

No. 704,319.

Patented July 8, 1902.

E. M. GLEASON.

STOVE DAMPER.

(Application filed Feb. 26, 1902.)

(No Model.)

Fig. 1

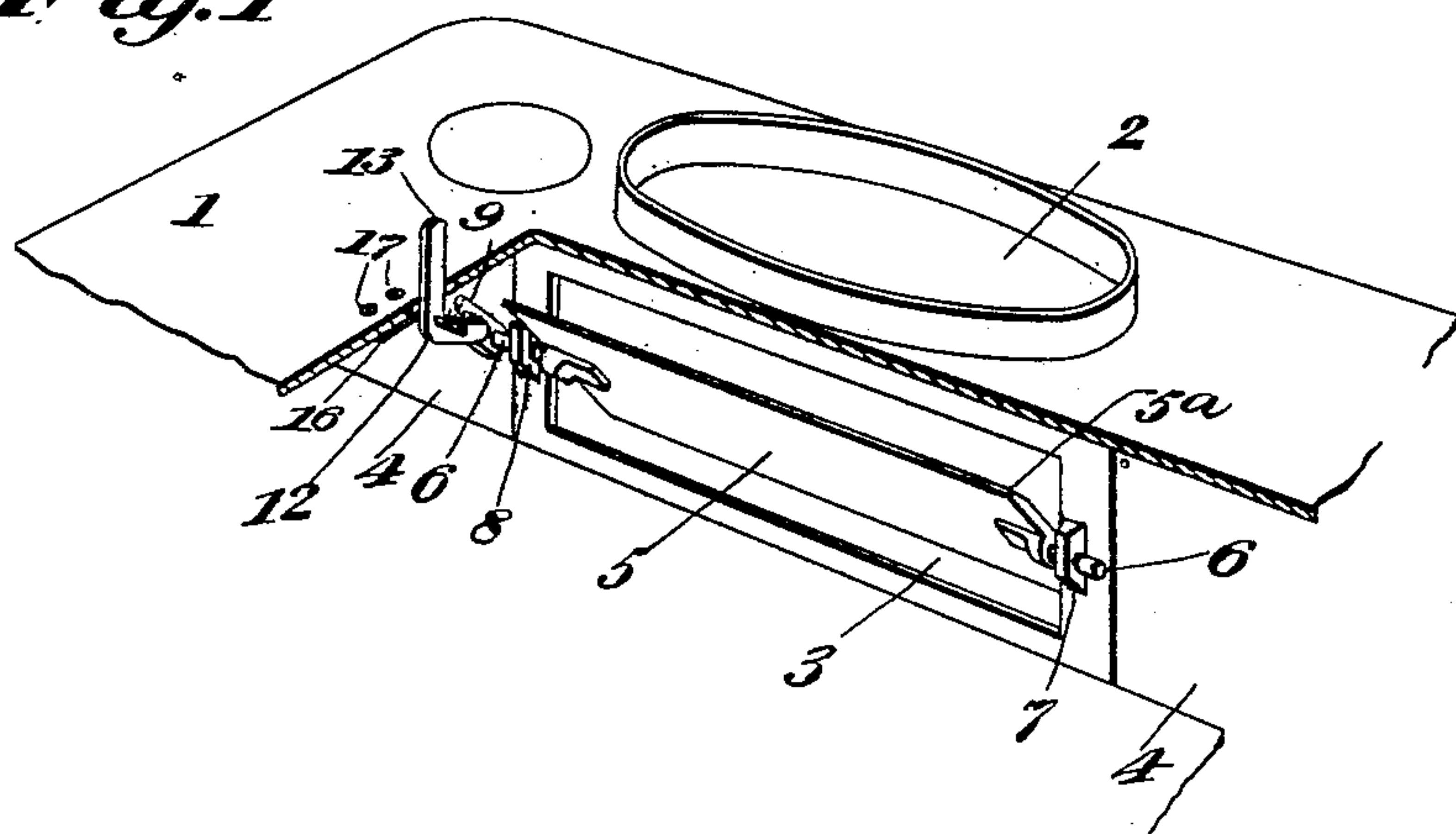


Fig. 2

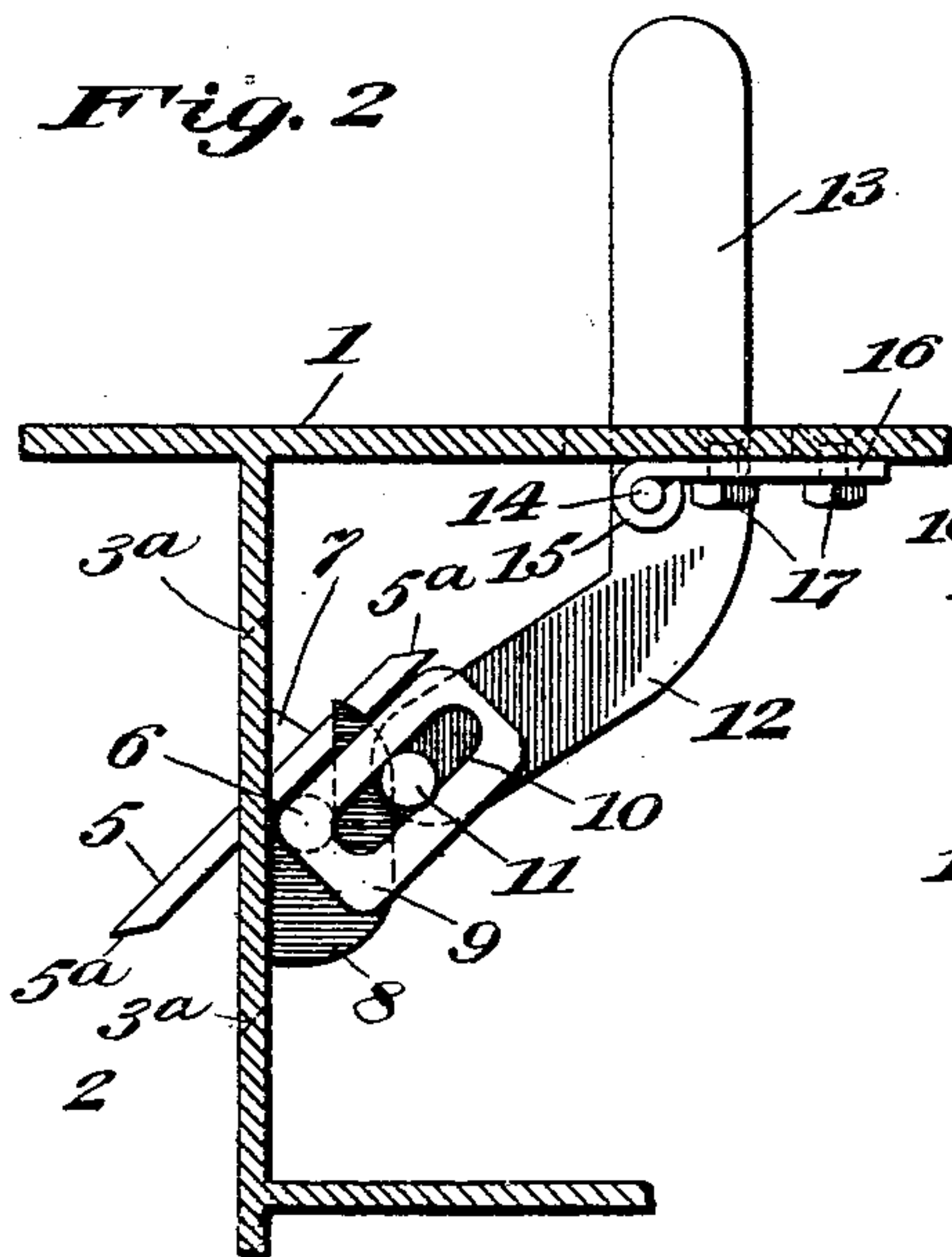
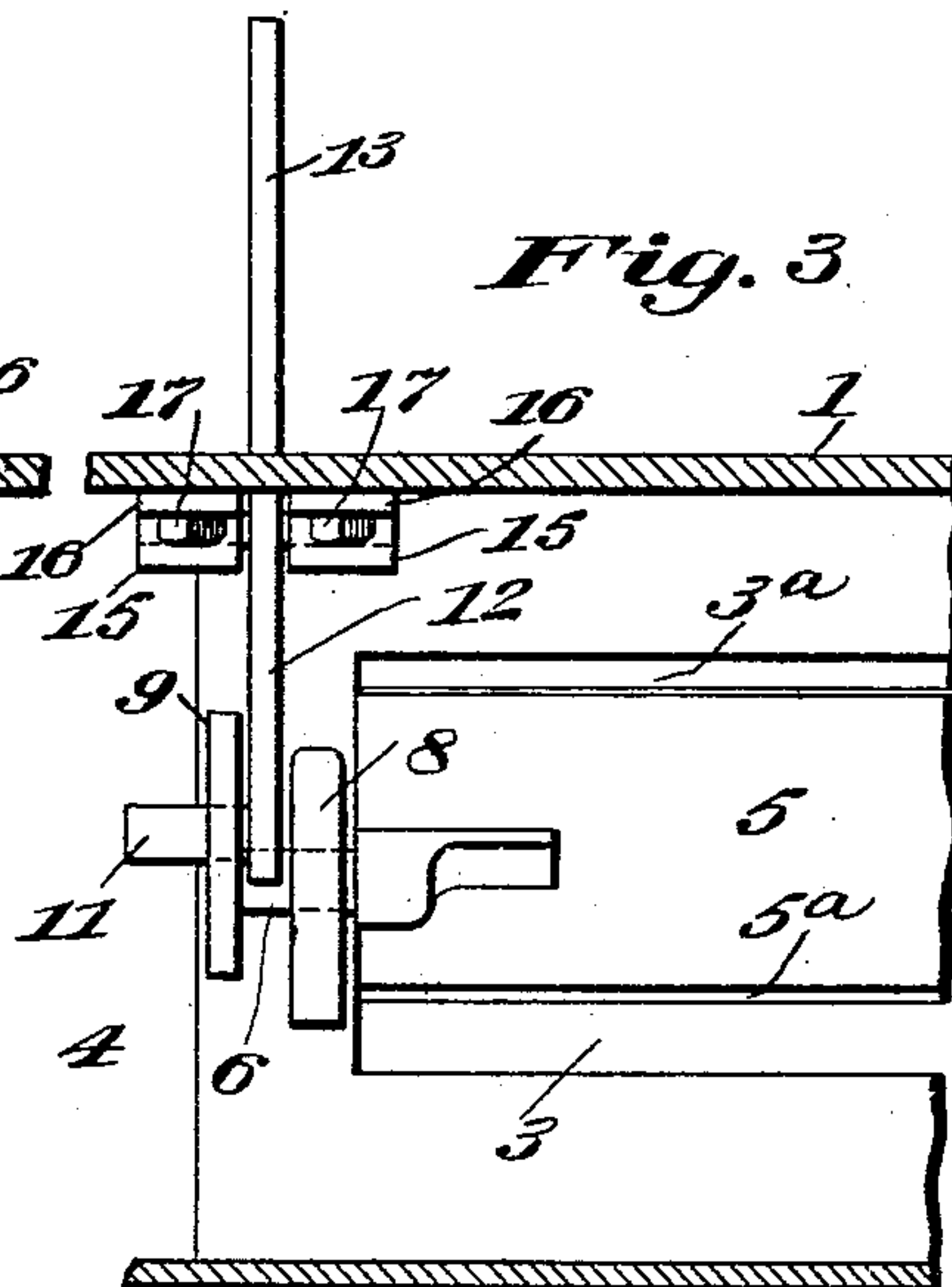


Fig. 3



Witnesses

J. D. Thorne
L. M. Jones

Inventor

Edward M. Gleason,
by John Elias Jones,
his attorney.

UNITED STATES PATENT OFFICE.

EDWARD M. GLEASON, OF NEENAH, WISCONSIN.

STOVE-DAMPER.

SPECIFICATION forming part of Letters Patent No. 704,319, dated July 8, 1902.

Application filed February 26, 1902. Serial No. 95,729. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. GLEASON, a citizen of the United States of America, and a resident of Neenah, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Stove-Dampers, of which the following is a specification.

This invention relates to certain improvements in dampers—such as are used in stoves, ranges, and heaters generally—for controlling the passage of the smoke and heated products of combustion through the various flues; and the object of the invention is to provide a device of this character of a simple and inexpensive nature capable of ready and convenient adjustment not only to its fully open and closed positions, but also to its various intermediate positions, whereby the passage of the smoke and heated gases through the flues may be controlled and regulated at will.

The invention consists in certain novel features of the construction, combination, and arrangement of the various parts of the improved damper, whereby certain important advantages are attained and the device is made simpler, cheaper, and is otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my improvements, Figure 1 is a broken perspective view showing the rear portion of a stove or range having my improved damper applied in position for use; and Fig. 2 is an enlarged section taken vertically through the upper portion of the stove or range at one end of the damper, which latter, with its actuating devices, is shown in end elevation. Fig. 3 is a partial section taken through the upper part of the stove or range in a plane at right angles to the plane of the section in Fig. 2 and showing one end of the damper, with the actuating devices thereof, in front elevation.

In the views, 1 indicates the stove as a whole, and 2 indicates the smoke-box or outlet-flue extended vertically and centrally at the rear of the stove, with its upper end adapted for communication with a stovepipe in a well-known way. At the upper end of the smoke

box or flue 2 the front wall thereof is formed with a rectangular opening 3, through which the smoke and heated gases are adapted to pass directly into said smoke-box on their way to the chimney, and at opposite sides of said smoke-box are arranged downwardly-extended oven-flues 4 4, the lower ends of which are adapted for communication with the lower end of the flue 2 beneath the oven in a well-known way.

My improved damper is arranged at the front wall of the smoke-box in position to control the opening 3 therein, so that when the damper is turned in one direction said opening may be closed to compel the smoke and heated gases to pass down through the side flues 4 to heat the oven, and when the damper is turned in the opposite direction the opening 3 is uncovered and the smoke and heated gases are permitted to escape directly into the smoke-box without first passing through flues 4. Ordinarily dampers have been arranged in this location; but so far as I am aware these dampers have been capable of being adjusted to but two positions—that is, either fully opened or closed—but according to my invention I employ a damper which may not only be adjusted to these two positions, so as to compel the whole of the heated gases to pass either through the flues 4 or else direct into the smoke-box through the passage or opening 3, but which may also be adjusted to intermediate positions, so that when desired a greater or less portion of the heated gases may be permitted to escape direct through the opening 3 into the smoke-box and thence to the chimney, while the remainder of such heated gases is compelled to traverse the down-flues 4 4 to heat the oven. In this way the heat of the oven may be controlled at will without regard to the fire in the stove.

My improved damper comprises a flat rectangular metal plate 5 of a size to close the rectangular opening 3 in the front wall of the smoke-box, the said plate being adapted to swing in said opening on a horizontal axis into opened or closed position and having its upper and lower edges beveled upon its rear and front sides, respectively, as shown at 5^a, so as to fit snugly upon correspondingly-beveled surfaces 3^a at the upper and lower edges of the opening 3. The opposite ends of the

rectangular damper-plate 5 carry integral projecting pivot-pins or pintles 6 6, one of which—that at the right, as the device is shown in Fig. 1—is engaged in the aperture of a lug 7, cast upon the front wall of the smoke-box, while the other pin, 6, at the left of said Fig. 1, is loosely engaged behind a hook-shaped projection 8, cast upon the front wall of the smoke-box at that side of the device. The pivot-pins or pintles 6 6 are alined with each other and are arranged centrally upon the front face of the damper-plate 5, so that said plate is made balanced and will remain in any position in which it is adjusted.

The pivot-pin or pintle 6, which is engaged with the hook-shaped projection 8 on the smoke-box wall, carries at its extremity and outside of said projection 8 an upwardly-directed flattened extension 9, formed with a longitudinal slot 10, in which slot is engaged a pin or projection 11 upon the lower rearwardly-bent end 12 of an actuating-lever, the upper end of which is extended through an opening in the top of the stove 1 and above the same, as shown at 13, so as to be in position to be readily moved by hand for adjustment of the damper. The actuating-lever is pivoted upon a pin or stud 14, the ends of which project in opposite directions from said lever and are engaged in eyes 15, formed in the ends of plates or clips 16, preferably formed from sheet metal bent into shape to produce said eyes 15 and held by bolts or screws 17 to the under side of the stove-top, as shown in the drawings. The actuating-lever has its pivot-pin 14 located at about the central part of its length, so that said lever is also balanced and tends of itself to remain in that position to which it is adjusted similarly to the damper-plate 5.

In the operation of the device when the actuating-lever is moved the pin or stud 11 on the lower end thereof will be caused to travel in the slot 10 of the upturned part or arm 9 on the pintle of the damper-plate 5 in such a way as to swing said damper-plate pivotally to open or close the passage 3 in the smoke-box wall. By moving the lever to an intermediate position, as shown in the drawings, it will be seen that the passage 3 will be only partially uncovered, so that but a portion of the heated gases may pass there-through into the smoke-box, the remainder of such gases being compelled to traverse the down-flues 4, as will be readily understood. When the damper-plate 5 is moved to a vertical position, the passage 3 will be entirely covered, so that all the gases will be compelled to traverse the down-flues, while when said plate is moved to a horizontal position all of the gases will be permitted to escape into the smoke-box direct and none will traverse the down-flues 4. In any position to which the plate 5 is adjusted, however, it will remain of itself, on account of said plate and its actuating means being bal-

anced as above set forth. The lower rearwardly-bent end 12 of the actuating-lever is held between the upturned part or arm 9 of the pintle 6 and the hook-shaped part 8 of the smoke-box wall, so that lateral movement of the parts in cases where such lateral movement is possible cannot serve to disengage the pin or stud 11 from its slot 10. At the same time by merely lifting the end of plate 5 which is rested on part 8 said plate may be freed from said part and may then be freely moved endwise to disengage it from the actuating means.

From the above description it will be seen that my improved damper is of an extremely simple and inexpensive nature and is especially well adapted for use, since it permits of conveniently regulating the passage of the heated gases through the flues, so that all or but a part of such gases may be caused to traverse either of the flues, the heat of the oven being thereby controlled at will without regard to the fire in the stove or range. It will also be obvious from the above description that the improved damper is capable of some modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts of the device herein set forth.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a smoke-box having a passage in its wall, and having at opposite sides of said passage devices for pivotally holding a damper-plate, one of said devices being a hook-shaped projection, a damper-plate having pintles engaged with said devices, and having on the outer end of its pintle which is engaged with said hook-shaped projection a slotted arm, and an actuating-lever pivotally mounted and having at its lower end a pin engaged with the slot of said arm, the lower end of said lever being between said arm and the hook-shaped projection, substantially as set forth.

2. The combination of the smoke-box of a stove or range having a passage in its wall, a balanced damper-plate pivotally mounted at said passage and arranged to control the flow of gases through said passage, an actuating-lever having at one end connection with the damper-plate to move the same and a device carried on the stove or range adjacent to said connected end of the lever and arranged to hold the said connected end against disengagement from the damper-plate, substantially as set forth.

Signed at Neenah, Wisconsin, this 20th day of February, 1902.

EDWARD M. GLEASON.

Witnesses:

S. D. BAIRD,
EMIL MUSSEL.