

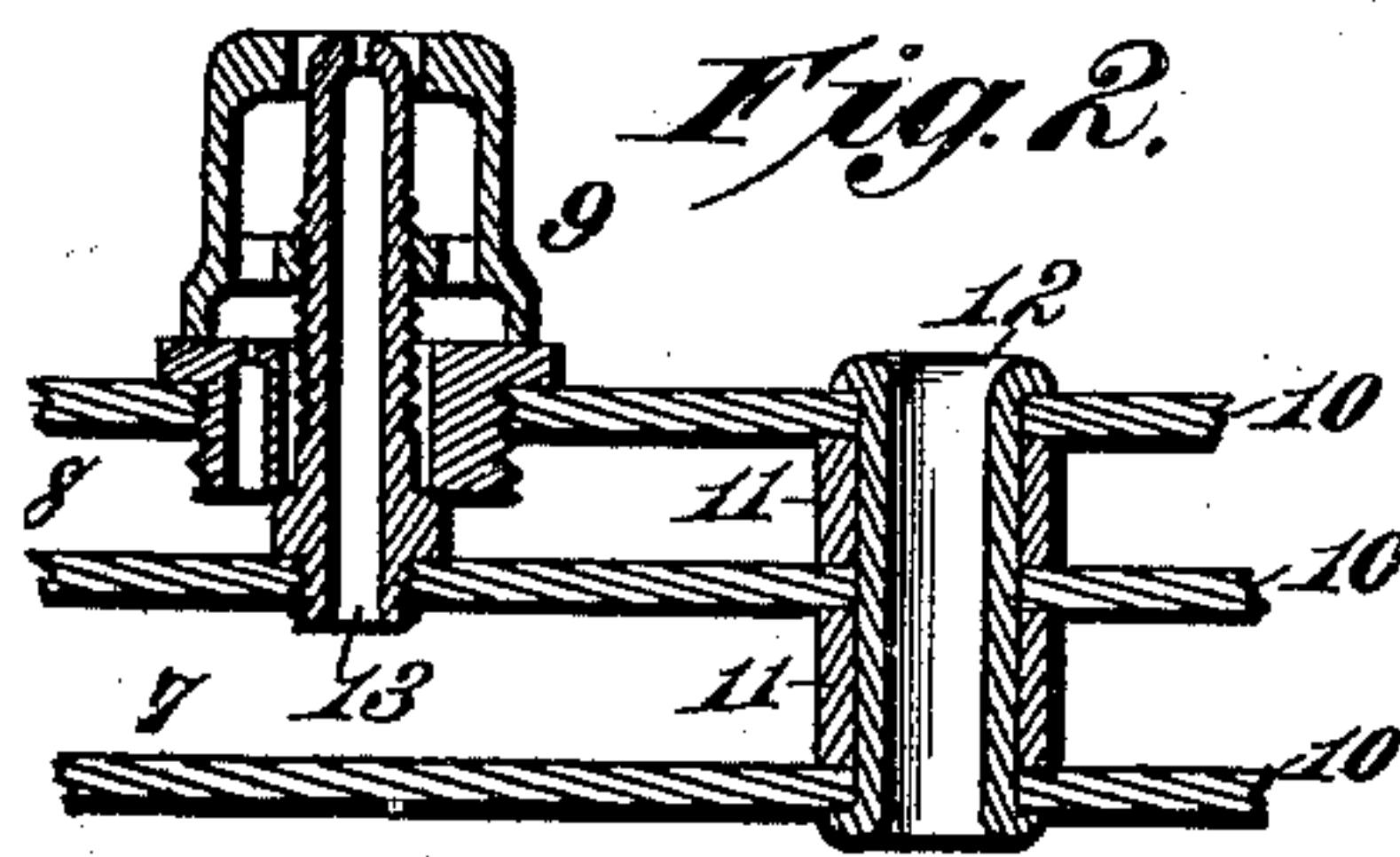
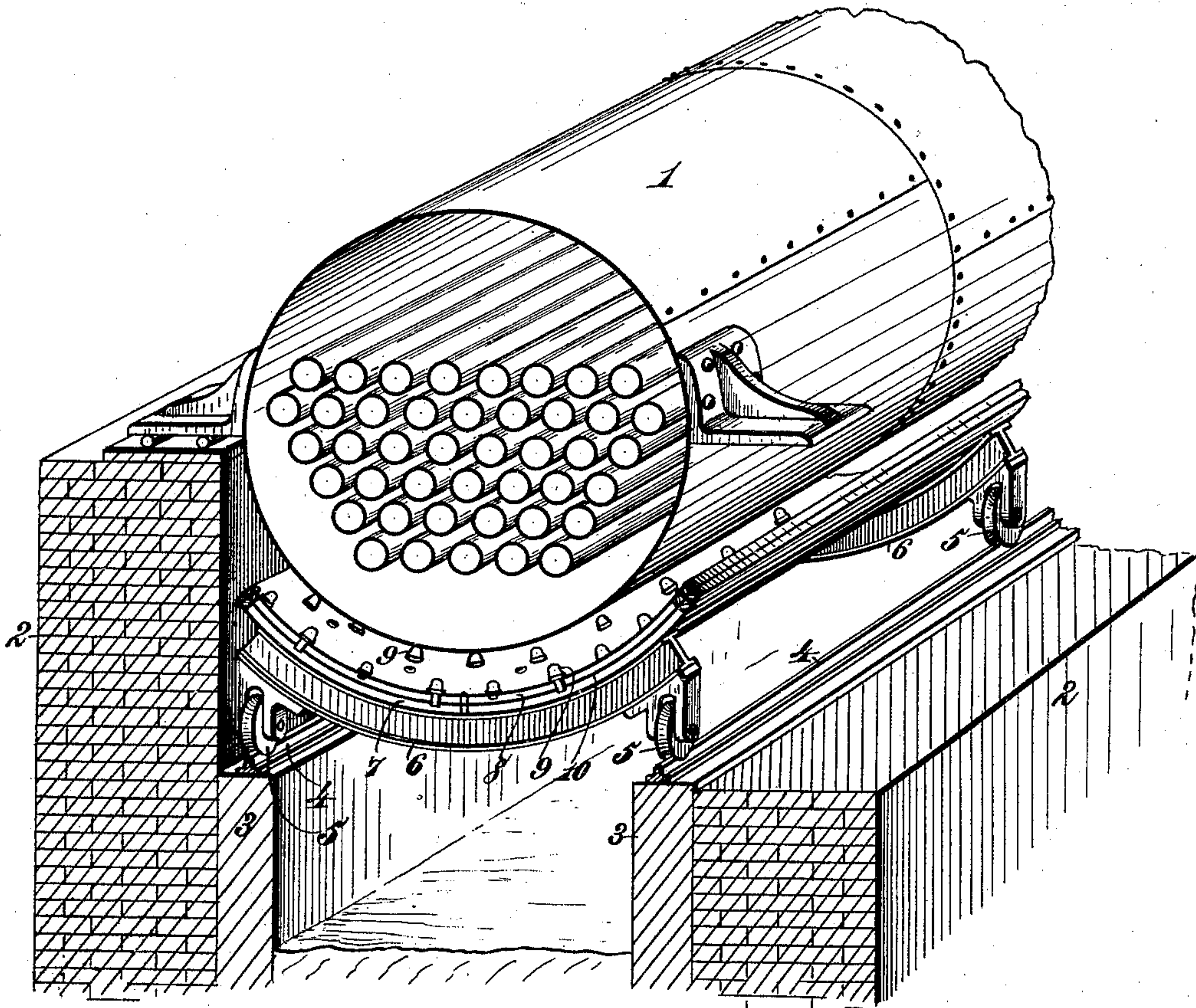
(No Model.)

H. J. BELL.
BURNER CARRIAGE FOR GAS FURNACES.

No. 409,625.

Patented Aug. 20, 1889.

Fig. 1.



Witnesses:
Phil G. G. G. G.
Percy B. Hills.

Inventor:
Harold J. Bell.
By
James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

HAROLD J. BELL, OF GLOUCESTER CITY, NEW JERSEY, ASSIGNOR TO THE
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BURNER-CARRIAGE FOR GAS-FURNACES.

SPECIFICATION forming part of Letters Patent No. 409,625, dated August 20, 1889.

Application filed April 11, 1889. Serial No. 306,798. (No model.)

To all whom it may concern:

Be it known that I, HAROLD J. BELL, a citizen of the United States, residing at Gloucester City, in the county of Camden and State of New Jersey, have invented new and useful Improvements in Burner-Carriages for Gas-Furnaces, of which the following is a specification.

This invention relates to a burner-carriage for gas-burners adapted for heating boilers and furnaces by the combustion of gas; and it consists in the construction and combination of parts, as hereinafter described, whereby said burners can be moved into and out of the combustion-chamber of a furnace, or be rolled into position beneath a steam-boiler, or be withdrawn with ease, whenever required, thus facilitating repairs or cleaning of the burners when needed.

The invention is illustrated in the annexed drawings, in which—

Figure 1 represents in perspective and partly in section a steam-boiler with my burner-carriage in position beneath the boiler, one side of the furnace-wall being partly removed; and Fig. 2 is a sectional detail.

Referring to the drawings, the numeral 1 designates a steam-boiler, and 2 the furnace-walls. On the inner sides of the side furnace-walls are ledges 3, that support railway-rails 4 for the wheels 5 of a burner-carriage 6, on which the air chamber or conduit 7, the gas chamber or conduit 8, and the attached blow-pipe burners 9 are supported. When used with a cylindrical steam-boiler, as shown, the air and gas chambers 7 and 8 may be composed of parallel metal plates 10, curved to correspond to the curvature of the boiler, said plates being arranged at a suitable distance apart to form chambers or conduits of the desired capacity, which chambers are closed at their ends and sides by suitable metal strips. The plates 10 may be braced by tubular stays 11 and securely connected, as shown in an application filed by me February 8, 1888, Serial No. 299,168, in which application I have described and claimed a preferred form of gas-burner. Instead, however, of solid bolts, as shown in said application, I prefer to connect the plates 10 by

means of sleeves or tubular bolts 12, Fig. 2, which will permit the passage of sufficient air to carry off the products of combustion. The air chamber or conduit 7 and gas chamber or conduit 8 may be extended the entire length of the boiler, and may be curved upward at the sides any suitable or convenient distance. Air and gas are to be supplied to these chambers 7 and 8 at any point through suitable pipes, (not shown,) and these pipes should be so connected with the air and gas chambers or be provided with joints and cocks of such construction as will permit their being disconnected from said chambers to enable the burner-carriage to be withdrawn from the furnace or from beneath the boiler whenever desired. The outer or main portion of the gas-burner 9 communicates with the gas conduit or chamber 8, and each burner is provided with a central air-tube 13, that communicates with the air chamber or conduit 7, thus providing each burner with a central jet of air. If preferred, however, the air-conduit may be used for the passage of gas, and the gas-conduit may be used as an air-passage. The burners 9 are distributed at intervals to effect a thorough heating of the furnace or boiler, as the case may be, the invention being adapted not only to the heating of steam-boilers, but for use in various kinds of furnaces and combustion-chambers as well.

It is obvious that the gas and air chambers, instead of being curved, as shown, may be straight and be arranged in any suitable position, according to the form of furnace.

Whenever it is necessary to examine the condition of the burners, or to repair or clean them, or make repairs in the boiler or in the combustion-chamber, the burner-carriage can be readily withdrawn along the rails 4, thereby giving direct access to the burners and connected gas and air chambers, as well as to the combustion-chamber of the furnace.

What I claim as my invention is—

1. The combination, with a gas-burner carriage, of separate gas and air chambers supported on said carriage, and comprising horizontal plates connected by bolts, and blow-pipe gas-burners supported by and communi-

cating with said chambers, substantially as described.

2. The combination, with the combustion-chamber of a furnace, of a movable gas-burner carriage, gas and air chambers supported on
5 said carriage and comprising plates 10, connected by tubular bolts 12, for the passage of air to carry off the products of combustion, and gas-burners supported by and communi-

cating with said chambers, substantially as is described.

In testimony whereof I have affixed my signature in presence of two witnesses.

HAROLD J. BELL.

Witnesses:

GEO. W. REA,

JAMES A. RUTHERFORD.