No. 881,099. PATENTED MAR. 3, 1908.

N. P. FRASER.

DAMPER OPERATING MECHANISM.

APPLICATION FILED MAY 15, 1907.

Fig. 1.

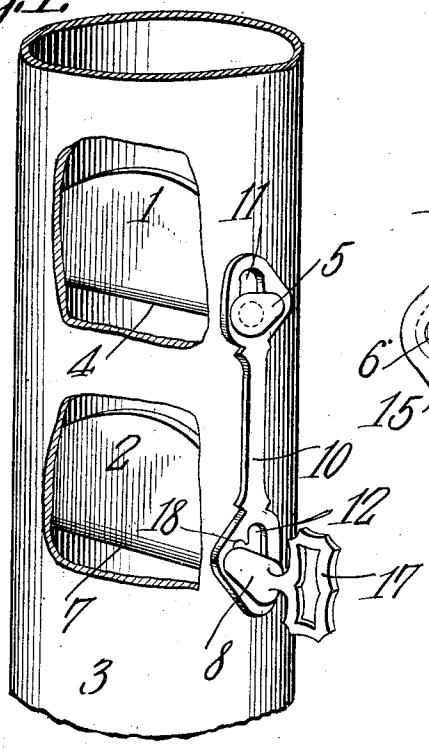


Fig. 2.

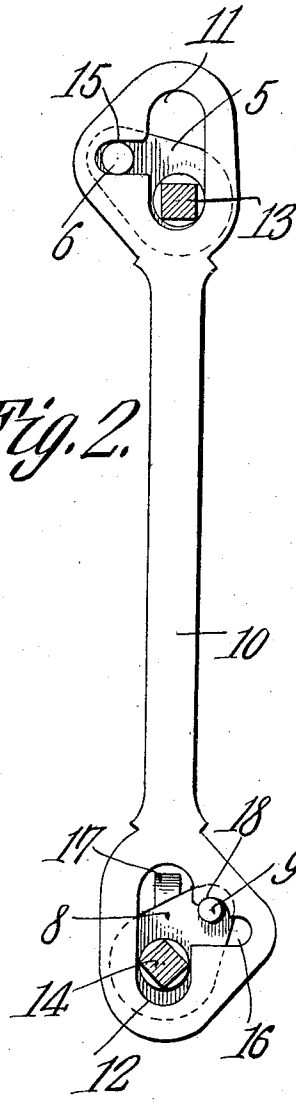


Fig. 3.

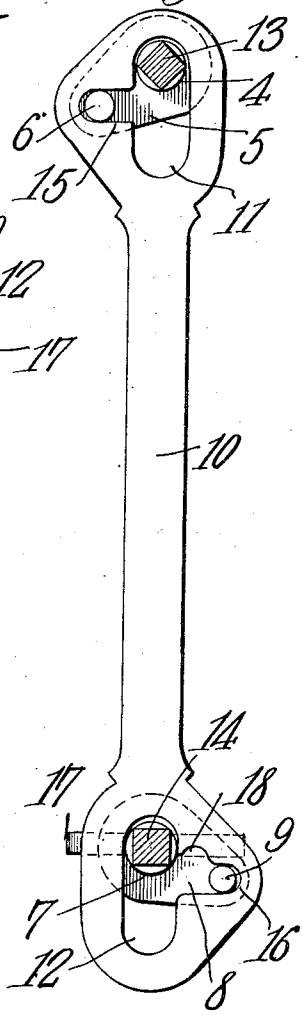
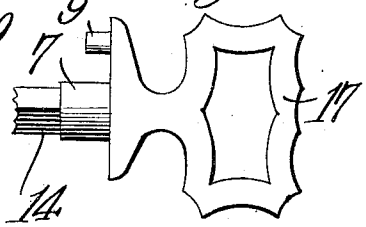


Fig. 4.



Norman P. Fraser,
INVENTOR.

WITNESSES:

By C. A. Snow & Co.
ATTORNEYS

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NORMAN PETO FRASER, OF CARSONVILLE, MICHIGAN, ASSIGNOR OF ONE-HALF TO GEORGE C. FRASER, OF CARSONVILLE, MICHIGAN.

DAMPER-OPERATING MECHANISM.

No. 881,099. Specification of Letters Patent. Patented March 3, 1908.

Application filed May 15, 1907. Serial No. 373,790.

To all whom it may concern:

Be it known that I, NORMAN P. FRASER, a citizen of the United States, residing at Carsonville, in the county of Sanilac and State of Michigan, have invented a new and useful Damper-Operating Mechanism, of which the following is a specification.

This invention relates to improvements in devices for effecting the simultaneous operation of a plurality of dampers such as those employed in stove pipes or flues, and it has for its object to provide improved mechanism of this character that is simple and inexpensive in construction, and it avoids the use of springs and other relatively delicate parts that are liable to get out of order when subjected to heat, the device being provided with a lock for retaining the dampers in the desired set position, the construction of the parts insuring a positive movement of the dampers in both directions.

To these and other ends, the invention comprises the various novel features of construction and combination and arrangement of parts, which will be hereinafter more fully described and pointed out particularly in the appended claims.

In the accompanying drawing:—Figure 1 is a perspective view of a section of a stove pipe having dampers therein provided with operating devices constructed in accordance with the present invention, a portion of the stove pipe being broken away to show the dampers therein. Figs. 2 and 3 show the operating devices as viewed from the rear side, the parts being shown in positions to set the dampers or valves in open and closed positions, respectively. Fig. 4 represents a side view of the operating key.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

The operating devices shown in the present embodiment of the invention are illustrated in connection with a set of two or more dampers or valves such as are fitted into the smoke pipe or flue of a stove for the purpose of retarding the escape of the heated gases long enough to permit them to radiate or give off their heat before they escape into the chamber, the dampers or valves in such a case being so mounted that they may be turned into open position and thus provide an unobstructed passage for the gases while the fire is being started, the operating devices serving to simultaneously open and close all the valves of the series.

In the present instance, a pair of upper and lower valves 1 and 2 are employed, those shown being substantially semi-circular in shape and adapted to fit the stove pipe or flue 3. The upper damper or valve 1 is mounted to turn with a carrying pin or journal 4 having its ends mounted to turn in the pipe and provided at one end with a crank 5 having a crank pin 6. The lower damper or valve is mounted to turn with a pin or journal 7, the latter being fitted to turn in the adjacent walls of the pipe and provided at one end with a crank 8 having a pin 9. The cranks 5 and 8 of the upper and lower valves respectively, are turned in opposite directions in the present instance, and are provided with a connecting member for effecting simultaneous operation thereof, the connecting member employed in the present instance comprising a rod 10 having longitudinally extending slots 11 and 12 at its opposite ends within which the journal portions 13 and 14 of the pins 4 and 7 operate, and offset laterally on opposite sides of these slots are a pair of transversely extending passages 15 and 16 to receive crank pins 6 and 9, respectively, of the upper and lower cranks. One of the cranks is provided with an operating handle or key 17 by means of which it may be rotated, the lower crank 8 being provided with the handle in the present instance, and the upper wall of the passage 16, which receives the crank pin 9 of the lower crank, is cut away to form a recess 18 in which the said crank pin rests when the dampers or valves are in open position, thus providing a lock that will prevent accidental movement of the dampers or valves by reason of the weight of the connecting member or other parts, the weight of the connecting member, in the present instance, serving to retain the crank pin within the recess and thus lock the parts from movement except when a turning movement in the proper direction is imparted to the crank 8.

When it is desirable to arrange the dampers or valves in a direction transverse to the length of the pipe or flue, the handle or key 17 is turned in a direction that will move the crank pin 9 on the crank 8 downwardly, and, coöperating with the walls of the passage 16, it will impart a corresponding movement to the connecting member, the transverse

passage 15 in the upper end of the connecting member coöperating with the crank pin 6 of the crank 5 to turn the upper end of the valve into a position corresponding to that occupied by the lower valve, the positions occupied by the dampers or valves when so adjusted forming an obstruction in the pipe or flue that will tend to retard the passage of the heated gases therethrough and thus afford them opportunity to radiate their heat, a turning movement of the handle in a reverse direction causing the crank pins to cooperate with the respective portions of the connecting member, the upper damper being thereby turned into open position, the crank pin 9 on the lower crank entering the locking recess 18 and thereby locking the dampers in upturned position, the weight of the connecting member serving to retain the said crank pin in locking engagement with its coöperating recess.

A damper operating mechanism constructed in accordance with the present invention is composed of a few single parts that may be manufactured cheaply and in operation serve to positively set the dampers and valves in different desired positions, the parts being so constructed that they will not be injuriously affected by the heat.

What is claimed is:—

1. In a damper mechanism of the character described, the combination with a set of dampers having operating cranks provided with pins, of a vertically movable connecting member having horizontally extending slots to receive the pins on the respective cranks, the upper wall of one of the horizontal slots being recessed to provide a locking engagement between the connecting member and the respective crank pin, the weight of the connecting member serving to retain it in locked position.

2. In a damper mechanism of the character described, the combination with a set of dampers having operating cranks provided with pins, the cranks having journals adjacent thereto, of a vertically movable connecting member having vertically extending slots to receive the journals of the respective cranks and having horizontal slots to receive the crank pins thereof, the upper wall of one of the horizontal slots being provided with a locking recess to coöperate with one of the crank pins and the weight of the connecting member serving to retain it in locked position.

3. In mechanism of the class described, a set of dampers or valves, carrying pins therefor, cranks rigidly secured to said pins and each provided with a crank pin, a connecting member having longitudinally extending slots coöperating with the carrying pins to guide said member, said member being provided with transversely extending passages for the reception of the crank pins.

4. In an operating mechanism of the character described, the combination with dampers having cranks provided with crank pins, of a connecting member mounted to reciprocate longitudinally between the cranks and having transversely extending slots in which the crank pins operate, the upper wall of one of the transverse slots being cut away to form a locking recess to receive the crank pin on one of the cranks, and a handle for turning the crank pin coöperating with the locking recess.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

NORMAN PETO FRASER.

Witnesses:
WM. J. MCCANN,
WILLIAM GRIBBEN.