

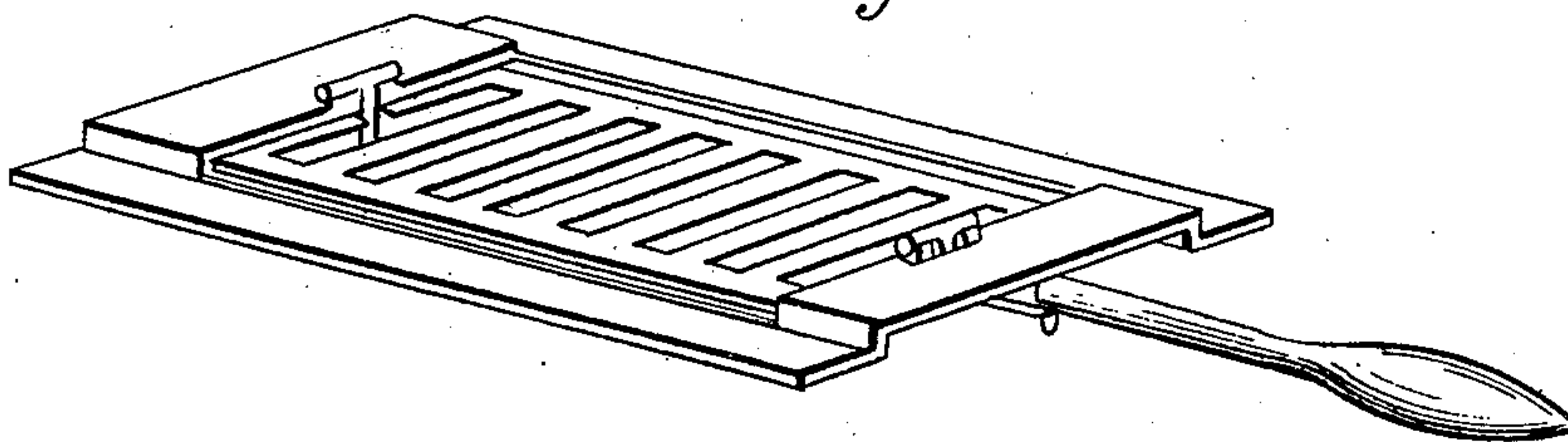
I. SMITH.

Grate.

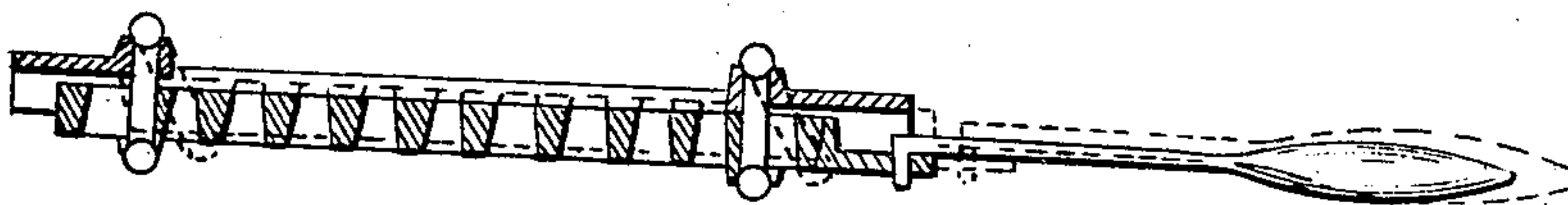
No. 30,769.

Patented Nov. 27, 1860.

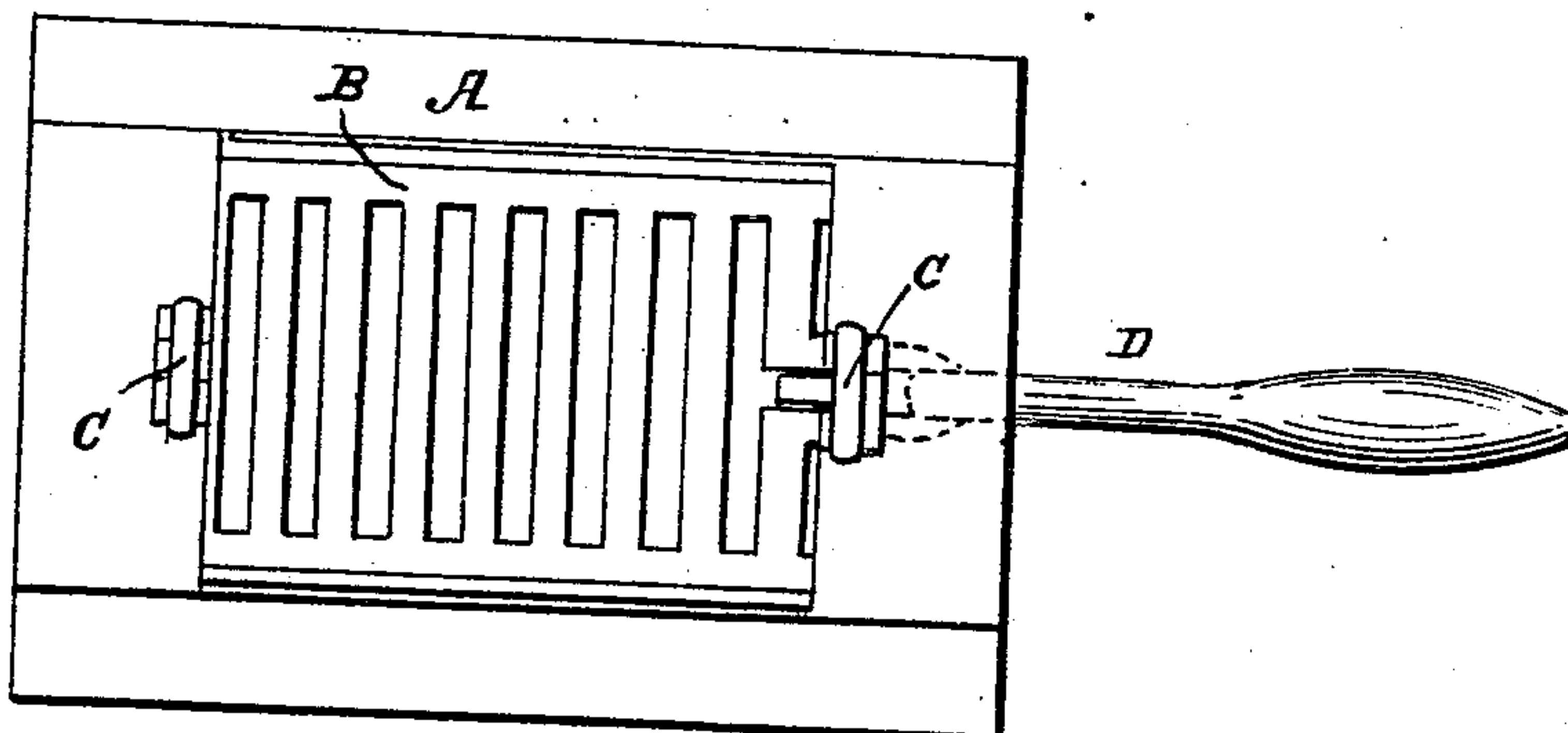
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



# UNITED STATES PATENT OFFICE.

ISAAC SMITH, OF ALBANY, NEW YORK.

## STOVE-GRATE.

Specification forming part of Letters Patent No. 30,769, dated November 27, 1860; Reissued December 16, 1862, No. 1,365.

*To all whom it may concern:*

Be it known that I, ISAAC SMITH, of Albany, county of Albany, and State of New York, have invented a new and Improved Grate for Burning Coal in Stoves; and I do hereby declare that the following is a full and exact description, reference being had to the drawings affixed to and making part of this specification.

Figure 1 represents a perspective view of the grate and handle. Fig. 2 represents a central longitudinal section; also the lines of travel. Fig. 3 represents the plan. Fig. 4 represents a transverse section through one of the cranes or hinges.

The grate is made up of four pieces besides the handle which works it.

A is the bed plate or frame.

B is the fuel grate.

C is the crane or hinge of which there are two.

D is the handle which moves the grate on the hinges.

The novelty and utility of my improvement consist in my original manner of moving or tumbling the grate from end to end so as to clear the coals from ashes in an easy, simple and effectual manner.

I claim several important advantages in this mode of construction. The bed plate is inserted in a fire chamber in the common way by laying it on the stops or supports. The grate is placed in its position under the bed plate and the cranes or hinges are hooked in, without any trouble, by pressing up the grate.

The shaking hook or handle has a pivot or pin which fits a slot or hole in the grate and works the same by pushing and pulling with the greatest ease.

Every part of my grate fixtures can be molded and cast in the ordinary way, requiring no filing, fitting or labor of mounting, excepting in cases where the careless-

ness of the molder might leave some small fins to be smoothed off. The grate fixtures do not exceed in weight ordinary grates of the same size and strength. The cost of construction is no more than that of ordinary grates.

If for any purpose, it is desirable, the grate may be poked or raked like any common grate without being shaken. The bed plate and hinges are protected from the action of fire by brick or soapstone and the bottom grate alone is exposed to the fire and may be made as heavy and durable as any.

The principal benefit attained by my invention is the ease and facility with which the cleaning of the fire is accomplished. I secure this result by the peculiar method of swinging the grate which rocks on its hinges by the slightest possible effort or touch; also by obviating the objection common to all grates, of catching and holding pieces of coal between the openings made by rocking the grate to and fro.

In rocking my improved grate no opening is made, when working, that does not exist when still. Neither is there any increase of any opening and the grate working below and being fully covered by the bed plate allows no coal to stop the motion, while being worked. By a slight alteration of the bottom part of the hinge and the use of a grooved journal in my grate I can dump my improved grate without sacrificing the principle or utility of my invention.

I claim as my invention and desire to secure by Letters Patent—

The combination of the grate, bed plate and hinge, as above described, for the purposes therein set forth.

ISAAC SMITH.

Witnesses:

SAML. D. VOSE,  
J. N. ADAMS.