(No Model.)

E. HEYDE.

SLIDE VALVE.

No. 521,653. Patented June 19, 1894.

Fig. 1.

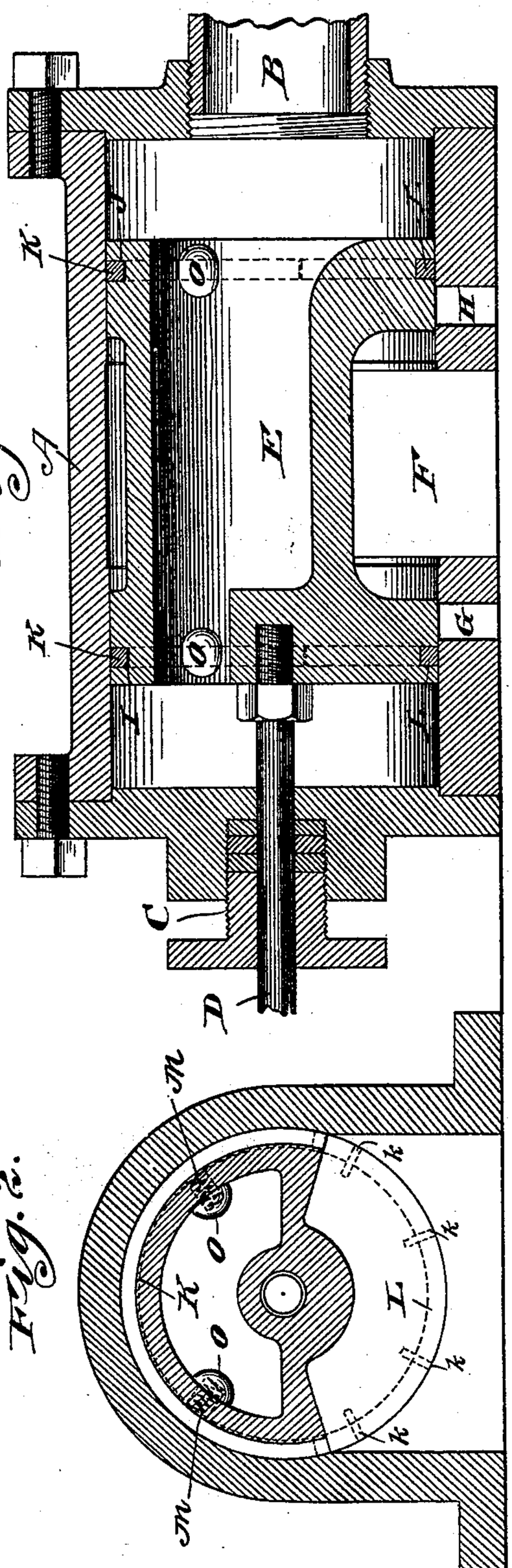


Fig. 3.

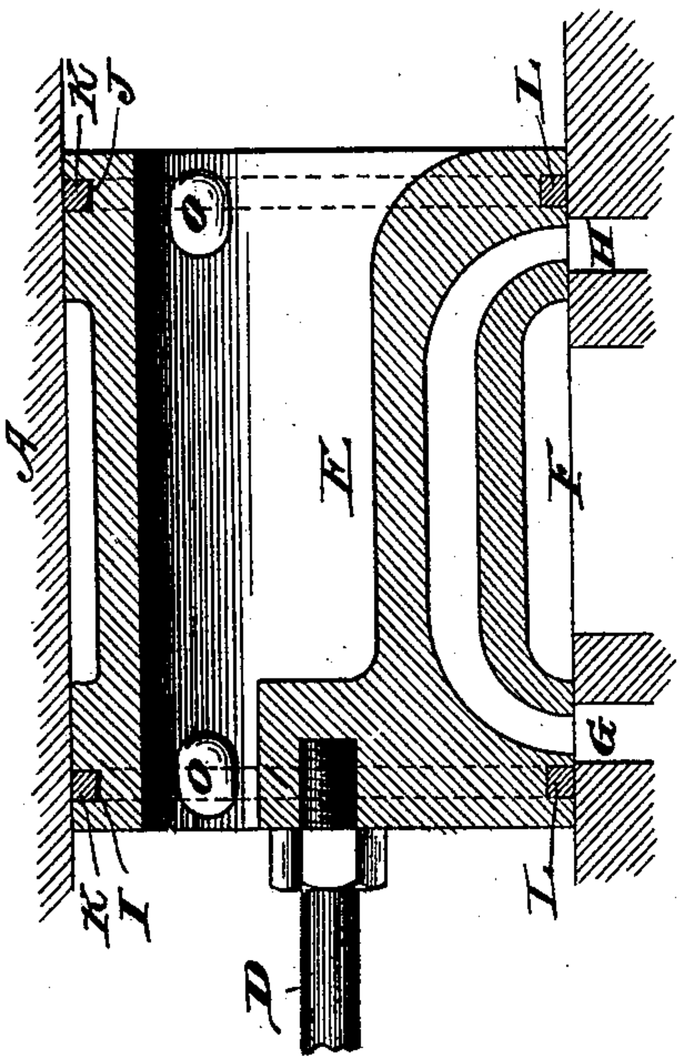
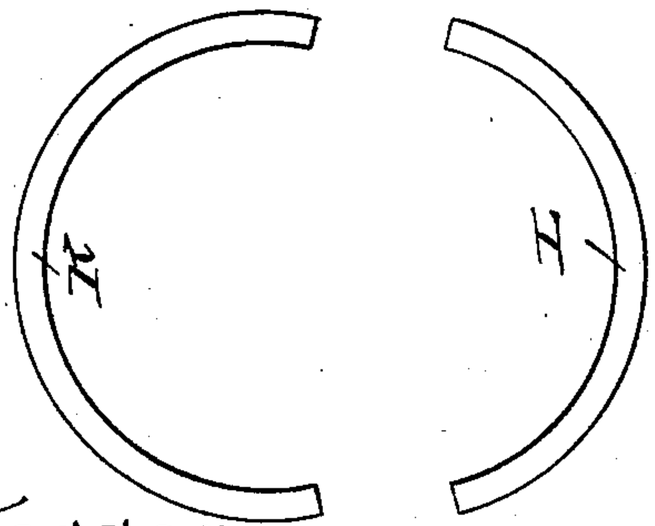


Fig. 2.

Fig. 4.



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EDWARD HEYDE, OF EAST SAGINAW, MICHIGAN, ASSIGNOR TO THE WICKES BROTHERS, OF SAME PLACE.

SLIDE-VALVE.

SPECIFICATION forming part of Letters Patent No. 521,653, dated June 19, 1894.

Application filed December 23, 1893. Serial No. 494,567. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HEYDE, of East Saginaw, Michigan, have invented certain new and useful Improvements in Slide-Valves, of which the following is a specification.

The object of my invention is to improve the construction of slide valves, and my improvements will be described in connection with the accompanying drawings and particularly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal sectional elevation through the valve with its casing and inlet. Fig. 2 is a transverse central section. Fig. 3 is a longitudinal sectional elevation showing a modified construction; and Fig. 4 is a detail view of ring segments which I employ.

In the drawings, A represents the steam chest having the eduction pipe B in one end thereof and a stuffing box C at the opposite end through which the valve rod D passes.

E represents the valve, which is shown in two forms in Figs. 1 and 3 respectively. The middle portion of its body in both constructions is turned off circumferentially to provide the steam outlet F and the valve is also cored out or hollow so that the two ends of the chest are in communication.

G, H represent ports which put the steam chest in communication with the cylinder below (not shown).

By reference to Fig. 2 of the drawings it will be seen that the ports G and H extend through less than one-half of the circumference of the valve; and in order that such ports may be controlled without undue friction or loss of steam, I employ a novel construction as follows: The valve has its body circumferentially grooved near its respective ends, the grooves being indicated at I, J, and in these grooves are secured the ring segments K, L, which are shown in elevation in Fig. 4 and in dotted lines in Fig. 2. The segment K, as will be seen, is longer than the segment L so that the ends of the former extend below the longitudinal center of the valve chest. The lower segment L may be fixedly secured by the pins *k* within its groove so that it will not drop out in passing over the port. The upper segment K is movably mounted in the upper portion of the groove upon the springs M which are seated at their lower ends in the bosses O formed in the perimeter of the valve and in apertures transversely of the body thereof, which apertures open into the bottom of the groove. The springs are therefore free to exert a constant outward pressure upon the movable ring segment, the result of which is to form a suitable tight joint with the wall of the steam chest. By making said segment of a length greater than one-half of the circumference of the valve it can be conveniently mounted and at all times constantly forced throughout its length outward against the wall of the chest. It is also extended past the ends of the ports in order to prevent any leaking of steam at those points. Of course the lower ring segment might be formed integrally with the valve, but I prefer to form it separately as the construction is more economical.

The operation of the valve need not be described as it will be entirely familiar to those acquainted with the use of slide valves.

By my construction I am enabled to secure a suitable steam tight joint by the employment of this movable packing ring and which will be thrust out and maintained in constant packing contact with the wall of the chest and self-compensating for wear upon its periphery.

Without limiting myself to precise details of construction, I claim—

1. A slide valve construction, comprising in combination, a steam chest having ports through its bottom wall and terminating below its longitudinal center, a valve having its body circumferentially grooved toward its ends, packing rings secured in the lower portions of said grooves, and packing segments mounted in the upper portions of said grooves upon outwardly forcing springs, substantially as described.

2. The combination with a valve chest hav-

ing ports extending through less than half of its circumference, a slide valve having its body circumferentially grooved toward its ends, packing rings of less length than the ports secured in said grooves, packing segments movably supported in said grooves and having their ends above the ends of the ports and outwardly forcing springs upon which the movable segments are mounted, substantially as described.

EDWARD HEYDE.

Witnesses:
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