Peet & Sawyer,

Grinding Flat Face of Valve Seats.

NO. 111,966. Patented Feb. 21. 1871.

Fig

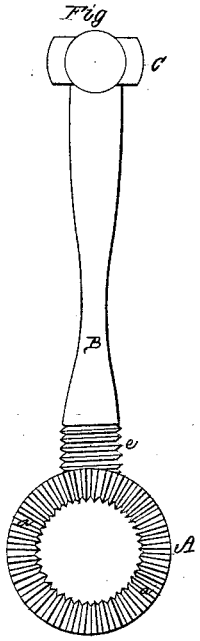


Fig.

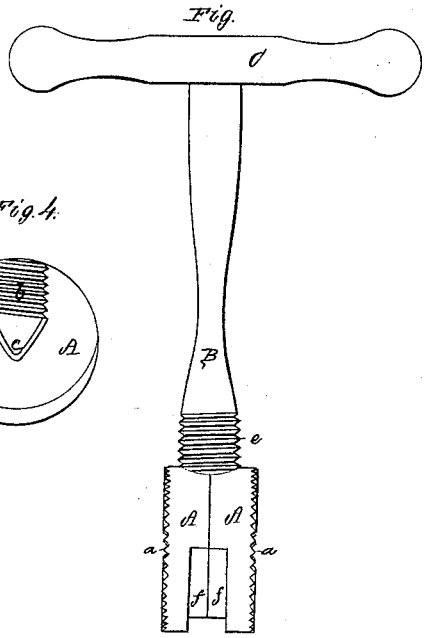
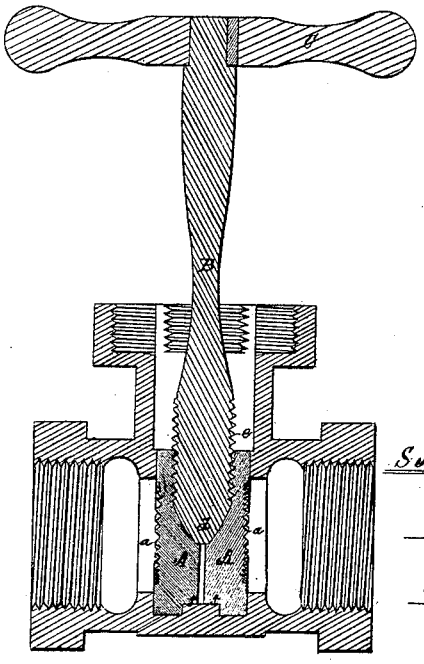


Fig. 4.

Fig. 3.



Witnesses

E. E. Green,

L. A. Brown.

S. J. Peet and D. Sawyer

by their attorney.

F. P. Hale

United States Patent Office.

SAMUEL J. PEET AND DANIEL SAWYER, OF BOSTON, MASSACHUSETTS, ASSIGNORS TO SAMUEL J. PEET.

Letters Patent No. 111,966, dated February 21, 1871; antedated February 11, 1871.

IMPROVEMENT IN DEVICES FOR GRINDING THE FLAT FACES OF VALVE-SEATS.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that we, SAMUEL J. PEET and DANIEL SAWYER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Device for Grinding the Faces of Flat Valve-Seats; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 denotes a side elevation, and

Figure 2 an end elevation of our said invention.

Figure 3 is a vertical and central section of the same as applied to the body or shell of a valve, and in position to grind the seats thereof.

Figure 4 is an inside view of one of the disks or plates, to be hereinafter described.

Our invention has reference to the reduction of that class of valve-seats whose faces are flat surfaces, and is especially designed for grinding or planing the seats of the valve for which Letters Patent were granted to one of the undersigned (viz., SAMUEL J. PEET,) on the 1st day of January, A. D. 1867; and

Our invention consists in the combination of two steel disks or plates, each of whose outer ends is provided with a series of cutting-ribs or serrated cutting-surface, with a conical wedge and screw, in such manner that, when introduced between the valve-seats to be ground or reduced, the said disks or cutting-surfaces thereof can not only be readily adjusted or brought to bear with the desired force against the faces of such seats, but be so moved as to quickly reduce or grind them, and this with great facility and ease.

In the said drawing—

A A represent two circular steel plates or disks, on whose outer ends or surfaces is formed a series of ribs or cutters, *a a*, extending inward from their peripheries and entirely around the same.

Each of the said disks has formed on its inner side a semi-cylindrical groove, *b*, which terminates in a semi-conical cavity, *c*, each of the semi-grooves having a semi-screw thread cut in it, as seen in fig. 4.

The said two portions, when brought together, are to receive the conical wedge *d* and the screw *e*, formed on the rod B.

The upper end of the said rod or spindle is provided with a hand-bar, C, for operating the screw and wedge, as well as the grinder or disks A A.

Furthermore, each of the said disks or plates has a a curved or crescent-shaped recess, *f*, made in its lower edge, the same being to receive and fit upon a correspondingly-shaped central bearing or curved projection, formed on the bottom of the valve-cavity of the shell whose seats are to be ground.

In operating with our said device or grinder, the same is to be placed within the valve-chamber of the body or shell of the valve whose seats are to be ground, and pressed downward until the disks A A rest upon the bottom of such chamber. Next, by rotating the rod B the action of its screw and wedge will cause the disks or plates to be moved outward in parallelism, and their cutting-faces be brought to bear equably upon the valve-seats, and with any desired degree of force. After having been thus adjusted, we have simply to rock the said disks, or give to them short segmental motions upon their axes, by means of the hand-bar C, in order to grind the said seats smooth and parallel.

Our invention is not only simple in construction and effective in operation, but is productive of a great saving in time and expense, especially in regrinding the seats of valves that have become unevenly worn and leak, as such have not to be removed from their connections and taken to a repair shop, as hitherto required, but can be readily ground without removal by simply detaching the valve-plug.

Having described our invention,

What we claim is as follows:

The pair of disks or plates A A, provided with cutting-surfaces, as described, in combination with the rod B, provided with the conical wedge *d* and the screw *e*, arranged and operating together substantially as and for the purpose set forth.

SAMUEL J. PEET.
DANIEL SAWYER.

Witnesses:
F. P. HALE,
O. WEBSTER.