

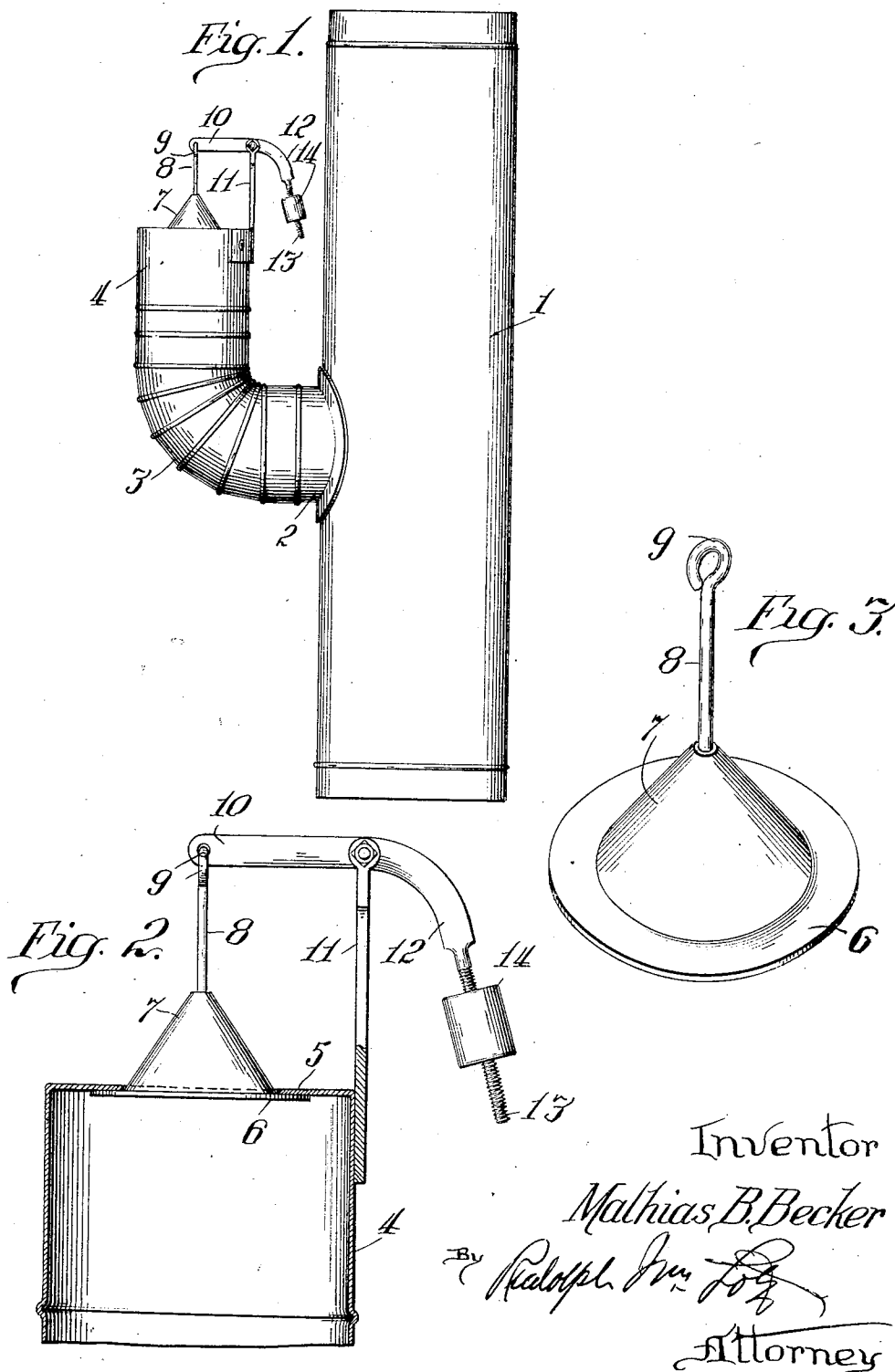
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DRAFT REGULATOR FOR HEATING PLANTS

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UNITED STATES PATENT OFFICE

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DRAFT REGULATOR FOR HEATING PLANTS

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This invention has for its object to provide an automatic adjustable draft control device for stoves or other house-heating plants which is so constructed and arranged as to be easily installed and adjusted and wherein the counterbalancing weight opposing opening movement of the air intake valve is so arranged as to effect a steadily increasing resistance to opening movement of said valve to thereby more effectively control the draft.

A further object of the invention is to provide a structure of the character above set forth which is cheap and durable and possesses further structural characteristics other than above mentioned and hereinafter fully described, tending to increase its efficiency.

The invention in its preferred embodiment, is illustrated in the accompanying drawings, wherein:

Fig. 1 is a view in elevation of a section of the chimney flue of a stove or the like equipped with a draft controlling attachment constructed in accordance with the invention.

Fig. 2 is a fragmentary central longitudinal section of the operative portion of the device.

Fig. 3 is a perspective view of the valve of the same.

The flue-pipes of the average stoves which connect the fire pots thereof with the chimneys are generally of a given or standard size and type made up of sections of given length, each section being relatively easily removed and replaced without interrupting the operation of the heater. I therefore prefer to embody my invention to include a section 1 of what is known as "stove-pipe". This section is provided at one side with an opening bordered by a sheet metal flange 2 which snugly telescopically fits and engages one end of an elbow 3 also of standard type and size. The latter is disposed vertically, as shown in Fig. 1, and telescopically receives and engages the cap 4 which is provided in its top wall 5 with a central opening, the under face of said wall 5 bordering said opening constituting a valve seat upon which the

annular flange 6 at the base of the hollow conical valve 7 is adapted to seat.

Said valve 7 is provided with a stem 8 having a loop 9 at its upper end by means of which it is pivotally attached to one end of a lever 10 which is pivotally secured between its ends to the upper end of a standard 11 mounted upon the circumferential wall of the cap 4. The said lever is formed to provide a depending arm 12 extending at an acute angle to the standard 11, its lower end portion 13 being cylindrical and, preferably, threaded to receive and permit of easy adjustment of the counter-weight 14 which has a threaded bore to receive said threaded end portion of said lever.

The position of said weight is normally such that the center of gravity of the lever with its attached elements, viz: the valve 7 and weight 14 is normally closely adjacent to the standard 11 and on the weight side thereof to thereby normally resist opening movement of the valve 7 until the chimney draft vacuum attains a given point. When this point is reached, the valve 7 will open slightly and thereby swing the weight 14 farther from the vertical plane of the pivot of the lever 10 and thus move the center of gravity of said lever farther from the said plane or the standard 11 which substantially defines that plane. Hence, the valve 7 will open no farther until the chimney draft vacuum increases beyond the degree occasioning initial opening movement of said valve, the further opening of which swings the weight 14 still further and correspondingly shifts the center of gravity.

The conical formation of the valve 7 contacts with the rim of the opening in the top wall of the cap to provide an annular space which increases very gradually in area to admit air to said cap, elbow 3 and pipe in constantly increasing volume as the opening or downward movement of the valve 7 occurs, a very efficient regulation or control of the draft being thus obtained and the downward movement of the valve limited to that point at which the area of said annular space equals the area of the annular space between the circumferential edge of the flange 6 of the

valve and the circumferential wall of the cap 4.

I claim as my invention:

5 A draft regulating attachment for the chimney flue of a stove or the like comprising a flue pipe section equipped at one side with an elbow having a vertically disposed arm open at its upper end, a cap for said open end provided with a central opening in its head,
10 a supporting standard mounted on said cap, a lever pivotally mounted between its ends on said standard, one end portion of said lever being threaded and extending angularly downwardly relatively to the other end portion
15 thereof, a counter-weight adjustably mounted on said threaded end portion of said lever, a conical valve provided at its lower end with an annular flange of larger diameter than the central opening in the cap and seating on the
20 under face of the head of the latter around said opening with its conical portion projecting upwardly through the latter, and a stem on said valve pivotally engaged with the other arm of said lever for support by the latter.

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