C. H. STAGE.

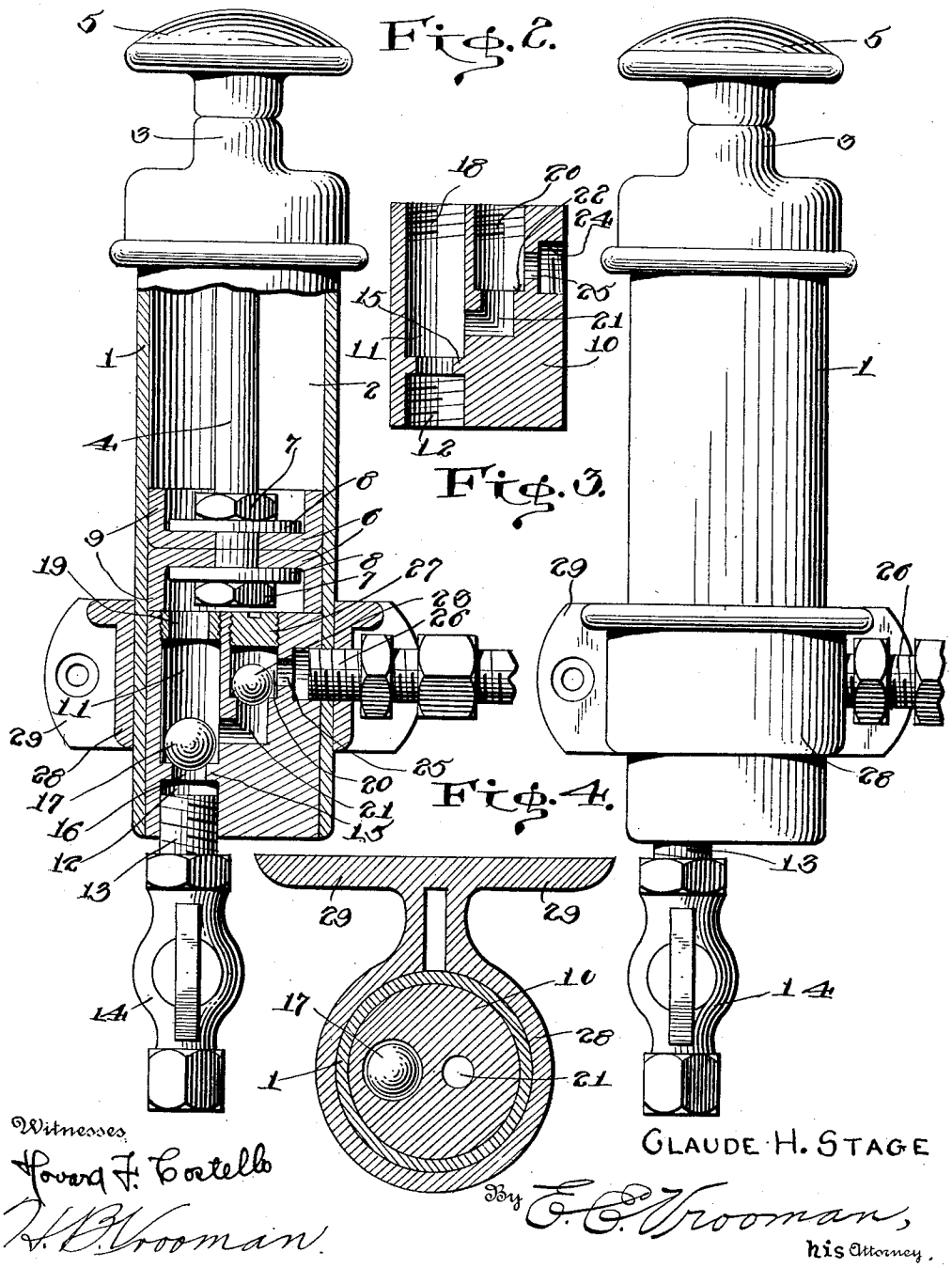
PUMP.

APPLICATION FILED NOV. 15, 1913.

1,118,963.

Patented Dec. 1, 1914.

Fig. 1.



Witnesses.

Howard F. Costello

F. B. Crooman.

GLAUDE H. STAGE

By E. C. Crooman,

his Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CLAUDE H. STAGE, OF ANDERSON, INDIANA.

PUMP.

1,118,963. Specification of Letters Patent. Patented Dec. 1, 1914.

Application filed November 15, 1913. Serial No. 801,211.

To all whom it may concern:

Be it known that I, CLAUDE H. STAGE, a citizen of the United States of America, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a motor starter and has for its object the production of an efficient means whereby the gasolene may be drawn from the storage tank and forced into the intake manifold for starting the engine.

Another object of the invention is the production of a valve plug for the casing whereby gasolene may be forced therethrough into the intake manifold without danger of the gasolene flowing back to the valve mechanism.

With these and other objects in view this invention consists of certain novel combinations, constructions, and arrangements of parts as will be hereinafter fully described and claimed.

In the accompanying drawing:—Figure 1 is a side elevation of the motor starter. Fig. 2 is a central vertical section of the same. Fig. 3 is a vertical section taken through the valve plug. Fig. 4 is a transverse sectional view taken through the casing, valve-plug and supporting band.

Referring to the accompanying drawing by numerals 1 designates the casing which is elongated and cylindrical having a central bore 2 formed therein. The upper portion of this casing 1 is provided with a reduced neck 3 wherethrough passes the stem 4 of the plunger. This stem 4 is provided with an enlarged head 5, whereby the stem may be reciprocated when desired. Leather washers 6 are held in position upon the lower end of the stem 4 by means of the retaining nuts 7 and washers 8. The outer edges of the leather washers 6 are bent at right angles to the body portions as disclosed at 9 so as to allow the leather washers to firmly engage the inner side portions of the casing 1. It will be seen that as the stem 4 is reciprocated by means of the head 5, the leather washers 6 will cause a suction in the lower portion of the casing 1 for drawing the gasolene into the same or will compress the same for expelling it as desired.

In order to close the lower end of the casing 1 there is provided a valve plug 10 having an intake opening 11 formed upon or adjacent one side portion. This intake opening 11 is provided with the threaded lower end 12 which receives the neck 13 of the valve 14. An integral shoulder 15 having a central opening 16 is formed within the entrance opening 11, and this shoulder 15 is adapted to carry the ball 17 for forming a valve closure for its entrance opening. In order to retain this ball 17 the upper end of the entrance opening is threaded as disclosed at 18 for carrying a removable collar 19. It will be seen that as the stem 4 is moved upwardly within the casing the washers 6 will cause a suction through the entrance opening 11 which will cause the ball 17 to be removed from the shoulder 15 at which time the gasolene or other combustible goods will be drawn through the valve 14 and into the bore 2 of the casing 1. This plug 10 is also provided with a discharge pocket 20 which communicates with the entrance opening 11 by means of the angular passage 21. This passage 21 is reduced so as to form a supporting shoulder 22 upon which the secondary ball 23 normally rests. A threaded pocket 24 communicates with the discharge pocket 20 by means of the aperture 25. A pipe 26 is adapted to be threaded into engagement with the plug 10 by means of the pocket 24. A solid closure plug 27 is threaded into engagement with the upper end of the discharge pocket 20 for preventing the secondary ball 23 from being forced from this discharge pocket when pressure is brought to bear thereon.

When this device is in use it normally assumes the position illustrated clearly in Fig. 2. By moving the stem 4 upwardly by means of the head 5, the washer 6 will cause a suction within the casing 1. As the ball 17 is lifted from the shoulder 15 by force of the suction, the gasolene will pass through the opening 11 and into the interior of the casing 1. During this operation the secondary ball 23 will be firmly held upon the shoulder 22. For the purpose of forcing the gasolene contained within the casing 1 into the intake manifold and cylinders of the engine, the plunger is then moved downwardly, thereby forcing the ball 17 upon the shoulder 16 and in this manner closing the valve of the entrance opening. As the gasolene cannot escape through the lower end of

the entrance opening it will pass through the angular passage 21 and lift the secondary ball 23 into the upper end of the discharge pocket 20. By the force of the compression upon the gasolene it will be forced from the discharge pocket 20 through the aperture 25 and into the pipe 26 and then to the cylinder of the engine.

From the foregoing description it will be seen that a simple device has been produced for forcing the gasolene into the cylinder of the engine under pressure thereby causing the gasolene to be thoroughly circulated about the interior of the engine cylinder for causing a sure explosion and also to prevent any danger of the gasolene from flowing backwardly through the valve mechanism into the supply tank. It will also be seen that a band 28 is positioned upon the outer portion of the casing 1, and this band 28 is provided with the laterally extending feet 29, whereby the same may be attached to a support for efficiently holding the motor starter in position.

Having thus described the invention, what is claimed as new, is:—

1. A pump comprising a hollow cylindrical casing, a slidable plunger carried thereby, a valve plug positioned within the lower end of said casing, said valve plug provided with an entrance opening extending therethrough, an integral collar formed in said entrance opening, a detachable collar carried within the upper end of said entrance opening, a ball closure positioned within said entrance opening for forming a valve for said entrance opening, a discharge pocket formed in said valve plug, said valve plug provided with an angular passage connecting said discharge pocket to said entrance opening, said angular passage being reduced to form an integral shoulder within said discharge pocket, a secondary closure ball normally resting upon said last mentioned shoulder, said valve plug also provided with a side aperture communicating with said discharge pocket for allowing the explosive liquid to be forced therefrom, and means positioned within the upper end of said discharge pocket for holding said secondary ball therein.

2. A pump comprising a hollow cylindrical casing, a slidable plunger carried thereby, a valve plug positioned within the lower end of said casing, said valve plug provided with an entrance opening extending therethrough and with a discharge pocket formed adjacent said entrance opening, said valve plug also provided with an angular passage connecting said discharge pocket to said entrance opening, said entrance opening and said discharge pocket provided with integral shoulders formed therein, balls positioned within said entrance opening and said discharge pocket and normally resting upon said shoulders for forming a valve closure for the lower portion of said entrance opening and said discharge pocket, said valve plug also provided with an aperture for allowing liquid to be forced therefrom, a hollow detachable collar threaded into the upper end of said entrance opening whereby said ball within said entrance opening will be prevented from accidental removal, a solid closure plug threaded within the upper end of said discharge pocket for retaining said ball within said discharge pocket, said collar and said closure plug adapted to be removed for cleaning and repairing the interior of said valve plug when desired.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

CLAUDE H. STAGE.

Witnesses:
MARCELLUS A. CHIPMAN,
SAMUEL E. JOHNSON.

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