

Nov. 15, 1927.

1,649,029

A. HANSEN

KILN

Filed March 27, 1926

3 Sheets-Sheet 1

Fig. 1.

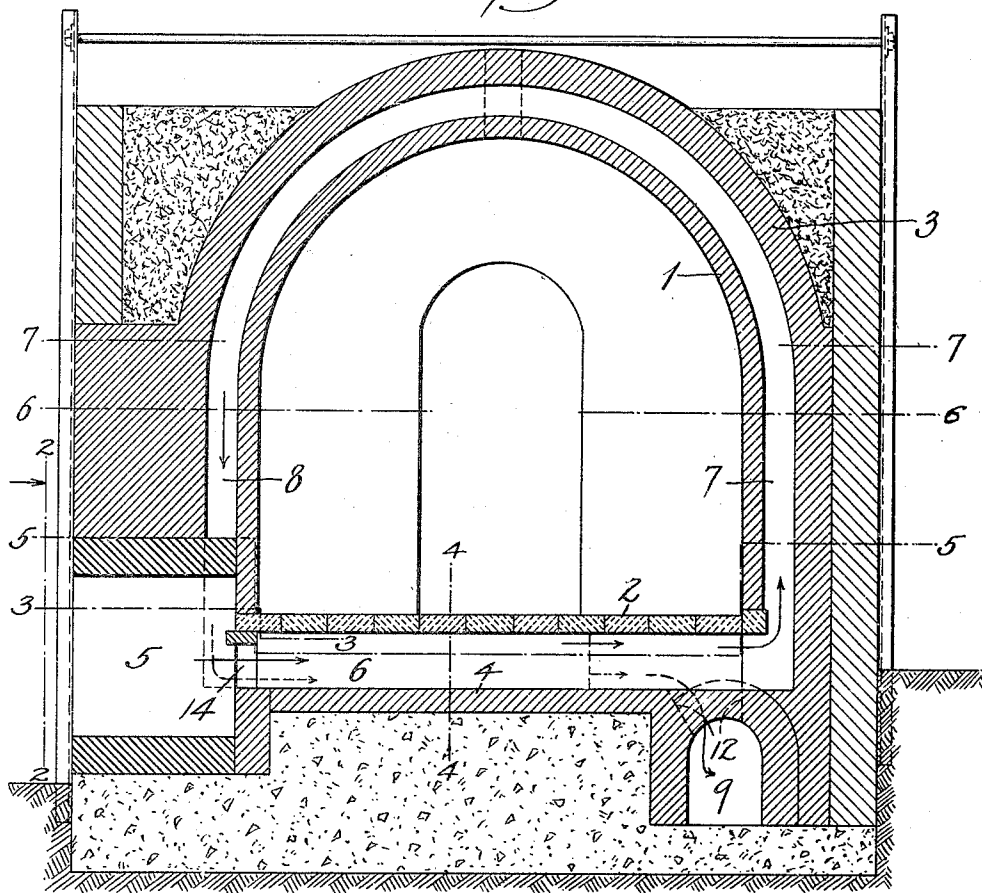


Fig. 2.

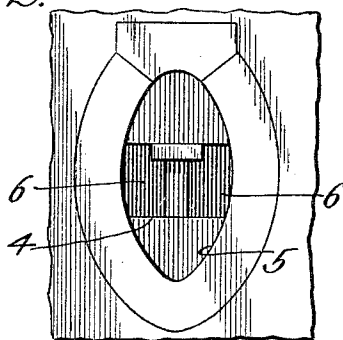
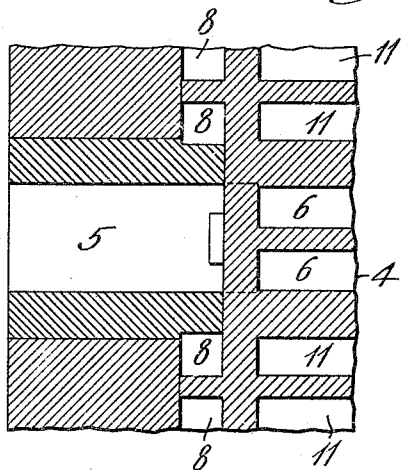


Fig. 3.



WITNESS

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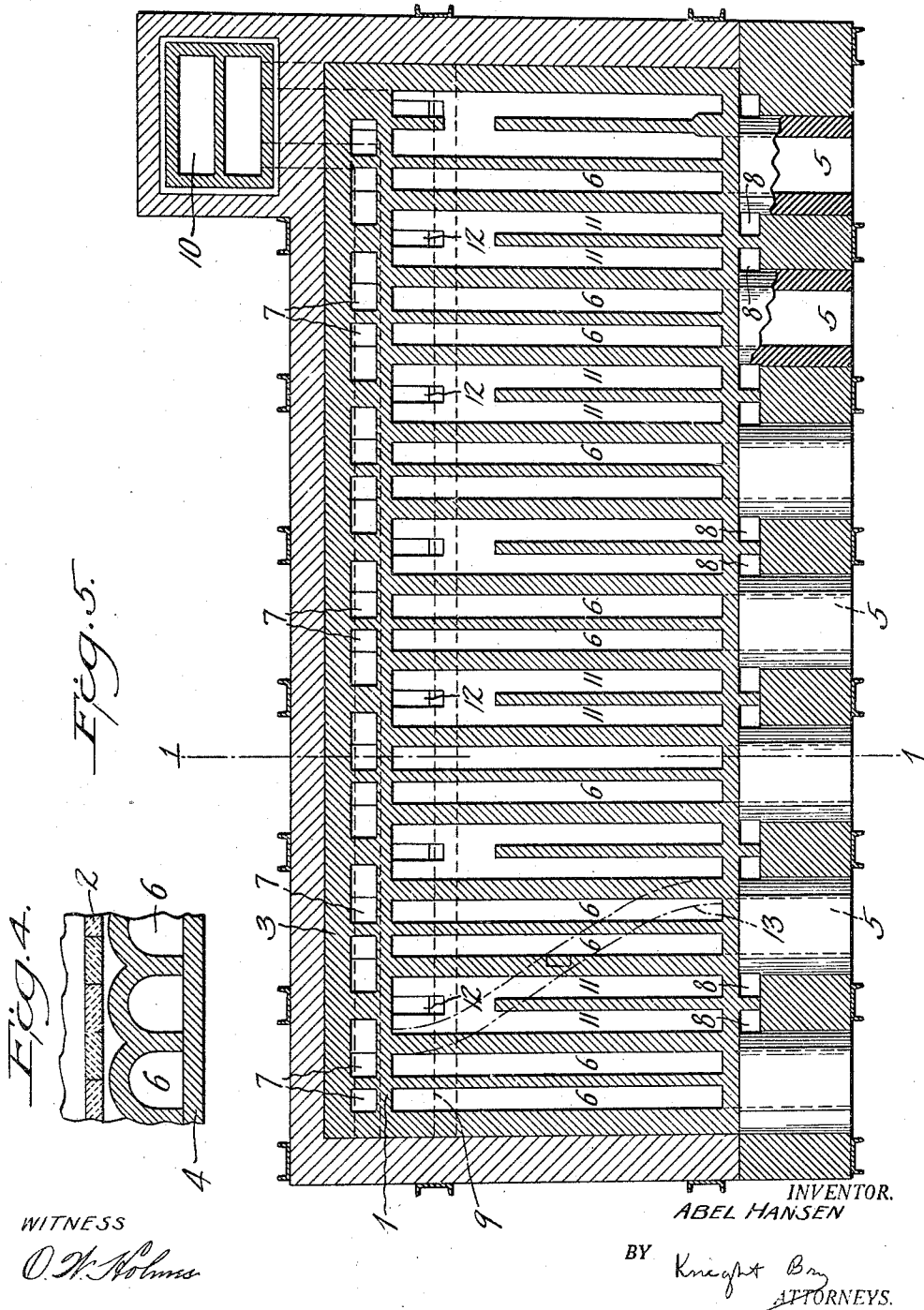
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3 Sheets-Sheet 2



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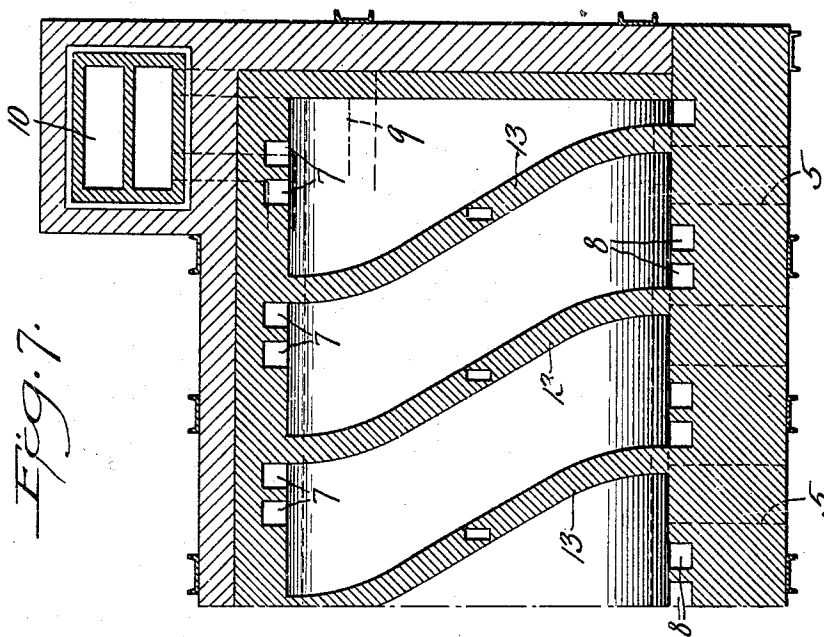
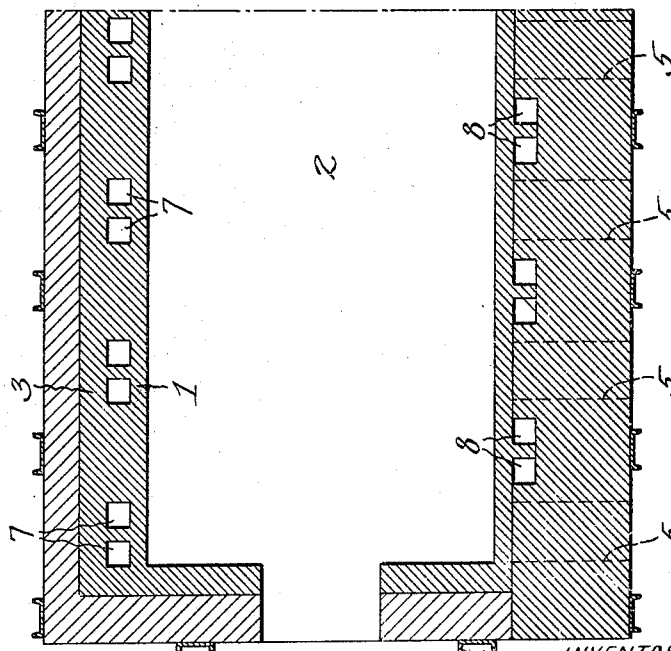
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3 Sheets-Sheet 3



WITNESS

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Application filed March 27, 1926. Serial No. 97,943.

This invention relates to that class of kilns in which the fire is carried around the kiln in flues so as to heat the interior walls of the kiln to incandescence and through them the contents of the kiln without the flue gases coming in contact with the contents.

The invention has for its object a greater economy of fuel and a more uniform distribution of the heat.

The invention comprises a kiln in which are combined an interior wall and an exterior wall with fire holes at the sides and flues leading from the fire holes under the floor of the kiln, then up the further side and over the top in a diagonal direction, then down the other side and again across under the floor but this time in a line intermediate the fire holes, the flue finally debouching into a common longitudinal tunnel leading to the stack.

Detailed combinations involved in the invention will best be understood in connection with the accompanying drawing in which:

Figure 1 is a transverse vertical section through the kiln, taken on line 1—1 of Figure 5.

Figure 2 is a front view of one of the fire holes on plane 2—2 of Figure 1.

Figure 3 is a partial horizontal section on line 3—3 of Figure 1.

Figure 4 is a vertical transverse section of an alternative construction of under the floor flues, on line 4—4 of Figure 1.

Figure 5 is a horizontal section on line 5—5 of Figure 1.

Figure 6 is a horizontal section half way up the furnace on line 6—6 of Figure 1.

Figure 7 is a horizontal section on line 7—7 of Figure 1, showing the flues over the top of the kiln.

The kiln consists essentially of an inside wall 1, a floor 2, an outside wall 3, and a sub-floor 4. Both the inside and outside walls are arched over the top. At 5 are shown the usual fire holes in which any form of fire may be created, preferably an oil

burning flame. From these fire holes floor supporting partitions form under floor flues 6 which extend straight across the kiln. They may be made double with a longitudinal partition in the center for the better support of the floor or single with arched ceilings as shown in Figure 4. At the side of the kiln opposite the fire hole, these partitions are continued upward and over the top of the arched ceiling and then downward, thus forming uptakes 7 and down-takes 8. Upon reaching the level of the under floor flues, the partitions including again a central support, pass across under the floor again, and finally at the further side of the kiln from the fire hole open into a stack tunnel 9 which leads to a stack 10. An inspection of Figure 5 will show the relative arrangement of the under floor flues, those leading direct from the fire hole being indicated by 6 and those leading to the stack tunnel being indicated by 11, the port into the stack tunnel from the under floor flue being shown at 12. This figure also shows that the entire under floor space with the exception of the space occupied by the partitions supporting the floor, is occupied by flues that will insure a uniform heat all over the floor. In this figure also is shown by dotted lines the oblique partition between the flues over the top of the kiln at 13, see also Figure 7.

I claim:—

In a kiln, the combination comprising double floors and double walls, arched over the top, said walls having a plurality of fire holes in the side with partition walls forming flues extending from the fire holes across the kiln under the kiln floor, then vertically up the further side between the walls, then diagonally over the top of the kiln and vertically down the other side, then again across under the kiln floor in lines intermediate the fire holes and a longitudinal stack tunnel with which the flues finally connect.

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