No. 646,143. Patented Mar. 27, 1900.

P. DICKINSON.

METAL CHIMNEY.

(Application filed June 24, 1899.)

(No Model.)

Fig. 1.

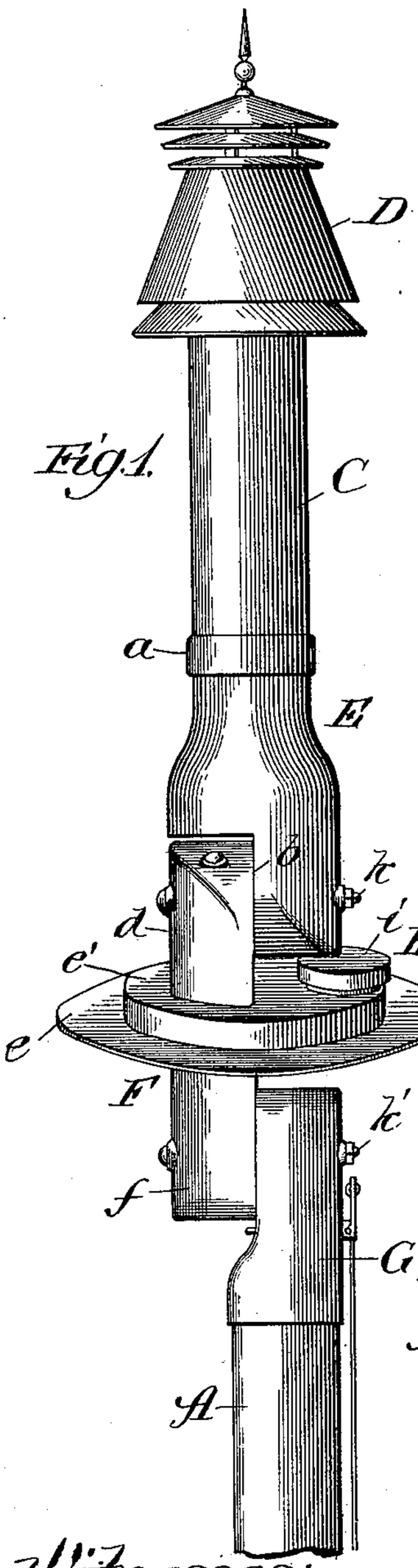

Fig. 2.

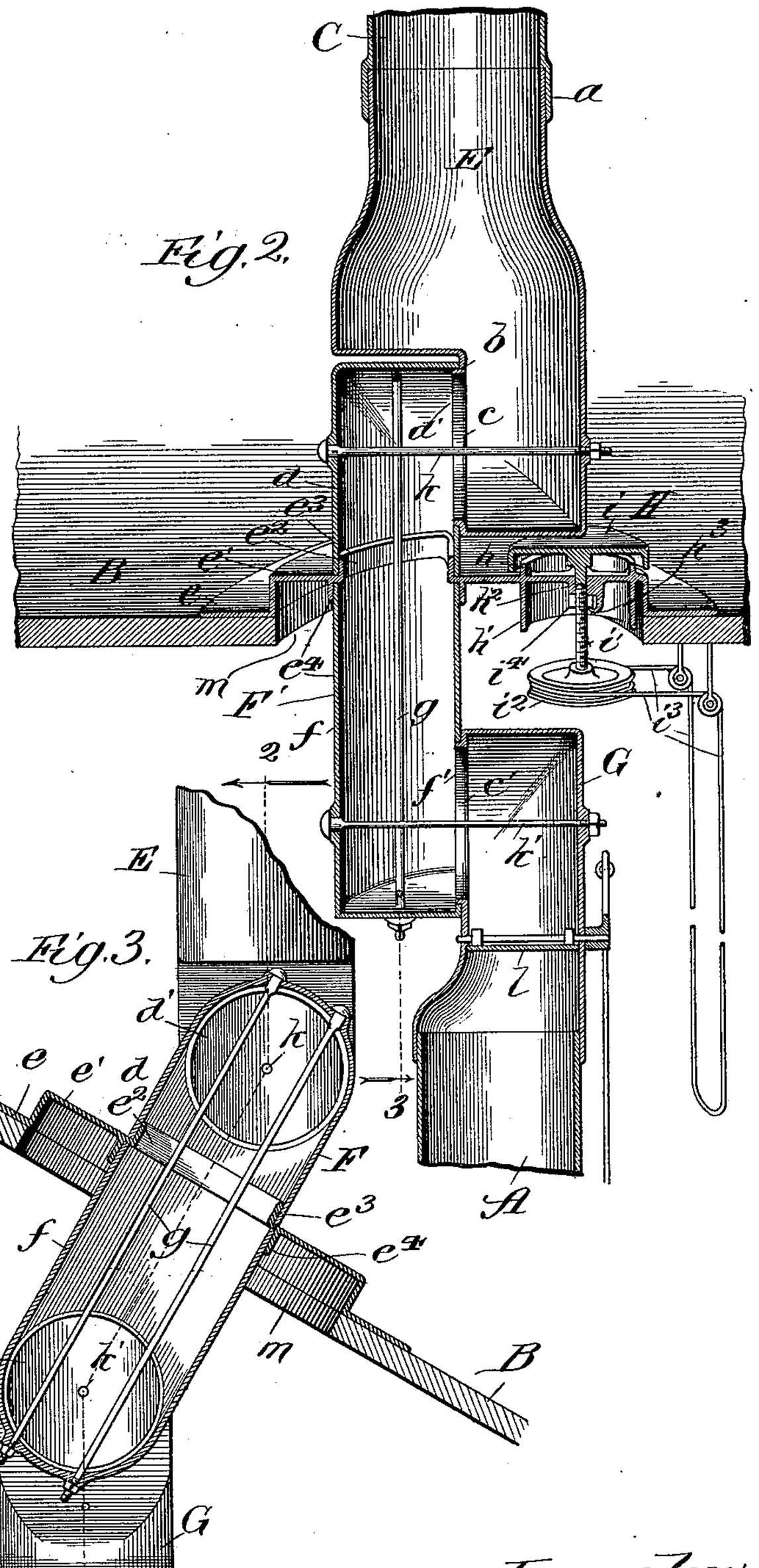

Fig. 3.

Witnesses:
Chas. E. Gaylord,
Libb B. Potter.

Inventor:
Paul Dickinson,
By Dyrenforth & Dyrenforth,
Attys.

UNITED STATES PATENT OFFICE.

PAUL DICKINSON, OF CHICAGO, ILLINOIS.

METAL CHIMNEY.

SPECIFICATION forming part of Letters Patent No. 646,143, dated March 27, 1900.

Application filed June 24, 1899. Serial No. 721,723. (No model.)

To all whom it may concern:

Be it known that I, PAUL DICKINSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Metal Chimneys, of which the following is a specification.

The primary object of my invention is to provide a construction of metal chimney which shall adapt it to be easily adjusted to a stovepipe whatever may be the position of the stove in a small building, car, caboose, or the like occupied by it and insure the erect perpendicular position of the protruding portion of the chimney or stack whatever the pitch may be of the roof from which it extends or where it is passed out through a side wall of the building or car.

I have more especially devised my improvement for use on small buildings heated by stoves, and particularly on the variety of small buildings provided along railroads for sheltering gatemen at crossings, and for other purposes with which it is customary to extend galvanized sheet-iron chimneys from the sloping roofs, though it will be understood that my improved chimney construction is not intended to be confined for use with that class of buildings nor to being extended from the roof, as it affords its advantages, hereinafter pointed out, when used with other varieties of buildings or with cars and whether extended from their roofs or at the outer sides of their walls. Since, however, I have more particularly devised my improvement, as aforesaid, for use on the small railroad building referred to, the explanation of its construction and manner of use hereinafter contained is in the main confined thereto. It has hitherto been customary to use on these buildings galvanized-iron stacks, which do not commonly last more than one season and which are frequently the cause of the buildings taking fire by reason of the stacks rusting out and permitting sparks to come into contact with the woodwork. Moreover, to adapt these stacks or chimneys to the different pitch of roofs encountered among these buildings, the stack has to be especially constructed for each, whereas by my improvement, since it may be adjusted with equal facility to a roof of any pitch, it is possible for the disbursing department of a railroad to keep an adequate supply of the stacks on hand, all of the same pattern, to be sent for use wherever required, with material economy in money and time.

My invention consists in the general construction of a connection for the stack with a stovepipe; and it also consists in details of construction and combinations of parts, all as hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 shows my improved chimney by a view in elevation provided with a suitable ventilator at the upper end of the stack. Fig. 2 is a section taken at the line 2 on Fig. 3 and viewed in the direction of the arrow through a slanting roof equipped with my improvement, and Fig. 3 is a section taken at the line 3 on Fig. 2 and viewed in the direction of the arrow.

In each of Figs. 1 and 3 is represented at A the upper portion of the pipe of a stove, which is not shown, but which may be of the variety or of any of the varieties commonly used in the small buildings erected along railroads for sheltering gatemen and other employees. The sloping roof of such a building is represented at B. C is the stack, connected with the aforesaid stovepipe, shown surmounted by a draft-ventilator D, which may involve any suitable construction.

My improvement relates to a flexibly-jointed connection for properly adjusting the stack or chimney on the stovepipe and which I prefer shall also be equipped with a ventilator for purifying the atmosphere of the building, and following is the description of the said connection, which is formed of the three main sections E, F, and G, each formed, preferably, of cast-iron and pivotally connected with the other.

The section E is shown of general cylindrical shape, but constricted toward its upper end to fit in the annular flange *a* at the base of the stack proper, C, and in the lower portion of the section is formed an offset *b*, having an annular flanged opening *c* in its face, the offset portion being otherwise closed.

The section F is formed of three parts *d*, *e*, and *f*, the parts *d* and *f* being similar and of general semicylindrical shape, each having a rounded closed outer end and being open

at the opposite end, and near the closed ends of the sections *d* and *f* are provided in their flat faces, respectively, annular openings *d'* and *f'*. The intermediate part *e* is the roof-plate, and is shown in the form of a circular cap or roof-casting, having the raised part *e'* surrounded by a flange and containing at one side of its center an opening e^2 of the contour of the sections *d f* and surrounded by an upward-projecting flange e^3 and by a wider downward-projecting flange e^4, the former having fitted over it the open end of the section *d* and the latter having fitted within it the open end of the section *f*, these parts of the section F being rigidly fastened together by bolt-rods *g g*, passing lengthwise through them. In the cap *e'*, to one side of the opening e^2, is also provided, by preference, a ventilator H, shown as a circular opening having an upward-projecting circumferential flange *h*, a similar downward-projecting flange *h'*, and a bearing h^2, supported at its center for a threaded stem *i'*, carrying at its upper end a circular hood *i*, overlapping the flange *h*, and at its lower end a pulley i^2, by which to turn the stem through the medium of a cord i^3, suitably connected with the pulley for the purpose. A nut i^4 is stationarily confined about the stem against the bearing h^2 by a finger h^3, projecting under it from the bearing, so that by turning the pulley the hood *i* will be raised or lowered accordingly to increase or decrease the ventilating-space between the flange *h* and hood.

The section G is, as to its main portion, of the same shape as the part *f* or the part *d* of the section F, closed at its upper end, adjacent to which it contains a flanged opening *c'* in its flat face, and expanded toward its lower end to adapt it to fit over the end of the stovepipe A.

The sections E and F are pivotally connected together by fitting the opening *d'* in the latter over the flange about the opening *c* in the former, and a bolt-rod *k*, passed through both sections at the center of the opening between them, fastens them together. The sections G, in which a damper *l* is shown, and the section F are pivotally connected together by fitting the opening *f'* in the latter over the flange about the opening *c'* in the former, and a bolt-rod *k'*, passed through both sections at the center of the opening between them, fastens them together. By loosening the nuts on the bolt-rods *k k'* the sections E F G may be adjusted to any desired angles relative to each other and to the pipe A and stack C, and by tightening the nuts the sections will be rigidly held in their adjusted positions.

The all-important feature of my improvement, therefore, is the flexibly-adjustable connection between the roof-plate and stack to enable the roof-plate to be accommodated to any desired angle relative to the required perpendicular situation of the stack. The opening through which the coupling of the stack with the stovepipe is made is, as shown of the opening *m* in the roof B, of considerably-greater diameter than the sections E and G and the tubular parts of the section F to avoid too-close proximity of the passage for the hot products of combustion from the stove to the woodwork of the building, and this space is also utilized for ventilation through the ventilator H to maintain a pure condition of the air in the building, with the consequent advantage thereof to the occupant or occupants, whose duties are of such a nature as to require mental and physical alertness, to which foul air in the building is not conducive.

To adjust my improvement on a roof B of any pitch that may be encountered, the section F is turned to the proper angle of protrusion through the roof to incline to its pitch the plate *e*, which is fastened in place at its flange, as by screws, and further by shingling over it. The section G is turned to aline it with the stovepipe A, with which it is coupled, and the section E is adjusted into perpendicular position to cause the stack C to extend vertically. Obviously the same possibilities of adjustment prevail should the opening *m* be provided in the side wall of a building through which to make the stack connection with the stovepipe and which would then be covered by the plate *e*.

I do not limit my invention to the particular details of the construction shown and described, though they afford, so far as I am aware, the best construction for the purpose; but it may be variously modified by those skilled in the art without departure from my invention. Moreover, my improvement may be used to advantage for mere ventilating purposes without connection with a stove, but, say, with the plumbing of a house, and I intend to cover its use for this last-named and analogous purposes (including the purpose of a roof exhaust-steam pipe) as within my invention.

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

1. In a chimney of the character described, the combination of a stack and a roof-plate pivotally connected therewith to adapt the roof-plate to be adjusted to any desired angle, and means for rigidly securing the roof-plate and stack together in any position of such adjustment, substantially as described.

2. As a new article of manufacture, a connection for coupling a chimney-stack with a stovepipe through the roof or wall of a building, comprising end pipe-sections respectively for the stovepipe and stack, an intermediate pipe-section pivotally connected with said end sections, and a cap on said intermediate section, substantially as described.

3. As a new article of manufacture, a connection for coupling a chimney-stack with a stovepipe through the roof or wall of a building, comprising, in combination, end pipe-sections respectively for the stovepipe and stack, an intermediate pipe-section pivotally

connected with said end sections, a cap on said intermediate section, and a ventilator on said cap, substantially as described.

4. As a new article of manufacture, a connection for coupling a chimney-stack with a stovepipe through the roof or wall of a building comprising a flat-sided pipe-section for the stovepipe having an opening in its side, a pipe-section for the stack having an offset provided with an opening in its face, an intermediate flat-sided pipe-section having openings in its side near the opposite ends and pivotally fastened at said openings respectively at the openings in said stovepipe and stack sections, and a cap on said intermediate section, substantially as described.

5. As a new article of manufacture, a connection for coupling a chimney-stack with a stovepipe through the roof or wall of a building, comprising end pipe-sections respectively for the stovepipe and stack, and an intermediate pipe-section pivotally connected with said end sections and formed of a cap and parts *d* and *f* fastened on said cap, substantially as described.

6. As a new article of manufacture, a connection for coupling a chimney-stack with a stovepipe through the roof or wall of a building, comprising a section E having an offset *b* provided with an opening *c*, a section G provided with an opening *c'*, and a section F provided with an opening *f'* through which it is pivotally bolted to the section G at its opening and with an opening *d'* through which it is pivotally bolted to the section E at its opening, and a cap *e*, substantially as described.

7. As a new article of manufacture, a connection for coupling a chimney-stack with a stovepipe through the roof or wall of a building, comprising a section E having an offset *b* provided with an opening *c*, a section G provided with an opening *c'*, and a section F formed of the part *f* provided with an opening *f'* through which it is pivotally bolted to the section G at its opening, the part *d* provided with an opening *d'* through which it is pivotally bolted to the section E at its opening and the flanged-cap part *e* with which said parts *f* and *d* are connected and through which they are bolted together, substantially as described.

8. In a coupling connection for the purposes set forth, the combination of a roof-plate and an outwardly-projecting pipe flexibly connected with said roof-plate to be adjusted to any desired angle thereto, substantially as described.

PAUL DICKINSON.

In presence of—
ARTHUR DYRENFORTH,
D. W. LEE.