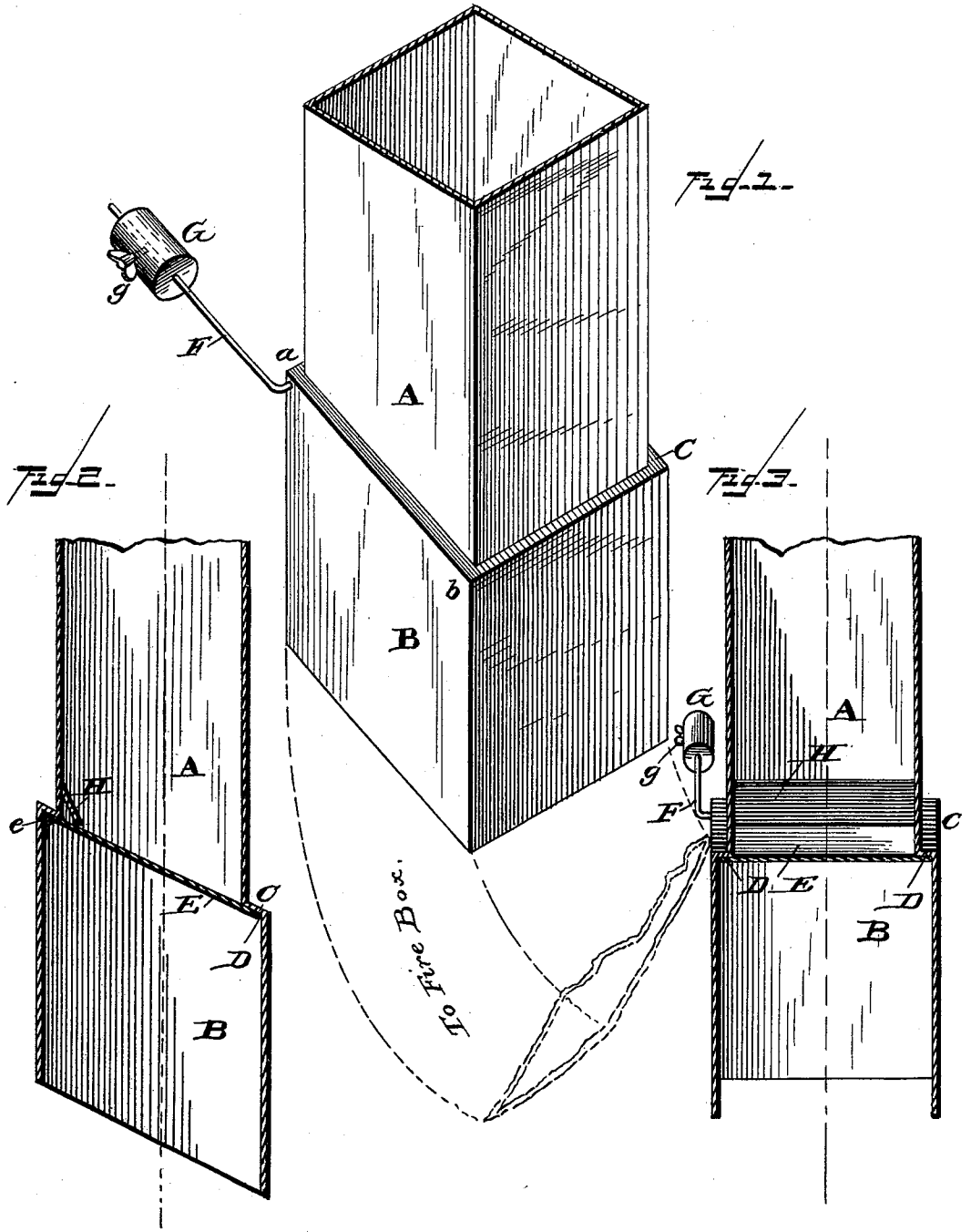
(No Model.)

G. W. FLOOD.

CHUTE FOR FEEDING SAWDUST TO STEAM BOILERS.

No. 403,830. Patented May 21 1889.



WITNESSES.

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UNITED STATES PATENT OFFICE.

GEORGE W. FLOOD, OF PENTWATER, MICHIGAN, ASSIGNOR OF TWO-THIRDS TO EDGAR G. MAXWELL AND WILLIAM B. O. SANDS, OF SAME PLACE.

CHUTE FOR FEEDING SAWDUST TO STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 403,830, dated May 21, 1889.

Application filed March 16, 1889. Serial No. 303,587. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. FLOOD, a citizen of the United States, and a resident of Pentwater, in the county of Oceana and State of Michigan, have invented certain new and useful Improvements in Chutes for Feeding Sawdust to Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of so much of a chute for feeding sawdust to steam-boilers as is necessary to illustrate my improvement. Fig. 2 is a vertical sectional view of the same, and Fig. 3 is a similar view taken at right angles to the view shown in Fig. 2.

Like letters of reference denote corresponding parts in all the figures.

This improvement has relation to the devices or apparatus used in saw-mills (both stationary and portable) for feeding the sawdust to the boiler or boilers for use as fuel. This is usually done by means of a chute, the lower end of which opens up into the fire-box of the boiler, while its upper end forms the outlet of a hopper into which the sawdust is shoveled; and the object of my improvement is to so construct this feed-chute as to make it automatic in its operation and without liability to become choked or clogged up by the dust, even if (as sometimes happens) this should be in a more or less moist condition.

To this end my invention consists in the combination, with a chute having an enlarged mouth-piece, of an automatic cut-off working in the enlarged mouth of the device and abutting upon the inside shoulder formed by the contraction of the upper or receiving part of the chute, substantially as will be hereinafter more fully described and claimed.

In the accompanying drawings, the letter A designates the upper part of the duct, chute, or inlet which receives the sawdust, while B denotes the lower part or outlet. It will be seen that the latter is larger than the upper part, A, and that the point where the two parts A and B are connected is on an incline or slanting, as shown at C, the slant or incline being in a downward direction from *a* to *b*, and forming an inside offset or shoulder, D.

Inside the lower or outlet part of the chute is hinged, at *e*, the cut-off plate E, the hinged end of which is provided with an arm, F, projecting out through an aperture in that part of the chute and bent at right angles to the body of the chute, so as to extend rearwardly of the same. This arm is provided with a movable and adjustable weight or counterpoise, G, so arranged as to be within easy reach of the engineer or fireman who tends the boiler. On the inside of the upper part, A, a little above and parallel to the hinge *e*, is affixed a narrow shield or deflector, H, overlapping the hinged end of the cut-off plate, and thereby preventing fine particles of the dust from coming in contact with and clogging up the hinge as the sawdust passes through the chute.

The object of the inside shoulder, D, is two-fold—viz., first, to form a stop or abutment for the cut-off E when this is in the closed position, and, secondly, to provide for the enlargement, by the width of the shoulder or offset, of the lower or delivery part of the chute immediately below the cut-off, whereby I effectually overcome all liability of clogging or choking that part of the chute, even if wet or moist sawdust is used as fuel.

By properly adjusting the counterpoise G upon its arm E, (by means of its set-screw *g* or other suitable means;) it will be seen that the cut-off may be gaged to dump automatically any desired quantity of fuel at one feed or discharge, after which it will immediately resume its normal or closed position until ready to dump again.

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

In a device or chute for feeding sawdust to

steam-boilers, the combination of the feeding duct or chute, consisting of the contracted upper part, A, and enlarged lower part, B, whereby an inside inclined shoulder or offset, D, is formed, automatic cut-off, and deflector H, substantially as and for the purpose herein shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

GEORGE W. FLOOD.

Witnesses:
O. F. WICKHAM,
W. H. FULLER.