

Title (en)
Engine brake with exhaust throttle.

Title (de)
Motorstaubremsen.

Title (fr)
Frein moteur avec freinage des gaz d'échappement.

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Application
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Priority
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Abstract (en)
[origin: EP0593908A1] The invention relates to a device for increasing the engine braking power of 4-stroke reciprocating-piston internal combustion engines in motor vehicles. In braking mode, air drawn in via the intake valves in the first stroke and compressed in the second stroke can be expelled into the exhaust pipe (7) against a throttle valve (8), situated in the exhaust pipe and set to the throttling position, through the exhaust valves (2), which are, as an additional procedure, opened at the end of the compression stroke. In this arrangement, braking cams (13, 14) which control the additional opening and closure of the exhaust valve during braking are arranged on the cam shaft (1) on both sides of an exhaust cam (11) which actuates a lift-transmitting tappet (12) and the tappet can be brought into operative lifting connection with these braking cams (13, 14) by special device components for braking operation, while it is held out of operative connection in normal operation. According to the invention, the tappet (12) is divided into a first part (15), which is in constant lifting contact with the exhaust cam (11) only in normal operation, by means of a central piston (16), and a second part (17), which interacts only with the braking cams (13, 14) and this only in braking operation. This second part (17) can be moved between two end positions along the piston (16) of the first part (15), plunging partially into the latter and its stroke being limited, the amount of leakage during this movement being small. During normal operation, it can be locked in its retracted end position relative to the piston (16), this being achieved hydraulically or hydromechanically by the supply of pressure medium to a front pressure space (18). After the locking has been released, the second part (17) of the tappet can be displaced out of this end position into its extended end position for braking operation by the supply of pressure medium to a rear pressure space (19) provided on the rear side of the said second part (17) and can be held there in lifting connection with the first part (15) of the tappet during braking operation by hydraulic locking of the rear-side pressure space (19). After the release of this pressure-space locking, the second part can be pushed back towards its retracted end position by the braking cams (13, 14) to effect the transition from braking operation to normal operation and can then be locked in this position once more by the supply of hydraulic pressure medium to the front pressure space (18).

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Cited by
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