

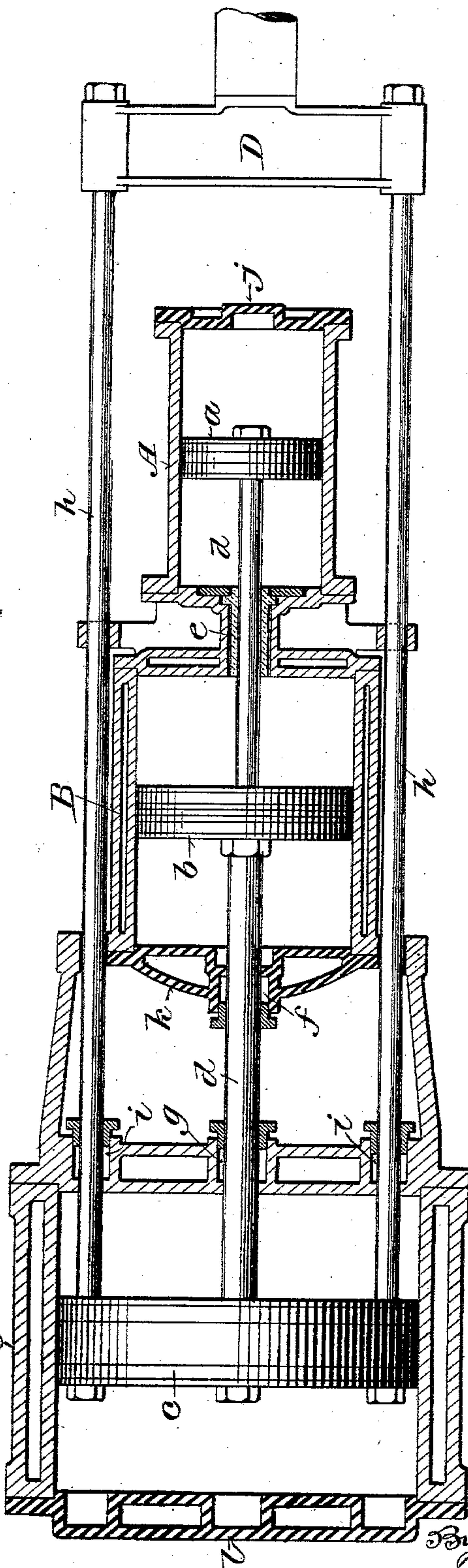
No. 751,995.

PATENTED FEB. 9, 1904.

F. M. PRESCOTT.
MULTIPLE EXPANSION ENGINE.

APPLICATION FILED OCT. 18, 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, WISCONSIN, A CORPORATION OF WISCONSIN.

MULTIPLE-EXPANSION ENGINE.

SPECIFICATION forming part of Letters Patent No. 751,995, dated February 9, 1904.

Application filed October 16, 1902. Serial No. 127,580. (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 end to end in line with each other.

The main object of the invention is to facilitate access to and removal of the pistons and piston-rods without detaching or removing either of the several cylinders.

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

The accompanying drawing is an axial section of a triple-expansion tandem-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 placed next to the cross-head D and the low-pressure cylinder farthest from it. A space is provided between the intermediate and low pressure cylinders B and C for the removal of the intermediate piston *b*, as hereinafter explained.

The several pistons *a*, *b*, and *c* are connected with each other by a single rod *d*, passing through a sleeve or bushing *e* between the intermediate and high pressure cylinders and through stuffing-boxes *f* and *g* in the rear head of the intermediate cylinder and the front head of the low-pressure cylinder. The low-pressure piston *c* is connected with the cross-

head D by side rods *h h*, passing outside of the intermediate and high pressure cylinders through stuffing-boxes *i i* in the front head of the low-pressure cylinder.

The front head *j* of the high-pressure cylinder A, the rear head *k* of the intermediate cylinder B, and the rear head *l* of the low-pressure cylinder C are removable and afford means of ready access to the several cylinders and pistons without the necessity of detaching the cylinders from each other or from the engine-bed.

The piston-rod *d* may be made in one or two parts, the section between the intermediate and low pressure pistons being preferably of larger diameter, as shown. It can be withdrawn from the engine through the low-pressure cylinder by detaching the pistons *a* and *b* and the rear head *l* of the low-pressure cylinder, the rods *h h* being detached from the piston *c* or from the cross-head D.

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 several pistons with each other, a cross-head and side rods passing outside of the high pressure and intermediate 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,
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