

UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, OF SYRACUSE, NEW YORK.

LINING FOR THE GROOVES OF PIPE-WELDING FURNACES.

SPECIFICATION forming part of Letters Patent No. 313,102, dated March 3, 1885.

Application filed March 4, 1884. (No specimens.)

To all whom it may concern:

Be it known that I, EDGAR PECKHAM, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful
5 Improvements in Linings for the Grooves of Pipe-Welding Furnaces, of which the following is a full, clear, and exact description.

This invention relates to the refractory lining required in the pipe-carrying groove of a
10 pipe-welding furnace, said groove being arranged inside of the furnace and subjected to intense heat, required to bring to a welding-heat the pipe which is carried in said groove, and when heated as aforesaid is moved longi-
15 tudinally along the groove and out of the furnace direct to the welding apparatus.

Inasmuch as it is essential that the surface of the groove should be capable of resisting the heat it is subjected to, and should be main-
20 tained true and smooth, considerable difficulty has been experienced in providing a proper lining for said groove, and various refractory or fire-proof materials have been employed for that purpose. New Jersey fire-
25 clay mixed with crushed or ground fire-brick or ground-up saggers—a compound commonly used for repairing linings of furnaces—has also been resorted to to line the aforesaid groove; but such a material is incapable of resist-
30 ing the heat for a great length of time, but soon becomes vitrified, or blistered or cracked, and then loses its requisite uniformity of surface, and the particles which scale off from the surface frequently adhere to the heated
35 pipe, and are subsequently embedded in the surface thereof, thereby impairing the finish of the pipe. To obviate these defects, I employ chiefly the waste or broken unglazed white ware or C C ware, usually termed “bis-
40 cuit,” which ware, it is well known, is composed of some of the purest and best fire-proof materials—viz., feldspar, pure kaolin, and china-clay, and will retain its shape under fire. This

material I crush or grind into small particles, (not necessarily in the form of powder,) and
45 spread the same over the surface of the groove by a long-handled scoop shaped implement or other suitable or convenient means. When the groove is so defaced or out of repair as to require a thick coat of lining, I admix raw
50 kaolin with the aforesaid ground white ware. The glazed ware is not desirable, owing to the glazing, which is a flux, and therefore impairs the capacity of the material for resisting heat.

As already stated, I am aware that various
55 refractory or fire-proof materials have been employed for the lining of grooves of pipe-welding furnaces and for analogous purposes; but I do not know of a single instance where
60 unglazed burned white or C C ware, or its equivalent—viz., burned compound of feldspar, kaolin, and china-clay, either with or without raw kaolin, has been used for the afore-
65 said purpose; hence

What I do claim specifically is—

1. The improved lining for the groove of a pipe-welding furnace, consisting of biscuit or
70 unglazed burned white or C C ware, or its equivalent—viz., burned compound of feldspar, kaolin, and china-clay reduced to small particles.

2. For the lining of the groove of a pipe-welding furnace, a compound of biscuit or un-
75 glazed burned white or C C ware, and comminuted raw kaolin, substantially as specified.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, 80
this 1st day of March, 1884.

EDGAR PECKHAM. [L. s.]

Witnesses:

C. H. DUELL,
WM. C. RAYMOND.