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B. V. DE SUTTER.

GOVERNOR BLOCK AND OIL RECEPTACLE FOR EXPLOSIVE ENGINES.

APPLICATION FILED JULY 23, 1903.

NO MODEL.

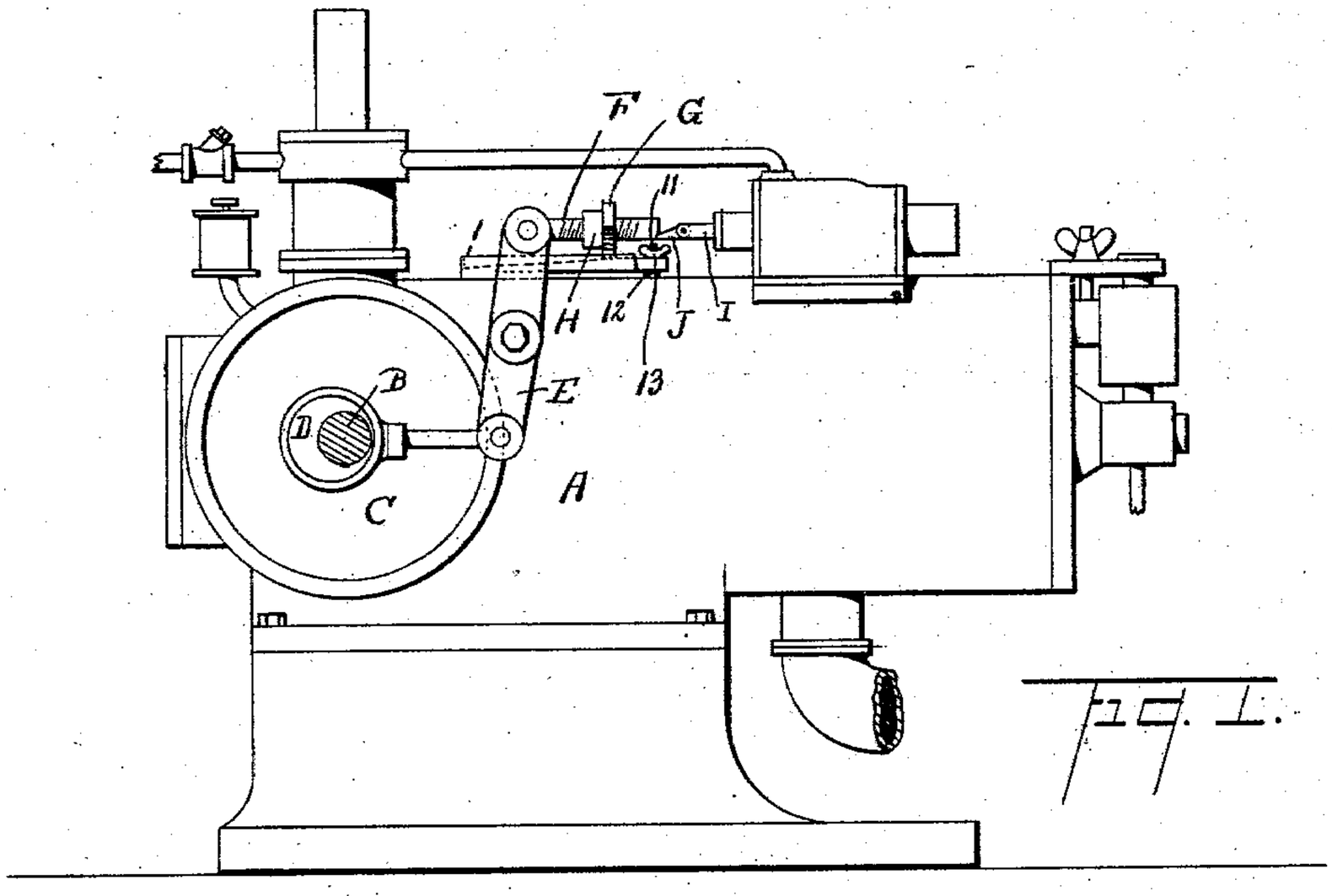

FIG. 1.

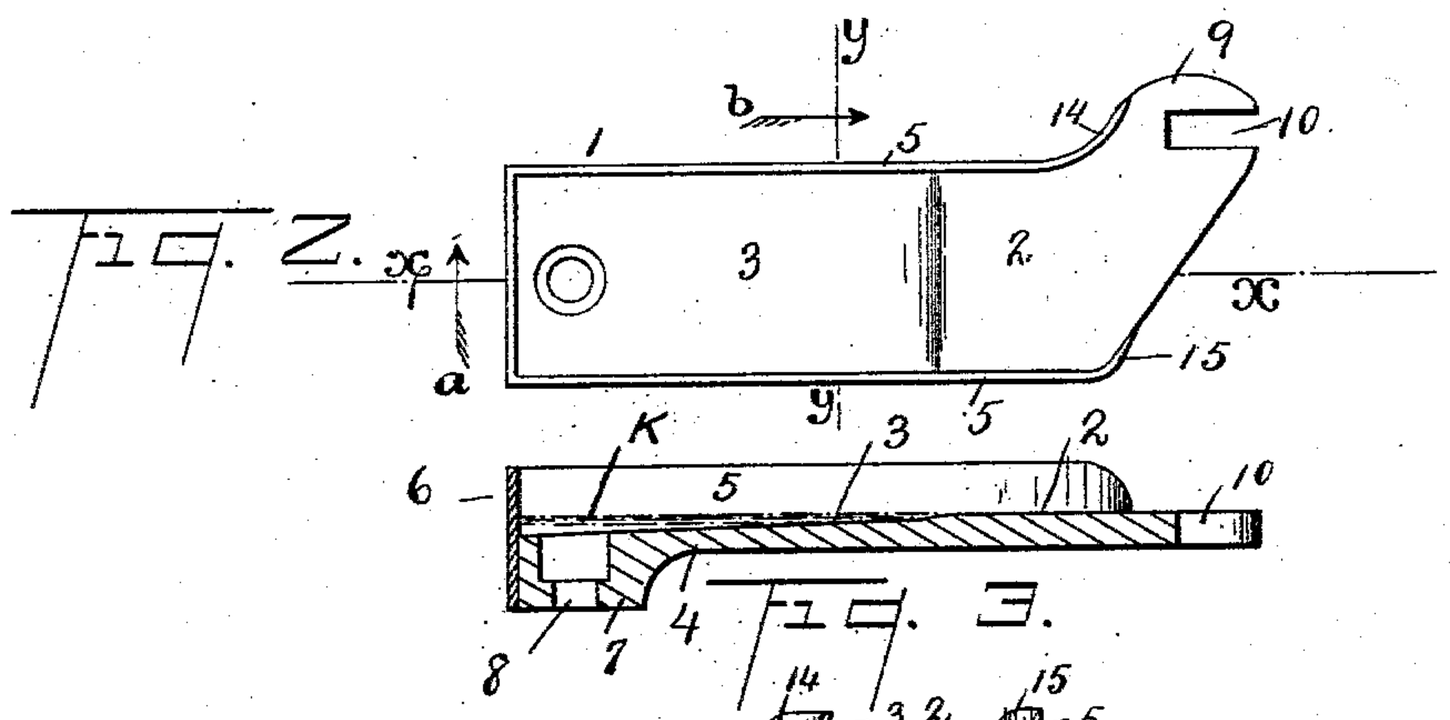

FIG. 2.

FIG. 3.

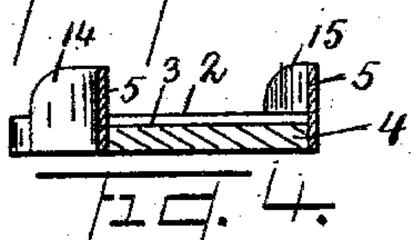

FIG. 4.

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No. 743,977. Patented November 10, 1903.

UNITED STATES PATENT OFFICE.

BERNARD VITAL DE SUTTER, OF NEW YORK, N. Y.

GOVERNOR-BLOCK AND OIL-RECEPTACLE FOR EXPLOSIVE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 743,977, dated November 10, 1903.

Application filed July 23, 1903. Serial No. 166,704. (No model.)

To all whom it may concern:

Be it known that I, BERNARD VITAL DE SUTTER, a citizen of the United States, residing in the borough of Brooklyn, city of New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Governor-Blocks and Oil-Receptacles for Explosive-Engines, of which the following is a specification.

The object of this invention is to provide explosive-engines with a new and improved form of self-lubricating governor-action of an extremely simple and cheap form of construction.

This invention relates to the type of explosive-engines wherein a governor-rod is held stationary and a similar rod abutting against the end thereof is reciprocated up and down an inclined plane surface, merging into a horizontal plane surface in such manner that when the speed of the engine is great there will be no contact of the governor and valve rods, for the reason that the governor-rod will continue its movement in the plane of the incline and that when the speed of the motor is slow there will be contact, for the reason that the last portion of the movement of the valve-rod will be in the plane of the horizontal surface portion of the governor-slide.

Said invention is fully shown and described in the following specification, of which the accompanying drawings form a part, wherein similar letters or numerals of reference designate like or equivalent parts wherever found throughout the several views, and in which—

Figure 1 is a side view in elevation of an explosive engine or motor provided with my improved governor-block and oil-receptacle for explosive-engines. Fig. 2 is a top plan view of such oil-receptacle, on an enlarged scale, detached from the engine. Fig. 3 is a view of such block in central longitudinal section on the line *x x* of Fig. 2 looking in the direction of the arrow *a*, and Fig. 4 is a view thereof in cross-section on the line *y y* of Fig. 2 looking in the direction of the arrow *b*.

Referring to the drawings, the reference-letter A designates the cylinder; B, the main or crank shaft; D, the governor-eccentric, secured to the main shaft D in the usual manner and in actuating connection with the pivoted governor-lever E by a pivot-joint, so as to vibrate the same.

To the upper end of the lever E is loosely pivoted, so as to be capable of free and easy vertical vibration, a reciprocating governor-rod F, having a screw-thread upon which is screwed a slide-nut G, held against accidental displacement by a lock-nut H. When thrown forward in a horizontal plane, the end of the governor-rod F abuts against the end of a pivoted dog J, secured to the outer end of the inlet-valve rod I of the engine or motor in such manner as to force the rod I backward, so as to open the valve and permit of the entrance of a new charge of explosive material to the explosion-chamber of the motor; but when the movement of the rod F is at an angle to the vertical the end of such rod F passes over the end of the dog J and there is no movement of the valve-rod I. This variable movement of the governor-rod F is determined by the speed at which it is reciprocated up the inclined rear portion 3 of the upper surface or face of the combined governor-block and oil-receptacle 1 of my improved form and also to a certain extent by the position of the slide-nut G upon the rod, the end of the rod F coming in contact with the dog J, so as to push back the valve-rod I, so as to open the inlet-valve only when the movement of the governor-rod F is so slow that the nut G will be held by gravity down upon the forward horizontal upper surface or face portion 2 of the aforesaid governor-block or oil-receptacle. Such combined governor-block and oil-receptacle 1 is usually of the adjustable form shown, consisting of a bottom plate 4, having the upper rear surface portion 3 inclined at an angle to the forward portion 2 and being closed at the sides and rear by side walls 5 and a rear end wall 6 and being also provided at the rear end with a bottom supporting-base 7, perforated at 8 to receive a securing-bolt and being open at the front end and provided at one side of the front end with a side neck or extension 9, provided with a slot 10 to receive a securing-bolt 11, having an under adjusting-nut 12 and an upper securing thumb-nut 13, by which the tilt of the block may be adjusted and varied,

the side walls 5 being usually curved, one outward, as shown at 14, and the other inward, as at 15, in order to better hold the lubricating-oil.

The operation of the device is as follows: The parts being in the position shown in Fig. 1, with the slide-nut G properly adjusted, so that one of the side surfaces thereof, which are usually six in number, such nut being usually of the hexagon form, rests upon the upper surface of the governor-block and oil-receptacle, as shown in dotted lines in Fig. 3, sufficient lubricating-oil K to fill the incline rear surface portion of the block up to about the level of the front horizontal surface 2 is then poured into the same, as shown in Fig. 3, and the device is ready for operation, and it will be seen that as the governor-rod F is reciprocated back and forth a splash lubrication of the slide-nut G and the front horizontal surface of the block will be brought about upon each reciprocative movement of the governor-rod and that there will be absolutely no waste of oil, as all the superfluous oil carried by the nut G upon the front surface 2 will drain back into the inclined bottom rear portion of the pan.

The device may be of one piece of metal or may consist of a bottom piece, and the side and end walls may be of one or more pieces of sheet metal soldered or otherwise secured thereto, as shown in Figs. 3 and 4.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, and a surrounding wall for preventing loss of the lubricating material, as set forth.

2. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, and a wall for either side of the block, as set forth.

3. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, and a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, as set forth.

4. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, and means for securing the block to a suitable support, as set forth.

5. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, and means at either end for securing the block to a suitable support, as set forth.

6. A movable governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, and a surrounding wall for preventing loss of the lubricating material, as set forth.

7. A removable governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, and a wall for either side of the block, as set forth.

8. A removable governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, as set forth.

9. A removable governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, and means for securing the block to a suitable support, as set forth.

10. A removable governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, and means at either end for securing the block to a suitable support, as set forth.

11. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, means for regulating the tilt of the block, and a surrounding wall for preventing loss of the lubricating material, as set forth.

12. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, means for regulating the tilt of the block, a wall for one end of the block, and a wall for either side of the block, as set forth.

13. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, means for regulating the tilt of the block, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, as set forth.

14. A governor-rod slide-block for explosion-engines, having two slide-surfaces at different angles merging together, means for regulating the tilt of the block, a wall for one end of the block, a wall for either side of the block, one of which curves inward and the other outward at the open end of the block, and means for securing the block to a suitable support, as set forth.

15. A removable governor-rod slide-block for explosion-engines, having two slide-sur-

faces at different angles merging together, means for regulating the tilt of the block, and a surrounding wall for preventing loss of the lubricating material, as set forth.

16. An adjustable governor-rod slide-block for explosion-engines having a wall for one end of the block, and a wall for either side of the block inclosing a horizontal front slide-surface and a rear slide-surface merging therewith and extending downward toward the rear, and a slotted side extension at the forward open end of the block adapted to receive a securing-bolt, as set forth.

17. An adjustable governor-rod slide-block for explosion-engines, having a horizontal front slide-surface and a rear slide-surface merging therewith and extending downward toward the rear and a slotted side extension at the forward end of the block adapted to receive a securing-bolt, as set forth.

In testimony whereof I have affixed my signature in the presence of two witnesses.

BERNARD VITAL DE SUTTER.

Witnesses:

WM. MCCLOSKEY,

OSCAR A. MICHEL.