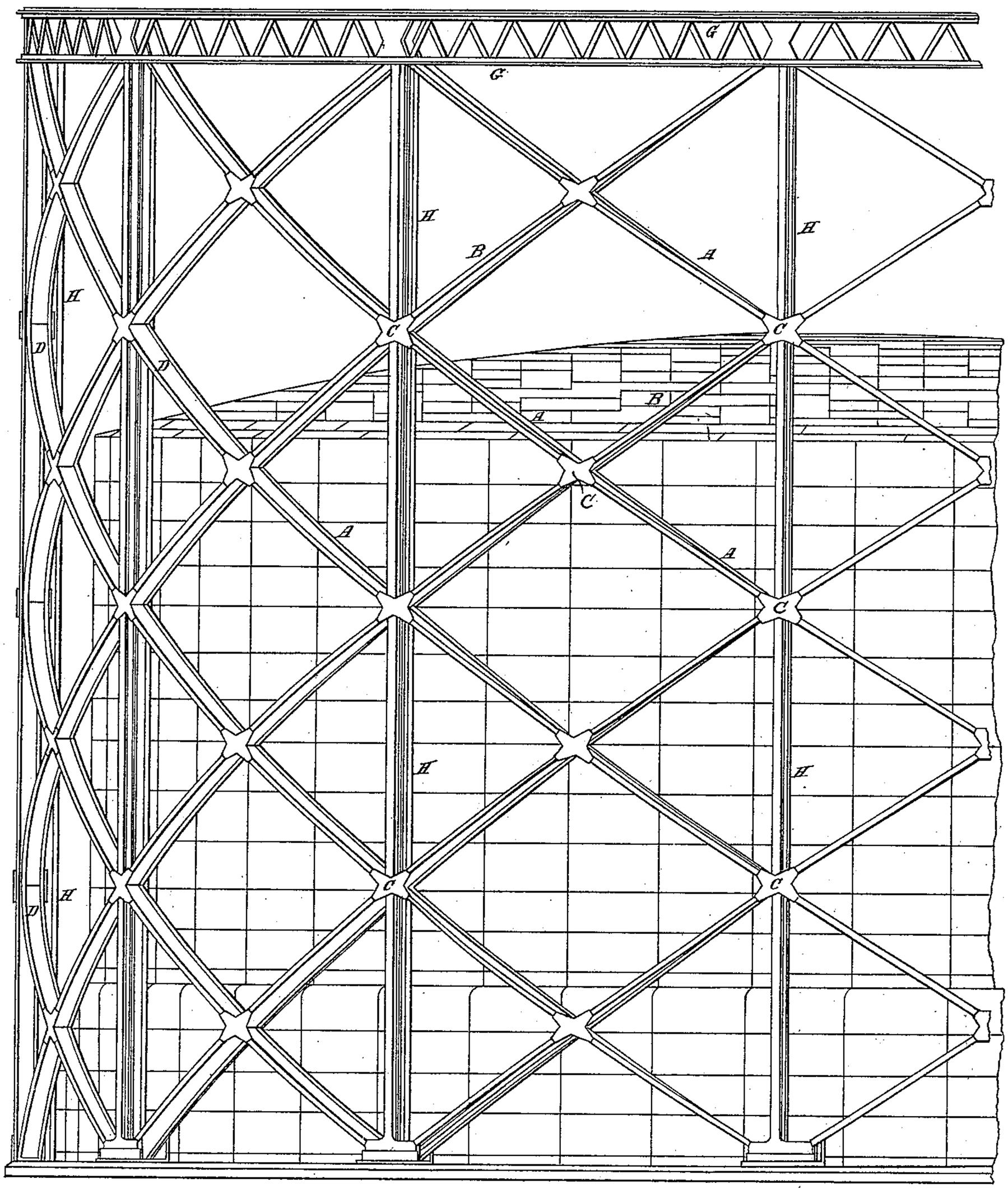
(No Model.) 2 Sheets—Sheet 1.

S. CUTLER.

GUIDE FRAMING OF GAS HOLDERS.

No. 438,472. Patented Oct. 14, 1890.

FIG. 1.



WITNESSES.

J. A. Rutherford.

Percy B. Hall.

INVENTOR.

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Attorney.

(No Model.) 2 Sheets—Sheet 2.

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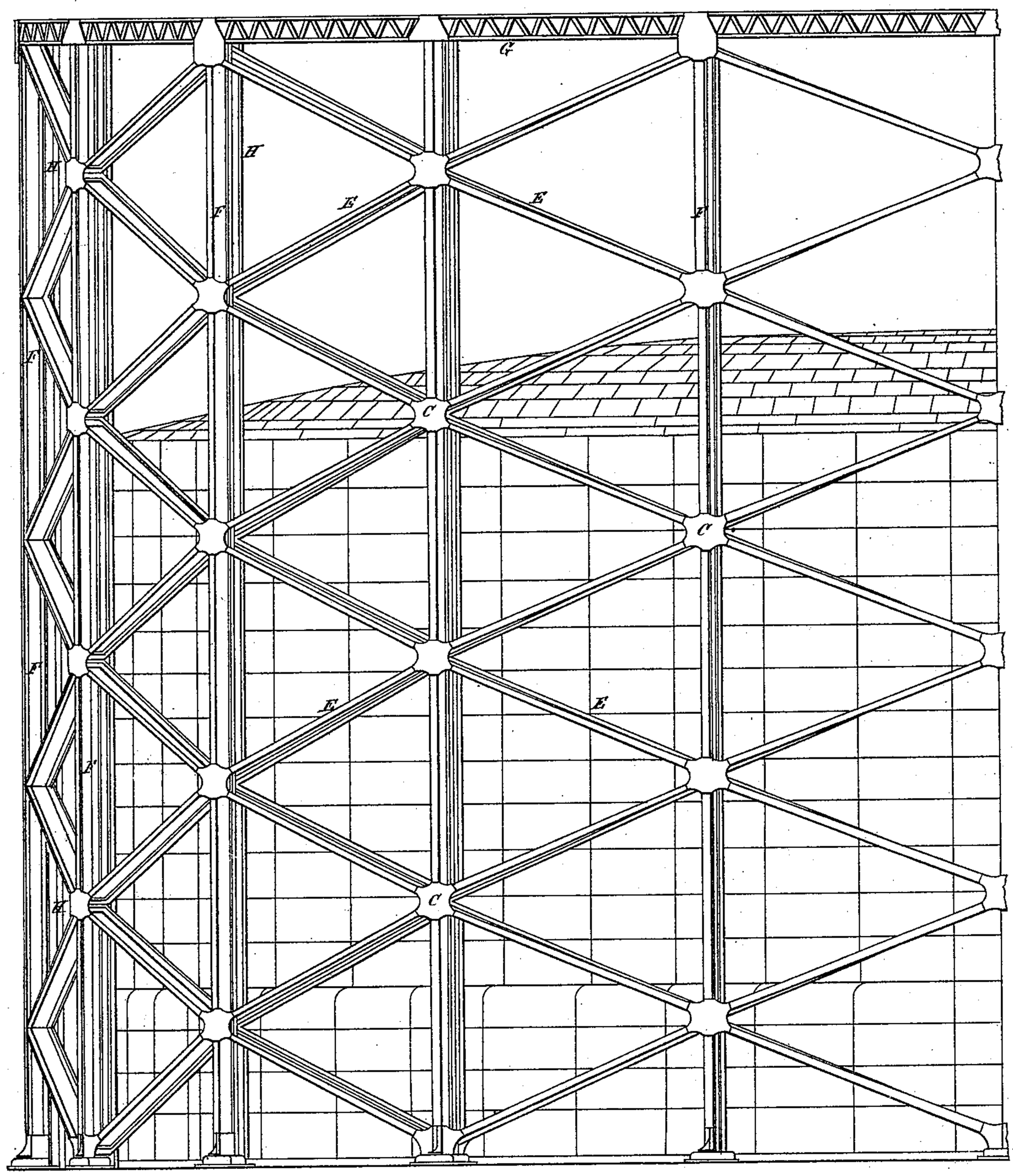
FIG. 2.



WITNESSES.
J. A. Rutherford
Percy B. Hills.

INVENTOR.
Samuel Cutler
By James L. Norris.
Attorney.

UNITED STATES PATENT OFFICE.

SAMUEL CUTLER, OF MILLWALL, ENGLAND.

GUIDE-FRAMING OF GAS-HOLDERS.

SPECIFICATION forming part of Letters Patent No. 438,472, dated October 14, 1890.

Application filed February 28, 1890. Serial No. 342,054. (No model.) Patented in England August 18, 1888, No. 11,960.

To all whom it may concern:

Be it known that I, SAMUEL CUTLER, engineer, a subject of the Queen of Great Britain, residing at Millwall, in the county of Middlesex, England, have invented new and useful Improvements in the Guide-Framing of Gas-Holders, (for which I have obtained patent in Great Britain, No. 11,960, dated August 18, 1888,) of which the following is a specification, reference being had to the accompanying drawings.

This invention has for its object the construction of the guide-framing of gas-holders in such a manner that it shall possess great rigidity and strength proportionate to the various strains each part may have to bear.

In order that the invention may be easily understood, drawings are attached hereto, in which—

Figure 1 is a side elevation of a portion of a gas-holder with exterior guide-framing formed of curved girders arranged spirally; and Fig. 2 is a similar view of framing made with straight girders, but arranged in the same manner as near as may be.

I make the framing in one of two ways analogous to each other. According to the first arrangement I make the framing concentric to the gas-holder and of two or more series of girders A and B, Fig. 1, of wrought-iron, steel, or other suitable metal, of such sectional form as will bear a compressive as well as tensile strain crossing and being fixed to each other at the points of intersection C C. Each line of each series of girders is curved, so as to partly encircle the gas-holder, and in so doing to form a portion of a spiral, the broad surface of the girder, as shown at D D, being placed diagonally to the horizon, the whole forming a cylindrical net-work of girders. In the second arrangement, as exhibited in Fig. 2, instead of making the framing circular in plan, I make it polygonal, which, having regard to economy of manufacture, will in many cases be preferable, each side of the polygon being formed of two or more series of straight girders E E, placed diagonally to the horizon, with vertical girders F placed at suitable intervals. In both arrangements the end of each line of girders is fixed at top to a special girder or girders G G, preferably of box form, while the lower ends of the girders are fastened by holding-down bolts either to the tanks, piers, or other bases, or they may be secured to a girder of a simliar character to that at the top, so that the holding-down bolts can be placed at more frequent intervals, and thus distribute the strain over the tank or other foundations.

The guides H H for the rollers of the gas-holder in both Figs. 1 and 2 are fixed vertically to the top, bottom, and intermediate girders, and may be constructed so as to form part of the net-work of girders hereinbefore described.

It is obvious that in some of the details my improved construction may be modified; but by constructing guide-framing in accordance with the foregoing description the advantages before mentioned may be insured.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

A guide-framing for gas-holders comprising two or more series of girders crossing each other diagonally and fastened together at their points of intersection, the broad surfaces of said girders being placed diagonally to the horizon, substantially as shown and described.

In testimony whereof I have hereunto signed my name, in the presence of two subscribing witnesses, this 7th day of February, 1890.

SAMUEL CUTLER.

Witnesses:
W. H. BENNETT,
W. B. LAMPARD.