

No. 792,628.

PATENTED JUNE 20, 1905.

T. L. & T. J. STURTEVANT.
CARBURETER FOR GAS ENGINES.

APPLICATION FILED DEC. 12, 1904.

2 SHEETS—SHEET 1.

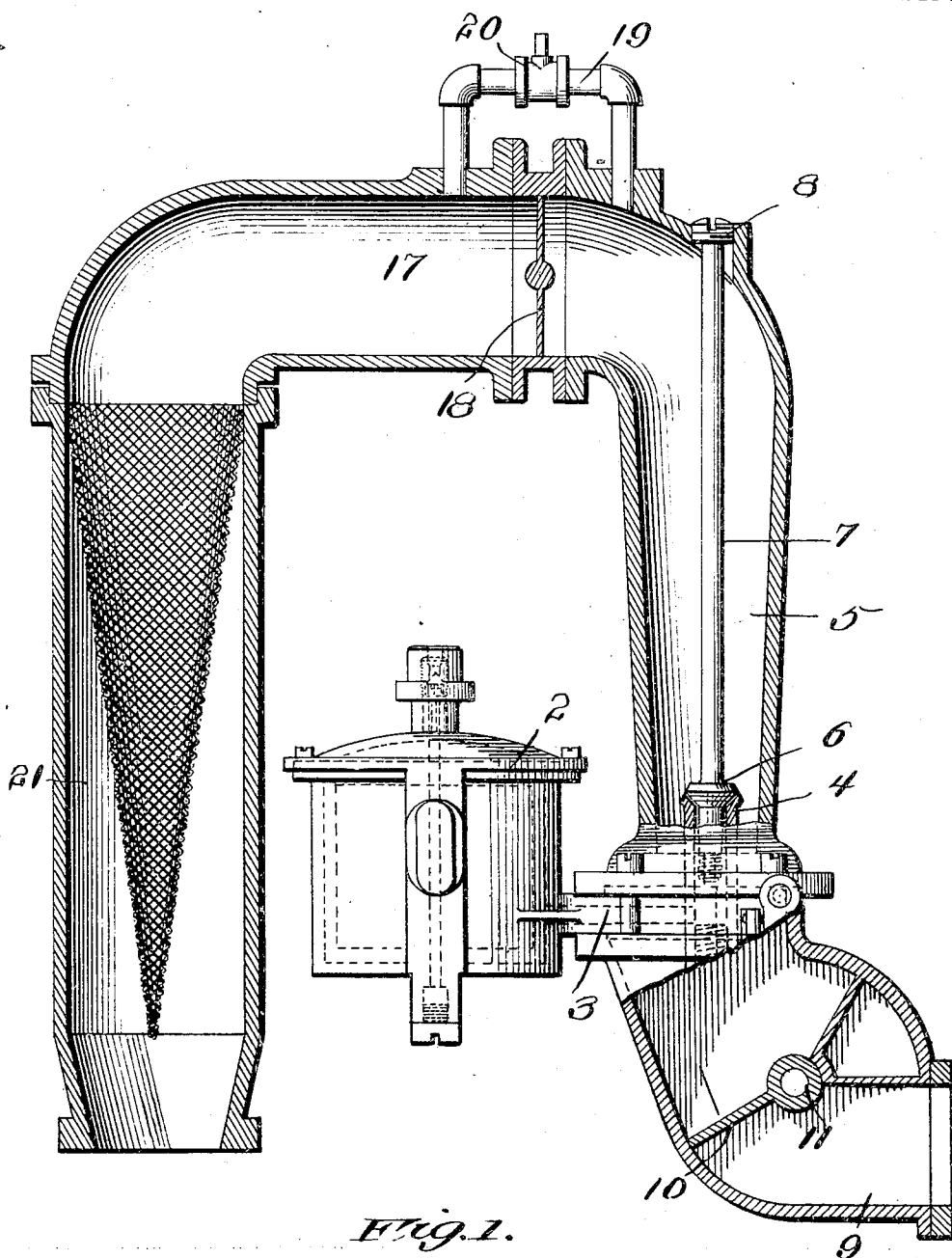


Fig. 1.

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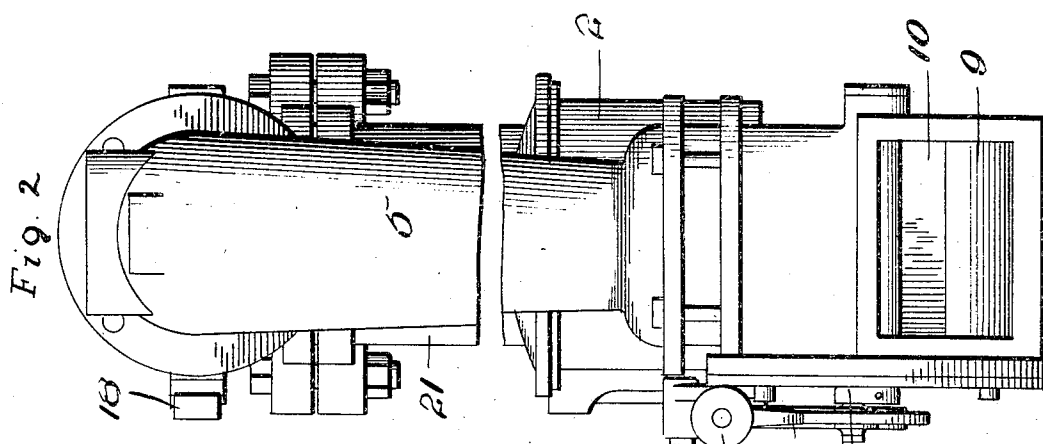
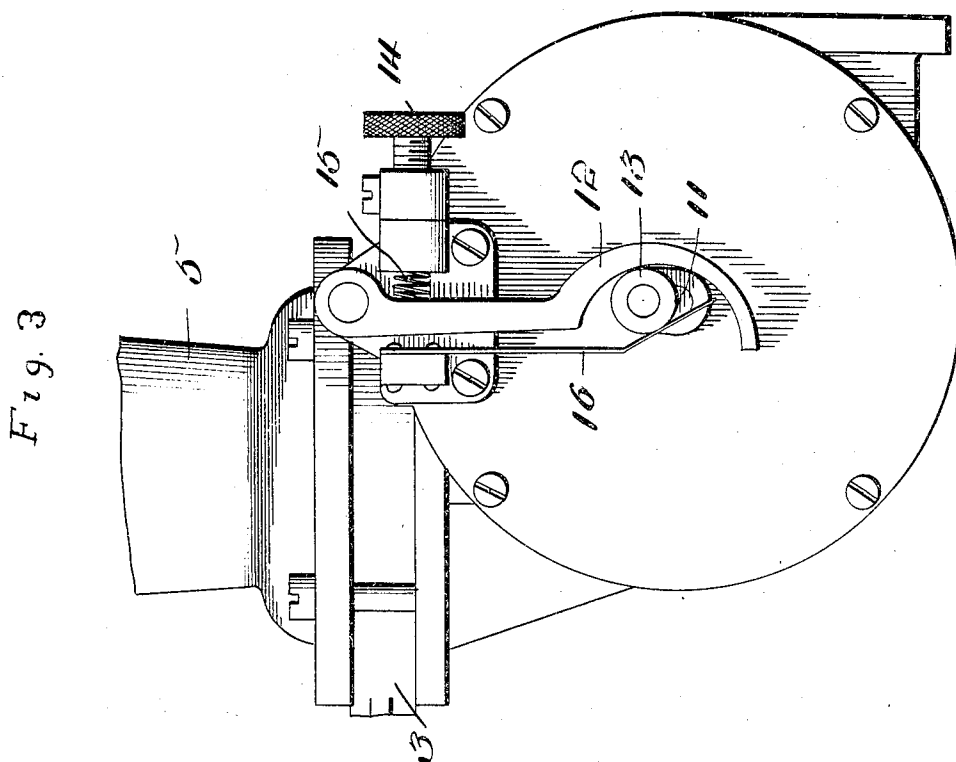
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~~WITNESSES:~~

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UNITED STATES PATENT OFFICE.

THOMAS LEGGETT STURTEVANT, OF QUINCY, AND THOMAS JOSEPH STURTEVANT, OF WELLESLEY, MASSACHUSETTS, ASSIGNORS TO STURTEVANT MILL COMPANY, OF PORTLAND, MAINE, A CORPORATION OF MAINE.

CARBURETER FOR GAS-ENGINES.

SPECIFICATION forming part of Letters Patent No. 792,628, dated June 20, 1905.

Application filed December 12, 1904. Serial No. 236,530.

To all whom it may concern:

Be it known that we, THOMAS LEGGETT STURTEVANT, residing at Quincy, and THOMAS JOSEPH STURTEVANT, residing at Wellesley, in the county of Norfolk and State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Carbureters for Gas-Engines, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to improvements in carbureters, and particularly those designed for use with explosive-engines.

One of the objects of the invention is to secure an automatic regulation and proportioning of the oil and air in the carbureter regardless of the speed of the engine or motor, this regulation and proportioning of the fuel constituents being secured by means of an automatic valve of such construction that as it opens under the suction or pull of the motor it offers a diminishing resistance to the entrance of air and the flow of fluid through the carbureter, so that no matter how fast the engine may be running and however great its pull or suction through the carbureter may be the vacuum-regulating valve will maintain a proper vacuum through the carbureter and prevent an oversupply of oil being sucked from the oil-delivery nozzle, as would otherwise be the case if the vacuum in the carbureter was unduly increased by reason of fast running of the engine. In other words, a substantially properly varying vacuum is maintained in the carbureter, so that when the oil-delivery valve has been once adjusted to give a fuel of the proper quantity the automatic vacuum-regulating valve will insure a proper proportioning of air and oil regardless of varying engine speeds.

A further object of the invention is to improve the oil-controlling device, so as to permit of convenient regulation of the same from the outside of the carbureter-casing

and allow of the ready removal of the oil-controlling valve through the wall of the casing, if need be, without dismantling the carbureter proper.

Still another object of the invention is to improve the general construction of the carbureter and its associated parts, so as to economize space and yet not interfere with the proper working of the various instrumentalities.

Other features of novelty will appear hereinafter, and those features of construction which we consider novel and of our invention will be particularly pointed out in the claims appended hereunto.

In the drawings herewith we have illustrated one embodiment of our invention, and in said drawings—

Figure 1 is a sectional view of a carbureter embodying our invention. Fig. 2 is a view in end elevation looking from the right, Fig. 1. Fig. 3 is a view in side elevation of a part of the carbureter shown in Fig. 1 to illustrate the air-inlet or vacuum-controlling valve and its connections.

Referring to the drawings by numerals, like numbers indicating like parts in the several views, 2 denotes a float-chamber of any suitable or desired construction, which is connected with a suitable oil-supply, the said chamber 2 being connected by a passage 3 with an oil-delivery nozzle 4, mounted within the vacuum-chamber 5. The said oil-delivery nozzle is preferably provided with a conical seat, upon which rests a cone-valve 6, carried by a suitable valve-stem 7, said stem being provided with a screw-threaded head 8, mounted in a threaded opening in the wall of the carbureting-chamber, as clearly shown in Fig. 1. It will be seen that with this construction the conical valve 5 may be readily adjusted from the outside of the carbureter-casing relative to its seat on the nozzle 4 so as to regulate the amount of oil passing through said nozzle, and, further—

suitable carbureting instrumentalities, of a vacuum-regulating valve which opens with a constantly-decreasing resistance to opening movement whereby a diminishing resistance to the flow of air through the carbureter as the valve opens occurs, and means for regulating the resistance of the valve.

3. In a carbureter, the combination with suitable carbureting instrumentalities, of a vacuum-regulating valve, and means tending to close said valve; said closing means offering a diminishing resistance to the movement of the valve as the valve opens.

4. In a carbureter, the combination with suitable carbureting instrumentalities, of a vacuum-regulating valve, means tending to close said valve which offers a diminishing resistance to movement of the valve as the valve opens, and means for adjusting said valve-closing means.

5. In a carbureter, the combination with suitable carbureting instrumentalities, of a vacuum-regulating valve, and a spring device tending to close said valve; said spring device offering a diminishing resistance to movement of said valve as the valve opens.

6. In a carbureter, the combination with suitable carbureting instrumentalities, of a vacuum-regulating valve, a spring device tending to close said valve, and means for regulating the tension of said spring device; said spring device offering a diminishing resistance to movement of said valve as the valve opens.

7. In a carbureter, the combination with suitable carbureting instrumentalities, of a vacuum-regulating valve, and a spring-lever tending to close said valve, said spring-lever offering a diminishing resistance to movement of said valve as the valve opens.

8. In a carbureter, the combination with suitable carbureting instrumentalities, of a vacuum-regulating valve, a spring-lever tending to close said valve, and adjustable connections between said spring-lever and said valve, said spring-lever offering a diminishing resistance to the movement of said valve as the said valve opens.

9. In a carbureter, the combination with suitable carbureting instrumentalities, of a pivoted vacuum-regulating valve, a spring-lever tending to close said pivoted valve, and suitable connections between said spring-lever and said pivoted valve, said spring-lever offering a diminishing resistance to movement of said pivoted valve as the said valve opens.

10. In a carbureter, the combination with suitable carbureting instrumentalities, of a pivoted vacuum-regulating valve having a cranked spindle, and a spring-lever engaging said valve-spindle crank to close said valve; said lever offering a diminishing resistance to movement of said valve as the valve opens.

11. In a carbureter, the combination with

suitable carbureting instrumentalities, of a pivoted vacuum-regulating valve having a crank-spindle, a spring-lever tending to close said valve, and suitable connections between said lever and said valve-spindle crank, said spring-lever offering a diminishing resistance to movement of said valve as the valve opens.

12. In a carbureter, the combination with suitable carbureting instrumentalities, of a pivoted vacuum-regulating valve, a crank on the valve-spindle, and a lever having a curved end engaging said spindle-crank and tending to close said valve, whereby a diminishing resistance is offered to movement of the valve as the valve opens.

13. In a carbureter, the combination with suitable carbureting instrumentalities, of a pivoted vacuum-regulating valve, a spring-lever tending to close said valve, a crank on the valve-spindle having a roller to engage the forward end of said lever, and means to maintain said lever and crank-roller always in contact.

14. In a carbureter, the combination with suitable carbureting instrumentalities, of a pivoted vacuum-regulating valve, a spring-lever tending to close said valve, means for regulating the tension of said lever, a crank on the valve-spindle having a roller to engage the forward end of said lever, and a spring to maintain said lever and crank-roller always in contact.

15. In a carbureter, the combination with a vacuum-chamber, of an oil-delivery nozzle therein, and an air-inlet vacuum-regulating valve which opens with a constantly-decreasing resistance to opening movement; whereby a diminishing resistance to the inlet of air as the valve opens occurs.

16. In a carbureter, the combination with a vacuum-chamber, of an oil-delivery nozzle therein, an air-inlet chamber, an air-inlet vacuum-regulating valve in said air-chamber, and means tending to close said valve which offer a diminishing resistance to its movement as the valve opens.

17. In a carbureter, the combination with a vacuum-chamber, of an oil-delivery nozzle therein, a valve controlling said nozzle, an air-inlet chamber, an air-inlet vacuum-regulating valve in said air-chamber, and means tending to close said valve which offer a diminishing resistance to its movement as the valve opens.

18. In a carbureter, the combination with a vacuum-chamber, of an oil-delivery nozzle therein, a valve adjustable from the outside of the vacuum-chamber for controlling said nozzle, an air-inlet chamber, an air-inlet vacuum-regulating valve in said air-chamber, and means tending to close said valve which offer a diminishing resistance to its movement as the valve opens.

19. In a carbureter, the combination with a vacuum-chamber, of an oil-delivery nozzle

