THE MACHINE TOOL SHOW

By JOHN YOUNGER
Professor of Industrial Engineering

THE Machine Tool Show, held in Cleveland in September, was a wonderful show. One got the impression of tremendous power held in reserve only awaiting the command of man to start turning out product. As an evidence of the returning wave of prosperity, it was more than a gesture. It was an actual fact. More than $5,000,000 worth of machine tools were sold.

Here were tools of all kinds, little fellows and big fellows all under one roof and all showing the advances made since the last similar show of five years ago. Here also was a collection of the pioneer tools of years ago with their wooden frames or elaborate cast iron columns. One could not help but contrast the very old fashioned lathe shown with today's giant, the massive 8-spindle lathe used in the bearing industry for the rapid production of races. In the old days one man operated one lathe with a productivity of, let's say, one. Today one man operates six of these 8-spindle machines with a productivity of around 40. Man is thus doing 40 times as much work now as he did 30 years ago on these machines.

This process of increasing productivity is still going on, as was evidenced in practically all of the machines. In fact, the name "Simulation" has been given to the factor involved. The word means the "doing of two or more things simultaneously and in harmony leads to greater efficiency." Take the planer for example. For years it has cut only in the forward progress of its stroke, the backward march being idle. Here in the show was a planer which cut both ways working all the time.

Or perhaps we could turn to these fascinating new machines, the broaching presses of the Cincinnati Milling Machine Company. Here we find an outstanding devotion to progress, in that Company, not satisfied with progress in their own art of milling, sought new ideas to improve on them and found them in the process of broaching. Nor were they content to have one tool operating at a time but they installed two tools working simultaneously and in harmony, so that the man could load up one tool while the other was working. As a result they reach the great production of 560 pieces per hour. Formerly they did some 200 pieces per hour.

Or perhaps we should turn to the Bullard Multaumatic which machine does several processes all in harmony and all simultaneously.

We used to have a piece of work in our own machine shops here which had to be set up and machined on the planer, had to be set up and machined on the lathe, and again in the drill press. In all it took 118 minutes to perform the series of operations. On the Bullard Multaumatic it could be done in one minute. There were innumerable examples of the use of this factor at the show and we industrial engineers feel that the surface is only scratched as yet. We still have so much more to learn about it.

Perhaps, however, you will be more interested in what might be termed the human aspects of the show. I was delighted and astonished at the number of our graduates occupying responsible positions, and demonstrating their skill in their work.

Here was Bob Kneis, student at present, master of a large lathe of the Cincinnati Lathe Company, demonstrating its power and possibilities to all interested. Bob helped prosperity by assisting in the sale of many thousands of dollars worth of these tools.

Perry Gasnier, 1932, was in charge of the above mentioned Cincinnati Broaches, showing off their wonderful capacity for accuracy and production. He is research engineer for his company.

Hillis or "Hi" Worstell, 1934, was in charge of the brass forming turret lathes of the Warner & Swasey exhibit. Worstell was making wonderful demonstrations of the high productive speed of his machines.

Dick Fielder, 1931, was demonstrating for the Heald Machine Tool Company, makers of internal grinding machines. Dick is sales engineer for the Cleveland territory and is doing great work.

Otto Winter, 1930, did not have an exhibit at the show but was prominent among the tool engineers, being seated at the speakers' table (as a director) of the Tool Engineers banquet, 800 present.

Ralph Jenkinson, 1931, was prominent around the Gleason exhibit, demonstrating gear cutting possibilities.

Hayward Gay, 1930, was also prominent as a sales engineer for the Cincinnati Milling Machine Company.

There may have been others we missed, but our students and graduates were taking an active part in the affairs of the Show. It was a splendid inspirational experience to see them doing so well.

In addition, there were many of our students visitors to the Show. They all had one comment to make. They were simply dazed by the immensity of the undertaking and by the machines themselves. I confess to having had much the same feeling myself. Great progress was shown, but, as I talked to many of the attendants, I realized that greater progress was under way. Practically all of the companies are not content with what has been done. They visualize other and better things and they are working on them with full vigor. What the future will bring about we can only guess at. The significant thing, after these years of depression, is that we know there is a future and a great one.