along the left side of the board graduations are drawn, either on the board itself or on the heavy paper affixed to the board, and correspondingly along the right side of the board similar graduations may be drawn. These graduations may be continued across the entire board or only part of them may be continued, as they are merely to facilitate posting. At the lower edge of the board a heavy paper runner is placed, on which is printed the information as to the parts, operations, or names of whatever other items are to be controlled. A piece of colored string and a piece of white string of equal length are then tied together around the board, being drawn as tight as possible. When posting, the colored string, which is always at the bottom, is moved up to the proper point by taking hold of the knot and the knot then becomes the controlling point. Obviously, where a quantity of strings are used, the white string being against a white background, does not show, and colored strings posted across the board give a nearly perfect color graph.

The one difficulty that we encountered in making up these boards was in securing a grade of string or twine that would stand up. Ordinary commercial grades were absolutely unsatisfactory, but we were fortunate in that the Cayuga Linen and Cotton Company of Auburn, New York, who were supplying us with a very fine linen twine, were in a position to furnish

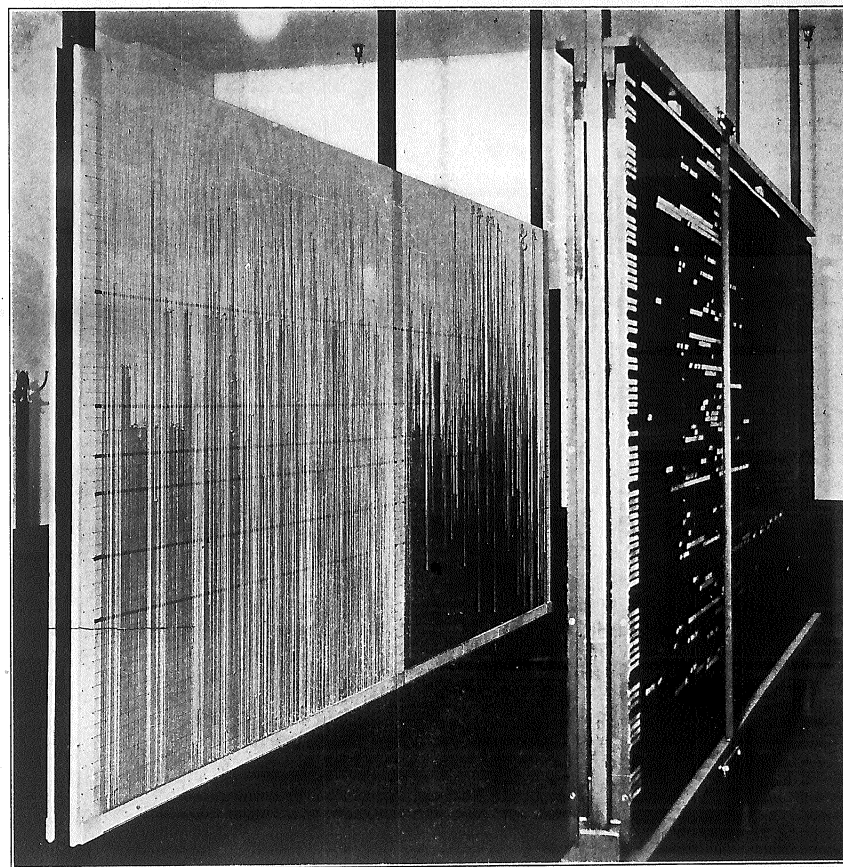


Figure 1

Photograph of String Control Boards. Left—Process Parts Board; Center—Finished Parts Board

<sup>1</sup>A paper presented at a meeting of the Taylor Society, New York, Dec., 1921.

<sup>2</sup>Works Manager, Corona Typewriter Company, Inc., Groton, N. Y.