

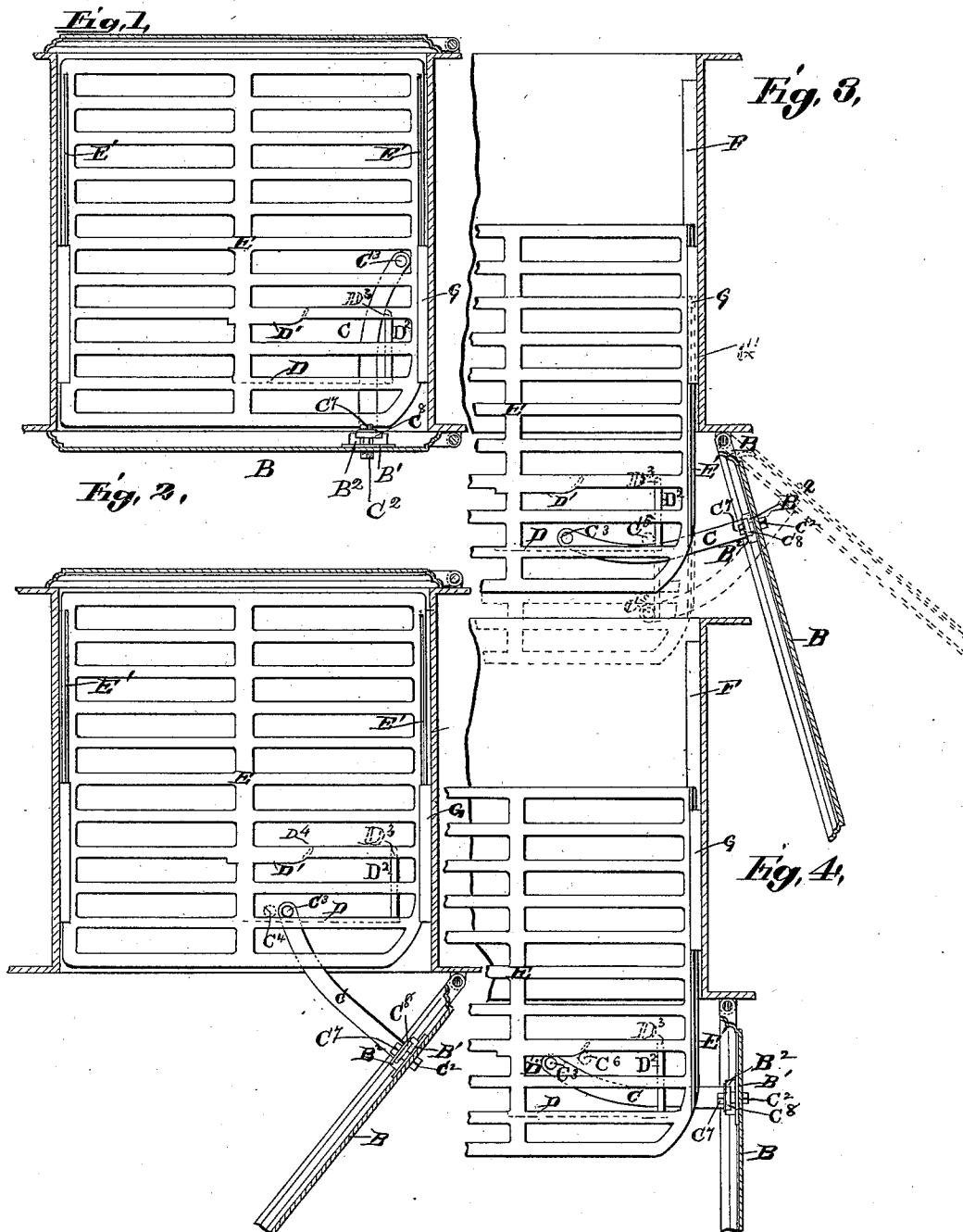
(No Model.)

2 Sheets—Sheet 1.

M. KUEHNLE.
SLIDING SHELF FOR COOK STOVES.

No. 358,361.

Patented Feb. 22, 1887.



Attest;
J. Hinchman Jr.
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Inventor;
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By Knight Port.
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Fig. 5.

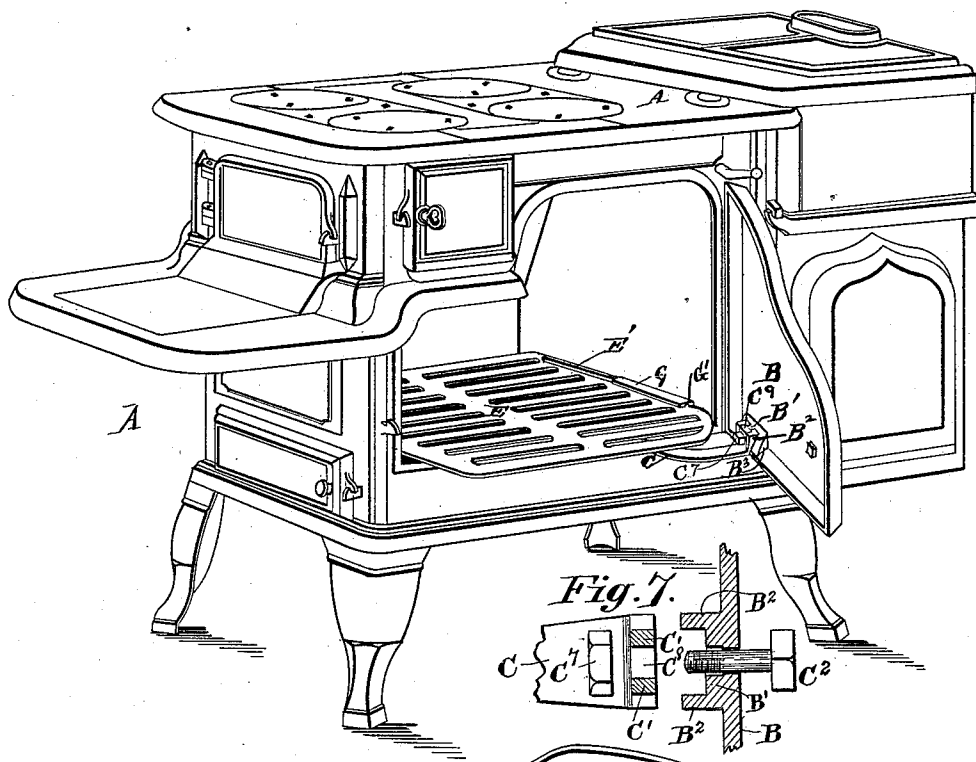
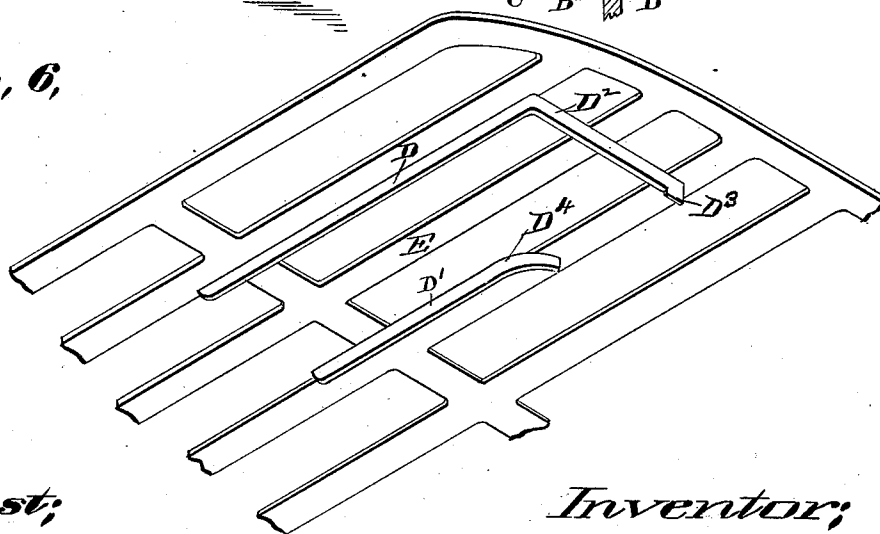


Fig. 6.



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UNITED STATES PATENT OFFICE.

MATTHEW KUEHNLE, OF ST. LOUIS, MISSOURI.

SLIDING SHELF FOR COOK-STOVES.

SPECIFICATION forming part of Letters Patent No. 358,361, dated February 22, 1887.

Application filed April 21, 1886. Serial No. 199,659. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW KUEHNLE, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Automatic Sliding Shelves for Cook-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a horizontal section of the oven portion of a cooking-stove, showing the shelf and door entirely closed. Fig. 2 is a horizontal section, showing the door partly opened, the vertical upwardly-extending stud on the end of an inwardly-curved operating-arm having just come into contact with the downwardly-projecting front rail, along the inner side of which it runs. Fig. 3 is a detail horizontal section, showing the door further opened and the shelf partly withdrawn in full lines, and the door opened to its full extent and the shelf two-thirds withdrawn in broken lines. Fig. 4 is a detail horizontal section, showing the door and arm on their return, which have moved the shelf inward to the position shown in full lines in Fig. 3. Fig. 5 is a perspective view of a stove embodying my invention, showing the shelf partly removed from its normal position; and Fig. 6 is a detail enlarged perspective view of a part of the under side of the shelf, showing the depending track-rails, on the sides of which the stud of the operating-arm works. Fig. 7 is a horizontal section of the door, the parts being separated.

My invention relates to certain improvements in automatic sliding shelves for cook-stoves, and is an improvement on my invention embodied in the application filed by me under the same title on the 17th day of November, 1885, Serial No. 177,030.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

My invention provides an easy automatic means of withdrawing the oven-shelf simultaneously and in conjunction with the opening of the door for the inspection of the roast, &c.

Referring to the drawings, similar letters of reference represent like parts in all the figures.

A represents an ordinary cook-stove, and B one of the oven-doors to the same.

C is an arm or lever curved inwardly at its inner portion, whose lip C^a is secured to a projection, B', between angle-brackets B² on the door. (See Figs. 1, 2, 3, 4, and 7.) The lip of the arm is seated within the angle-brackets of the projection on the door, and is secured thereto by a bolt, C², and its nut C', said bolt passing through the lip of the arm. The inner end of the arm is provided with a vertical upwardly-extending stud, C³, which, as the door opens or closes, is moved (part of the way with an eccentric movement) along the sides of projecting front and rear track-rails, D and D', respectively, the said rails being secured below the bars of the sliding shelf E, so as to depend from the latter. An angle side arm, D², from the rail D extends rearward beneath the bars of the shelf, and at its terminal is provided with a dog-stud, D³, that prevents the accidental entire withdrawal of the shelf. The movement of the arm is so arranged as to bring the bearing force of the vertical stud nearly on a line with the movement of the shelf, and thereby to produce a minimum of lateral force and friction. The shelf slides on supporting ledges or brackets F, secured to the side plates of the oven. Guides or keepers G, attached to the side plates above the shelf, steady its movement and prevent its tilting. The shelf is strengthened by vertical ribs E' on the top at its sides, which slide in vertical grooves G' in the guides or keepers, and are necessary to brace it when withdrawn, especially when heavily loaded and slid out to its utmost capacity.

It will be seen that the front and rear rails are parallel with the shelf-bars, and the angle side arm transverse of the latter. The rear rail, D', has an inwardly-curved end, D⁴.

The operation of my device is as follows: The door has liberty to open sufficiently for a slight inspection of the contents of the oven (see Fig. 2) without removing the shelf. The stud of the operating-arm then comes in contact with the track-rail D at C³, Fig. 2, and, as the door opens, after a slight eccentric motion in the opposite direction, slides along that rail until it is cornered at its angle-bar at C⁵, (see 100

Fig. 3,) when the shelf will be about two-thirds withdrawn from the oven, which is its limit of withdrawal. When closing, the stud comes in contact with the curved end of the short track-rail D' at C⁶, (see Fig. 4,) and commences an eccentric movement thereon, passing nearly to the far end of said track, when it begins to retrace its course until, when the shelf is closed, it leaves the track at its curved end and, as the door closes, attains the position shown in Fig. 1.

In Fig. 5 I show the angle-brackets B² formed on the arm, and held between flanges B³ on the projection by means of a washer, C⁹, and a bolt.

I prefer to cast the lip of the operating-arm with a slotted way, as shown in Fig. 7, which provides a passage between projections C' for the bolt that secures the arm to the door, and saves the labor of drilling.

Although I prefer the form and position of the curved arm and track-rails as shown, I do not confine myself thereto, as it is evident there might be changes in both form and position of the same without departing from the essential features of my invention.

I claim as my invention—

1. A shelf, E, formed with downwardly-projecting front track-rail, D, rearwardly-extending side arm, D², having dog-stud D³, and rear track-rail, D', parallel with the front track, having inwardly-curved end D⁴, substantially as described.

2. A shelf, E, formed with front track-rail, D, angle side arm, D², having dog-stud D³, rear track-rail, D', having inwardly-curved end D⁴, and the vertical ribs E', substantially as described.

3. The combination of a shelf, E, formed with a front track-rail, D, angle side arm, D², and rear track-rail, and the operating-arm C, curved inwardly at its inner portion and provided with a vertical upwardly-extending stud, C³, substantially as described.

4. The combination, with a cooking-stove, of a sliding shelf formed with a track-rail, D, having an angle-arm, D², provided with a stud, D³, and an arm, C, having a vertical stud, C³, bearing on said track-rail, substantially as shown and described.

5. The combination of the door having a projection, B', the arm C, formed with a lip, C⁸, the angle-brackets B² B², and a bolt, C⁷, and nut C⁷, by which the lip is secured to the projection, substantially as shown and described.

6. The combination of the door formed with a projection, B', and angle-brackets B² B², the arm C, formed with a lip, C⁸, and a bolt, C⁷, and nut C⁷, by which the lip is secured to the projection, substantially as shown and described.

MATTHEW KUEHNLE.

In presence of—

BENJN. A. KNIGHT,
JOSEPH WAHLE.