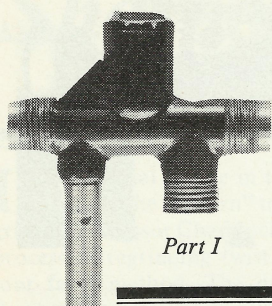
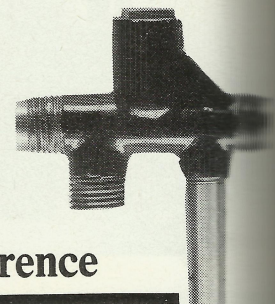


Laurie's Standard Live Steam Injectors



Part I



by D. E. Lawrence

This series originally appeared in 1975 and since then, so many model locomotive builders have enquired about my Standard Injectors and, in many cases, have no earlier *Model Engineers* to which they can refer, that a reprint has become necessary. The opportunity has been taken to amend the text and put in extra emphasis where needed, particularly in respect of the auxiliaries, i.e. steam, water and check valves and piping. I have also included snippets of information left out originally and have added some up-to-date information and also information about techniques not available to me at the time, 30 years ago, when I started on these most desirable of locomotive fittings.

Errata

Some corrections should have been made to the original articles, but unfortunately, for various reasons, these were not made at the time of publication. With this reprint, the copy has been checked three times by myself and the Editor will let me have each "galley" and page proof

so that any compositor's errors on the printer's "lay down" may then be the only ones to appear. Each issue of *Model Engineer* will be checked by me and any corrections to errors thus shown up will be printed as soon as possible in *Model Engineer*. However, any readers who wish to make Laurie's Standard Injector are advised to wait until the series is finished; that will save frayed tempers and, most important, prevent wastage of valuable workshop time.

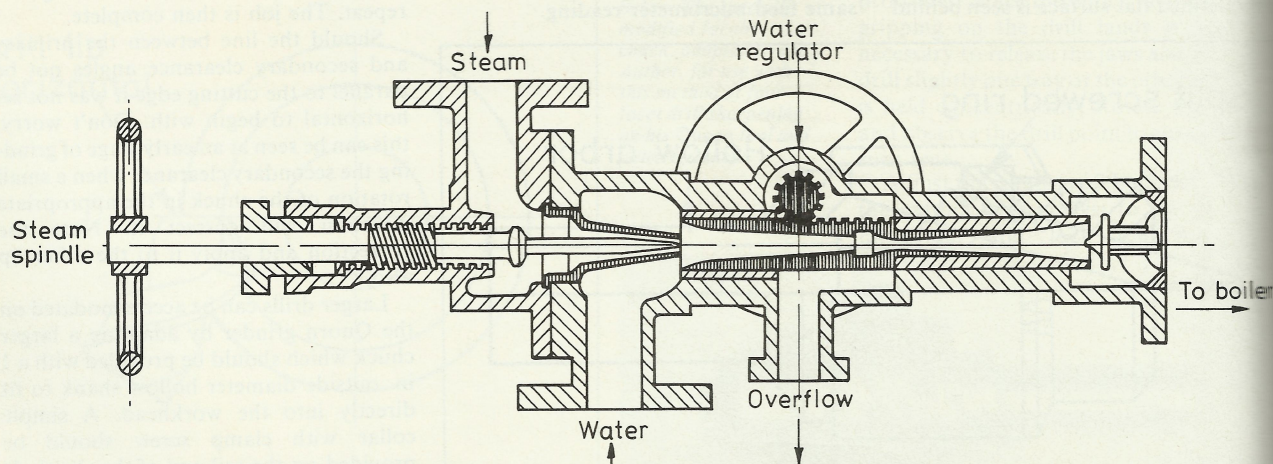
Commercial Exploitation

Some folk have enquired about obtaining the No. 1 injector commercially and I am aware that there has been some commercial exploitation. Perhaps I can mention that the only model engineering supplier to whom I gave permission to use my designs was Charles Kennion of Kennion Bros. (Hertford) Ltd. Charles was a very old and valued friend of mine until he died and I readily acceded to his request — free, as I am not in the business of commercial exploitation of our hobby.

History

The injector was the invention of a Frenchman, Henri Giffard, in the 1850's. Giffard's interest was aeronautics and the steam engine was then the only means of power propulsion available to him in his experiments of powered flight. Boiler feed pumps were very heavy and he wanted some lightweight means of supplying water to a boiler and so the injector was born. The early versions were unreliable and required careful regulation to make them work. Also, because the way in which they functioned was not obvious, Giffard's invention was slow in being adopted; in fact, people were downright sceptical about the things. Subsequent modifications by himself and others brought the injector to a high standard of reliability, Fig. 1. Its widest use is, or rather was, in the field of locomotives, but it has been used as a standby feed for stationary and marine power plants.

In the realm of model locomotives, I have little knowledge of injectors in the early years of the hobby — some hopeful



GRESHAM'S IMPROVED GIFFARD INJECTOR

Fig. 1