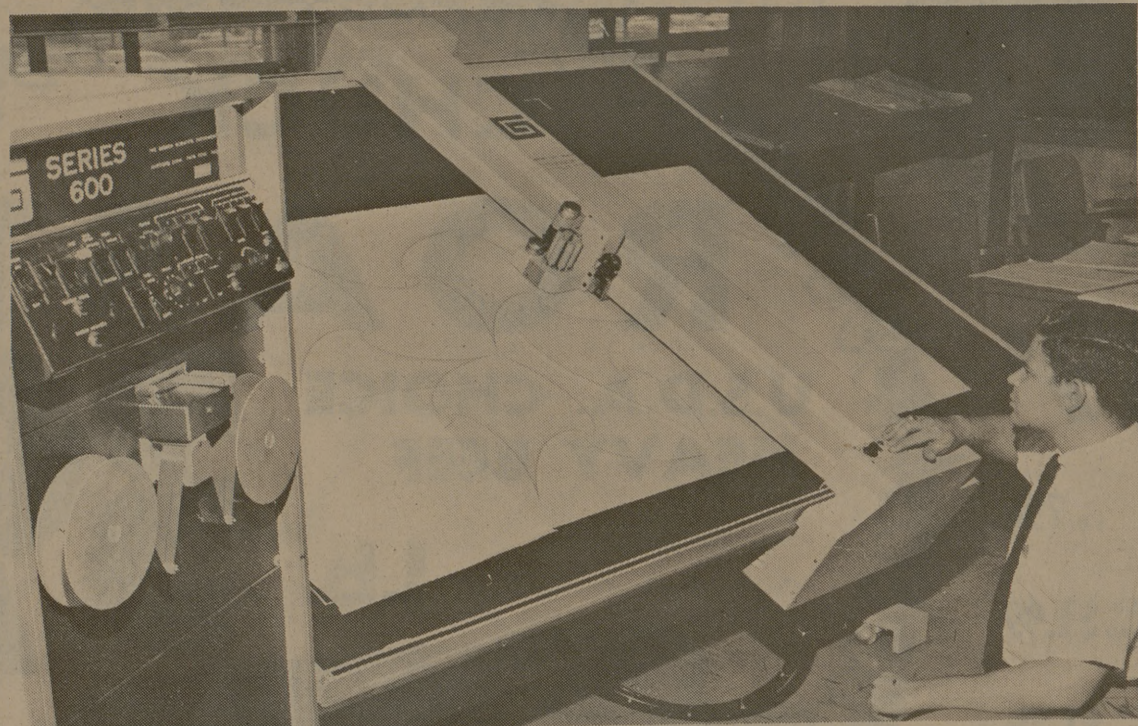


# Engineering Drawings Made By Numerical Control Lab



**ELECTRONIC PENCIL**

The Industrial Engineering Department's numerical control lab plots out a test pattern drawing that might take a draftsman eight hours to draw. Watching the time-saving operation is Sandy Scalco of Meridian, Miss., graduate student who will work in the newly activated lab.

Equipment for freeing engineers from routine computational and drawing work for more creative endeavor has been switched into operation in the Industrial Engineering Department at Texas A&M.

Installation of a Gerber numerical control drafting system, Frieden flex-a-writer for card-to-tape conversion and associated equipment will enable introduction of numerical control methods into the department's curricula and research in numerical control techniques, according to Dr. A. W. Wortham.

THE DEPARTMENT head said numerical control has a wide range of industrial applications, "from programming and control of massive manufacturing equipment to production of sophisticated engineering drawings." "The lab is another significant leading step in the modernization of our educational processes and plant," Wortham added.

Lab operation will be under Dr. Robert L. Street and Dr. Roger J. McNichols, assistant professors of industrial engineering. Assisting will be graduate students Sandy Scalco of Meridian, Miss.; Tom Black, Middletown, Ohio; Joe LeBlanc, Houston, and undergraduate Charles Lummus, sophomore of Denison.

Lummus has had industrial experience with numerical control systems. General Dynamics, Bell Helicopter, LTV and Texas Instruments employ similar systems extensively, Wortham noted.

"After an object's description is locked into the system computer, the machine can produce a drawing of any desired cross section," he explained. "FOR EXAMPLE, the coordinates of an airplane wing section are programmed. For a drawing of a particular cross section, the engineer has the computer calculate coordinates of the section and punch a tape, which is fed into the drawing board."

Drawings up to 46-by-60 inches are possible in five to 15 minutes. The 60-by-80 inch board runs off a filing cabinet-size power supply unit and control console. It promises several dividends.

"We plan to tie the lab into our human factors program in the environmental lab to take the routine out of plotting data," Wortham commented. "The machine will quickly graph one set of variables against another. We will be able to look at data graphically normally not possible because of the plotting time factor."

Departmental research projects will provide software and methods for such employment of the numerical control lab. "Students in the Department of the Army maintainability program will receive familiarization in the lab," he went on. ROBERT RUSSELL, installation technician from Gerber, Hartford, Conn., pointed out other savings that can be effected. "A new piece of equipment should be drawn first by plotter. If mistakes are made, only a piece of paper is lost. Blueprint storage space can be saved by storing it on tape and regenerating the blueprint if another copy is needed."

Wortham said the lab will be utilized in industrial engineering courses next fall, including 451, tool engineering for undergraduate students, and 651, a graduate course in tool design.

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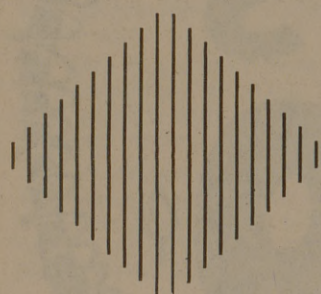
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## Landmark Bill Gains Nod

WASHINGTON (AP) — Senate House conferees agreed Wednesday on a landmark bill requiring that borrowers be told the true cost of credit on consumer transactions totalling about \$100 billion a year.

The agreement on the measure, called the Truth-in-Lending bill, climaxed a fight that began eight years ago when the first legislation was introduced.

The conference itself has been protracted. The Senate passed the bill last July 11 and the House on Feb. 1 this year after making many changes.

Conferees on both sides said they are confident the final product will clear both houses, probably next week, and be sent to President Johnson. He has urged passage of the measure.

Under its terms, stores which

extend consumer credit and financial institutions which make loans for consumer purchases would have to disclose two things:

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