

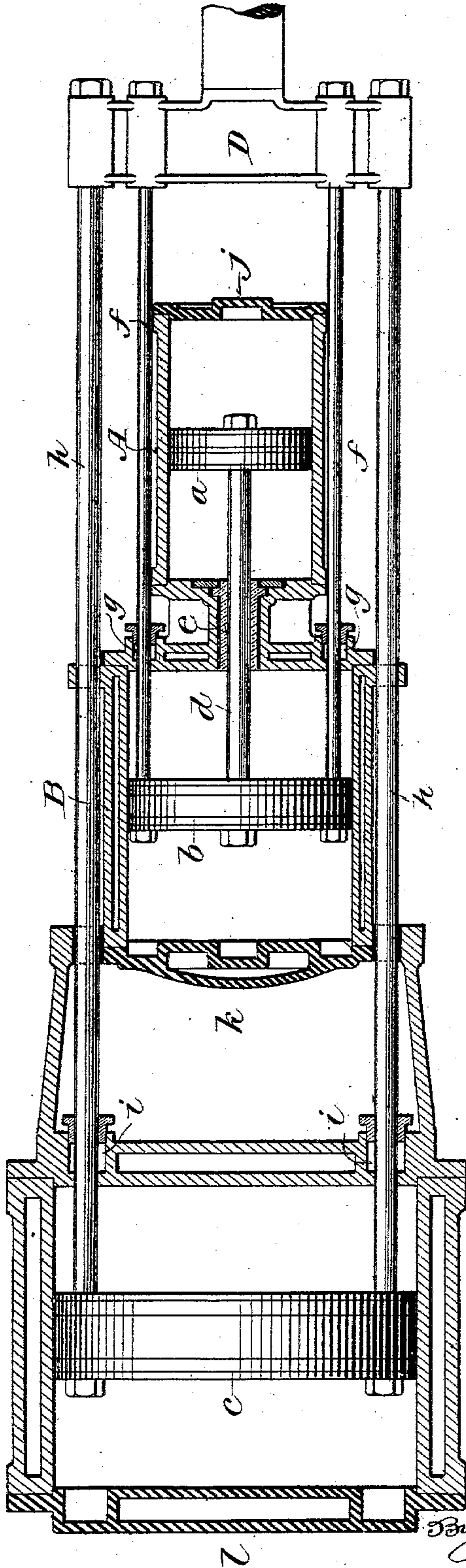
No. 751,996.

PATENTED FEB. 9, 1904.

F. M. PRESCOTT.  
MULTIPLE EXPANSION ENGINE.

APPLICATION FILED OCT. 16, 1902.

NO MODEL.



Witnesses:  
Geo. W. Young,  
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# UNITED STATES PATENT OFFICE.

FREDERICK M. PRESCOTT, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO  
FRED M. PRESCOTT STEAM PUMP COMPANY, OF WEST ALLIS, WIS-  
CONSIN, A CORPORATION OF WISCONSIN.

## MULTIPLE-EXPANSION ENGINE.

SPECIFICATION forming part of Letters Patent No. 751,996, dated February 9, 1904.

Application filed October 16, 1902. Serial No. 127,581. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK M. PRESCOTT, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Multiple-Expansion Engines, of which the following is a specification, reference being had to the accompanying drawing, forming a part thereof.

This invention relates particularly to triple-expansion engines in which the cylinders are arranged in tandem or end to end in line with each other.

The main object of the invention is to provide for easy access to the several cylinders and for the removal of the pistons and piston-rods without detaching or displacing any of the several cylinders.

It consists in certain novel features of construction and in the peculiar arrangement and combination of parts hereinafter particularly described, and pointed out in the claim.

The accompanying drawing is a central longitudinal section of a triple-expansion engine embodying the invention.

A, B, and C designate the high, intermediate, and low pressure cylinders, respectively, which are arranged end to end in line with each other, and *a*, *b*, and *c* are the pistons fitted in said cylinders. The high-pressure cylinder A is located next to the cross-head D, and the low-pressure cylinder farthest from it. A space is left between the intermediate and low pressure cylinders A and B sufficient for the removal of the rear head and the piston *b* of the intermediate cylinder.

The high-pressure and intermediate pistons *a* and *b* are connected with each other by a single central rod *d*, passing through a sleeve or bushing *e* in the intervening heads of the intermediate and high pressure cylinders. The intermediate piston *b* is connected with the cross-head D by side rods *f f*, passing out-

side of the high-pressure cylinder through stuffing-boxes *g g* in the front head of the intermediate cylinder. The low-pressure piston *c* is connected with the cross-head D by side rods *h h*, passing through stuffing-boxes *i i* in the front head of the low-pressure cylinder and outside of the intermediate and high pressure cylinders.

The front head *j* of the high-pressure cylinder and the rear heads *k* and *l* of the intermediate and low pressure cylinders are detachable and removable, affording easy access to the several cylinders and means for readily withdrawing therefrom any of the several pistons without detaching or displacing any of the cylinders. The several pistons are secured to the piston-rods by nuts or other means accessible through the ends of the cylinders to which the removable heads are attached.

I claim—

In a multiple-expansion engine the combination of high, intermediate and low pressure cylinders arranged end to end in line with each other, a space being left between the intermediate and low pressure cylinders, pistons fitted in said cylinders, a rod connecting the intermediate piston with the high-pressure piston, a cross-head, side rods passing outside of the high-pressure cylinder and connecting the intermediate piston with said cross-head, and side rods passing outside of the intermediate and high pressure cylinders and connecting the low-pressure piston with said cross-head, the front head of the high-pressure cylinder and the rear heads of the intermediate and low pressure cylinders being removable, substantially as described.

In witness whereof I hereto affix my signature in presence of two witnesses.

FREDERICK M. PRESCOTT.

Witnesses:

CHAS. L. GOSS,

JOSEPH F. KAMINSKY.