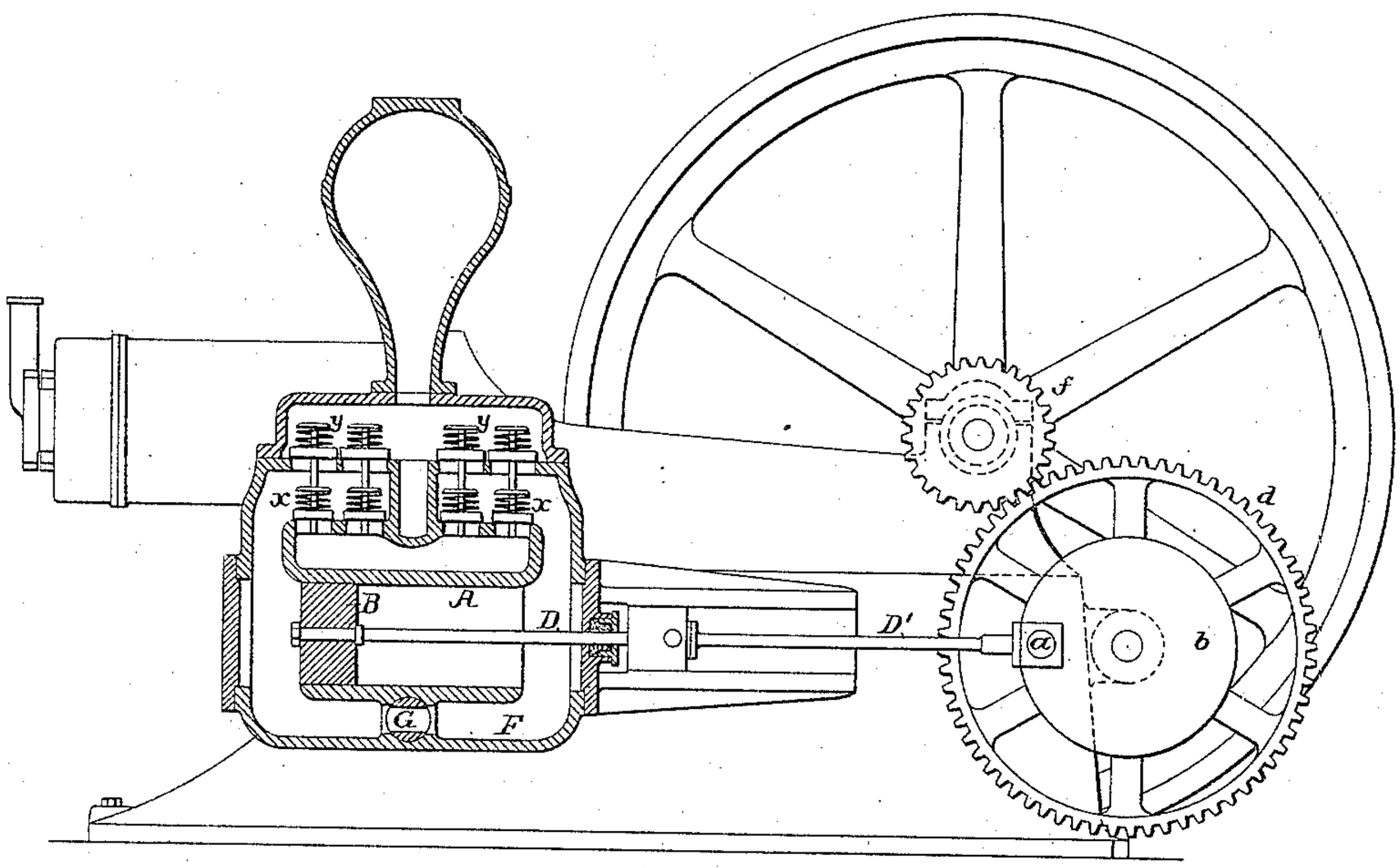
(No Model.)

A. W. SCHLEICHER.

COMBINED GAS ENGINE AND PUMP.

No. 314,727. Patented Mar. 31, 1885.



Witnesses.
Harry Smith
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UNITED STATES PATENT OFFICE.

ADOLPH W. SCHLEICHER, OF PHILADELPHIA, PENNSYLVANIA.

COMBINED GAS-ENGINE AND PUMP.

SPECIFICATION forming part of Letters Patent No. 314,727, dated March 31, 1885.

Application filed April 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH W. SCHLEICHER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Combined Gas-Engines and Pumps, of which the following is a specification.

My invention relates to combined gas-engines and pumps, the invention consisting in the combination of the engine with a pump having a valved connection between its opposite ends independent of the usual valve-chest, whereby the pump offers but little resistance to the movement of the engine when the latter is being started by hand, and the forcing of water can be discontinued, when desired, without stopping the engine.

When a gas-engine is used for running a pump to supply water for elevators or other purposes, the use of an ordinary pump is inadvisable, on account of the resistance which it offers to the movement of the engine when the latter is being started, an operation which must be performed by rotating the fly-wheel by hand for a few turns.

The figure in the accompanying drawing shows a side view of a gas-engine and a longitudinal section of a pump, and illustrates the combination forming the subject of my invention. The pump has the usual barrel, A, inlet and discharge valves *x* and *y*, piston B, and piston-rod D, the latter being connected by a rod, D′, to a crank-pin, *a*, on a disk, *b*, secured to or forming part of a spur-wheel, *d*, gearing into a pinion, *f*, on the engine-shaft. The gearing whereby the pump is driven from the shaft of the engine is simply shown as an example, and it may be modified as desired. Below the pump-barrel is a passage, F, which communicates with the opposite ends of said barrel, and has a transverse valve, G. When this valve is turned so as to obstruct the passage F, the pump works as usual; but when the valve is turned so as to open the passage the water flows directly from one end of the pump-barrel to the other and does not pass the valves. In starting the engine, therefore, the valve is adjusted so as to open the passage F and permit the operation of the pump with but little effort, the valve being turned so as to close the passage and throw the pump into effective action as soon as the engine is running. The valved passage F is also an advantage in cases where it is desired to stop the forcing of water by the pump without stopping the engine, as in such cases the valve may be turned so as to open the passage.

I do not claim, broadly, a pump having a valved passage, as such pumps have been heretofore used, but not in the same connection or for the same purpose as in my invention; hence

I claim as my invention—

1. The combination of a gas-engine with a pump connected to and driven thereby and having between its opposite ends a passage independent of the valve-chest and a valve for opening or closing said passage, as and for the purpose set forth.

2. The combination of a gas-engine, a pump having between its opposite ends a passage independent of the valve-chest, a valve for opening or closing said passage, and gearing whereby the piston of the pump is driven from the shaft of the gas-engine, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

A. W. SCHLEICHER.

Witnesses:

JOHN M. CLAYTON,

HARRY SMITH.