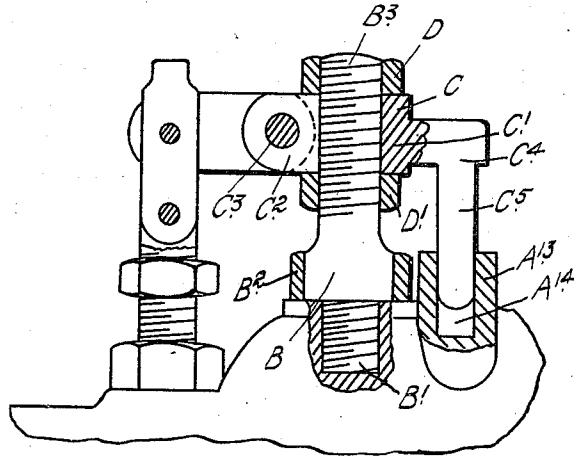
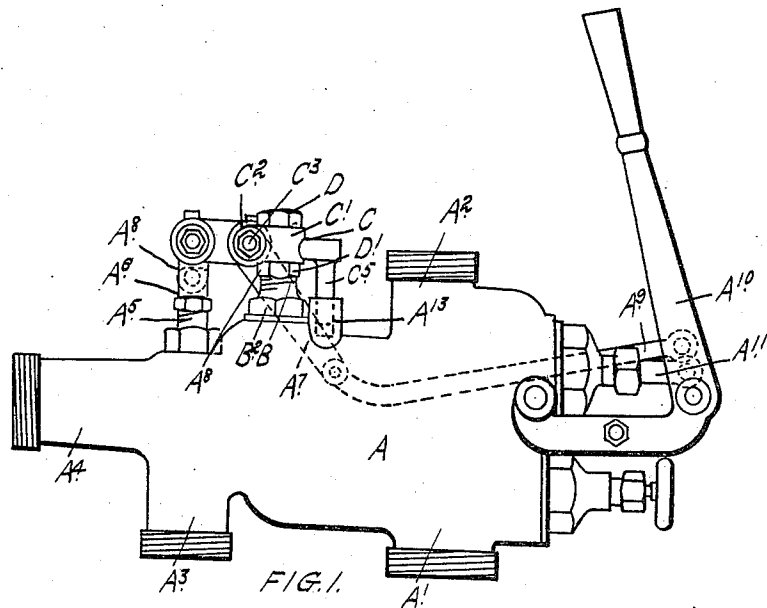


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INJECTOR.
APPLICATION FILED JULY 8, 1912.

1,059,669.

Patented Apr. 22, 1913.



WITNESSES
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MATTHEW HENDERSON, OF TORONTO, ONTARIO, CANADA.

INJECTOR.

1,059,669.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Application filed July 8, 1912. Serial No. 708,285.

To all whom it may concern:

Be it known that I, MATTHEW HENDERSON, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Injectors, of which the following is the specification.

My invention relates to improvements in injectors having adjustable brackets, and the object of the present invention is to provide a simple and cheap means for adjusting the fulcrum bracket of the main operating lever, whereby the supplemental bolster blocks are dispensed with and thus obviate the necessity of providing a plurality of bolster blocks, and it consists essentially of a threaded stud extending upwardly from the body of the injector, a fulcrum bracket through which the stud freely extends and which has lugs extending from the side thereof adjacent to the overflow valve of the injector and at the opposite side with a lug provided with a depending centering pin, which extends into a guiding socket forming part of the casing, and a lock nut threaded on to the stud against the upper and lower face of the bracket as hereinafter more particularly explained by the following specification.

Figure 1, is a side elevation of an injector showing my improved fulcrum adjustable bracket. Fig. 2, is an enlarged sectional elevation of the fulcrum bracket.

In the drawings like letters of reference indicate corresponding parts in each figure.

A is an injector having the usual water inlet A', steam inlet A², overflow A³ and delivery A⁴.

A⁵ is the overflow valve provided with the usual stem A⁶.

A⁷ is the main bell crank lever connected at one end by the link A⁸ to the valve stem A⁶ and at the opposite end by the link A⁹ to the operating lever A¹⁰.

A¹¹ is the stem of the usual steam controlling valve of the injector. The link A⁹ is pivotally connected to the operating lever A¹⁰.

B is a stud provided with the reduced lower end B' and an enlarged nut-shaped portion B² and an upwardly extending portion B³.

C is my fulcrum bracket comprising the annular portion C' having a lug C² extending in proximity to the valve stem A⁶.

C³ is a bolt by which the bell crank lever A⁷ is pivotally connected to the lug C².

C⁴ is a projection extending from the opposite side of the annular portion C' of the fulcrum C.

C⁵ is a centering pin extending from the projection C⁴.

A¹³ is a boss forming part of the main casing of the injector. The boss A¹³ is provided with a step guide A¹⁴ into which the lower end of the centering pin C⁵ extends.

D and D' are nuts. The nut D is threaded on to the portion B³ of the stem B and against the upper face of the fulcrum bracket C'. The nut D' is threaded on to the portion B³ of the stem B below the fulcrum bracket C against the lower face of the annular portion C'.

It will thus be seen that when it is desired to adjust the vertical position of the fulcrum of the lever A⁷ all that it is necessary to do is to unthread one of the nuts D or D' so that the annular portion C' may be moved vertically over the stud to the position required. The nuts D and D' may then be threaded so as to bear tightly against the upper and lower face of the portion C', thus securely fastening the fulcrum in the position required. The centering pin C⁵ it will of course be understood moves freely in the vertical step guide A¹⁴ and prevents the fulcrum bracket from turning on the stud B in any position to which it is adjustable.

What I claim as my invention is:

1. In a device of the kind described, a support, a valve stem, a lever connected to the valve stem, a stud extending from the support, a fulcrum bracket forming a fulcrum support for the lever and through which the stud freely extends, a nut threaded on to the stud against the upper face of the fulcrum bracket, a nut threaded on the stud against the lower face of the fulcrum, and means for preventing the fulcrum bracket turning on the stud as and for the purpose specified.

2. In a device of the kind described, a support having a vertical guide therein, a valve stem, a lever connected to the valve stem, a stud extending upwardly from the support, a fulcrum bracket on which the lever is fulcrumed and through which the stud freely extends, means for vertically and adjustably securing the fulcrum bracket on the stud and a lug provided with a centering pin

extending into the vertical guide, as and for the purpose specified.

3. In a device of the kind described, a support, having a vertical guide therein, a
5 valve stem and a main operating lever connected to the valve stem, a threaded stud extending upwardly from the support, a fulcrum bracket to which the main operating lever is fulcrumed and through which the
10 fulcrum bracket freely extends, a centering pin forming part of the fulcrum bracket and extending into the vertical guide a nut threaded on the stud against the upper face of the bracket and a nut threaded on to the
15 stud against the lower face of the bracket, as and for the purpose specified.

4. In a device of the kind described, a support having a vertical guide therein, a

valve stem and an operating lever connected to the valve stem, a threaded stud extending 20 upwardly from the support, a fulcrum bracket comprising an annular portion having a lug to which lug the operating lever is fulcrumed, said stud passing freely through said bracket, a centering pin forming an in- 25 tegral part of the fulcrum bracket and extending into the vertical guide, a nut threaded on the stud against the upper face of the annular portion, and a nut threaded on the stud against the lower face of the an- 30 nular portion, as and for the purpose specified.

MATTHEW HENDERSON.

Witnesses:

B. BOYD,

M. EGAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents
Washington, D. C."
