

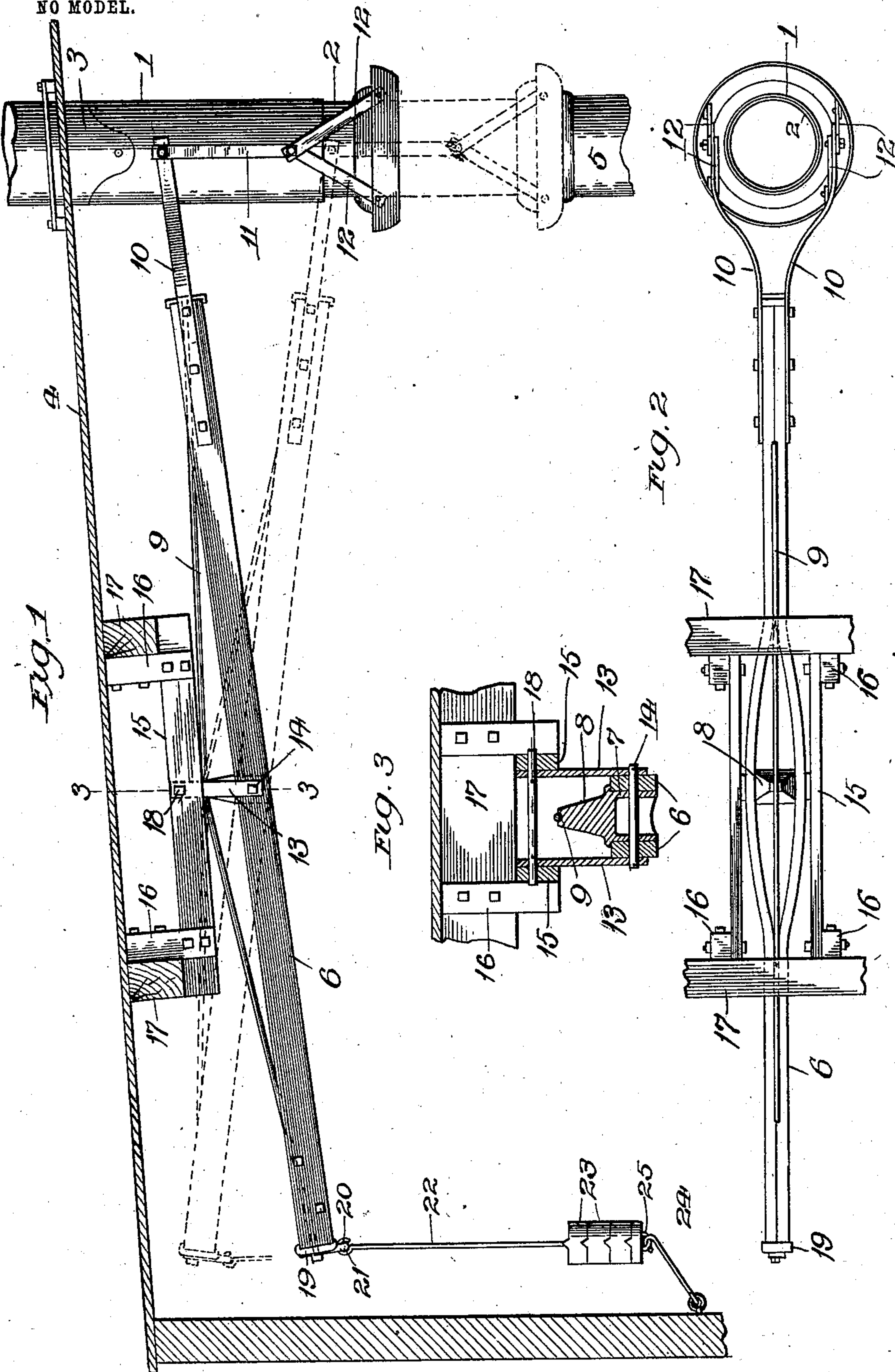
No. 724,161.

PATENTED MAR. 31, 1903.

A. D. COLTON.  
SMOKE JACK.

APPLICATION FILED APR. 12, 1902.

NO MODEL.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## SMOKE-JACK.

SPECIFICATION forming part of Letters Patent No. 724,161, dated March 31, 1903.

Application filed April 12, 1902. Serial No. 102,637. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR D. COLTON, a citizen 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-Jacks, of which the following is a specification.

My invention pertains to roundhouse smoke-jacks or chimneys, and is more particularly designed for that class of constructions which are provided with a lower swinging portion in sections, the lowermost one of which is adapted to telescope and to be placed over the stack of a locomotive.

My invention has for its object the provision of simple and efficient means for operating in a positive manner the chimney or smoke-jack and to dispense with the unsatisfactory and inefficient cords or cables and pulleys as now commonly used.

In the drawings, Figure 1 is an elevation of a smoke-jack and operating mechanism with the roundhouse-roof in section; Fig. 2, a plan of such mechanism, and Fig. 3 a section on line 3 3 of Fig. 1.

For convenience I have shown my invention applied to the Bruyn smoke-jack, as shown in his Patent No. 548,604, dated October 22, 1895; but it is evident that my invention is not limited in its application to any particular form of smoke-jack, but may be applied to other forms and constructions of jacks or chimneys.

The smoke-jack herein shown comprises the swinging section 1, the telescoping section 2, and the thimble 3, to which the section 1 is pivoted and which is secured to the roof 4 of a roundhouse. When the section 2 is raised to the position shown in full lines, Fig. 1, it telescopes within the section 1 in such manner as to accommodate locomotive-stacks of different heights from the rails or track. Upon lowering the section 2, as shown in dotted lines, it will fit upon the locomotive-stack 5. The above-described parts are those shown and described in the Bruyn patent aforesaid and form no part of my invention, which is concerned solely with the operating mechanism for the jack.

Suspended in suitable manner from the roof is a lever, which in the present instance

is composed of boards or timbers 6 6, bolted together at their ends and spread apart at their middle around a casting or block 7, which has an upward extension 8, provided with a top groove to receive a truss-rod 9, secured to the ends of the lever. The end of the lever adjacent the jack is provided with a pair of bent arms 10 10, which are outwardly curved to partially encompass the smoke-jack. Each free end of these arms has a pivoted link 11, connected to the telescopic section by means of the two flat irons or straps 12.

In order to properly pivot the lever 6 and at the same time permit such lever to swing bodily to a desirable extent whenever the jack is swung, I provide a swinging fulcrum for the lever, comprising the two links 13, to whose lower end the lever is pivoted by means of the pivot-pin 14, extending also through the block 8. These two links 13 are suitably pivoted to some fixed support, and in the present instance I have shown them pivoted to strips 15, secured to hangers 16, which are themselves secured to the rafters 17 of the roundhouse. These links 13 are pivoted to these strips by means of the pin or bolt 18. The left-hand end, Fig. 1, of the lever is provided with an end piece or casting 19, having a depending eye 20, which is engaged by the hook 21 of a vertical rod 22, carrying a suitable number of counterbalancing-weights 23. In order to hold the lever in raised position, as shown in Fig. 1, suitable means may be employed—as, for instance, a hook 24, secured to a wall or fixed support or post in the roundhouse and adapted to hook into an eye 25 on the lowermost weight or end of the rod 22.

By reason of the connection of the lever with the swinging section of the jack it is necessary to make provision for the movement of the lever bodily whenever such section is swung by the moving away of the locomotive, for, as observed from Fig. 1 of the drawings, the connection between the arms 10 and links 11 is below the pivotal axis of the swinging section of the jack, wherefore as such axis is a fixed one the lever itself should be bodily movable. The desired result is accomplished by making the fulcrum a movable or swinging one, and where, as in the present instance, the jack happens to



swing in the same plane as the lever the fulcrum also will swing in that plane; but whatever the particular relative arrangement of the jack and lever may be the movable fulcrum affords the proper movement or play of the lever. The extent of such movement depends upon the length of the swinging section of the jack required, according to the height of the roundhouse-roof or to the particular type of roof, such movement being greater where long swinging sections are used. By the means herein shown the benefits of an actuating-lever are enjoyed without any interference with the proper and efficient working of the jack itself.

It is evident that by the use of the lever I am enabled to operate the jack or chimney in a positive manner in both directions—that is, in raising and lowering—and thereby obtain marked advantages over the cables and pulleys and, moreover, provision is made for the swinging of the chimney.

As hereinbefore suggested, my invention may be applied to smoke-jacks of constructions different from that herein illustrated, and, in fact, I contemplate using my invention wherever applicable.

I claim—

1. In a smoke-jack, the combination, with the swinging chimney thereof, a telescoping section at the lower end of such chimney, a pivoted lever having a swinging fulcrum and connected to such section for operating the same; substantially as described.

2. In a smoke-jack, the combination of a swinging section having a telescoping portion at its lower end adapted to be raised or lowered so as to be fitted upon a locomotive-stack or removed therefrom, a pivoted lever operatively connected to such swinging section, and means for permitting the entire lever to swing bodily to accommodate the swinging movements of said section, substantially as described.

3. In a smoke-jack having a telescopic swinging section operating mechanism there-

for comprising a pivoted lever on a swinging fulcrum and having at one end connections with said section and having counterbalancing-weights at the other end; substantially as described.

4. In a smoke-jack having a telescoping swinging section, operating mechanism therefor comprising a pivoted lever suspended on a swinging fulcrum from the roof of a roundhouse and carrying at one end a pair of arms partially embracing said section and link connections between said arms and the section; substantially as described.

5. In a smoke-jack having a telescoping section, operating mechanism therefor comprising a lever pivoted on a swinging fulcrum and having operative connections with such section; substantially as described.

6. In a smoke-jack having a telescoping section, operating mechanism therefor comprising a lever 6, having the two arms 10, a link 11 on the arms respectively, connections or rods 12 between the links and the telescoping section, and a swinging fulcrum for such lever consisting of a pivoted link or arm 13 pivotally supported from above and in whose lower end the lever is pivoted; substantially as described.

7. In a smoke-jack having a telescoping section, operating mechanism therefor comprising a lever having one end operatively connected to such telescoping section and comprising two strips or portions 6 united at their ends, a block 7 arranged between such strips at their pivotal point, hangers 13 pivotally supported from above, a pivot-pin 14 passing through said hangers, lever and block, a head or end piece 19 secured to the outer end of the lever, a rod 22 secured to such end piece, counterweights 23 on the rod and a hook 24 for holding the rod in lowered position; substantially as described.

ARTHUR D. COLTON.

Witnesses:

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