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My Apprenticeship

PROFESSOR JOHN M. "CHIEF" YOUNGER

Chairman Department of Industrial Engineering



Professor John Younger

As a result of my request Mr. Younger has submitted the following account of one of his many interesting experiences. He was born in Scotland, but before coming to America in 1910 he gained considerable experience in the British Isles. He served an apprenticeship in locomotive manufacturing and then became workshop supervisor of the Woolwick Arsenal in London from 1902 to 1904; also in 1905 he was in charge of Tool Engineering at the Arrol-Johnston Motor Car Company. From 1906-1910 he was assistant work manager of Dennis Brothers, manufacturers of motor trucks. He came to the United States in 1910 and has held a variety of positions, including work for the United States government during the World War I. In 1926 the Industrial Engineering department was founded with Mr. Younger in charge. Since then the demand for Ohio State's Industrial Engineering graduates has rapidly increased, and the department is now one of the largest in the College of Engineering. Under his supervision, the course in welding engineering, the only such course in the United States is now offered, and a proposed course in Tool Engineering is under discussion. These are all proteges of "Chief", as he is known by his students. The prestige that "Chief" has built up in industry for his graduates is something

which we, as students of the College of Engineering, can well appreciate. His philosophy, "find the one best way of doing the job" is something we all can practice.
—Roger Scott.

The Ohio State Engineer has asked me to give an article dealing with my life, but I would rather not do that; instead I will discuss a period of my life which comes nearer to being within the age of the young engineers who are now going through school. In short I will discuss my apprenticeship.

I started work as an apprentice engineer in the shops of the Glasgow Locomotive Works, Scotland, at the age of 16. I went in in June after I had finished High School. I entered with beautiful clean dungarees or blue overalls and found to my dismay that all the other boys had overalls stiff with grease and shiny. They boasted that their overalls could stand up on end without support and I do not doubt but what they could.

My nice new overalls were conspicuous—too darned conspicuous, and the other apprentices singled me out and picked on me till I felt my position keenly. Then I spied a nice pool of dirty black oil and had an idea. I promptly rolled myself, overalls and all in the oil and became as dirty as the others. Now I could be one of the gang and enjoy myself.

I started to work in the marking off shop where by scribe and surface gage and hammer and center punch are transferred the dimensions on the drawing to the actual piece to be made. I learned here how to read drawings or blueprints, and the experience was invaluable. I had as my boss a man called the "Rugen Bull". He certainly was a bull in his methods and had little diplomacy in him, but he backed up his own men and, although he would bawl them out quietly, he would never bawl them out in front of a group. The Bull could swear a blue streak and revelled in the accomplishment. Swearing is not necessarily blasphemous from such use, it is just their elementary method of expressing themselves.

The Bull gave me a load of hose inlets for the locomotive tender. These consist of a sheet of copper in which there are hundreds of small holes and each position for a hole had to be marked out by a center-

(Continued on Page 18)

MY APPRENTICESHIP

(Continued from Page 11)

punch dot. I took these plates and proceeded to work on them bemoaning the monotony. I kept on working saying to myself 500 more holes, 400 more holes, until I got down to 100 more holes, when some delightful laborer brought up another stack and dumped them alongside of me. I kicked like the veritable steer, and one of the foremen who was passing by heard me say "If this is engineering, then I'm through", and I cursed the terrible monotony of the job. He gave me a tip which I have never forgotten, namely, to think backward and forward on the job.—Where does the job come from and where does it go.

So I began to study. The job was made of copper sheet, so I began to study the rolling of copper from the ingot and the production of copper, and this led one back to where the copper itself came from and how it was mined. Then I began to study forward. Where did the sheets go and where are they used and why are they used. I found myself unconsciously studying economics and industrial geography and good sound engineering.

I put in my spell at this work and later was transferred to the erecting or assembling squad of the cylinder division, and there one of the most laughable things happened. I made a terrific blunder. I was swabbing out the insides of a large cylinder block preparatory to its being flanged and bolted up. The whistle blew for lunch, and I dropped the burlap bag inside the cylinders and hastened for home. Coming back I forgot all about the bag and proceeded to bolt on the flanges and fix the cylinder up for the test. The thing was finished and proceeded on its way to the assembly floor.

The cylinder was placed under the locomotive boiler and the whole machine finished, jacked up off the wheels and ready to test; fire was on under the boiler. An inspector jumped upon the bed plate, saw that steam was up and he opened the throttle just a crack, the object being to have the wheels revolve gently and then for him to test the link motion. Nothing happened for the burlap sack had got wedged in the exhaust parts. He opened the throttle a little more; still nothing happened. He threw the throttle wide open and with a whale of a roar the burlap sack sailed through the blast nozzle and the locomotive began to move violently. A little pit boy, hearing the roar and thinking it an explosion, rushed madly out of the pit and in doing so cut his head so that blood was streaming down his face. The workmen, seeing him all bloody, threw themselves flat on the ground. Someone telephoned and three fire brigades came rolling up, accompanied by two ambulances and a flock of police wagons. Meanwhile, I was quietly working in a remote corner of the shop and never

did they find out who placed the burlap bag inside the cylinders.

Talking of burlap reminds me of another thing, our hours were six in the morning till 5:30 at night, and on Friday nights we worked straight through the night till 12:00 noon the next day. At 9:00 in the morning on Saturdays, we apprentices began to feel tired so we would go up to our own corners in the rafters and sleep, meanwhile, the boss paid us for our sleeping time.

From these fitting shops as we called them, I was transferred to the machine shops and I remember a happy incident there. One of the older men had bunions on his feet and always changed over his walking shoes for a pair of loose slippers in which he worked. He always placed these slippers in a particular place and just slid his feet into them and walked off. One day we boys nailed his slippers to the floor and he slipped in as usual but fell forward on the floor when he started to walk.

The ghastliest accident I ever saw was when one of the men operating a planer stepped in between the tool and the job, some fool started up the machine and the man was nearly cut in two.

The silliest accident was when one of my mates was caught in a belt and the clothes stripped off him. There he was standing "mother-naked" in the middle of the machine shop.

The days of the old apprenticeships are gone. We had happy times but mostly hardworking times; I learned a lot which I have never forgotten. Incidentally my pay for the first year for all that work was \$1.25 per week.

THE ENGINEERS' COUNCIL

Engineers' Council has been active all quarter. Continuing past traditions, the Engineers' Council has been planning for Engineers' Day to be held May 15th and 16th.

With the full cooperation of the deans and the engineering faculty and under the leadership of President Cliff Heer, the Council is going "all out" to have the best of everything for the two-day event.

Many of the departmental exhibits and some of the floats in the parade will be planned to carry out the theme of National Defense.

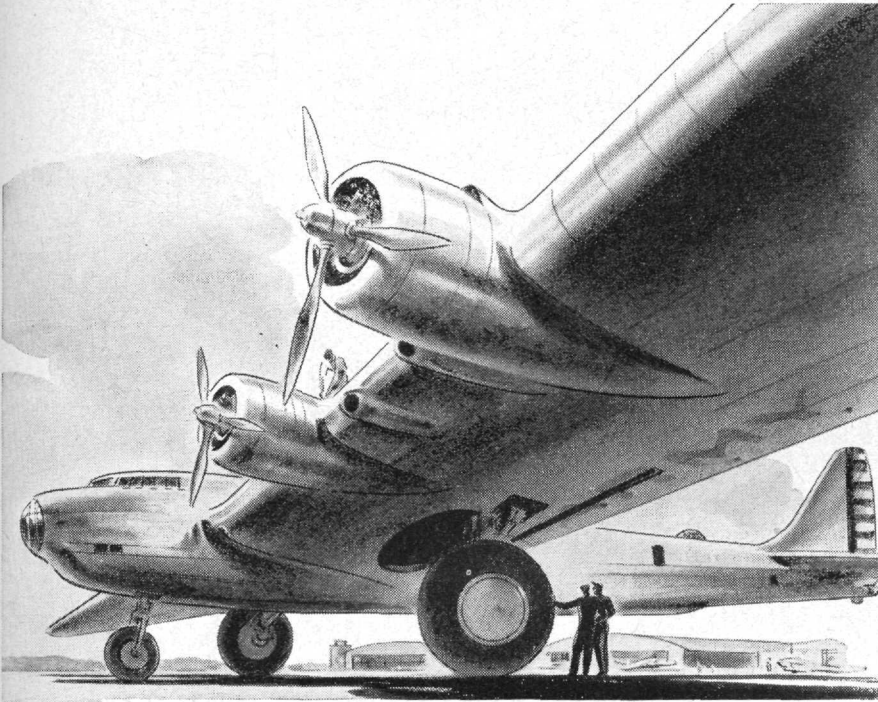
S. A. M. E.

The Society of American Military Engineers met in the Armory on March 5, at which time plans for a dance were made. After the business meeting, Lieut. Feyereisen, of the Signal Corps, spoke on the organization and equipment in that arm of the service.

The Society met on April 9, but no quorum was present. Due to insufficient response by the members, the dance was abandoned. The new officers will be elected on May 21, and will preside at the June 4 meeting.

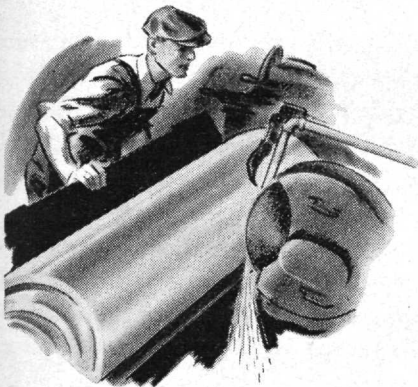
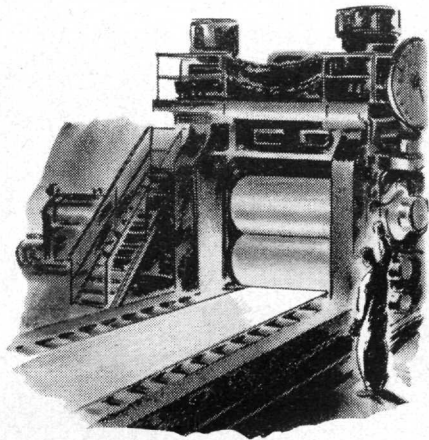
E. W. S.

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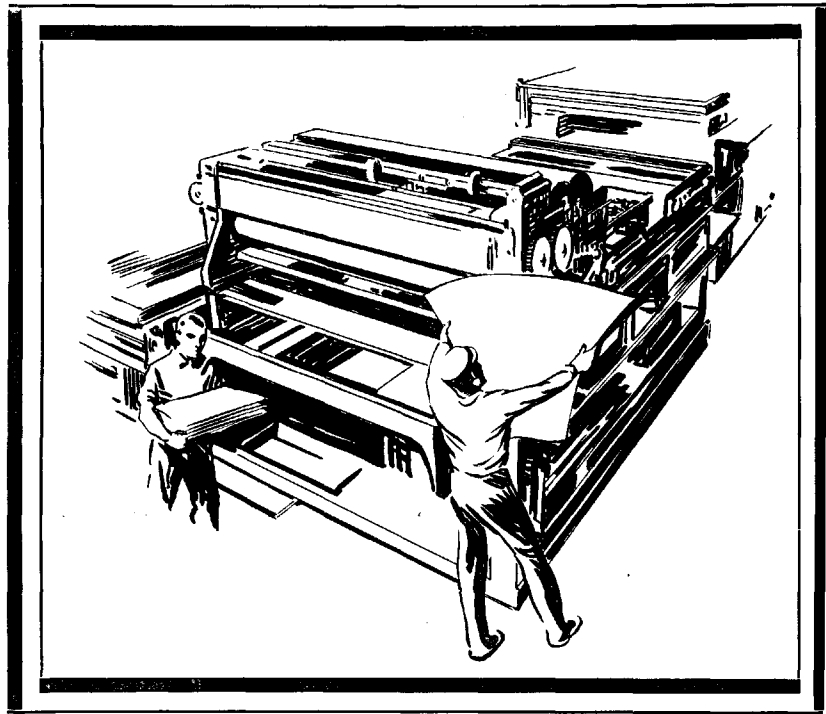
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