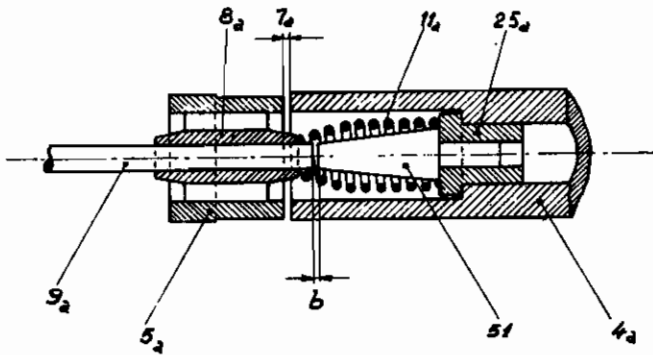


PUBLISHED
MAY 11, 1943.
BY A. P. C.

O. FUSCALDO
INJECTORS WITH ELECTRO-MAGNETIC CONTROL
FOR INTERNAL COMBUSTION ENGINES
Filed Jan. 30, 1941

Serial No.
376,678



OTTAVIO FUSCALDO,
Inventor

by
Morrison, Kennedy & Gimpel
Attorneys.

ALIEN PROPERTY CUSTODIAN

INJECTORS WITH ELECTRO-MAGNETIC CONTROL FOR INTERNAL COMBUSTION ENGINES

Ottavio Fuscaldo, Milan, Italy; vested in the

Alien Property Custodian

Application filed January 30, 1941

The present invention concerns some improvements in injectors with electro-magnetic control for internal combustion engines, and the object of it are improvements in some parts of the injector for internal combustion engines which are particularly subjected to friction and percussion.

In the specification of the application Serial N. 305 419, the necessity is established for the friction and percussion surfaces to be very hard. As an easy solution the rule was indicated of hardening the percussion surfaces of the armatures by means of chrome application after rolling. Such hardening has been shown to be insufficient in practice particularly for the injectors operating at very high frequency: the iron under the chromium pulls and the chromium peels off.

This invention indicates a better solution, which is always an example and which will be clearly seen from following specifications referring to the annexed drawing where the figure represents with details, the zone of the injector concerning the parts of the armatures.

In accordance with the improvement, the percussion surfaces are no longer those of the soft

iron armature 5a and 4a, but those of two central hardened steel pivots 9a and 51, the first being an integral part of the valve rod already existing whereas the second is fixed in the plug 25a applied to the fixed armature 4a.

The dimensions are such that the play 7a between the loose armature 5a and the fixed armature 4a is more than the play between the pivot 9a and pivot 51, to the extent of a few hundredth parts of a millimeter, so that when the valve is open and 9a and 51 touch each other, the parts 5a and 4a are found to be very near without touching however.

The material (iron) of 51 is fixed to the material (non magnetic iron) of 25 by forcing and soft welding if necessary, so that it is magnetically insulated from the material of 4a.

The iron of 9a is already magnetically insulated from the iron of 5a. It is of course understood that the particulars of execution can be varied without coming out of the dominion of the invention patent.

OTTAVIO FUSCALDO.