

Heel And Toe Plates For the Dominion

NINETEEN years ago New Plymouth-born Mr. G. C. Kibby had an idea. Then a bootmaker, he patented his idea and in a shed covering just over 200 square feet began manufacturing heel and toe plates. To-day his factory premises extend over 9000 square feet and his products, including washers, are sent all over New Zealand.

Mr. Kibby's patent, like most inventions, was simple but extremely practical. In the centre of the plates, instead of having just another hole for an additional nail, Mr. Kibby made a hole twice as long as the ordinary opening. With this extra large opening it is possible to bend the plate, without undue effort, to any one of several shapes.

Mr. Kibby began his bootmaking business in 1912 in premises by the White Hart Hotel. It was in 1934 that he patented his method for heel and toe plates. In 12 months he had erected a shed twice as big as the original 18ft. x 12ft. building and 12 months later he doubled those premises.

In 1940 he shifted to the corner of Dawson and King Streets and that building was sufficient to cope with his expanding business for only three years. Then he built the present premises in Dawson Street which cover over 9000 square feet.

At the end of the Second World War Mr. Kibby began experimenting with the manufacture of washers—both steel and brass. In 1947 his experiments proved successful and he now claims to have his washers in every town in New Zealand.

One hundred and eighty different sizes of heel and toe plates are now produced at the factory and washers are manufactured from an eighth of an inch to five-eighths of an inch with only a 32nd of an inch between each size.

Mr. Kibby is proud of the fact that his staff of 13, using the various automatic and other machinery at their disposal, have produced over seven stampings a second of washers and plates continuously. Several lines have turned the scales at over a million a week, he said.

Main difficulty of course has always been the availability of metal. To make things more difficult Mr. Kibby has just received word that Australia is ceasing to supply metal to New Zealand. All the metal will now have to come from the United Kingdom.

At the end of 1947 the factory's own rolling mill was put into operation. This means that $\frac{1}{2}$ in. round steel can now be rolled flat and used in the only German machine on the premises for the production of heel tips more commonly known perhaps as military tips. These are the heavy plates similar to small horseshoes.

ONLY ONE OF KIND

Mr. Kibby's machine is the only automatic machine producing these tips in the British Empire. He ordered it from Germany in 1937. It had to be sent back to Germany for alteration in 1938 and was returned to the port of New Plymouth for no additional cost.

This machine has put through a good

many tons of metal but there is still not enough for it to be kept running continually. All the metal used in the machine now goes through the rolling mill. Previously it had to be imported from Australia until the end of 1947, when the first lot of $\frac{1}{2}$ in. round steel was rolled in the mill.

About 200 tons of metal is used annually by the factory for the production of plates and washers. Only the brass scrap is of any value. The steel scrap can be used for reinforcing concrete but it is of no value to the factory.

The most interesting machine in the factory is for automatic counter-sinking of plates. A series of eight drills operate on this machine and counter-sink up to

eight holes in any plate automatically and then eject the completed plate.

An automatic machine also punches holes in a long strip of metal and in the same operation, as the line of punched metal moves forward, stamps out the heel or toe plate. This machine caters for hundreds of different sizes and does a gross a minute.

This machine has not required one replacement since it was purchased 17 years ago. It was bought as one supplied to the Royal Mint.

Altogether there are three automatic punching and stamping machines in operation at the factory and a fourth is being assembled. There are three multiple counter-sinking machines.

All the machines are powered by their own motors. There are about 60 electric motors in the building, which is air-conditioned.

There is a complete engineering plant in the factory enabling dies to be made on the premises and a lot of the servicing of machines is done by the staff.

Only one woman works in the packing department but with nimble fingers she collects and packs the slippery plates with amazing speed. She packs eight to 10 gross an hour. The plates are covered with French chalk to prevent rust and also to eliminate glare.

The factory is almost completely self-contained. It has its own box-making, printing and carton making plant.

As one of only three heel and toe plate factories in the Dominion, this industry is fulfilling an important part in New Zealand's industrial self-sufficiency.



—Photo by Douglas Elliott
A ROTARY COUNTER-SINKING MACHINE, which automatically counter-sinks the holes in toe and heel plates. The machine can counter-sink up to eight holes in any one plate.