

A. S. NELSON.
Slide-Valves.

No. 144,282.

Patented Nov. 4, 1873.

Fig. 1.

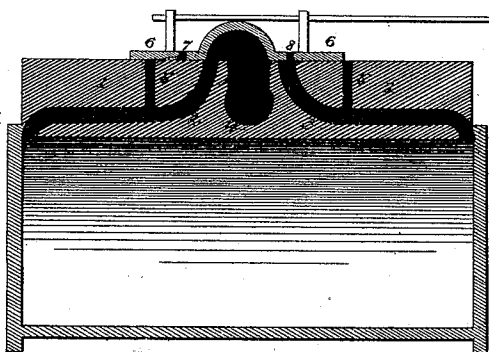
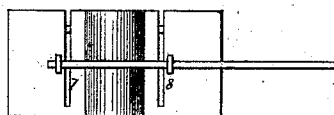


Fig. 2.



WITNESSES.

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ARCHIBAL S. NELSON, OF CONNEAUTVILLE, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF HIS RIGHT TO HIRAM F. HAMMON, OF SAME PLACE.

IMPROVEMENT IN SLIDE-VALVES.

Specification forming part of Letters Patent No. **144,282**, dated November 4, 1873; application filed
June 3, 1873.

To all whom it may concern:

Be it known that I, ARCHIBAL S. NELSON, of Conneautville, county of Crawford and State of Pennsylvania, have invented certain new and useful Improvements in Slide-Valves, of which the following is a specification:

The nature of my invention relates to an improvement in slide-valves; and consists in making two extra openings in the valve-seat, and two extra openings through the valve, by this device increasing the means for the quick introduction of steam, giving a "full opening" at one-eighth of the stroke; also, in avoiding friction and expense by the simplicity of construction and few parts of my device.

Figure 1 is a longitudinal section of my invention. Fig. 2 is a plan of the valve.

1 represents the valve-seat, having the usual receiving and exhaust ports 2 and 3, and exhaust-port 4, and, in addition thereto, the receiving-ports 5 5, opening into the ports 2 and 3. The valve 6 is an ordinary slide-valve, having two extra openings or ports, 7 8, corresponding to and operating in conjunction with the two ports 2 3.

When the valve is open, as shown in Fig. 1, both the opening 8 and extra port 5 admit steam, which is conveyed by port 3 to the cylinder. At the same time the valve 6 closes the remaining extra port 5, and opens the port 2, for the purpose of exhausting steam.

The advantage gained is the quick introduc-

tion of steam into the cylinder by the simultaneous opening of the two ports by a single valve.

By my arrangement of ports in the valve-seat and valve, a given amount of space is open in one-half of the time, and by the valve traveling one-half of the distance—that is to say, an opening of five-eighths ($\frac{5}{8}$) of an inch is produced, by means of the two openings, by the movement of the valve five-sixteenths ($\frac{5}{16}$) of an inch.

It will be observed that the port 2 or 3, as may be required, is ample for the purpose of exhausting the steam. The extra port 5, therefore, is closed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The valve-seat 1, having extra receiving-ports 5 5, opening into ports 2 and 3, in combination with the slide-valve 6, having two openings, 7 and 8, so placed as to open the ports 3 and 5, or the ports 2 and 5, when taking steam, and close the opposite port 5 when exhausting, as herein shown and described.

In testimony that I claim the foregoing as my invention, I hereunto affix my signature this 28th day of May, 1873.

ARCHIBAL S. NELSON.

Witnesses:

A. S. POND,

W. H. MONTAGUE.