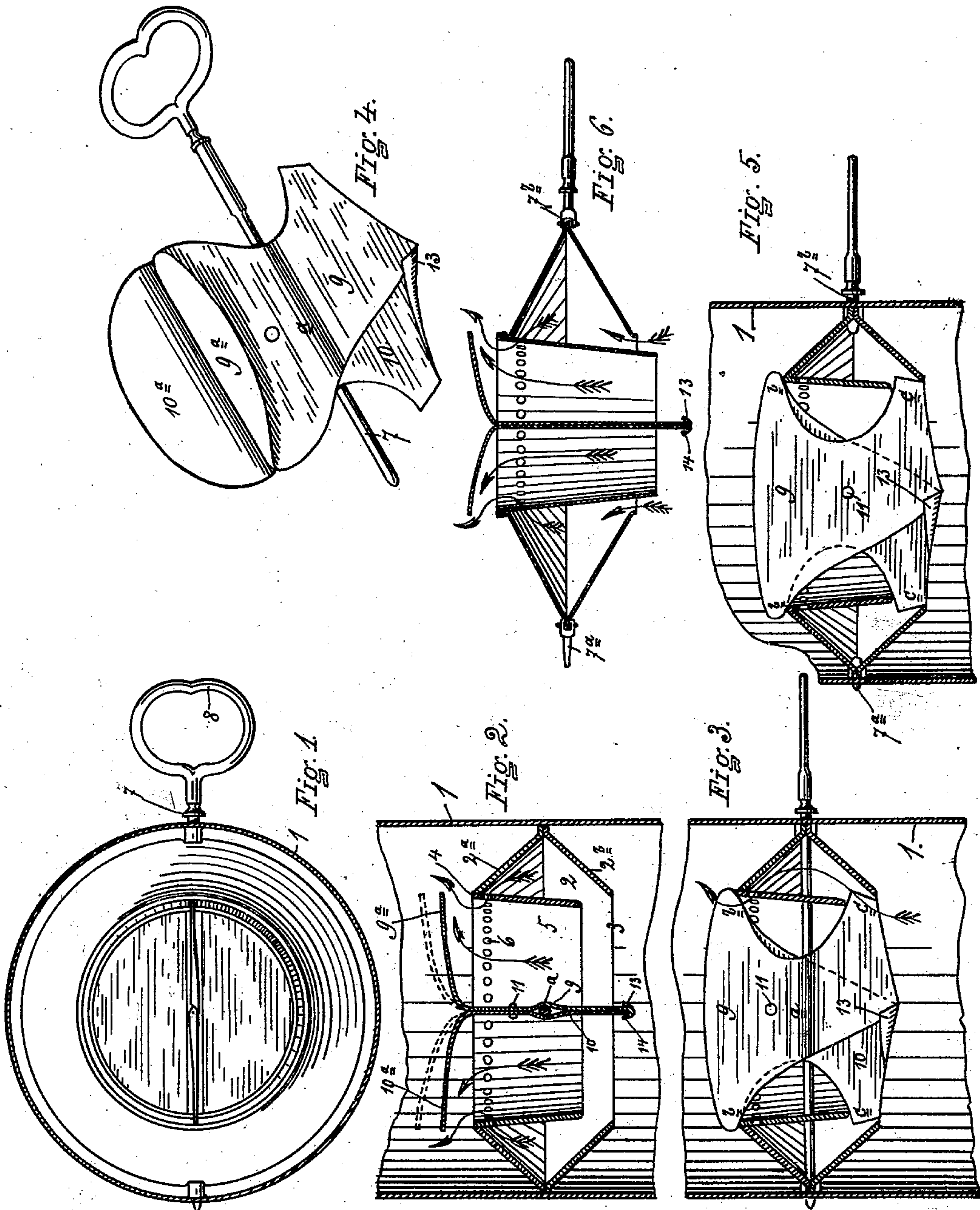


(No Model.)

E. R. FITCH.
DAMPER OR HEAT DEFLECTOR.

No. 547,776.

Patented Oct. 15, 1895.



WITNESSES.
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TO C. S. MUNSON, OF SAME PLACE.

DAMPER OR HEAT-DEFLECTOR.

SPECIFICATION forming part of Letters Patent No. 547,776, dated October 15, 1895.

Application filed January 24, 1895. Serial No. 536,006. (No model.)

To all whom it may concern:

Be it known that I, ELLIOT R. FITCH, of East Hamilton, in the county of Madison and State of New York, have invented certain
5 new and useful Improvements in Dampers or Heat-Deflectors; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable
10 others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention is an improvement in dampers, or that class of dampers which are termed in the trade "deflectors."

In the drawings which accompany and form a part of this specification, and in which similar numerals of reference refer to corresponding parts in the several views, Figure 1 shows
20 a bottom view of the damper in connection with a cross-section of the pipe in which it is located. Fig. 2 shows a vertical section of the damper in connection with a section of the pipe in which it is located. Fig. 3 shows
25 a section of the damper taken at right angles from the section shown in Fig. 2. Fig. 4 shows in perspective the deflector portion of the construction in connection with the shaft or spindle on which it and the body of the damper are
30 mounted. Fig. 5 shows the damper, partially in section, of a modified form of construction. Fig. 6 shows a section of damper of still another modified form of construction.

Referring to the reference-numbers in a more particular description of the device, 1 indicates the stovepipe or other flue in which the damper is mounted. The damper consists of a hollow body 2, composed of two diverging cone-like portions 2^a and 2^b, the walls
40 diverging from the central or axial line of the damper, and the body of the damper being round to correspond with the pipe in which it is located. The lower side of the damper is open, as shown at 3, and to the upper side is attached at 4 a conical shell or tube 5, with the smaller end downward, and, as shown in Figs. 2 and 5, terminating short of the lower side of the body of the damper, but, as
50 shown in Fig. 6, projecting somewhat below the lower side of damper-body. Around the

upper end of the conical shell 5 is provided a series of small holes or openings 6, which communicate with the hollow body close to the upper side. As shown in Figs. 1 to 4, inclusive, the damper is mounted on a spindle or shaft 7, which has bearings in the opposite sides of the pipe-section and is provided with a ring or thumb-piece 8, by which the damper can be readily turned. Centrally located in
60 the damper are arranged the deflector-plates 9 and 10, which are pivoted together by a rivet 11, and are provided on their lower edges with interlocking hook-like projections 13 and 14. The plates 9 and 10 are preferably composed of sheet-iron and the upper
65 portions of the plate are bent over, forming the overhanging deflectors 9^a and 10^a, respectively, and these deflectors may be bent, as shown in dotted lines, to form a larger or
70 smaller exit opening through the upper side of the damper, as clearly indicated by dotted lines in Fig. 2. The spindle 7 may be omitted from the construction, as is shown in Figs. 5 and 6, in which event a pivotal projection 7^a
75 is riveted, cast, or secured on one side of the body of the deflector, and a handle 7^b is similarly secured on the opposite side, the handle and pivotal projection 7^a forming the pivots on which the device is adapted to turn.
80 When a spindle is provided, the plates 9 and 10 are bent at a proper place to allow the spindle to pass between them, as shown in Figs. 2, 3, and 4 at *a*. When the spindle is omitted, as before described, this provision may be
85 also omitted, as appears in Figs. 5 and 6. The deflector-plates 9 and 10 are secured in position by the shoulders *b* and *c* thereof engaging upon the upper and lower ends, respectively, of the tube or shell 5, and when
90 the hook-like projections 13 and 14 are locked it maintains itself in position. These deflector-plates may readily be removed by disengaging the hook-like projections 13 and 14, and for this purpose they may be bent, if desired, when the two plates will turn relatively
95 upon the pivot 11 to disengage the shoulders and allow the plates to be removed.

When the device is not in use, it is turned edgewise to the axial line of the pipe, as is
100 customary in the use of dampers of ordinary construction, in which position it affords less

resistance to the draft. When the device is brought into operation, it is turned transversely to the draft, in which case the hotter portions of the gases passing through the pipe or flue pass through the conical tubular shell 5, and the colder portions pass between the shell 5 and the walls of the damper and thence through the holes or perforations 6, where they are projected outward transversely to the general direction of the gases passing through the tube 5, forming the desired impediment to the draft without providing any positive and complete check to the draft or entirely closing the draft-flue. The deflectors 9^a and 10^a may be bent so as to more or less close the opening in the upper side of the draft-flue, depending on the strength of the draft and the heating apparatus to which it is connected. The constructions shown in Figs. 1 to 5, inclusive, are, as shown, made of cast metal, while the construction shown in Fig. 6 is made of sheet-iron.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a damper, a hollow body of a double conical form open at each side, a central tubu-

lar shell connecting with the body of the damper at the upper open side, and provided with a series of openings adjacent to the upper open side furnishing passage-ways from the interior of the tubular shell, and a handle for turning the damper, combined substantially as set forth.

2. The combination in a damper of a hollow double conical form, as shown, open at either end, of a conical tubular shell centrally secured in the damper, flexible deflector plates located over the opening in the upper side of the damper, and a handle substantially as set forth.

3. A damper having a tubular shell open at its upper and lower ends, removable deflector plates pivoted together and provided with locking projections and flexible wing portions extending over the upper open end of the tubular shell, and a handle, combined substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

ELLIOT R. FITCH.

Witnesses:

C. S. MUNSON,
LEON L. CLARKE.