(No Model.)

P. DICKINSON.

CHIMNEY.

No. 445,714. Patented Feb. 3, 1891.

Fig. 1.

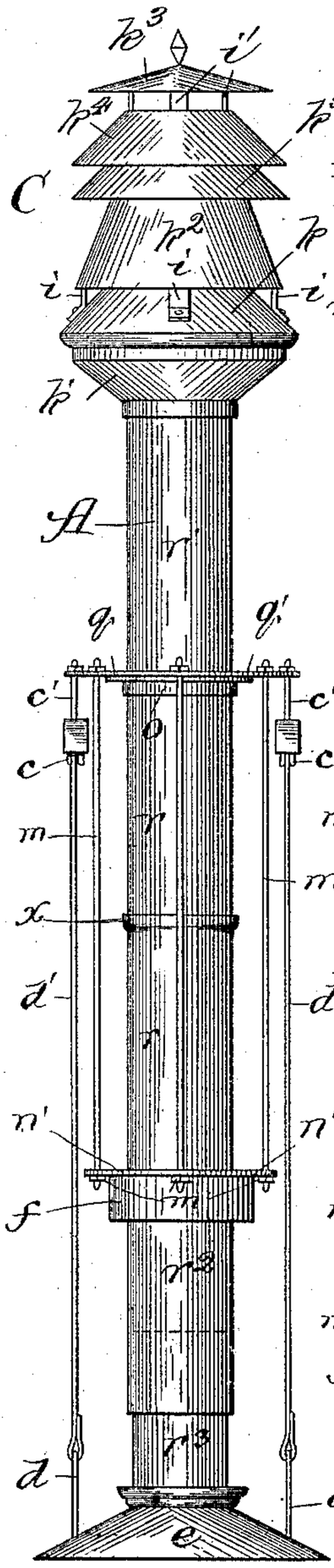


Fig. 3.

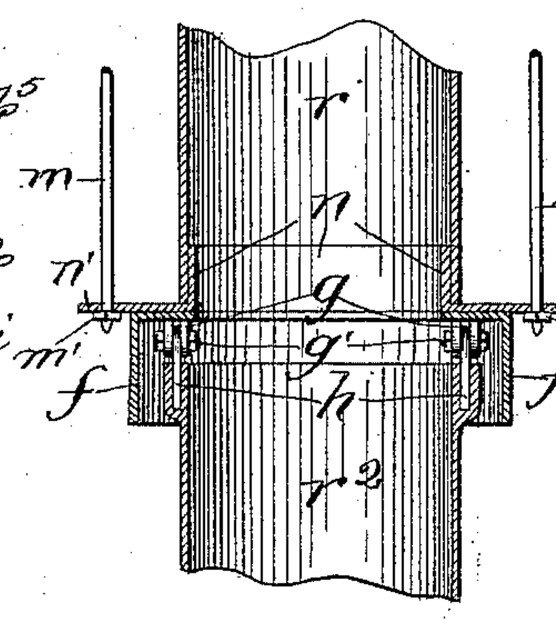


Fig. 5

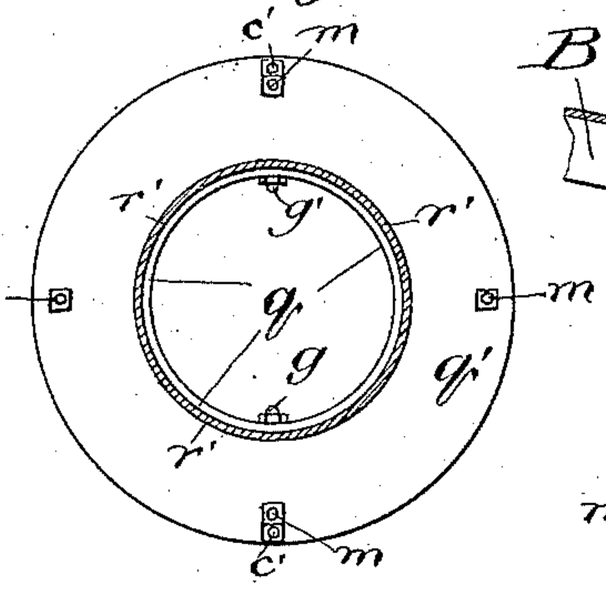


Fig. 4.

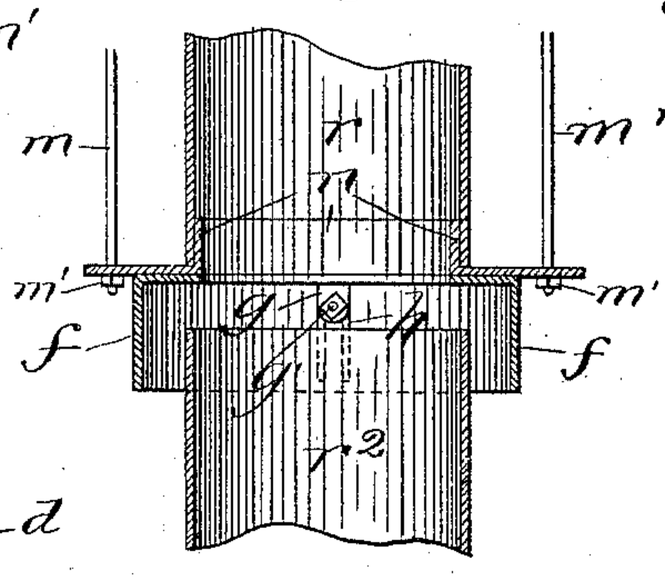
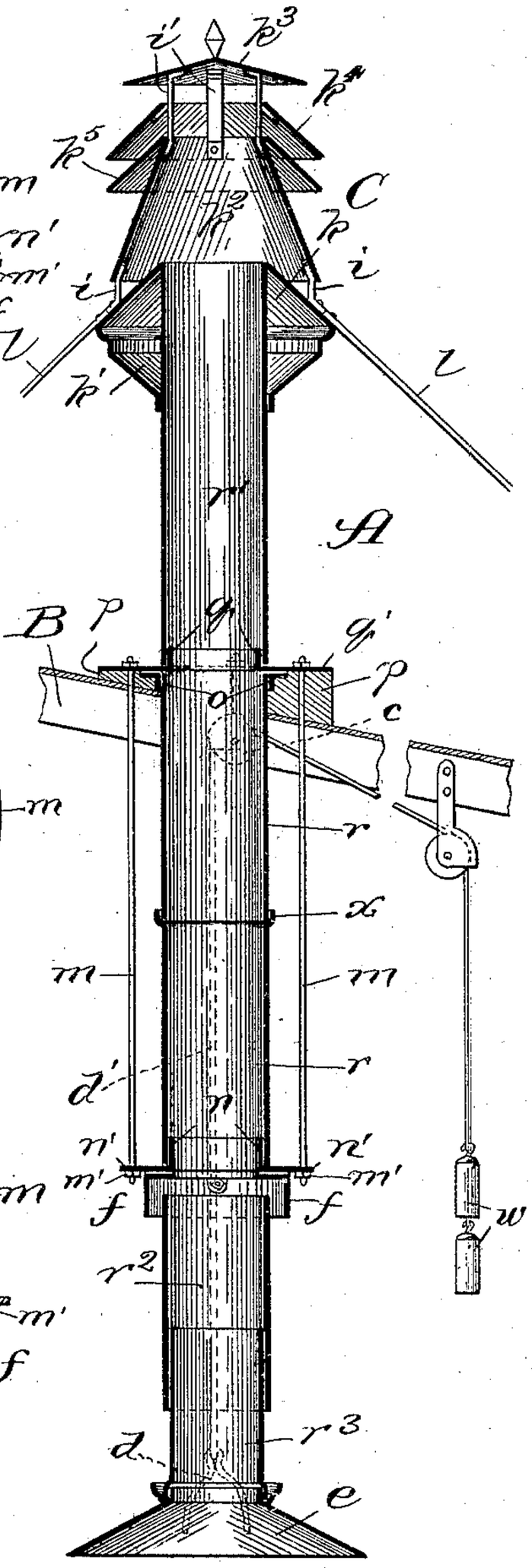


Fig. 2.



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UNITED STATES PATENT OFFICE.

PAUL DICKINSON, OF CHICAGO, ILLINOIS.

CHIMNEY.

SPECIFICATION forming part of Letters Patent No. 445,714, dated February 3, 1891.

Application filed September 10, 1890. Serial No. 364,583. (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 Chimneys, of which the following is a specification.

My invention relates to an improvement in the class of chimneys adapted for use in ventilating, and more especially as a smoke-stack in the roof of a railway-station shed as a flue for the escape of smoke from the locomotive stack.

More particularly stated my invention relates to an improvement in the construction of a chimney of the class referred to, which is formed with cylindrical sections placed to extend partly above and partly below the roof, and having the last-named portion pivotally supported to yield to and thus be uninjured by concussion against it of a locomotive, the lowest section being telescopically adjusted in position and counterbalanced to permit of its ready adjustment with relation to a locomotive smoke-stack. Such a chimney is commonly surmounted by a cap forming a cowl or ventilator.

The objects of my improvement, which involves the general construction thus outlined, are to provide a construction of the pivotal portion of the chimney which will increase the durability of the structure by decreasing the liability of injury to the pivotal portion by concussion against it and materially reduce the weight to be sustained by the pivot, to provide a novel and effective form of ventilator cap, and to improve the construction of the chimney generally in the matter of details.

In the accompanying drawings, Figure 1 is a view in elevation of my improved chimney; Fig. 2, a vertical longitudinal section of the same represented as being supported on a roof, shown broken and in section; Fig. 3, a broken sectional view in elevation, enlarged, and showing the means for pivotally supporting the lower section of the chimney; Fig. 4, a sectional view similar to that presented in Fig. 3, but taken at a right angle to the latter; and Fig. 5 a bottom plan view of the lower collar upon which the lower chimney-section is pivotally supported.

A is the chimney formed in longitudinal sections r and r', preferably of cast-iron, the lower of the two sections r being flanged, as shown at x, to enlarge its upper end and thereby form a seat for the lower end of the section above it. Of course if there be more than two of the sections r, they may be similarly fitted together. That part of the chimney which hangs below the roof B, I support thereon through the medium of a collar q, having a lateral flange q' extending around its base and resting on suitable props p, arranged to sustain the collar in a horizontal position on the roof. The parts should be reenforced by means of a suitable angle-brace o, as shown. A collar n, having a flange n', is inserted into the lower end of the lower section r, and the sections r, forming the portion of the chimney under the roof, are rigidly secured together in their suspended relation by means of tie-rods m, extended through the flanges q' and n' of the collars q and n and fastened with nuts m'.

The section r' is seated on the flange q' around the collar q, and is rigidly fastened in place, guy-rods l (indicated in Fig. 2) affording desirable means for the purpose. The uppermost section r' is surmounted by a ventilating-cap C, formed of a hollow conical deflector k, secured to an inverted hollow cone-shaped or substantially cone-shaped top k', fastened to the section just below its upper end. On the cone k is supported, through the medium of suitable legs i, fastening the parts together, a deflector in the form of a conical frustum k^2, surmounted by a hood k^3, supported and fastened in place by means of suitable legs i'. Between the parts k^2 and k^3 are two overlapping deflectors in the form of hollow conical frustums k^4 and k^5, the former being secured to the legs i' and the latter to the upper end of the deflector k^2, between which and the deflector k^5 there is thus no open passage. The lower collar n forms the support for the lowermost section r^2 of the chimney, which section is pivotally fastened in place. From opposite sides of the upper end of the section r^2 extend perforated lugs h, each of which is extended between a pair of similar lugs g, depending from the base of the collar-flange n' at opposite sides of the center, and the pivotal connection is afforded by bolts g' or pins

passed through the lugs *h* and *g*. On the horizontal flange *n* I provide a vertical flange *f*, extending downward therefrom to envelop the upper end of the pivotal section r^2.

The drop-section r^3, which fits, as usual, telescopically the lowermost section of the chimney, is provided with the ordinary hood *e*, and supported in a manner to adapt it to be readily adjusted vertically. For this purpose I employ bails *d*, fastened at their forked extremities to the upper side of the hood *e* at opposite sides of the section r^3, whereby a stable suspending means is afforded, and fasten to them the cables *d'*, which are passed over pulleys *c*, suspended on hangers *c'*, depending from the collar-flange *q'*, and the cables are weighted at their hanging ends, as indicated at *w* in Fig. 2, to counterbalance the drop-section in any position to which it is adjusted, the movement thereof to adjust it being readily effected by raising or lowering the weight *w*.

From the foregoing description it will be apparent that my improved construction affords a durable chimney A, since the part underneath the roof B, which is pivotally movable, is comparatively light, and thus does not bear so heavily on its pivot as to tend to cut or wear the latter, and the accidental running against it of a locomotive is not liable to demolish it, though if it should, being only a single section, it may be readily replaced by a new one with comparatively little expense. The construction of the cap C is also particularly effective as a ventilator, since it affords three oblique passages for the entrance of air-currents in an upward direction to effect the desired draft through the chimney and a transverse draft-opening at its extreme upper end just below the hood k^3. Besides, the details involved in the construction of the sectional chimney render it comparatively cheap and easy to manufacture, put together, and take apart.

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

1. In combination with a roof, a chimney A, formed in connected sections and extending partly above and partly below the roof, the lower portion being pivotally suspended from a pivot below the roof, substantially as described.

2. A chimney A, formed with connected sections *r* and *r'*, to extend, respectively, below and above a roof B, and a section r^2, pivotally suspended from a pivot below the roof in engagement with the lowermost section *r*, substantially as and for the purpose set forth.

3. A chimney A, formed with connected sections *r* and *r'*, to extend, respectively, below and above a roof B, a section r^2, pivotally suspended on the lowermost section *r*, and a drop-section r^3, having bails *d* secured to its hood *e*, and suspended and counterbalanced from the said bails, substantially as described.

4. A chimney A, formed with sections *r* and *r'*, to extend, respectively, below and above a roof B, a flanged collar *q* for supporting the portion extending above the roof, a flanged collar *n* for sustaining the portion below the roof, and tie-rods *m*, connecting the said collars from their flanges and holding the sections *r* together, substantially as described.

5. In a chimney A, the sections *r r'*, fastened together, a section r^2, pivotally supported on the lower section *r*, a drop-section r^3, suspended to telescope with the section r^2 and counterbalanced, and a ventilator C on the upper end of the chimney, formed with the conical deflectors k k^2 and hood k^3, and the conical deflectors k^4 and k^5 between the hood and deflector k^2, substantially as described.

6. A chimney A, formed with connected sections *r* and *r'*, to extend, respectively, below and above a roof B, flanged collars *q* and *n*, connected by tie-rods *m* and clamping the sections *r* between them, lugs *g*, depending from the collar *n*, and a section r^2, having a drop-section r^3, supported to telescope with it and provided with lugs *h* at its upper end pivoted to the lugs *g*, substantially as described.

7. A chimney comprising, in combination, sections *r* and *r'*, to extend, respectively, above and below a roof B, a flanged collar *q*, affording a seat for the part *r'*, a ventilator C on the upper end of the chimney, formed with conical deflectors k k^2 and hood k^3, and the conical deflectors k^4 and k^5 between the hood and deflector k^2, a collar *n*, provided with a horizontal flange *n'* and a perpendicular flange *f*, and sustaining the sections *r*, tie-rods *m*, fastening the collars together at their horizontal flanges and clamping the sections *r* together, lugs *g* on the collar *n*, a section r^2, having at its upper end lugs *h*, pivoted to the lugs *g* on the collar *n*, a drop-section r^3, telescoping with the section r^2 and having bails *d* secured to its hood *e*, and cables *d'*, fastened to the bails, passing thence over pulleys *c*, and provided at their hanging ends with counterbalancing-weights *w*, the whole being constructed and arranged to operate substantially as described.

PAUL DICKINSON.

In presence of—
J. W. DYRENFORTH,
M. J. FROST.