(No Model.)

# J. A. OSGOOD & E. P. MONROE.

## Stuffing Box.

No. 234,326. Patented Nov. 9, 1880.

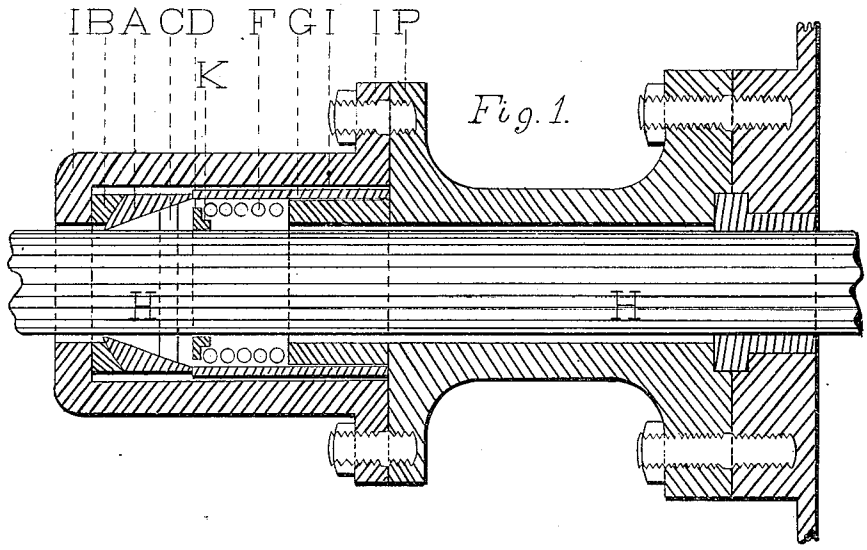



Fig. 1.

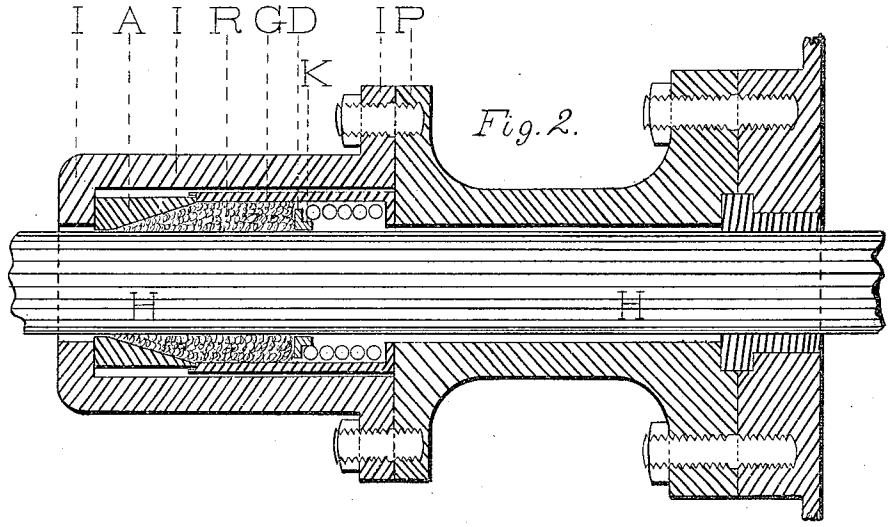



Fig. 2.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## STUFFING-BOX.

SPECIFICATION forming part of Letters Patent No. 234,326, dated November 9, 1880.

Application filed July 16, 1880. (No model.)

*To all whom it may concern:*

Be it known that we, JOSIAH A. OSGOOD, of Grantville, in the county of Norfolk, State of Massachusetts, and EDWIN P. MONROE, of New York, in the county and State of New York, citizens of the United States, have invented certain new and useful Improvements in Stuffing-Boxes for the Rods of Steam and other Engines, of which the following is a specification.

Our invention relates to certain improvements in packing devices for the rods of steam and other engines; and it consists of a device for containing the spring and follower or other devices used to hold the packing up to the rod, which device shall be free to follow any lateral deviations of the rod from its normal plane of motion, and at the same time serve as a check for the packing-receptacle.

The advantages of such a device embodying our invention are, that it both affords a chock or non-yielding support to prevent the packing-cup or other receptacle from being retracted by the rod, and at the same time allows to the devices which support or hold up the packing freedom to move with the rod in any lateral deviation from its normal path. It sometimes happens that the packing adheres to the packing-cup and the rod, in which case the manifest tendency of the cup is to be carried by the rod. If, however, the cup is met by a rigid or non-elastic chock while the packing is cushioned upon a spring or yielding bearing, this construction operates to free the packing from the cup and prevent the latter from being carried farther, while the packing is likewise enabled to give slightly, and thus free itself from the rod, which then passes clear. Again, it frequently happens that, owing to wear or lost motion or other imperfection in the parts of the machine which operate the rod, the latter is caused to depart or deviate laterally in some direction from its normal path or plane of motion. When this occurs it is obvious that if the packing and the devices which hold it are not at liberty to deviate with the rod the result will be a torsion or wrenching of the parts, which, by causing them to strike against and cut the rod, or in other ways, will give rise to serious evil in the operation of the parts. These two defects found in prior devices—namely, the pulling back of the cup and the twisting or wrenching of the packing-supporting devices—are obviated by the employment of devices in which our invention is embodied.

The drawings show various forms of construction embodying our improvements.

In Figure 1, A is a packing cup or receptacle, of a common form, between which and the inner surface of the end of the cap or cover I is shown a sliding ring or bearing, B, having a plane and a concave surface. This ring B, although possessing valuable features as a rocking bearing, is not essential to our improvements, but may be dispensed with, and the end of the packing-cup A itself may be made plane instead, to slide against the cap or cover.

C represents metallic packing of a well-known form within the packing-cup.

D is a follower, likewise of well-known form, made a loose fit for the interior of the sliding chock G, and resting upon the spring F. This spring F and follower D are preferably made of such dimensions that the interior of the spring fits snugly the neck or projection K of the follower, while the exterior likewise fits snugly the interior of the chock G. This chock G is a rigid hollow sliding chock between the packing-cup A and the steam-chest or cylinder-head P, or an extension thereof, and free to slide or move and follow the lateral deviations of the rod H. This sliding chock is shown as abutting loosely against the cup A, and this we consider, for various reasons of convenience of access to the parts, a preferable form; but it may be screwed to the cup A, or even may be formed integral therewith as a prolongation or extension of the wall of the cup.

Either of the three constructions will, it is obvious, preserve the essential features of a rigid sliding chock; but in any construction it will be found desirable that care should be taken in securing the devices to their place between the cap or cover I and the steam-chest wall or cylinder-head P to make a loose fit, not setting the parts too rigidly together. The chock G should be sufficiently smaller in exterior dimensions than the cap or cover I to move

freely in it, and of sufficient size on the inside to contain the spring F, follower D, and rod H. The depth of the chock G should be sufficiently great to give room for the spring F and follower D; but it may be constructed, as shown in Fig. 2, of a greater depth, the excess of space beyond the follower D being utilized as a chamber or magazine, from which the packing R may be fed forward round the rod to supply fresh packing in place of that gradually worn away by the rod.

Should it be desired to use this form of chock without the chamber or magazine it is obvious that this may be done by filling the space not needed for the spring and follower by a false bushing, as shown in Fig. 1, preferably made in pieces to facilitate removal.

If soft or fibrous packing is to be used care should be taken to make the follower D fit the rod closely, so as to serve as a movable bushing and keep the packing from being drawn through by the rod.

Lastly, the chock G may be provided interiorly with a projecting rim or shoulder forming a support or base for the spring, and this feature, though not essential to our invention, as above described, is valuable in that it serves to prevent the spring being, from any cause, forced through the opening into the steam-chest or cylinder-head P.

We claim—

1. In packing devices for valve or piston rods, the rigid or non-compressible laterally movable or sliding chock for supporting the packing-cup, substantially as set forth.

2. In combination, in a packing device for valve or piston rods, a rigid or non-compressible laterally movable or sliding chock, G, a spring, F, and follower D, substantially as set forth.

3. In combination, the rigid non-compressible laterally movable or sliding chock G, spring F, follower D, packing-cup A, and a packing.

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