

(No Model.)

G. WESTINGHOUSE, Jr.

MEANS FOR DETECTING LEAKS IN GAS MAINS.

No. 315,363.

Patented Apr. 7, 1885.

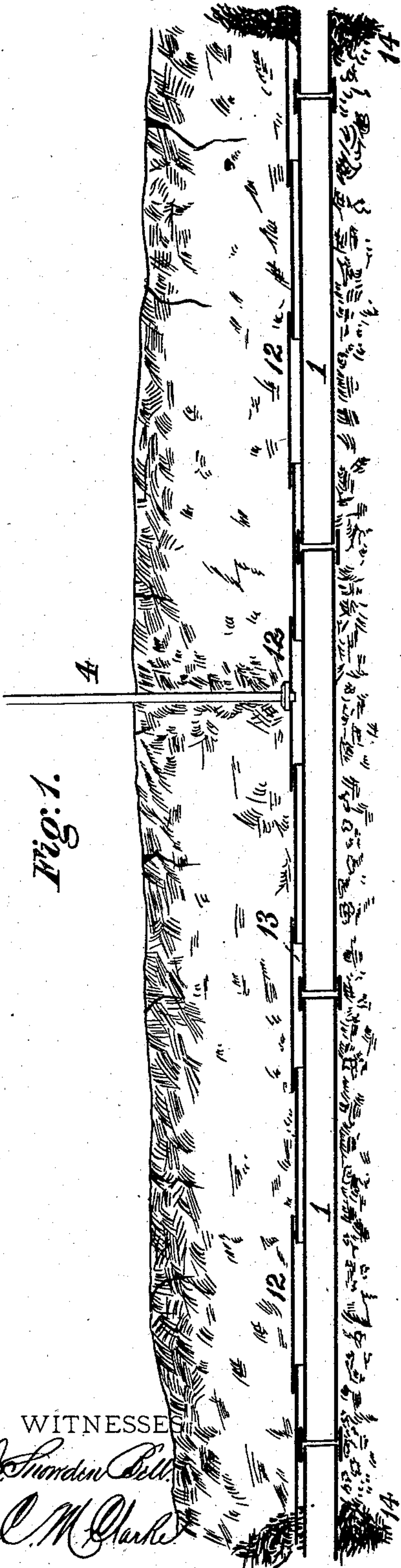


Fig. 1.

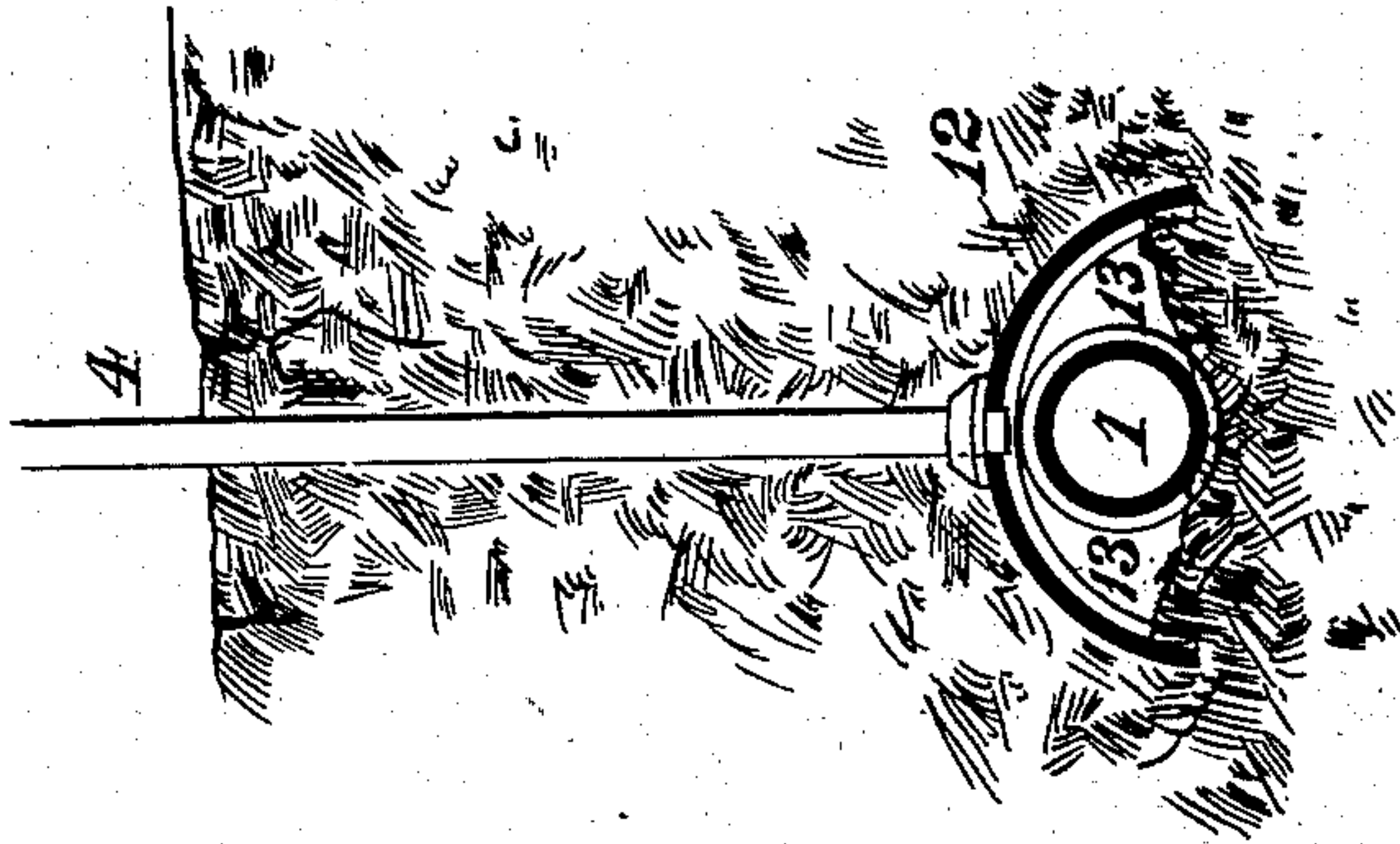


Fig. 2.

WITNESSES

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MEANS FOR DETECTING LEAKS IN GAS-MAINS.

SPECIFICATION forming part of Letters Patent No. 315,363, dated April 7, 1885.

Application filed January 21, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WESTINGHOUSE, Jr., a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Means for Detecting Leaks in Gas-Mains, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a longitudinal central section through an underground gas-main with my improvements applied; and Fig. 2, a transverse section, on an enlarged scale, through the same at the center of the detector-pipe.

My present invention refers to improvements of the class exemplified in Letters Patent of the United States No. 306,556, granted and issued to me under date of October 14, 1884; and its object is to provide simple and inexpensive means for enabling a single detector-pipe to indicate and carry off leakage from any or either of a series of joints or branch connections within a determined length of an underground gas-main; to which end my invention, generally stated, consists in the combination, with an underground gas-main, of a sectional superposed cover, a series of packing-partitions forming compartments below said cover, and detector-pipes leading from openings in said compartments to a point above the surface of the ground, as hereinafter more fully set forth.

In the practice of my invention I lay upon the gas-main 1 a sectional cover, 12, which is preferably formed of sheets of metal bent into the form, in transverse section, of segments of a circle or polygon and laid in alternate inner and outer courses, the width and curvature of the cover-plates being such that they shall project laterally beyond the main on each side thereof, so as to prevent the contact of the substratum in which the main is laid with the top and side portions thereof.

Tiles or other material may be used, if preferred, to form the cover, in lieu of metal plates; but the latter will be found to be more convenient and economical, as condemned boiler or other plates, which would be otherwise serviceable only as scrap metal, and which

may be obtained at comparatively trifling cost, will be adaptable to the purpose. Continuous longitudinal spaces or compartments 13, which serve to receive the gas that may leak from the joints or branch connections of the main, are formed between the main and cover by the lateral projection of the latter beyond the main, and the cover 12 and compartments 13 are divided into sections of any desired length by packing-partitions 14, of clay, cement, or other material adapted to resist the passage of gas at low pressure, said packing-partitions surrounding the main and extending beyond the cover, so as to thoroughly close the ends of the compartments 13. Each section of the cover and the compartment beneath the same is provided with a detector and escape pipe, 4, which fits into an opening in one of the cover-plates and extends therefrom to any convenient point above the surface of the ground. Said detector-pipe forms an exit-passage for any gas that may leak from the main into the space beneath the cover, the existence of such leakage being readily ascertainable by applying a light to the outer end of the detector-pipe. The cover being composed of unconnected and consequently readily-separable sections, the same may be removed and replaced with facility and dispatch when required to locate and stop a leak, the existence of which in the compartment may have been indicated by the ignition of gas at the top of the detector-pipe.

I disclaim, broadly a cover or casing for a gas-main, whether the same be made to wholly or partially inclose the main, and disclaim also the combination of a cover and a detector-pipe, my present invention being limited specifically to the employment of packing-partitions with a sectional cover and detector-pipes, as herein described and claimed.

I claim herein as my invention—

1. The combination, with an underground gas-main, of a superposed sectional cover extending laterally beyond and partially around the main, so as to form a continuous compartment adjoining the upper and side portions thereof for a determined section of its length, packing-partitions fitting around the main and closing the ends of said compartment, and

a detector-pipe extending from an opening in said cover to a point above the surface of the ground, substantially as set forth.

2. The combination, with an underground gas-main, of a superposed sectional cover composed of a series of adjoining but disconnected sections, each bent into the form of a segment of a circle or polygon and projecting laterally beyond the main on each side thereof, a series of packing-partitions surrounding the main and closing the ends of the compartments and the space between the main and the

cover, so as to divide said space into separate compartments, and a series of detector-pipes, each extending from an opening in one of said compartments to a point above the surface of the ground, substantially as set forth. 15

In testimony whereof I have hereunto set my hand.

GEO. WESTINGHOUSE, JR.

Witnesses:

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