No. 776,310.

PATENTED NOV. 29, 1904.

J. P. FINLEY.

STEAM CYLINDER.

APPLICATION FILED SEPT. 10, 1904.

NO MODEL.

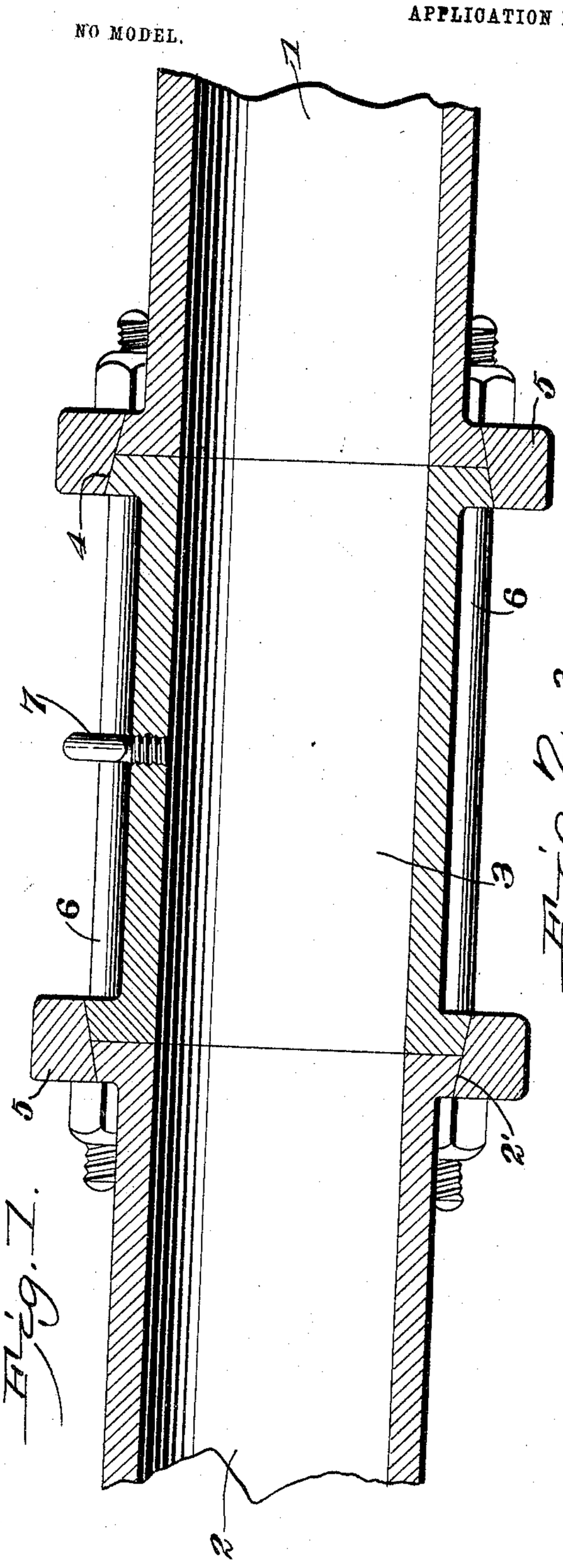

Fig. 1.

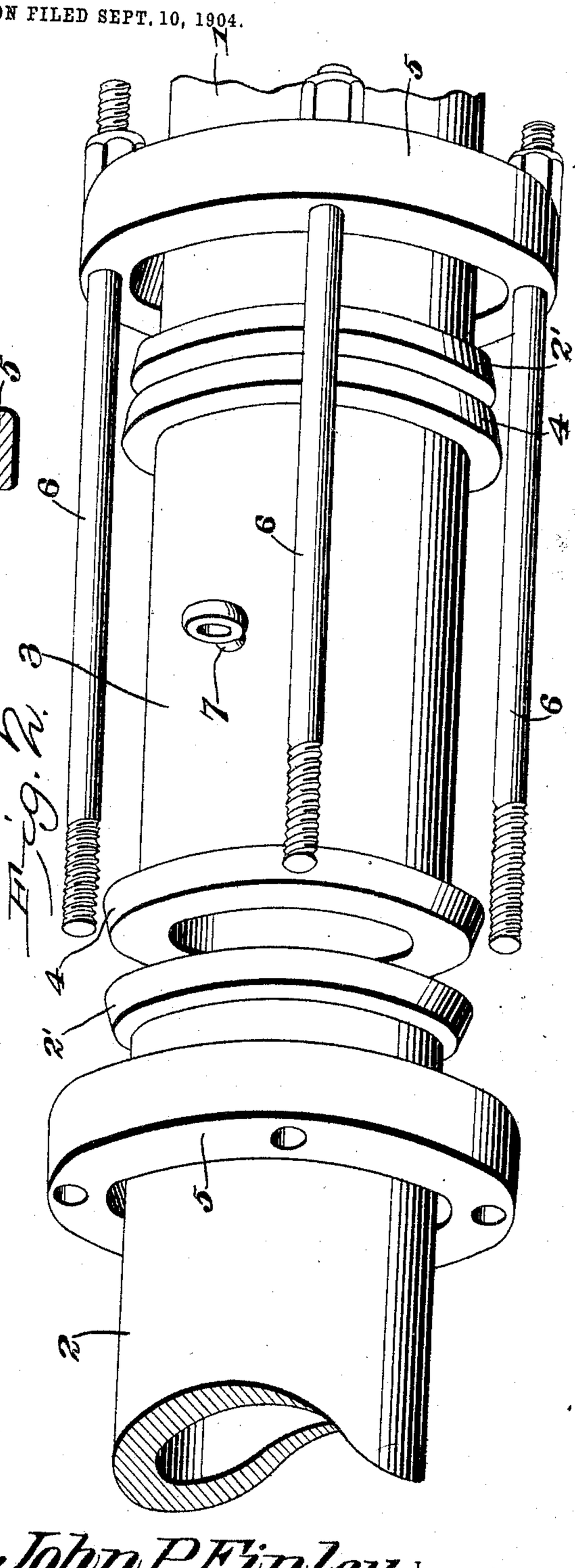

Fig. 2.

Witnesses

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No. 776,310. Patented November 29, 1904.

UNITED STATES PATENT OFFICE.

JOHN PARNELLE FINLEY, OF VINTON, LOUISIANA.

STEAM-CYLINDER.

SPECIFICATION forming part of Letters Patent No. 776,310, dated November 29, 1904.

Application filed September 10, 1904. Serial No. 224,015. (No model.)

To all whom it may concern:

Be it known that I, JOHN PARNELLE FINLEY, a citizen of the United States, residing at Vinton, in the parish of Calcasieu and State of Louisiana, have invented a new and useful Steam-Cylinder, of which the following is a specification.

This invention relates to steam-cylinders, and especially to steam-cylinders of that class employed for operating sawmill-carriages and similar devices. These cylinders are usually very long and of comparatively small diameter, and owing to the difficulty of renewing the piston-packing the mechanism is frequently neglected until it becomes inoperative.

The principal object of the present invention is to provide a sectional cylinder of such nature that a portion of the length of the cylinder may be detached in order to expose the piston and renew the packing when necessary or if occasion requires to remove the entire piston from the rod and replace it by a new one.

A further object of the invention is to provide a cylinder having a removable section disposed at a point intermediate of its length and so arranged and connected as to be perfectly steam-tight and yet permit of ready removal without endwise movement of the remaining portions of the cylinder.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a longitudinal section elevation of a steam-cylinder constructed in accordance with the invention. Fig. 2 is a detail perspective view of portions of the cylinder detached.

Similar numerals of reference are employed to indicate corresponding parts throughout both figures of the drawings.

The steam-feeding devices employed for sawmill-carriages and like devices necessitate the use of cylinders of extreme length and comparatively small diameter, said cylinders being usually formed of a number of lengths, each from four to six feet, coupled by male and female joints, so that under ordinary circumstances it becomes impossible to remove an intermediate section from the cylinder. The renewal of piston-packing involves the cessation of work for a considerable period of time and the withdrawal of the piston from the end of the long cylinder, the expenditure of time and labor being such that the devices are usually neglected until repairs become imperative. This neglect results in considerable waste of steam and uncertain operation of the device, especially where the carriage is heavily loaded.

In carrying out the present invention two of the sections 1 and 2 of the cylinder are provided with end flanges 2, having a tapered periphery. These sections are separated from each other for a distance at least equal to the length of the piston, and they are coupled together by an intermediate removable section 3, the latter being of the same diameter as the remaining portion of the cylinder and having at each end a flange 4, having its periphery tapered at an angle corresponding to that of the flanges 2. When the removable section 3 has been placed in position, rings 5 are slid over the meeting flanges, each ring having a tapered inner face corresponding to the tapering flanges 2 and 4, and the two rings are then drawn together by bolts 6, forming a perfectly tight joint.

Should it be necessary to repair the piston or renew the packing, the bolts 6 and rings 5 are separated. This leaves the intermediate section 3 free, and it may be forced out by a suitable tackle connected to a ring 7, that is attached to the section 3 for the purpose. The piston is then moved endwise through the remaining portion of the cylinder until its periphery is exposed and the packing renewed or the necessary repairs made, after which the piston is returned to position and the section 3 is replaced and bolted in position.

With a device of this character it is possible to readily repair any damage or to remove the whole of the piston if necessary.

Having thus described the invention, what is claimed is—

A steam-cylinder formed of a plurality of sections having abutting flanges, an intermediate flanged section being removable in a direction transversely of the cylinder, the flanges of said intermediate section being tapered in opposite directions, respectively, and the flanges of the adjacent sections being tapered on lines corresponding to the taper of the flanges against which they abut, a pair of rings having tapered inner faces fitting over the tapered flanges, and coupling-bolts for drawing the rings together thereby simultaneously tightening both rings and drawing the outer sections closely together against the intermediate section.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN PARNELLE FINLEY.

Witnesses:
A. F. LYONS,
W. L. OLIVER.