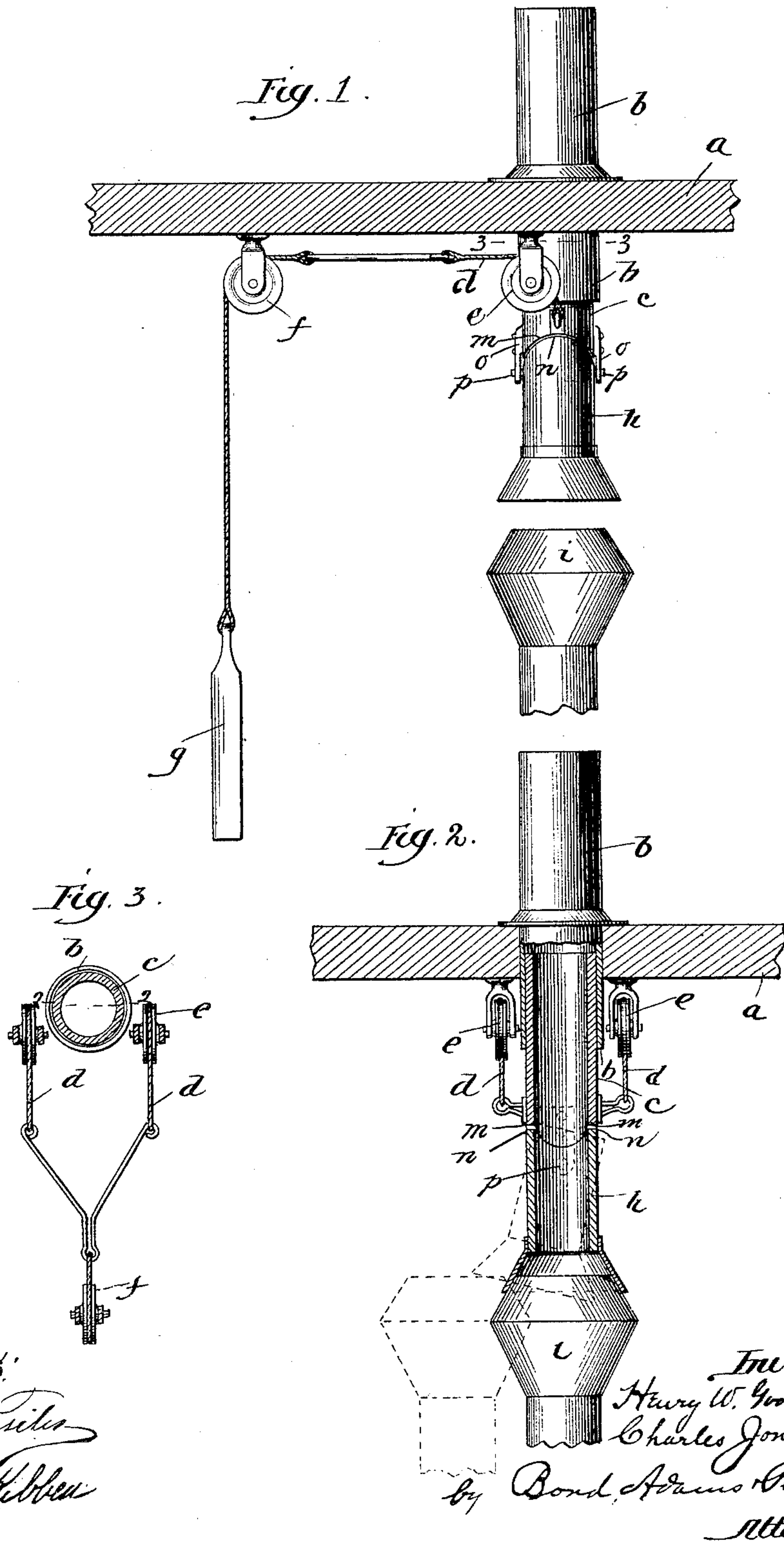


(No Model.)

H. W. GOODRIDGE & C. JONSSON.
SMOKE FUNNEL.

No. 477,209.

Patented June 21, 1892.



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SMOKE-FUNNEL.

SPECIFICATION forming part of Letters Patent No. 477,209, dated June 21, 1892.

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To all whom it may concern:

Be it known that we, HENRY W. GOODRIDGE and CHARLES JONSSON, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Smoke-Funnels, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation. Fig. 2 is a partial vertical section on line 2 2 of Fig. 3, and Fig. 3 is a horizontal section on line 3 3 of Fig. 1.

This invention relates to smoke stacks or funnels used in roundhouses and depots for carrying off smoke and gases from locomotives; and it has for its object to provide a novel construction of parts whereby the funnel portion of the vertically-movable stack can be freely swung laterally to such extent as to permit the locomotive-stack to pass from under the same, while a perfect joint between the vertically-movable stack and the swinging funnel is secured when these parts are perpendicular or in alignment for the conduct of smoke and gases.

To accomplish this object our invention consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed.

In the drawings, *a* indicates a portion of the roof of a roundhouse or other building.

b indicates a stationary smoke-stack.

c indicates a telescopic smoke-stack, which is fitted into the stationary stack *b* and projects below it. The telescopic stack *c* is adapted to be moved vertically in the stationary stack *b*, so that the height of the funnel may be adjusted to fit over locomotive-stacks of different heights or be raised entirely clear of the locomotive-stack.

The telescopic stack *c* is supported by means of ropes or chains *d*, which are connected thereto, one at each side, and pass over pulleys *e e*. After passing over the pulleys *e e*, as shown, the ropes are preferably united and pass over a single pulley *f*, as shown in Fig. 1.

g indicates a counterpoise attached to the supporting-ropes, which serves to balance the weight of the movable stack *c*. By this con-

struction the stack *c* may be moved up or down and when so moved will remain in the position in which it is placed.

The lower end of the telescopic or sliding smoke-stack *c* is formed at opposite sides with concavities *m*, into which are fitted the convexities *n* at opposite sides of the upper end of the funnel *h*. The funnel is pivotally supported through the medium of hangers or arms *o*, rigidly secured to the lower end of the telescopic or sliding stack and extending downward therefrom, so as to embrace the upper end of the funnel, to which said arms are pivotally attached by pivot-pins *p* in such manner that while a perfect joint between the edges of the stack *c* and the edges of the funnel *h* is obtained when the parts are perpendicular for the passage of smoke and gases, as in full lines, Fig. 2, the funnel can freely swing laterally between the hangers or arms *o* to such extent that a locomotive smoke-stack can pass out therefrom, as will hereinafter appear. This construction is advantageous in that a perfect joint between the extremities of the telescopic or sliding stack and the pivoted swinging funnel is provided, which effectually prevents the escape of smoke at the point of connection between the sliding stack and the funnel.

The funnel *h* is adapted to fit over a smoke-stack *i* of a locomotive, and by moving the stack *c* downward the funnel *h* may be made to fit tightly upon the locomotive-stack *i* when the locomotive is under it. By thus hinging the funnel *h* if it is in contact with a locomotive-stack, as shown in Fig. 2, and the locomotive should be moved in the direction indicated by the arrow in Fig. 2 the motion of the locomotive would merely cause the funnel *h* to swing as indicated by dotted lines in Fig. 2, permitting the locomotive-stack *i* to pass out from under it, and thereby avoiding all danger of breakage. If the funnel *h* should extend downward to a point below the upper edge of a locomotive-stack and a locomotive should move under it the funnel would merely swing away from the locomotive-stack, and thereby it will be prevented from being injured.

The improved joint and pivotal connection

of the stack *c* and funnel *h* renders it possible for the funnel to swing to a considerable extent, so that it can move to a position approximately at right angles to the stack *c*, which freedom of movement renders the device more perfect, reliable, and satisfactory in use.

That which we claim as our invention, and desire to secure by Letters Patent, is—

10 1. The combination, with the fixed stack *b*, of the stack *c*, sliding therein and provided at its lower end with opposite concavities *m*, and the swinging funnel *h*, pivotally connected with the sliding stack and provided at its upper end with convexities *n*, which enter the

said concavities of the sliding stack, substantially as described.

2. The combination, with the fixed stack *b*, of the stack *c*, sliding therein and provided at its lower end with pendent hangers or arms *o* and opposite concavities *m*, and the swinging funnel *h*, pivoted to the hangers or arms and provided at its upper end with convexities *n*, which enter the said concavities of the sliding stack, substantially as described.

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