E. WELSH & R. HUGHES.

CHIMNEY CLEANING DEVICE.

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1,066,688.

Patented July 8, 1913.

Fig. 1

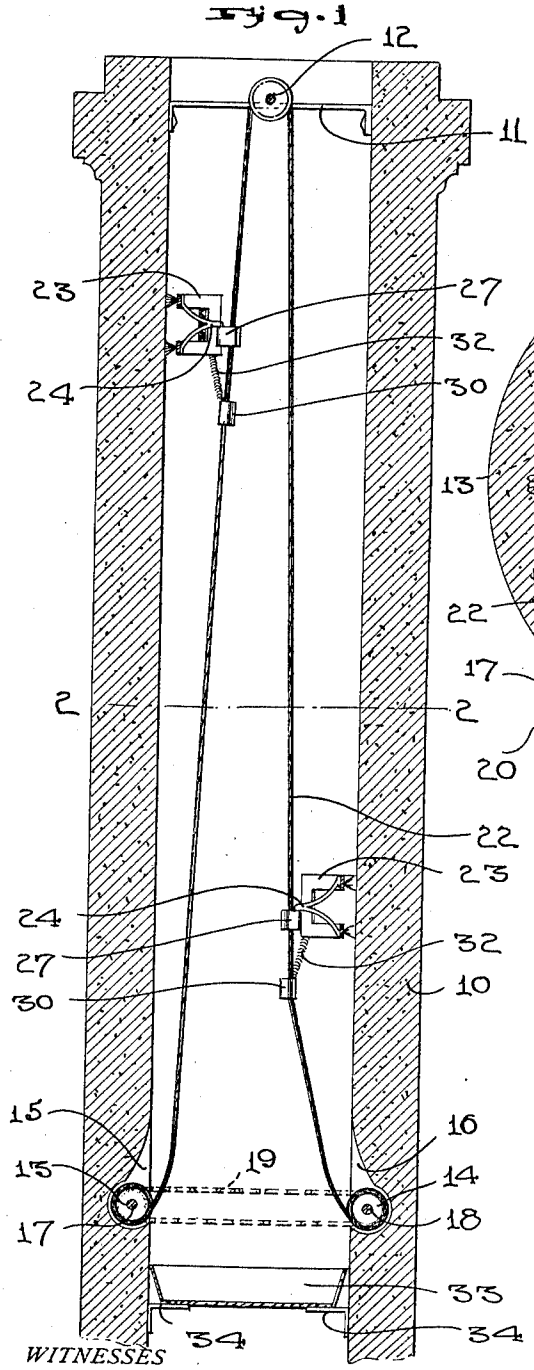


Fig. 2

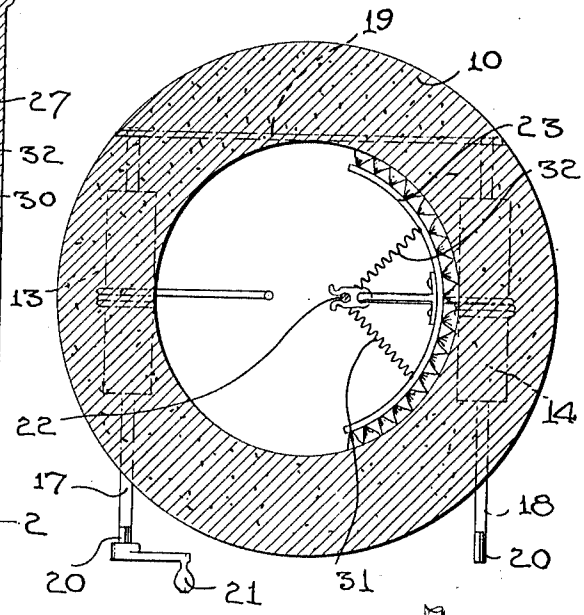
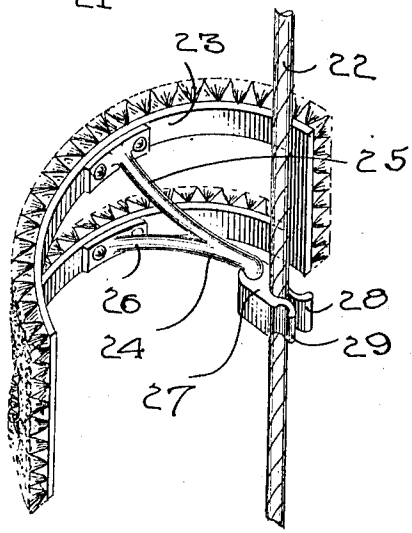


Fig. 3.



WITNESSES

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CHIMNEY-CLEANING DEVICE.

1,066,688. Specification of Letters Patent. Patented July 8, 1913.

Application filed October 29, 1912. Serial No. 728,414.

To all whom it may concern:

Be it known that we, EDWARD WELSH and ROBERT HUGHES, citizens of the United States, residing at Edgar, in the county of Marathon and State of Wisconsin, have invented certain new and useful Improvements in Chimney-Cleaning Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to chimney cleaning devices, and the principal object of the invention is to provide a device which is so constructed and operated that a chimney may be cleaned without it being necessary to enter the chimney and so that there will be nothing to obstruct the falling soot scraped from the sides of the chimney.

Another object of the invention is to provide an improved type of brush which is so constructed that it will be adjustably connected with the operating table thus permitting the device to be regulated according to the height of the chimney.

This invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a vertical sectional view through a chimney provided with the improved cleaning device. Fig. 2 is a transverse section through the chimney along the line 2—2 in Fig. 1. Fig. 3 is an enlarged perspective view of one of the brushes.

This invention is intended to be used for cleaning large chimneys or smoke stacks such as the one shown in the drawing and indicated by the numeral 10. The smoke stack is provided near its upper end with a cross bar 11 having a pulley wheel 12 rotatably connected therewith. A pair of rollers 13 and 14 are mounted in pockets 15 and 16 upon the shafts 17 and 18 which are rotatably mounted in the walls of the chimney. These shafts are connected at one end by means of the sprocket chain 19 so that when one of the shafts is rotated the second one will also be rotated. The opposite ends of the shafts extend beyond the sides of the chimney and are provided with squared ends 20 so that a handle 21 may be connected with either of the shafts and the shaft thus rotated to operate the device. A cable 22 is wound upon the roller 13 carried over the pulley wheel 12 and then carried down and wound upon the roller 14 in an opposite direction to that in which the end is wound upon the roller 13. It will thus be seen that when the device is operated the cable will be unwound from the roller 13 and wound upon the roller 14 and when the device is rotated in the opposite direction the cable will be unwound from the roller 14 and wound upon the roller 13.

The brushes which are used are adjustably mounted upon the cable and when the device is in operation move up and down the sides of the chimney thus brushing the soot from the walls and thereby thoroughly cleaning the chimney. These brushes each comprise an arcuate frame 23 which is substantially rectangular in form and formed from spring metal. It is desired to have this frame bent in the arc of the circle greater than the inner diameter of the chimney so that when the cleaning mechanism is installed it will be necessary to compress the frame slightly in order to have the brush fit tightly into the chimney. A bracket 24 has its arms 25 and 26 rigidly secured to the frame and has its opposite end secured to a clamp 27 having spring arms 28 and 29 which tightly grip the cable. This clamp is of such strength that it will grip the cable with sufficient strength to prevent the cable from slipping through the clamp when the device is operated. It is noted, however, that the cable may be removed from the clamp and the brush moved up or down upon the cable so that when installing the apparatus the brush may be readily adjusted according to the height of the chimney. A second clamp 30 which is similar in construction to the clamp 27 is adjustably secured to the cable beneath the clamp 27, and springs 31 and 32 are secured to the clamp 30 at one end with their upper ends secured to the frame 23. These springs place the frame close against the walls of the chimney so that the brushes carried by the frame will be placed tightly against the walls thus thoroughly cleaning the chimney. From an inspection of Fig. 1 it will readily be seen that there are provided two brushes which are so located upon the cable that when the lower brush is at the bottom of the chimney the upper brush will be at the top of the chimney and thus the two brushes will cross when the device is operated, one traveling up while the other travels down.

A pan 33 is placed upon the supporting brackets 34 before the cleaning device is operated, and catches the soot which is brushed off. This pan is then removed, and it will,

therefore, be seen that the soot is caught in the pan and does not fall into the bottom of the chimney.

During the foregoing description, the operation of the device has been fully explained, and, therefore, it is not necessary to give a second description of the operation of the device.

Having thus described the invention, what is claimed as new, is:—

1. A cleaning device comprising a supporting pulley, a cable passing over said pulley, cleaning brushes mounted upon said cable, each of said brushes comprising an arcuate frame of resilient metal, a bracket provided with arms rigidly secured to said frame intermediate its length, a clamp carried by said bracket for adjustably connecting said brush with said cable, a second clamp adjustably mounted upon said cable beneath said first mentioned clamp, springs carried by said second mentioned clamp and connected with said frame, and means connected with the ends of said cable for moving said cable to cause said brushes to move in an opposite direction from each other.

2. The combination of a chimney provided with a pulley secured in its upper end, rollers rotatably mounted in the lower end of the chimney, a cable passing over said pulley and having its ends wound upon said rollers in opposite directions, a pair of brushes secured to said cable and moving in opposite directions to each other when said rollers are rotated, each of said brushes comprising a frame, means for adjustably connecting said frame with said cable, springs carried by said frame, and means for adjustably connecting said springs with said cable to hold said brushes in close contact with the walls of the chimney when the device is operated.

3. The combination of a chimney provided with pockets adjacent its lower end, shafts passing through said pockets, rollers mounted upon said shafts in said pockets, means connecting said shafts for transmitting rotary motion from one shaft to the other, means for rotating said shafts, a pulley in the upper portion of said chimney, a cable passing over said pulley and having its ends wound upon said rollers, brushes mounted upon said cable between said rollers and said pulley and each comprising a frame connected with said cable, brushes carried by said frame, a clamp secured to said cable beneath said frame, and springs positioned between said clamp and frame to hold said brush in close contact with the walls of said chimney.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

EDWARD WELSH.
ROBERT HUGHES.

Witnesses:
CLARA B. BARRETT,
EDWARD W. PFRANG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."