

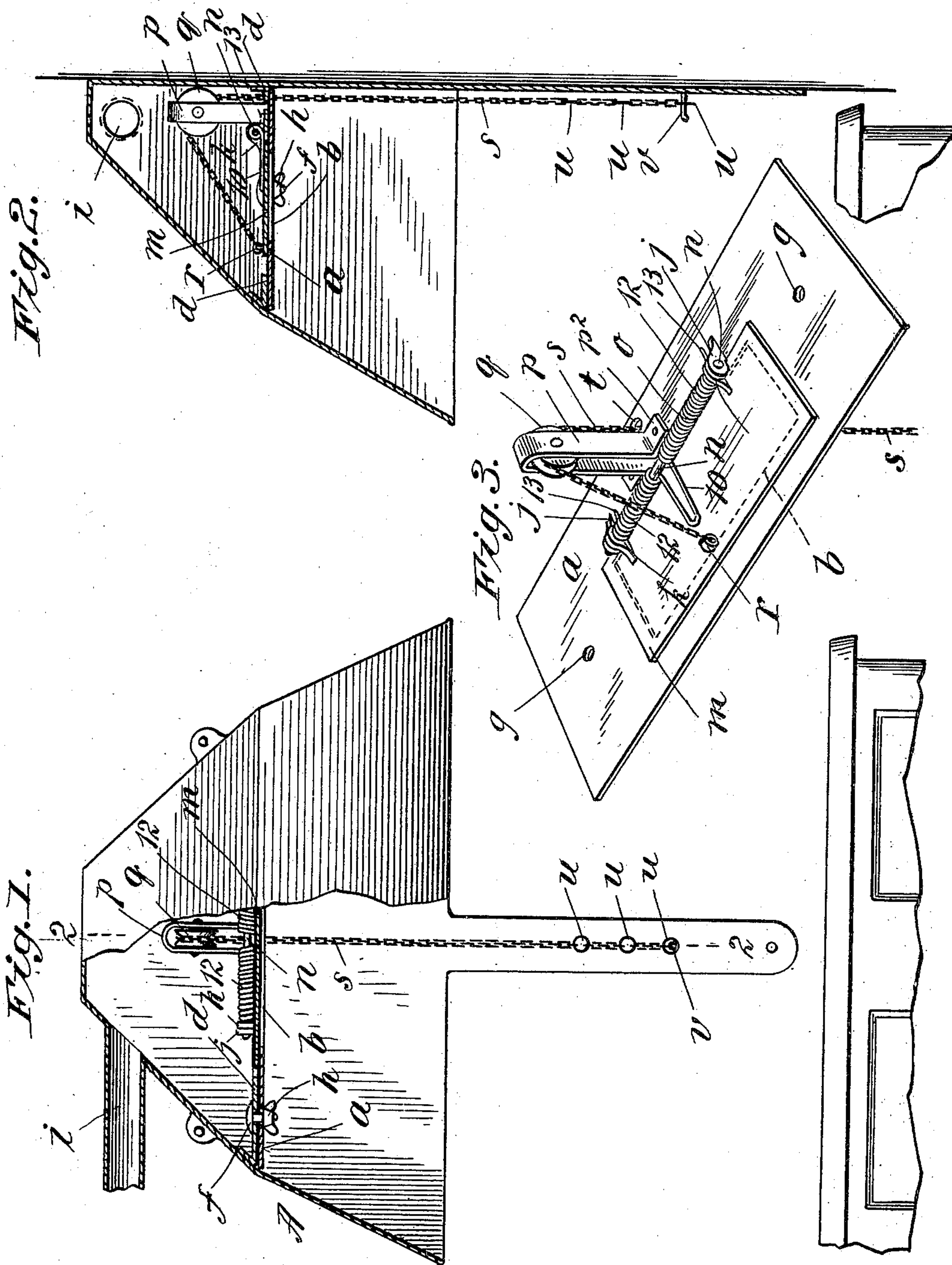
No. 696,914.

Patented Apr. 1, 1902.

L. G. SWANSON.  
VENTILATING APPARATUS.

(Application filed May 25, 1901.)

(No Model.)



Witnesses  
J. H. Garfield  
M. A. Campbell

Ludvig G. Swanson, Inventor,  
By his Attorney Mr. J. J. Bellone.



# UNITED STATES PATENT OFFICE.

LUDVIG G. SWANSON, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF  
ONE-HALF TO AUGUST C. J. SWANSON, OF SPRINGFIELD, MASSACHU-  
SETTS.

## VENTILATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 696,914, dated April 1, 1902.

Application filed May 25, 1901. Serial No. 61,878. (No model.)

*To all whom it may concern:*

Be it known that I, LUDVIG G. SWANSON, a citizen of the United States of America, and a resident of Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Ventilating Apparatus, of which the following is a full, clear, and exact description.

This invention relates to improvements in means for acquiring ventilation in rooms in dwelling-houses and other buildings, the object being to provide, in connection with a suitable opening properly located for the exit of the impure air, gases, smoke, or steam which may be in the room, novel means for normally closing the said opening which is susceptible of easy and convenient operation for opening and retaining open the closure for said opening.

The invention consists in the constructions, arrangements, and combinations of parts which produce the ventilating apparatus applicable in various situations, all substantially as hereinafter described and explained, and set forth in the claims.

In the accompanying drawings the improvements are illustrated as applied in conjunction with the exit-opening for gas, smoke, steam, &c., in the ventilating-hood, which is indicated as located above a range or cook-stove.

Figure 1 is a front view with parts broken out in horizontal section for increased clearness of illustration. Fig. 2 is a vertical sectional view as taken substantially on the line 2 2, Fig. 1. Fig. 3 is a perspective view of the closure for the ventilating-opening and the operating means therefor, these devices and a part of the structure on which it is mounted being removed from the hood.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents the hood, which is understood as having its location suitably above a range, cook-stove, or fireplace, the same being of a broad and downwardly-flaring character and having intermediate between its closed top and its open bottom the horizontal wall or partition *a*, which is provided with the opening *b* therein,

such opening being shown as of considerable area, and the said partition-wall is indicated as being removable from its place within the hood, in which are the permanent lugs *d d*, to which are engaged the depending bolts *f*, the shanks of which extend downwardly loosely through the perforations in the horizontal partition *a* and receive at their lower ends the thumb-nuts *h*, which set closely against the under side of the removable partition board or plate *a* and confine the latter in a stable manner in its horizontal position within the hood.

From the upper part of the space or chamber within the hood leads the conduit *i*, which may enter a special flue in the chimney in a manner to afford a good draft, or this passage may lead to the exterior of the building.

The plate or wall *a* has the upstanding lugs *j j* near the rear boundary of the opening *b*, and for closing the opening is the plate or door *m*, which also has lugs or ears *k k* to match with the lugs *j*. The rod or pintle *n* passes through the adjacent lugs, hinging the parts together.

The spring *o* is applied in connection with the hinge for normally maintaining the plate or door *m* in its downwardly-swung position for closing the opening *b* in the wall *a*, and this spring is composed of a single length of wire, having the middle portion thereof bent into the elongated-U shape, (indicated at 10,) the extremities thereof being formed into the opposite alined coils 12 12, which encircle the hinge-rod *n*, while the extremities 13 13 of the wire forming the doubled coiled spring are extended in the opposite direction from the elongated intermediate U-shaped part 10, the latter portions 13 13 bearing on the upper face of the wall *a*, while the intermediate U-shaped part 10 bears with a yielding pressure in a downward direction upon the upper surface of the plate or door *m*.

*p* represents a U-shaped bracket affixed to the rear of the central portion of the opening *b* and the closing-plate *m* therefor, such bracket being by its foot-lugs *p*<sup>2</sup> riveted or otherwise secured to the wall or partition-plate *a*.

A sheave *q* is mounted to freely turn within the bracket *p*, over and around which is



guided the chain or other flexible connection *s*, said chain being connected to the eye *r*, located near the margin of the door or closing-plate *m*, and the portion of the chain 5 which passes over and behind and depends vertically from the sheave extends downwardly through the perforation *t* in the partition-plate *a* to an accessible position below the hood for being operated.

10 The chain has at its lower portion one or more ring-eyes *u u*, located relatively to which is a stop-pin *v*.

The door or plate *m* is normally spring-pressed and held tightly closed over the opening *b* when it becomes desirable to open a 15 way for the passage of smoke, steam, gases, odors, or impure air from the kitchen. The chain *s* is drawn downwardly, opening the door *m* and leaving the opening *b* unob- 20 structed, the chain having an interlocking engagement by one of its eyes with the stud or pin *v*, which insures the retention of the door *m* in its opened position.

Immediately the engagement between the 25 parts *u* and *v* is discontinued the door is again tightly closed.

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

30 1. A flaring downwardly-open hood, for employment above a range, having therewithin a horizontal partition provided with a ventilating-opening *b*, and also with an aperture *t*, and said hood having a passage leading from 35 an upper portion thereof, combined with a plate or closing-door, for said opening *b*, hinged to the partition adjacent the latter opening, and having a spring for normally forcing the door to its closed position, a sheave 40 mounted within the hood above said partition, a flexible connection secured to a free edge portion of the door, having a guiding engagement around said sheave, and extended downwardly from the latter through said ap- 45 erture *t* to a position below the hood, substantially as described.

2. A structure having the studs or bolts, the removable sectional wall, having the opening *b*, engaging over said studs and confining means therefor, the door hinged to said wall, 50 the bracket mounted on said wall and provided with the sheave, and the chain secured to a free portion of the door and guided over the sheave to an accessible position for operation.

3. In an apparatus of the character described, the combination with the wall *a* having a ventilation-opening *b*, and provided with ear-lugs *j* and bracket *p*, of the plate or door *m* having the ear-lugs *k*, the hinge-rod *n*, the 60 spring having intermediate *U* portion 10, alined coils 12, 12, surrounding the rod and the oppositely-extended end portions 13, the sheave *q* in said bracket, and the chain *s*, secured to a free portion of the door and thence 65 guided over said sheave to a convenient place to be drawn upon, all substantially as described.

4. In an apparatus of the character described, the combination with a permanent 70 wall having the bolts or screw-studs *ff*, of the removable wall *a* having the perforations *g g*, a ventilation-opening *b*, and provided with ear-lugs *j* and bracket *p*, the nuts *h h*, the plate or door *m* having the ear-lugs *k*, 75 and the perforation *t*, the hinge-rod *n*, the spring having intermediate *U* portion 10, alined coils 12, 12, surrounding the rod, and the oppositely-extended end portions 13, the sheave *q* in said bracket, and the chain *s*, se- 80 cured to a free portion of the door and thence guided over said sheave and through said perforation *t* to a convenient place to be drawn upon, and the confinement-stud *v* adjacent the free end of the chain, all substan- 85 tially as described and shown.

Signed by me at Springfield, Massachusetts, this 18th day of May, 1901.

LUDVIG G. SWANSON.

Witnesses:

WM. S. BELLOWS,  
AUG. C. SWANSON.