March 23, 1926.

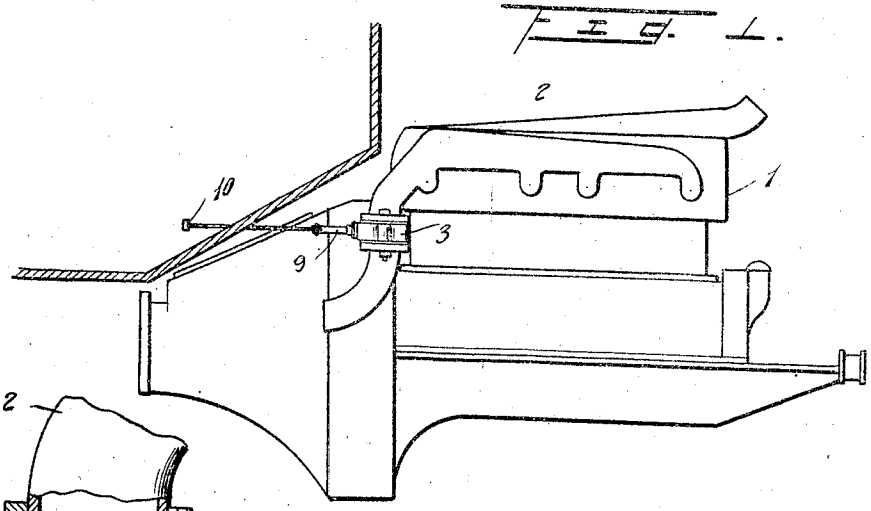
1,577,466

G. B. HYRE

COMPRESSION BRAKE

Filed Sept. 16, 1924

Fig. 1.



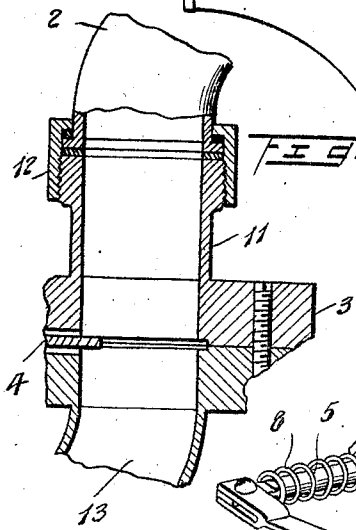
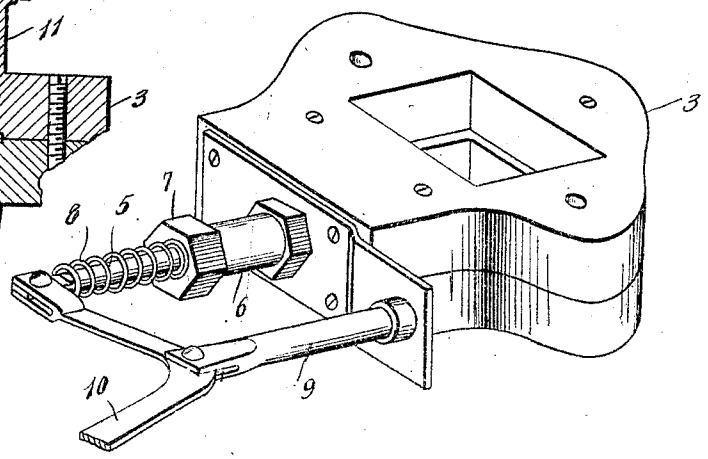


Fig. 4.

Fig. 2.



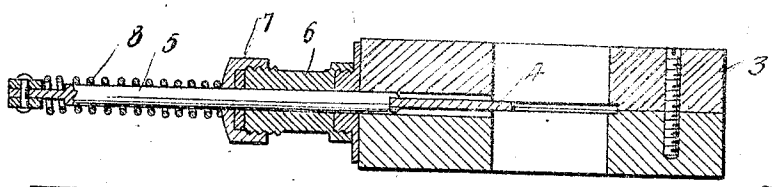


Fig. 3.

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UNITED STATES PATENT OFFICE.

GRATTON B. HYRE, OF PIERCE, WEST VIRGINIA.

COMPRESSION BRAKE.

Application filed September 16, 1924. Serial No. 738,059.

To all whom it may concern:

Be it known that I, GRATTON B. HYRE, a citizen of the United States, residing at Pierce, in the county of Tucker and State of West Virginia, have invented certain new and useful Improvements in Compression Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to brake mechanism designed chiefly for use in connection with internal combustion engines whereby to retard the speed and ultimately bring the engine to rest and in accordance with the present invention the same is adapted to be installed in the exhaust thereby forming a choke and preventing the escape of the exhaust and resulting in the building up of a retarding pressure which retards the engine and finally brings the same to rest.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the specification.

Figure 1 is a detail view showing the application of the invention,

Figure 2 is a detailed view in perspective of the device,

Figure 3 is a sectional view thereof, and

Figure 4 is a sectional detail view of a modification.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The numeral 1 designates generally an internal combustion engine and 2 the exhaust thereof and in accordance with the present invention the brake mechanism is interposed in the length of the exhaust and comprises a frame 3 which is adapted to be bolted between flanged sections of the exhaust, said frame being preferably of sectional formation and having a gate valve 4 comprised between the sections and controllable by means of a stem 5 which passes through a stem 6 of the frame 3 and a stuffing box 7 fitted to the stem 6 to maintain a close joint between the guide stem 6 and the valve operating stem 5. A coil spring 8 mounted upon the stem 5 normally exerts an outward pressure thereon to hold the valve 4 in open position. A post 9 mounted upon the frame 3 pivotally supports a bell crank lever 10 which is pivoted to the valve stem 5 and which is adapted to be operated by the foot of the driver of the vehicle whereby the valve 4 may be closed when required to secure the braking action of the device by cutting off the escape of the exhaust and resulting in the building up of a compression in the cylinders of the engine which react to retard the speed of the engine and ultimately bring the same to rest.

As shown most clearly in Figure 1, the device may be bolted between flanged ends of the manifold and exhaust. However, it is to be understood that it may be coupled to said parts by unions as shown in Figure 4. A nipple 11 projecting from a section of the frame is connected to the manifold 2 by a collar 12, forming a well known union. A part 13 formed with the other section of the frame may be connected to the exhaust by means of a union or in any preferred way.

What is claimed is:—

1. A compression brake mechanism comprising a frame to be interposed in the length of the exhaust of an internal combustion engine, a valve mounted in said frame and adapted to cut off the escape of the exhaust of the engine, and to operate the valve independently of the control of said engine.

2. A compression brake mechanism comprising a frame to be interposed in the length of the exhaust of an internal combustion engine, a guide projecting from the frame, a gate valve slidably mounted in the frame, a stem projecting from the gate

valve and passing through the guide stem of the frame, a spring normally holding the gate valve in open position, and means operable independently of the control of said engine to close the valve whereby to prevent the escape of the exhaust and result in the building up of a compression resistance within the cylinders of the engine whereby to retard the speed and ultimately bring the engine to rest.

In witness whereof I affix my signature.

GRATTON B. HYRE.