

**No. 648,079.**

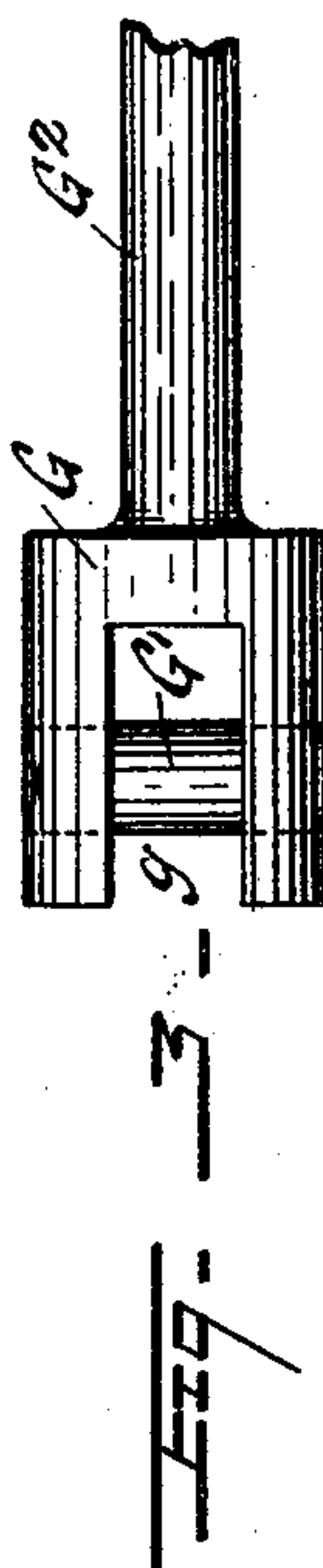
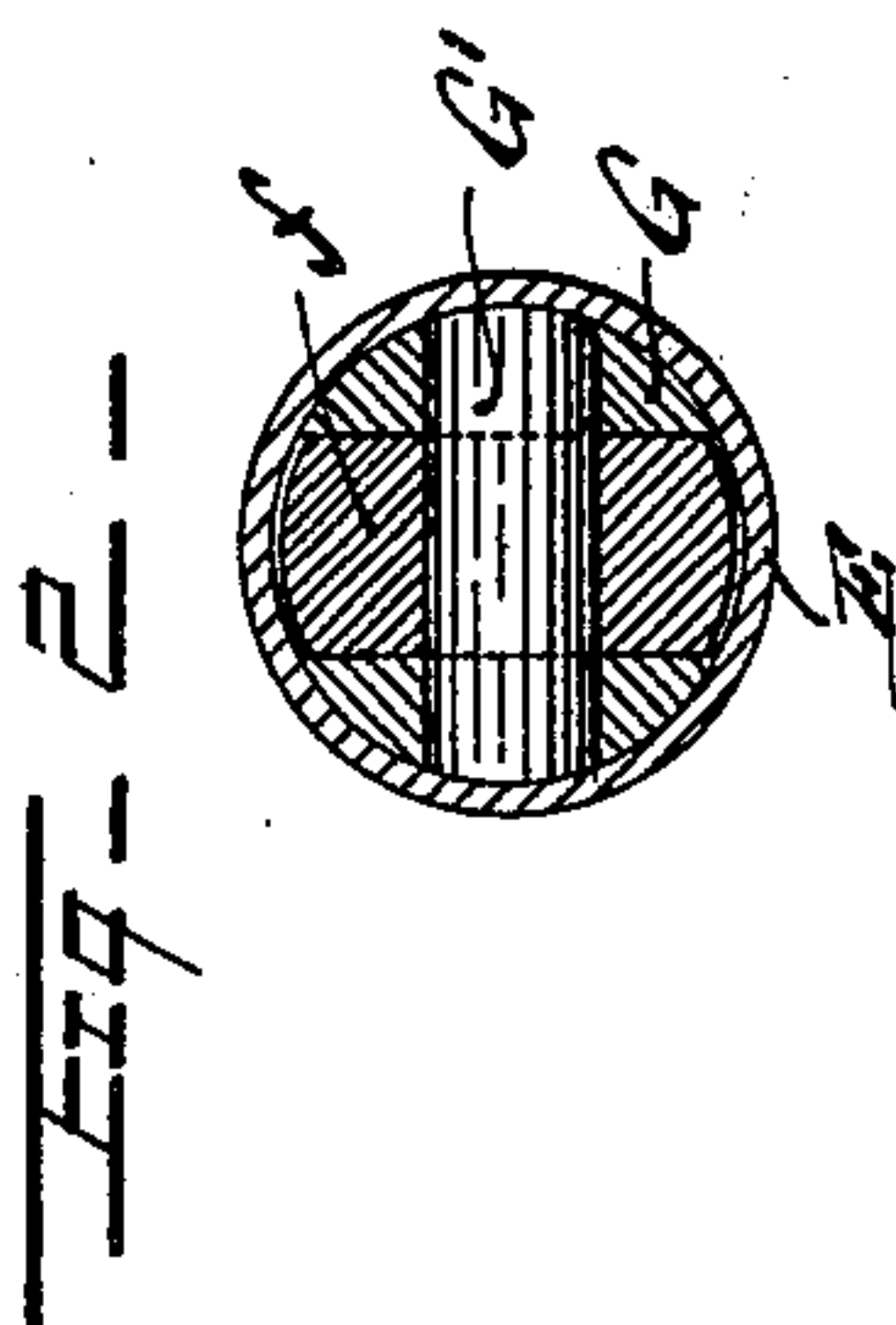
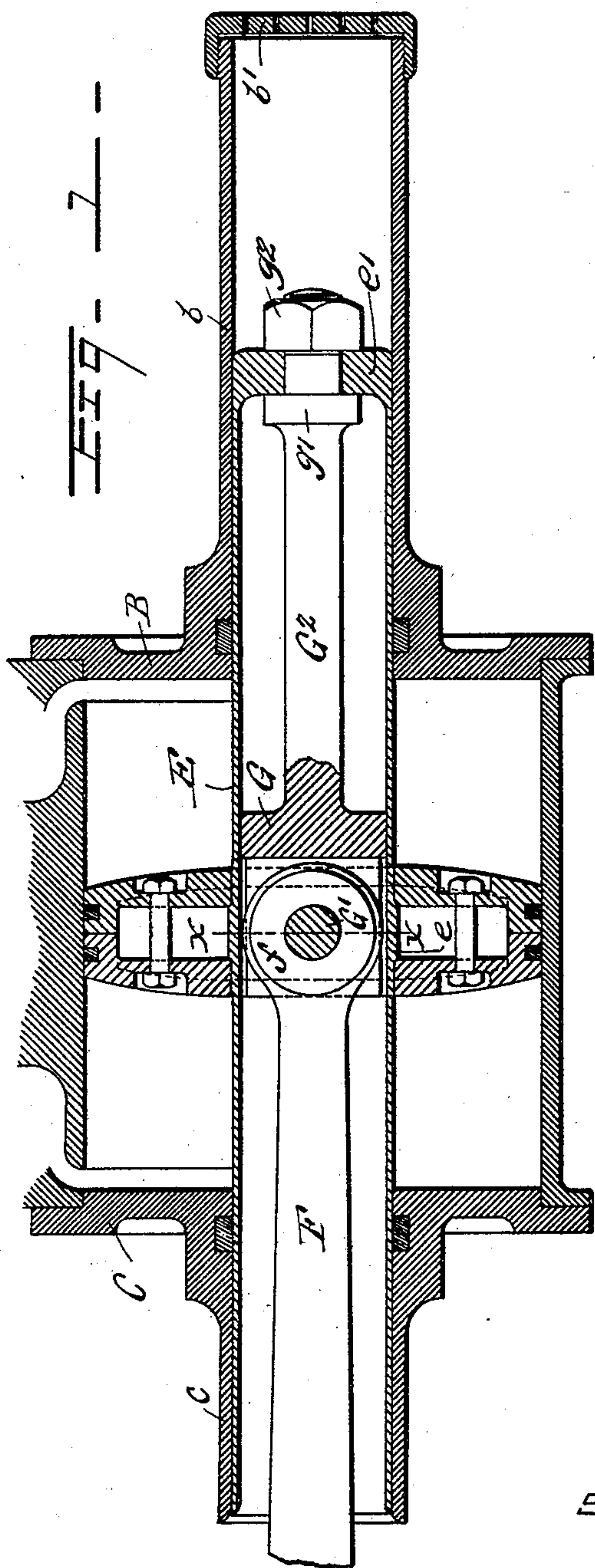
**Patented Apr. 24, 1900.**

**S. F. PRINCE, JR.**

**TRUNK ENGINE.**

(Application filed Feb. 23, 1900.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

SAMUEL F. PRINCE, JR., OF READING, PENNSYLVANIA.

## TRUNK-ENGINE.

SPECIFICATION forming part of Letters Patent No. 648,079, dated April 24, 1900.

Application filed February 23, 1900. Serial No. 6,164. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL F. PRINCE, Jr., a citizen of the United States of America, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Trunk-Engines, of which the following is a specification.

My invention relates particularly to trunk-engines; and it consists in certain improvements in the construction of the trunk-piston, whereby a more convenient and satisfactory connection of the piston-rod thereto is provided for.

The invention is fully described in connection with the accompanying drawings and is specifically pointed out in the claims.

Figure 1 is a longitudinal sectional view showing my improvements as preferably applied to an ordinary engine-cylinder. Fig. 2 is a cross-section on the line  $x x$  of Fig. 1. Fig. 3 is a separate view of the pitman coupling-head which forms a part of my improved trunk-piston.

A represents the engine-cylinder, which is provided with front and rear heads B and C, each of which, as shown, is provided with stuffing-boxes having cylindrical extensions  $b$  and  $c$ , respectively, which serve as guides for the extended piston-trunk hereinafter described.

The piston D is preferably formed in halves, each of which is sprung upon opposite ends of the trunk E and bolted together against an intermediate collar or shoulder  $e$  on the latter, thus forming a rigid connection. The oppositely-projecting ends of the trunk pass through the cylinder-heads B and C, respectively, into the guides  $b$  and  $c$ , the rear end being open and adapted to permit the free vibration of the pitman F, which may have its outer end connected, for instance, to a rock-arm, as indicated in Patent No. 480,781, issued to me August 16, 1892. The inner end  $f$  of the pitman is pivotally secured to a separately-formed coupling-head G, which is shaped exteriorly to fit the bore of the trunk E and slotted at  $g$  to receive the said rod, to which it is connected by the pin  $G'$ . The

coupling-head is also provided with a projecting distance-rod  $G^2$ , which is rigidly secured to the perforated forward head  $e'$  of the trunk by means of a collar  $g'$  and exterior nut  $g^2$ , the length of said distance-rod being such as to locate the pivot-pin  $G'$  of the piston-rod in desired position within the trunk, preferably in the central plane of the piston, as shown.

The guide extension  $b$  of the front cylinder-head, as shown, is lengthened, so as to entirely inclose the piston-trunk in all positions of the latter and is closed by a perforated head  $b'$ . By removing the latter access may be had to the nut  $g^2$  for the purpose of disconnecting the coupling-head G from the trunk E, and thus permitting its removal from the latter with the pitman, which latter may thus be freed from the piston without disturbing the latter or the cylinder-heads. In addition to the great saving of time and trouble which this manner of connecting these parts effects, it also permits the connection to be made at the most advantageous point, thereby preventing undue friction and wear.

What I claim is—

1. The combination with the cylinder, of a piston having a trunk extending through both heads of the cylinder, and having a perforated head at one end, and a pitman coupling-head located midway in said trunk and having a distance-rod detachably secured to said perforated trunk-head.

2. The combination with the cylinder, of a piston having a trunk extending through both heads of the cylinder, and a pitman coupling-head located midway in said trunk and comprising a cylindrical jaw-head and pin, removably fitted to the trunk-bore, and a distance-rod extending from said jaw-head through the opposite head of the trunk and detachably secured to the latter.

Signed by me at Reading, Pennsylvania, this 17th day of February, 1900.

SAML. F. PRINCE, JR.

Witnesses:

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