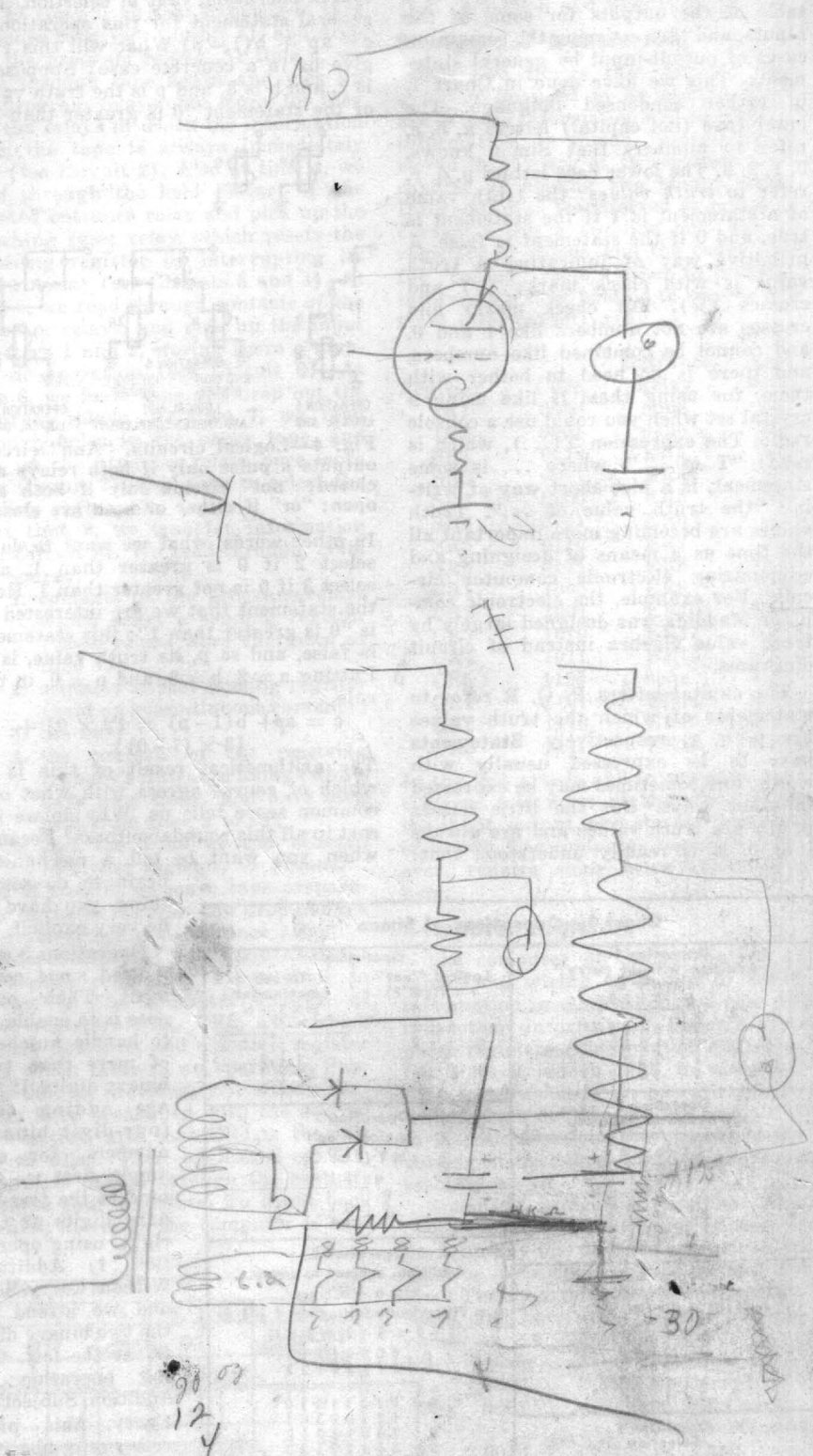uses of the 5th hole in the program tape, only mentioning that at time 2 in the machine operation it is used for optional reset of the input register. We have not given the specifications of the rectifiers, capacitors, and the rest of the parts list. The basic relay used is Allied Control or close 24-volt, 300-ohm, d.c., airplane-type, bought on war surplus, with either 4 poles double-throw or as many poles as can be found. We have not discussed the subject of coding problems for the machine, nor the range of problems that the machine can do. We have not discussed the ways in which this machine can be further expanded to do useful work. If there is sufficient interest, these matters may be covered to some extent in the final article of this series.

Construction of Simon

Simon as an idea came into existence at the end of 1947, when, at a meeting of the Association for Symbolic Logic in New York, Simon was discussed by Edmund C. Berkeley, one of the two joint authors of this series of articles. Next Simon became the third chapter in Berkeley's book *Giant Brains or Machines that Think* (John Wiley and Sons, 1949), with the purpose of being a simple introduction on paper to the same type of computing circuits used in the big mechanical brains.

Simon as a real machine was begun in November, 1949, and was finished in April, 1950. The cost of materials was about $270, and the labor for wiring actually paid for amounted to another $270. The balance of the labor, design, engineering, mechanical work, etc., was contributed; if it had been paid for, it would have amounted to about $3,000. Simon was actually constructed by three men: William A. Porter, a skilled technician who had much to do with the construction at Harvard University of two big mechanical brains built there, Mark II and Mark III, and Robert A. Jensen and Andrew Vall, two Columbia University graduate electrical engineering students. Jensen is the joint author of this series of articles.

In the next article we shall begin the discussion of electronic brains. —END—