VENTING RUSTING AND RUSTED METAL.

UNITED STATES PATENT OFFICE.

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SMOKE-STACK PROTECTOR.


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To all whom it may concern:

Be it known that we, ELMER C. FRENCH, and THOMAS E. CRAIG, citizens of the United States, residing at Dallas, in the county of Dallas and State of Texas, and at McKinney, in the county of Collin, State of Texas, have invented certain new and useful Improvements in Smoke-Stack Protectors, of which the following is a specification.

Our invention relates to a new and useful smoke stack protector, and its object is to provide a smoke stack protector adjustable in two positions one of which it occupies while the stack is in use, leaving the stack outlet entirely unobstructed, while in the other position which it occupies while the stack is idle, it completely covers the stack, keeping out rain, wind and dirt and preventing rusting and deterioration of the stack.

A further object of the invention is to provide a smoke stack protector comprising two members pivoted to swing about an axis diametral of the stack, each of said members being correlated with a wire extending to the ground, said wires serving when taut to hold the two members in a position covering the stack, and when slackened permitting the members to swing outward due to their own weight assuming positions which will not obstruct the stack outlet.

Still another object of our invention is to provide a smoke stack protector adjustable from the ground in two limiting positions in one of which the stack is covered and in the other the stack is unobstructed, it being possible to bank the fire of the furnace with which the stack is correlated by adjusting the protector to its closed position, avoiding the detrimental effect of opening the furnace and smoke-box doors.

Finally the object of our invention is to provide a device of the character described, that will be strong, durable, simple and efficient and comparatively easy to construct and also one that will not be likely to get out of working order.

With these and various other objects in view, our invention has relation to certain novel features of the construction and use, an example of which is described in the following specification, and illustrated in the accompanying drawing, wherein:

Figure 1 is a top view of our smoke stack protector, a portion of the same being broken away to reveal the interior construction. Fig. 2 is a view of the same in side elevation. Fig. 3 is a vertical sectional view, the section being taken upon the line X-X of Fig. 2.

Referring now more particularly to the drawing, wherein like reference characters designate similar parts in all the figures, the numeral 1 denotes the upper portion of a smoke stack, which has mounted upon its upper edge a metal ring 2 to reinforce said edge. A short distance below the ring 2, an annular draw band 3 is mounted upon the stack, the adjacent ends of said ring being turned outward as indicated at 4 and drawn together by a bolt 5 to clamp said ring rigidly upon the stack. At diametrically opposite points of the ring 2, a pair of bracket members 5 are rigidly mounted upon said ring, the upper extremities of said members being hooked over the adjacent edge of the stack as indicated at 6. The bottom portions of the bracket members 5 are made to extend downwardly some distance beyond the ring 2 and serve to furnish pivotal supports for the down-turned extremities of two bars 7 and 7*, which bars are adapted to swing to or from each other about the pivots 8, in one limiting position being parallel and extending over the stack, and in the other limiting position being divergent and disposed at opposite sides of the stack. That portion of each member 7 and 7* which is adapted to occupy a position above the stack forms an obtuse angle and to each of said portions there is secured one-half of a conical protector 10, the adjacent edges of the protector members being overlapped when the protector is in its closed position above the stack. The member 10 carried by the bar 7* laps beneath the other member 10 in the closed position of the stack protector and is provided at its diametral edge with a channel 10* which when the protector is closed lies between the bars 7 and 7* and serves to catch any water which during a heavy rain may possibly enter between the overlapped portions of the two members 10. Each of the bars 7 and 7* is provided at one extremity with an arm 9 projecting beneath the correlated pivot point 8 and inclined slightly from the member 10 carried by the bar with which said arm is integral. The arms 9 are disposed at opposite sides of the stack, and from the extremity of each arm there depends a wire 11, the lower extremity of which may be secured in any common and well known manner. When the bars 7 and
2 7a carrying the two members 10 are being shifted from their open to their closed positions, they are stopped on reaching their closed positions by a pair of diametrically opposite pins 11a carried by small metal blocks 12 which are rigidly secured to the upper end portions of the bracket members 5. When the bars 7 and 7a reach the position which they occupy when the protector 10 covers the stack, the downwardly turned end portions of said arms contact with the pins 11a and prevent further movement of said bars 7 and 7a toward each other.

In Fig. 2 the position which the stack protector occupies when closed is shown in full lines, and the open position of the parts is indicated in dash lines. Since the center of gravity of each pivoted member 10 lies considerably to one side of the pivot points 8, it is apparent that when a strain upon the wires 11 is discontinued, said members will naturally swing outward to each side of the stack, and will remain in this position until they are again swung above the stack by exerting a strain upon the two wires 11. During such times as the stack is not in use, the members 10 will be made to occupy their closed position, and will be held in such position by fastening the lower extremities of the two wires 11 in any suitable manner at the base of the stack. When it is desired to use the stack, it is necessary simply to loosen the lower ends of the wires 11 permitting the members to swing outwardly of their own weight.

The manner of fastening our smoke stack protector in place by means of the draw band 3 carrying brackets 5 engaging over the top edge of the stack eliminates any possibility of the device being accidentally subjected to either upward or downward displacement. The members 10 will preferably be formed of galvanized sheet metal which cannot become corroded.

When it is desired to bank the fires of a furnace having the above described stack protector mounted upon its stack, it will be necessary merely to adjust said protector to its closed position to accomplish the desired results, thus eliminating the detrimental effect of opening the furnace and smoke box doors and saving the firemen the labor of banking the fires in the ordinary manner.

The invention is presented as including all such modifications and changes as properly come within the scope of the following claims:

What we claim is:

1. A smoke stack protector comprising two members pivoted at the top of a stack and adjustable between two limiting positions in one of which said members form a cone above the stack and in the other said members lie at opposite sides of the stack, the weight of said members tending to carry them to the last specified position, and a wire correlated with each member which when placed under tension serves to raise the member to its closed position.

2. In a device of the character described, the combination with the upper extremity of a stack, of a draw band mounted fast upon said extremity, a pair of brackets mounted oppositely upon the draw band and projecting above the stack at their upper ends, a pair of bars having their extremities pivoted at opposite points upon said bracket, said bars being adjustable between two positions which respectively place them parallel above the stack and divergently at opposite sides of the stack, and a member forming a half cone secured to the center portion of each of said bars, the weight of said members tending to shift said bars to positions at opposite sides of the stack, and a mechanism for manually shifting said bars to their position above the stack.

3. In a device of the character described, the combination with a smoke stack, of a pair of brackets oppositely mounted upon the top portion thereof, a pair of bars having their extremities respectively pivoted at opposite points upon said brackets, said bars being adjustable between two limiting positions in one of which they lie parallel above the stack and in the other divergently at each side of the stack, a protector member forming substantially a half cone secured to the center portion of each of said bars, an arm projecting downwardly from one end of each of said arms, and a wire depending from each of said arms, the weight of the protector members serving to deflect the same to their open positions when said wires are stack and a pull upon said wires serving to displace the members to their closed positions.

4. A smoke stack protector comprising two members pivoted upon a smoke stack at the top thereof, and adjustable between two limiting positions in one of which said members form a cone above the stack, and in the other position said members lie at opposite sides of the stack, the two members being overlapped in the position first specified, the diametral edge of the under lapped member being formed with a channel.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ELMER C. FRENCH.
THOMAS E. CRAIG.

Witnesses:
J. S. MURRAY,
JACK A. SÖHLEY.

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