No. 756,440. PATENTED APR. 5, 1904.

H. A. WALDEN.

SMOKE STACK FOR LOCOMOTIVE ENGINE HOUSES.

APPLICATION FILED AUG. 6, 1903.

NO MODEL.

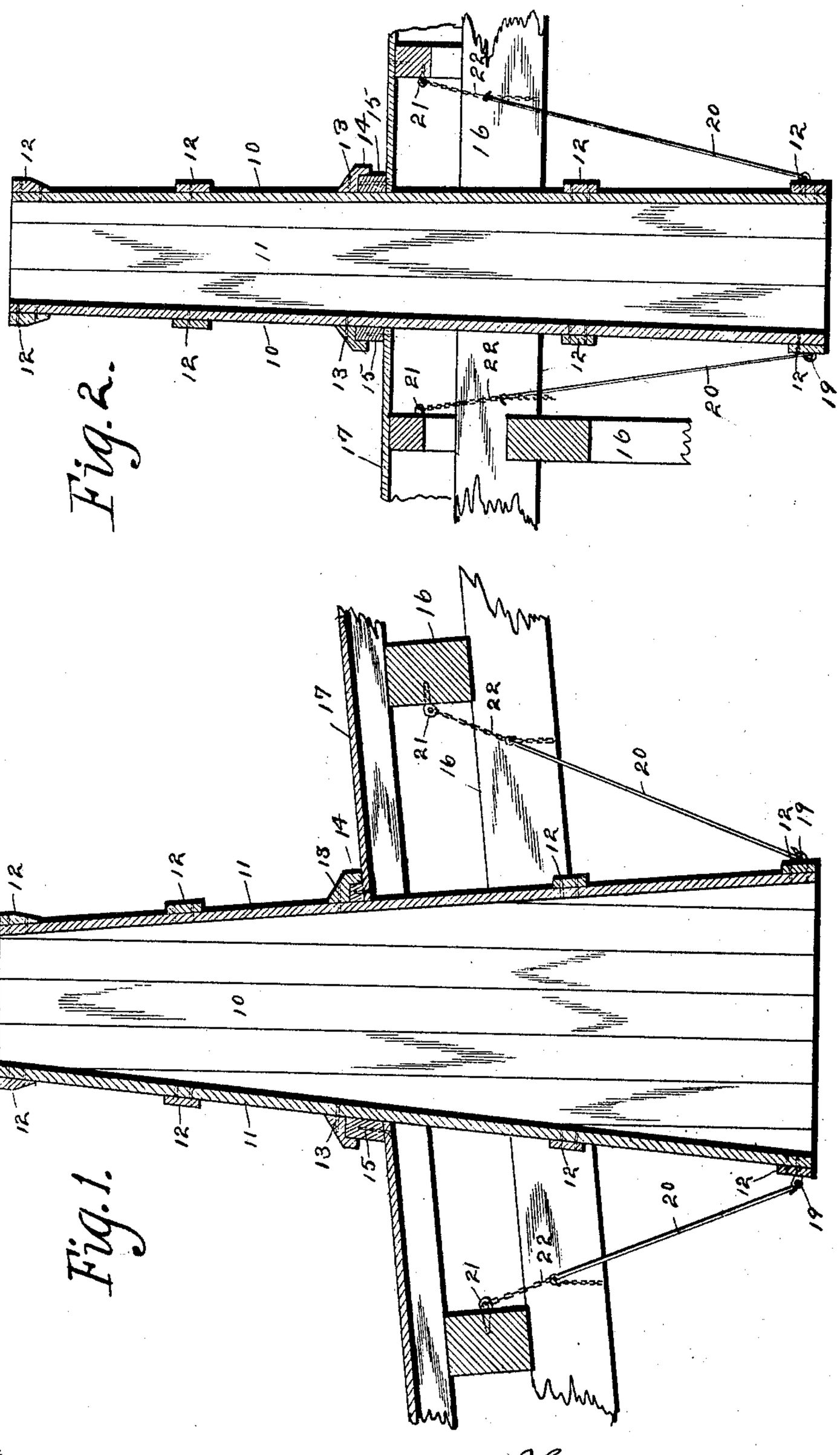

Fig. 2.

Fig. 1.

Witnesses

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By Orwig & Lane Att'ys

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UNITED STATES PATENT OFFICE.

HENRY A. WALDEN, OF BOONE, IOWA.

SMOKE-STACK FOR LOCOMOTIVE-ENGINE HOUSES.

SPECIFICATION forming part of Letters Patent No. 756,440, dated April 5, 1904.

Application filed August 6, 1903. Serial No. 168,430. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. WALDEN, a citizen of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented certain new and useful Improvements in Smoke-Stacks for Locomotive-Engine Houses, of which the following is a specification.

The objects of my invention are to provide a smoke-stack of simple, durable, and inexpensive construction that may be quickly and easily applied or placed in position in locomotive-engine houses for the purpose of carrying off the smoke from engines within the houses and so shaped as to carry off the smoke without permitting downdrafts, even though the engine is moved a slight distance under the stack, as required in cleaning or repairing engines while in the engine-houses.

A further object is to provide a device of this class in which there are no detachable or movable parts likely to get out of order or to become broken.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a vertical longitudinal sectional view of my improved stack and the adjacent portions of an engine-house roof, and Fig. 2 shows a longitudinal sectional view perpendicular to Fig. 1.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the sides of the stack. These sides are preferably made of straight boards dressed and matched and are tapered from their lower to their upper ends at about the angle shown in Fig. 1 of the drawings. The ends of the stack are indicated by the numeral 11 and are also made of straight boards dressed and matched and are connected with the sides. The end pieces 11 are tapered very slightly from the bottom to the top, as shown in Fig. 2 of the drawings. The stack thus formed is held together and braced by means of a series of bands 12. These bands are preferably of wood and pass around the stack and are secured to the stack, thus firmly bracing it. They are all on the outside, thus leaving the interior of the stack smooth. Fixed to the stack near its central portion is a collar 13, the top of which is inclined downwardly and outwardly, and at its outer edge is a downwardly-projecting rim 14. This collar 13 is shaped to rest upon a wooden flange 15, which is secured to the roof or other support, and the rim 14 overlaps said flange. The lower edge of the flange 15 is inclined in order to fit a sloping roof in such manner that the top of the flange may be horizontal. By this means the stack is firmly supported in a vertical position.

The reference-numeral 16 indicates the roof-frame, and 17 the roof, both of which are of the common construction. The said flange 15 rests upon the top of the roof 17.

I have provided means for guying the stack, as follows: In the lower one of the bands 12 I have placed a number of screw-eyes 19, and connected with each screw-eye is a rod 20. In the framework 16 surrounding the stack I have also placed a number of screw-eyes 21, and connected with each of the screw-eyes 21 is a chain 22, attached to the corresponding rod 20. By this means the stack is held against tilting movements in any direction, and at the same time the rods and chains are protected from moisture by the roof.

In practical use the stack is attached to the roof, as shown, and the lower end of the stack is positioned so that the engines in the engine-house will pass close to the lower extremity of the engine-house stack. The sides 10 of the stack are arranged to stand longitudinally of the track upon which the engine is standing. In use and assuming that an engine has passed under the engine-house stack the engine is preferably stopped when its smoke-stack stands under the center of the engine-house stack, and obviously when in this position smoke will rise from the engine and pass upwardly through the engine-house stack without obstruction, the bottom being just large enough to gather all of the smoke arising from the locomotive-stack. There will of course be some space in the engine-house stack both in front and in the rear of the col-

umn of the smoke arising from the locomotive-stack. However, a draft caused by the rising smoke will carry with it a current of air both in the front and rear of the engine-house stack, and this current of air will not be obstructed or retarded by any corners or other devices on the interior of the stack, so that the smoke will pass freely up through the stack, and on account of the restricted or narrow upper end of the stack there will be no back drafts tending to cause the smoke to pass downwardly through the lower end of the engine-house stack. It is frequently necessary to move the engine lengthwise of the track a slight distance while cleaning or repairing it, and at the same time it is essential that the smoke be carried out through the engine-house stack. For this reason the engine-house stack is made comparatively long in a direction parallel with the track, and if the locomotive-stack should stand immediately under either end of the engine-house stack then the smoke arising from the engine would pass upwardly along one of the inclined ends of the stack and would not be interrupted nor retarded by any corners or other obstructions, but would pass out freely along the smooth inclined end of the stack.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a smoke-stack for locomotive-engine houses, the combination of a body portion tapered from its lower extremity to its upper extremity and oblong in cross-section at its lower extremity, said body portion comprising flat sides and ends, and bands passing around said body portion and secured thereto.

2. A smoke-stack for locomotive-engine houses, tapered from its lower extremity to its upper extremity and oblong in cross-section at its lower extremity, and comprising flat sides and ends.

HENRY A. WALDEN.

Witnesses:
JAMES MONROE,
S. G. CLARK.