D. HATHAWAY.

Stove Grate.

No. 96,588. Patented Nov. 9, 1869.

Fig. 1

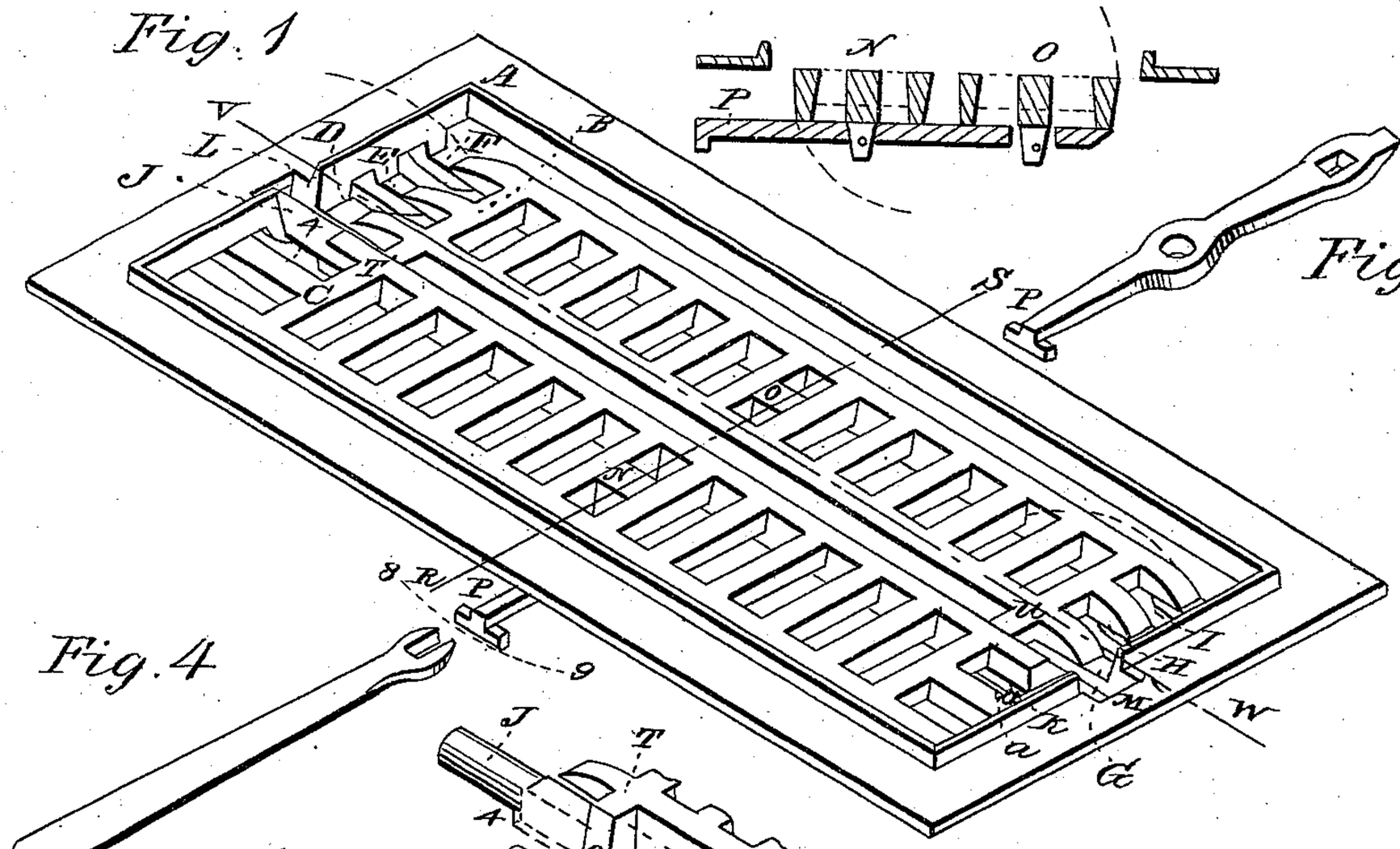


Fig. 2

Fig. 3

Fig. 4

Fig. 5

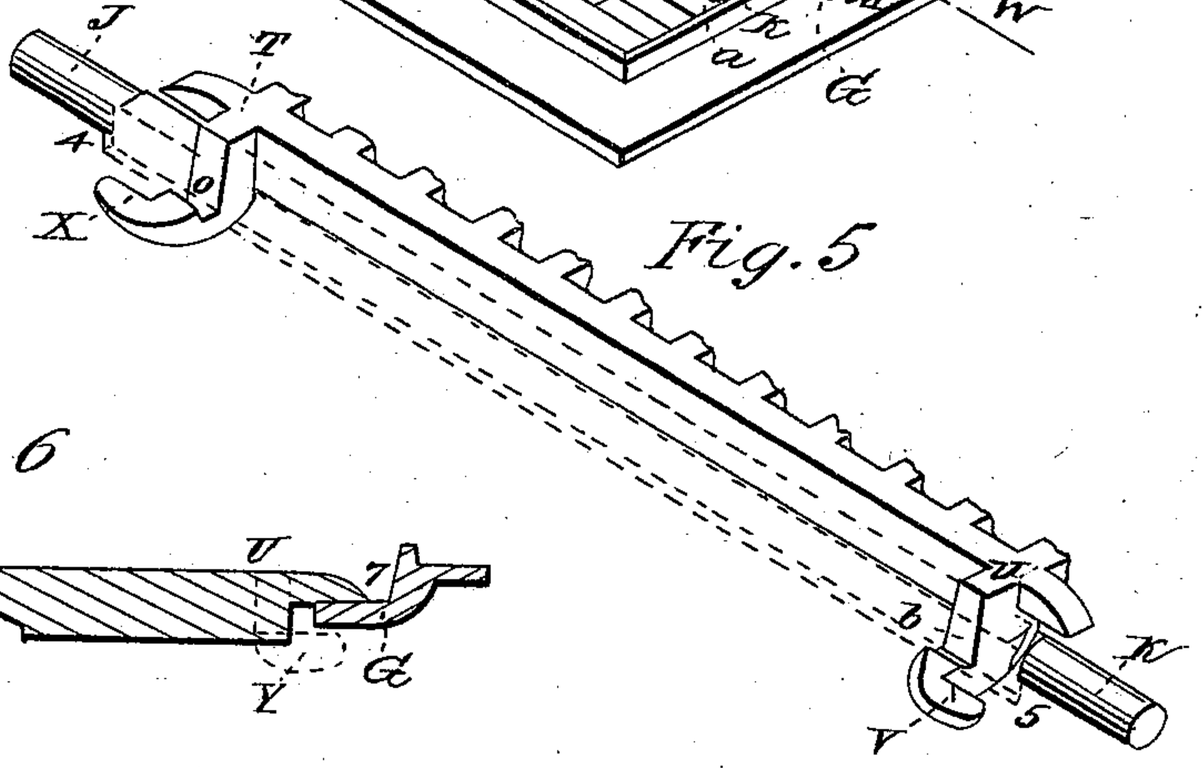
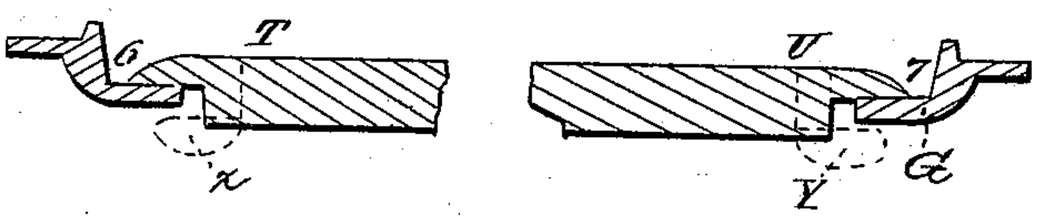


Fig. 6



Witnesses:

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Letters Patent No. 96,588, *dated November* 9, 1869.

STOVE-GRATE.

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

To all whom it may concern:

Be it known that I, DAVID HATHAWAY, of the city of Troy, county of Rensselaer, and State of New York, have invented a new and useful Improvement in Stove-Grates; and do hereby declare that the following is a full, clear, and exact description thereof.

A, Figure 1, represents the stationary frame, which may be placed in the fire-chamber of stoves, ranges, &c., and secured in a horizontal position, in the usual manner.

B and C, fig. 1, are two sliding bars, (or system of bars,) which constitute the bed of the grate, and upon which fuel is to be placed.

The bar B rests and slides upon the steps D E F G H I, attached to the ends of the stationary frame, each end of this frame being counterparts.

The bar C has a journal at each end, marked, respectively, J and K.

These journals rest and slide in the loops L and M, fig. 1.

These journals, as also the other parts of the ends of this bar, pass under the stationary frame.

N and O, figs. 1 and 2, are pivots, attached to the centres of the bars B and C—

Figure 2 being a vertical section on the broken line R S, fig. 1.

Figure 6 is a vertical section on the broken line V W, fig. 1.

Figure 5 presents a part of each of the bars B and C, the letters J T U K designating corresponding parts in fig. 1.

In fig. 5, the grooved arms T X and U Y are fully exhibited, the upper portion only of which is seen in fig. 1.

In these grooved arms, that part of the bar C which carries the journals J and K has a sliding motion to the right and left, as at 2 and 3, fig. 5.

When the bars or bed of the grate is being operated, for the purpose of clearing ashes from the fuel, the ends of that part of the bar C, fig. 1, which carries the journals J and K, and slides in the grooved arms, comes in contact with the loops in which the journals slide, as at 4 and 5, fig. 1, or 4 and 5, fig. 5, preventing the bar from being moved so far in either direction as to admit of the journals being raised out of the loops.

When the bar C is moved to the right, the bar B moves to the left, alternating each with the other. During this movement, the ends of the bar B which slide on the steps are brought in contact with the upright part of the steps, as at 6 and 7, fig. 6.

The drawings represent the bars in a central position with reference to the stationary frame.

The bars are operated, as described above, by means of the lever P, Figure 3, partially seen at fig. 1, and shown in section at fig. 2, by placing the wrench, Figure 4, on the end of the lever, and moving it to the right and left, as indicated by the curved broken line 8 9, fig. 1.

The grate is dumped by placing the wrench on the end of the lever, at P, in nearly a vertical position, and pressing down the end of the lever, thereby tilting the bed of the grate (the bars B and C) into a vertical position, as indicated by the broken curved lines in fig. 2, also in fig. 1.

The manner of connecting the lever P with the pivots N and O is fully shown by figs. 2 and 3.

It will be seen, by reference to fig. 2, that the faces of the bars B and C, fig. 1, are held in the same plane by the lever P. In its action, this is a compound lever, for, supposing the bar C to be at rest, (which is sometimes the case,) the pivot N is the fulcrum in moving the bar B, constituting what is termed, in mechanics, a lever of the first kind.

Now, suppose the bar B to be at rest, the pivot O is the fulcrum in moving the bar C. In this case, the lever is of the second kind.

When the bed is tilted into a vertical position, that part of the grooved arms marked X and Y in figs. 5 and 6, comes in contact with the steps D and G, figs. 1 and 6, preventing the bars from being turned over so far as to allow the points 4 and 5, figs. 1 and 5, of the bar C to pass into the loops far enough to admit of the bar being dismounted. This, however, is required to be done (before the bar B is attached to the bar C) in mounting the grate.

The bars B and C are held in their proper relative position by the grooved arms, in combination with the compound lever.

In this arrangement for a stove-grate,

What I claim as my invention, is—

1. The grooved arms, substantially as and for the purpose specified.

2. The compound lever, constructed and acting as set forth.

3. The connection and operation of the sliding bars by means of the compound lever, in combination with the grooved arms, as set forth in the specification.

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Witnesses:

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