June 2, 1942. A. GUSTAFSON 2,284,652

DRAFT CONTROL

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Fig. 1.

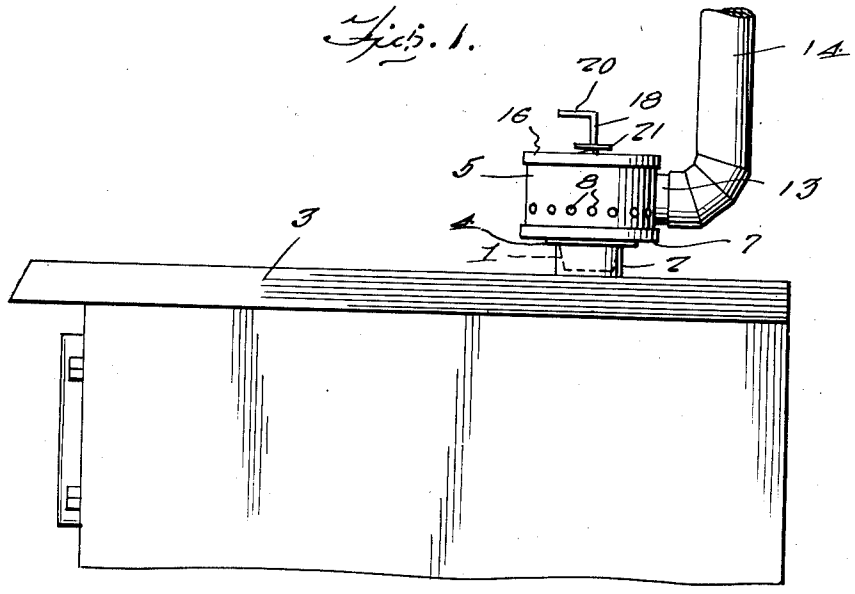
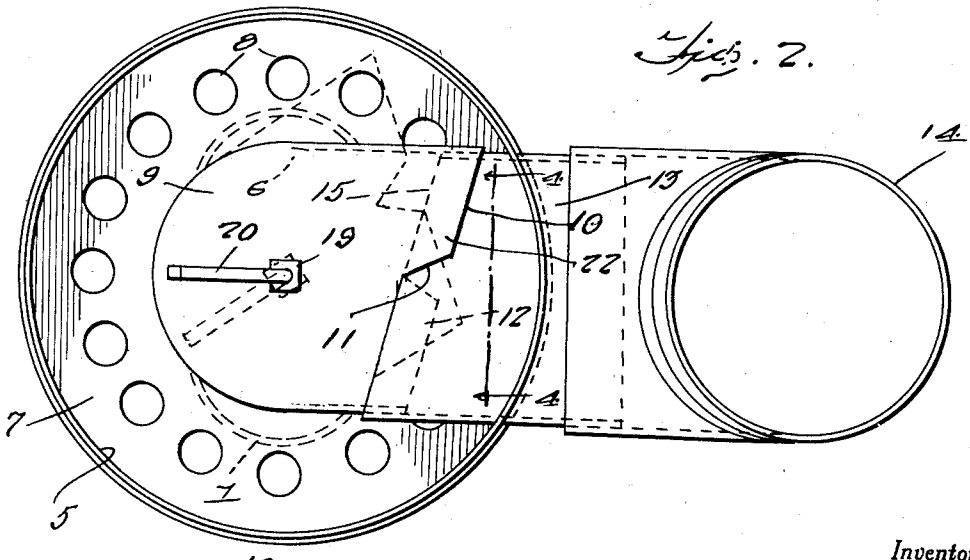


Fig. 2.



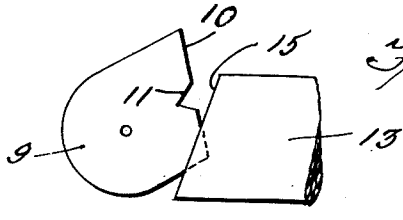


Fig. 6.

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Fig. 3.

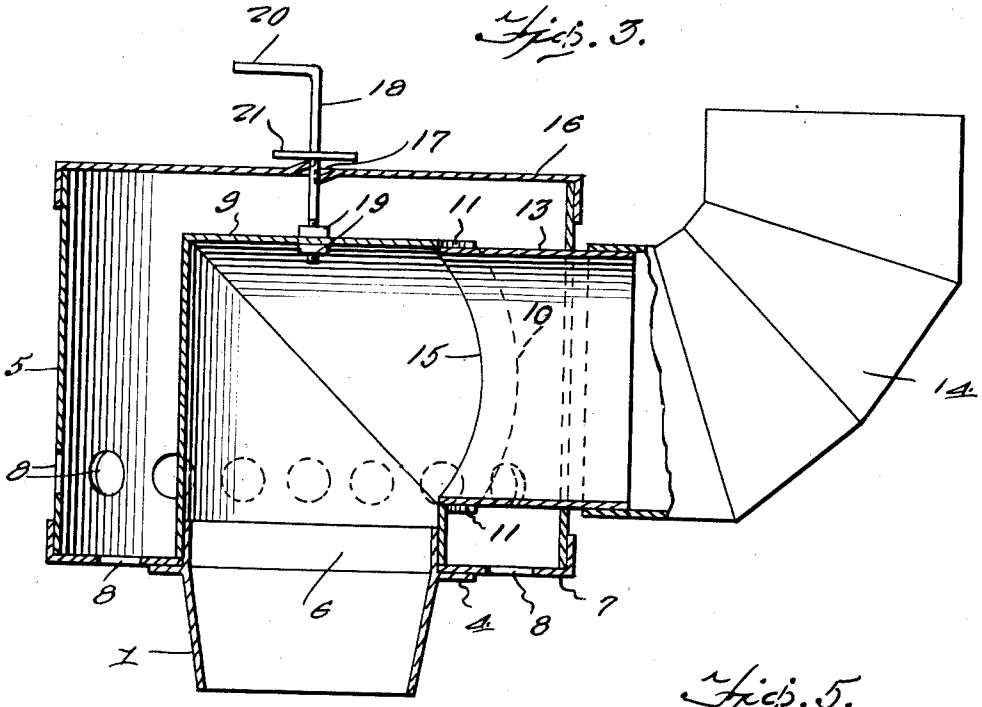


Fig. 5.

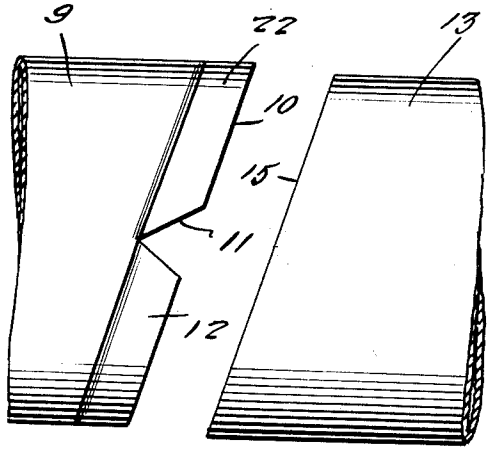
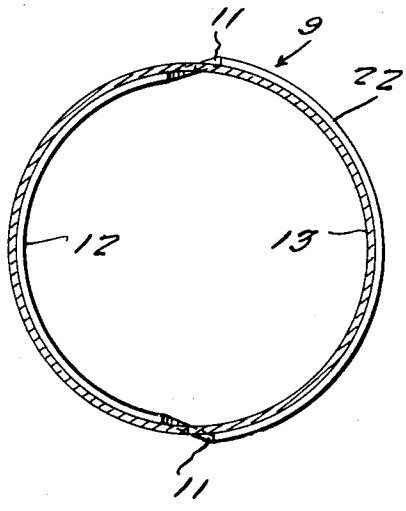


Fig. 4.



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2,284,652

UNITED STATES PATENT OFFICE

2,284,652

DRAFT CONTROL

Algot Gustafson, Hazel, S. Dak.; by decree of distribution one-half to Tena Gustafson and one-half to Le Roy Gustafson, heirs of Algot Gustafson, deceased

Application May 7, 1940, Serial No. 333,830

2 Claims. (Cl. 110—147)

The present invention relates to new and useful improvements in draft controls for stoves, furnaces and other types of heaters and has for its primary object to provide, in a manner as hereinafter set forth, novel means for regulating the communication of the flue with the stove or furnace, thereby controlling combustion.

Other objects of the invention are to provide a draft control of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is an elevational view of a draft control constructed in accordance with the present invention, showing the device installed.

Figure 2 is a top plan view of the device with the cover removed from the drum.

Figure 3 is a vertical sectional view through the device.

Figure 4 is a cross sectional view, taken substantially on the line 4—4 of Fig. 2.

Figure 5 is a top plan view of the joint between the rotary elbow and the stationary pipe section, showing the members separated.

Figure 6 is a top plan view, illustrating the movement of the rotary elbow relative to the stationary pipe section.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises what may be considered a coupling 1 for connection with the usual flue opening or neck 2 of the stove 3. The coupling 1 comprises an external flange 4 on which a drum 5 of suitable metal rests. The coupling 1 is formed to provide a circular neck 6 which projects through an opening provided therefor in the bottom 7 of the drum 5. Incidentally, the bottom 7 is fixed on the drum 5. Air intake openings 8 are provided in the bottom 7 and in the lower portion of the periphery of the drum 5.

Rotatably mounted on the neck 6 in the drum 5 is an elbow 9. It will be observed that one end portion of the elbow 9 encircles the neck 6. The other end of the elbow 9 is cut on a bias, as at 10, and has formed in its diametrically opposite upper and lower portions substantially V-shaped notches or recesses 11. On one side only of the notches or recesses 11 this end portion of the elbow 9 is reduced, as at 12.

Mounted in the peripheral wall of the drum 5 and projecting radially inwardly and outwardly therefrom is a stationary pipe or flue section 13. The outer end portion of the pipe 13 is for connection with the usual flue, as at 14. The stationary pipe section 13 terminates in a biased inner end 15 for mating with the end 10 of the elbow 9.

The top or cover 16 of the drum 5 is removable and said top has formed centrally therein an opening 17. The opening 17 accommodates a manually operable rotary shaft 18 having its lower end portion firmly secured to the elbow 9 through the medium of nuts 19. A handle 20 is provided on the upper end of the shaft 18. Mounted on the shaft 18 over the opening 17 is a loose washer 21.

It is thought that the operation of the device will be readily apparent from a consideration of the foregoing. Briefly, with the rotary elbow 9 connected with the stationary pipe section 13, as seen in Fig. 2 of the drawings, the flue or chimney 14 is in full communication with the stove, furnace or other heater. When it is desired to reduce the draft the elbow 9 is rotated, through the medium of the shaft 18, in a counter-clockwise direction away from the stationary pipe section 13 thereby breaking the communication between the flue or chimney 14 and the stove or furnace. This is shown in dotted lines in Fig. 2 of the drawings. Of course, the farther the elbow 9 is rotated from the pipe section 13 the less communication the flue will have with the stove. Breaking communication between the flue and the stove establishes communication between said flue and the drum 5. Thus, air is drawn into the drum 5 through the openings 8 and is carried off through the flue. The construction and arrangement is such that a comparatively tight joint is had between the members 9 and 13. As suggested in Fig. 6 of the drawings, when the elbow 9 is rotated toward the pipe 13 the leading portion of this end of said elbow enters the adjacent end portion of the pipe 13. This is the reduced portion 12 of the elbow 9. As rotation of the elbow 9 in a clockwise direction, as viewed in Figs. 2 and 6 of the drawings, continues the reduced portion 12 of said elbow seats against the adjacent wall of the pipe 13, said pipe 13 entering the notches 11, the portion 22 of said elbow coming to rest

against the corresponding portion of the periphery of said pipe 13.

It is believed that the many advantages of a draft control constructed in accordance with the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A draft control of the character described comprising a coupling member connected with a heating plant, a drum mounted on said member and having air intake openings therein, said member including a neck projecting into the drum, a stationary flue section extending radially through a wall of the drum and communicating therewith, an elbow rotatably mounted in the drum on the neck and communicating with the heating plant through the member, said elbow being connectible, upon rotation in one direction, directly with the flue section for establishing communication between said section and the heating plant and for shutting said flue section off from the drum, and means for rotating the elbow.

2. A draft control of the character described comprising a drum for mounting on a heating plant, said drum having air intake openings therein, an elbow rotatably mounted in the drum and communicating with the heating plant, a stationary flue section mounted in the drum and communicating therewith, said flue section and said elbow having interengaging biased ends for establishing communication between said flue section and the heating plant, the biased end portion of the elbow having notches therein and including comparatively large and small portions on opposite sides of the notches engageable on and in the flue section, and means for rotating the elbow.

ALGOT GUSTAFSON.