rapidly to the bottom of rivers. The upper orifice (inboard) would be below water level, so that when a tap on the top was turned on, the precious gold-bearing sand would flow into the boat. Once loaded to the gunwales, the tap was to be turned off, and the miners wallowing (one presumes) in their riches would pull for the shore.

At the turn of the century, and in the years preceding the Great War, every other New Zealander seemed to be inventing something. A positive fury of discovery swept the land, and from North Cape to Bluff dozens of amateur geniuses laboured on the pet products and devices that (they hoped) would bring them a fortune. Nothing was beneath their attention: nothing was too complex to solve. Here were improved "bloomers" for protecting the legs of trotters, there a "Tidal Self Acting Compressor" to give those dwelling by the sea a refreshing puff of air twice a day. There were improved steam and electrical machines, revolutionary horse blankets and medicines to cure all ills; better water-closets (dozens of them), better mouse-traps (hundreds of them), new games of skill and chance, and specifics for the pox.

Perhaps the greatest passion and fantasy went into the domain of therapeutic and medical patents. This health-through-invention philosophy was then universal. As E. S. Turner has recorded in *The Shocking History of Advertising*: "At any given moment, up and down the country deluded citizens were sitting down in the privacy of their homes seeking to woo back the faded senses with the aid of preposterous machines, expensively bought."

Many of these machines were devised by New Zealanders, or patented in this country by overseas firms. One of the most popular was the "electric belt," which inspired the words of the once popular song:

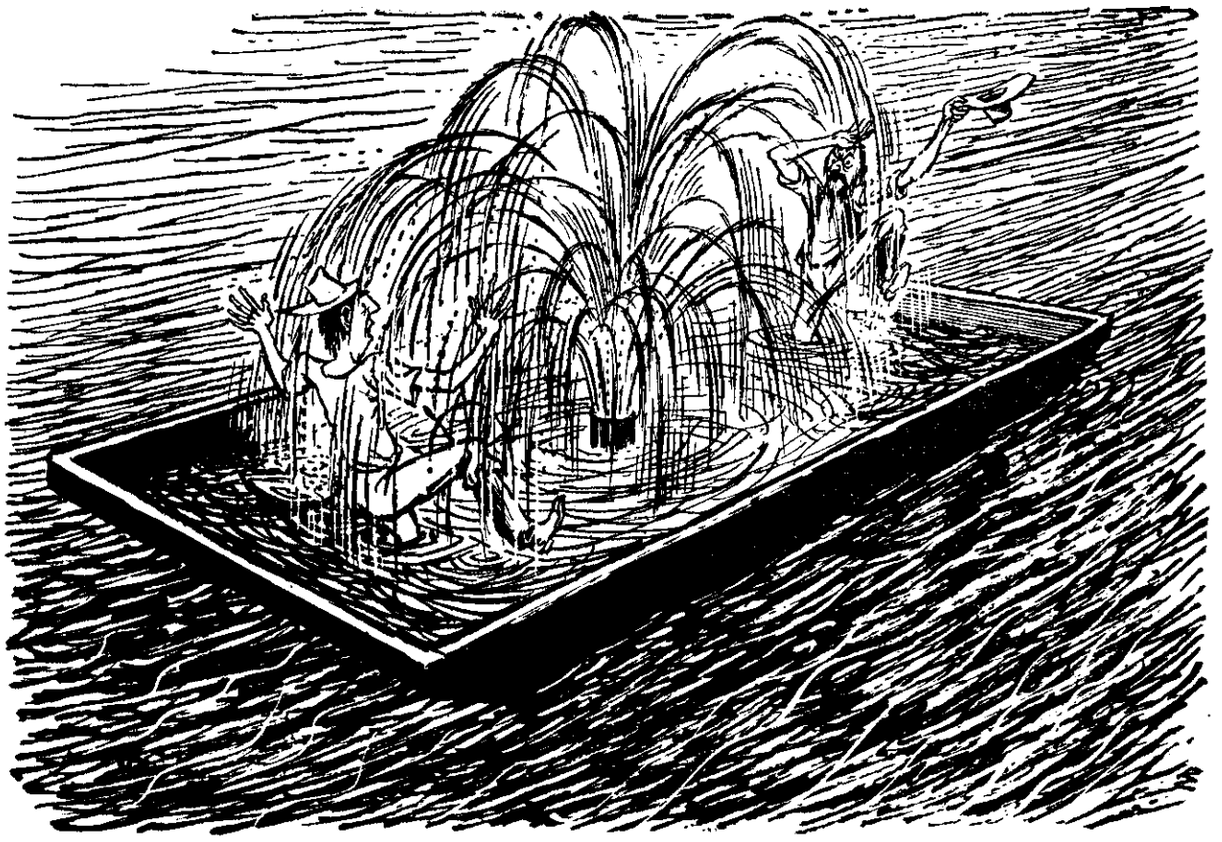
I had a pain in me liver
And likewise a pain in me lights
I wore your electric belt
And I now have electric lights.

One of these devices was thoughtfully "designed to prevent the blistering of the flesh of the wearer should the current be too intense." In May, 1903, one Carl Ferdinand Bunz of Christchurch devised a "vibrating instrument for the treatment of nerves and other diseases." This was supplied with a nipple that could be attached to the "vibrating disc" for the purpose of treating earache. Meanwhile another Christchurch resident was seeking a panacea in "Oil of Fowl."

Discounting such vagaries as these, the majority of ideas were sound enough in themselves. Too often, however, the inventor omitted to produce anything really new or really wanted, and often —a continuing tragedy with inventions —the idea came too soon, before engineering practice had been brought to the stage where it could encompass it.

It would be intriguing to discover, for instance, whether an airship dreamed up early in the century would really have worked—if airships had not been outmoded before they were really developed. This ambitious craft bristled with propellers "so fixed or arranged relatively to each other as to produce either elevating, propelling, retarding or depressing effects, or some of these together."

Often one is glad that other ideas did *not* catch on. Such as the gimmick devised by two inventors who used nuts in a new method of advertising. This was to cut nuts in half and insert the advertising message, close them so that no gap could be seen, and then place them with other nuts ready for the unsuspecting purchaser. Their patent application contains, not only an exhaustive description of their technique but also a drawing showing—among other things—two parts of "a separated walnut shell," and a "side elevation of a hazel nut."



A "GOLD AND SAND EXTRACTOR"—"once loaded to the gunwales . . . the miners would pull for the shore"

To come to any conclusion about New Zealand inventiveness, it is necessary to bypass this proliferation of unusual minds and to concentrate on those few things that are peculiarly our own. This does not include, as yet, physics (though in such things as carbon-dating New Zealand-evolved methods are said to be superior to overseas systems), but many New Zealanders asked to name a great New Zealand inventor, name Rutherford. Rutherford, however, like Sir Alexander Fleming, was a discoverer, not an inventor, and he lacked the successful inventor's faculty for anticipating the future. ("There is," he once said, "no appreciable energy available to man through atomic disintegration.")

Other people will give a more predictable reply when asked this question, choosing George Alfred Julius the inventor of the totalisator odds indicator. This choice would never be questioned in New Zealand, where Julius was educated, or in his adopted country Australia; both here and there, one might say, the value of the tote is beyond any nagging doubt.

A second choice might be the inventor of one of the first improved constant-flow milking machines (where the milk was delivered out of the system without breaking the vacuum)—David Armstrong of Eltham, whose patent was subject of the only appeal to the Privy Council in the history of New Zealand patent law.

Or one may come to more modern times, and the invention of the Cargon loading system for trucks and aircraft; or to some up-to-the-minute chemical processes, or electrical inventions, whose complexity is such that the layman can only take them for granted.

What with atomic physics, electronics, biochemistry, and so on, inventions have become so complex that, as in that fabulous rat-trap to which only intelligent rats could gain entry (presumably the unintelligent, left to themselves were to die of inanition), one can understand them only by becoming an expert. The days when one could become an inventor by thinking up a new way to fix a handle on a broom, or to get cream out of a bottle without disturbing the milk, are gone forever.

The gadgeteer has been discouraged by the many variants of his device that already exist—ninety-nine per cent of which are patents lapsed through lack of interest and/or development. Similarly the amateur pharmacist grinding up tutu, flax, and hops in his backyard has been forestalled by books of formulae compounded by real experts. Perpetual motion enthusiasts also have declined in numbers, the problems of friction (as much with patent attorneys as in their machines) proving finally too much for them.

"I had one perpetual motion friend for twenty years," a Wellington patent attorney reminisced sadly. "I praised all my friends as being better patent attorneys than myself so they could take him off my hands. Then he just disappeared.

"But perhaps there are worse things than cranks. Take a man who tells you he has a wonderful invention; you wait with bated breath and all it turns out to be is a box. With a compartment. Just a good saleable box that you can buy anywhere already, and he thinks it is unknown. Before a man invents anything—especially these days—he should take a look around him.

"We are really a very happy sort of country, and if any man has an idea, he is usually in a position to try it out, but he should first make sure that it has the three basic requirements of true invention: novelty, utility, and ingenuity."

". . . The fabulous rat-trap to which only intelligent rats could gain entry"