C. W. HUGHES.

Tobacco-Drying Furnace.

No. 226,517. Patented April 13, 1880.

Fig. 1

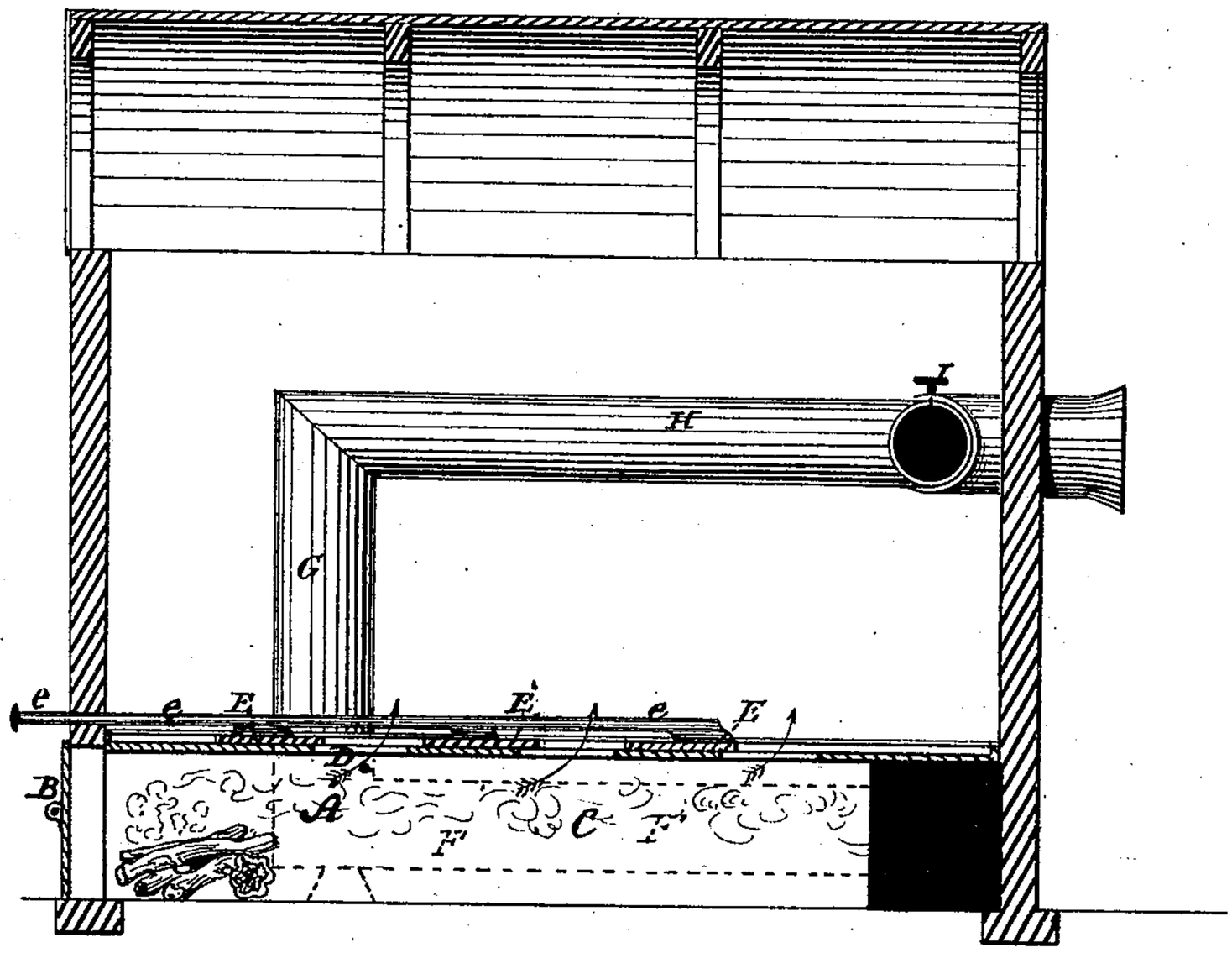
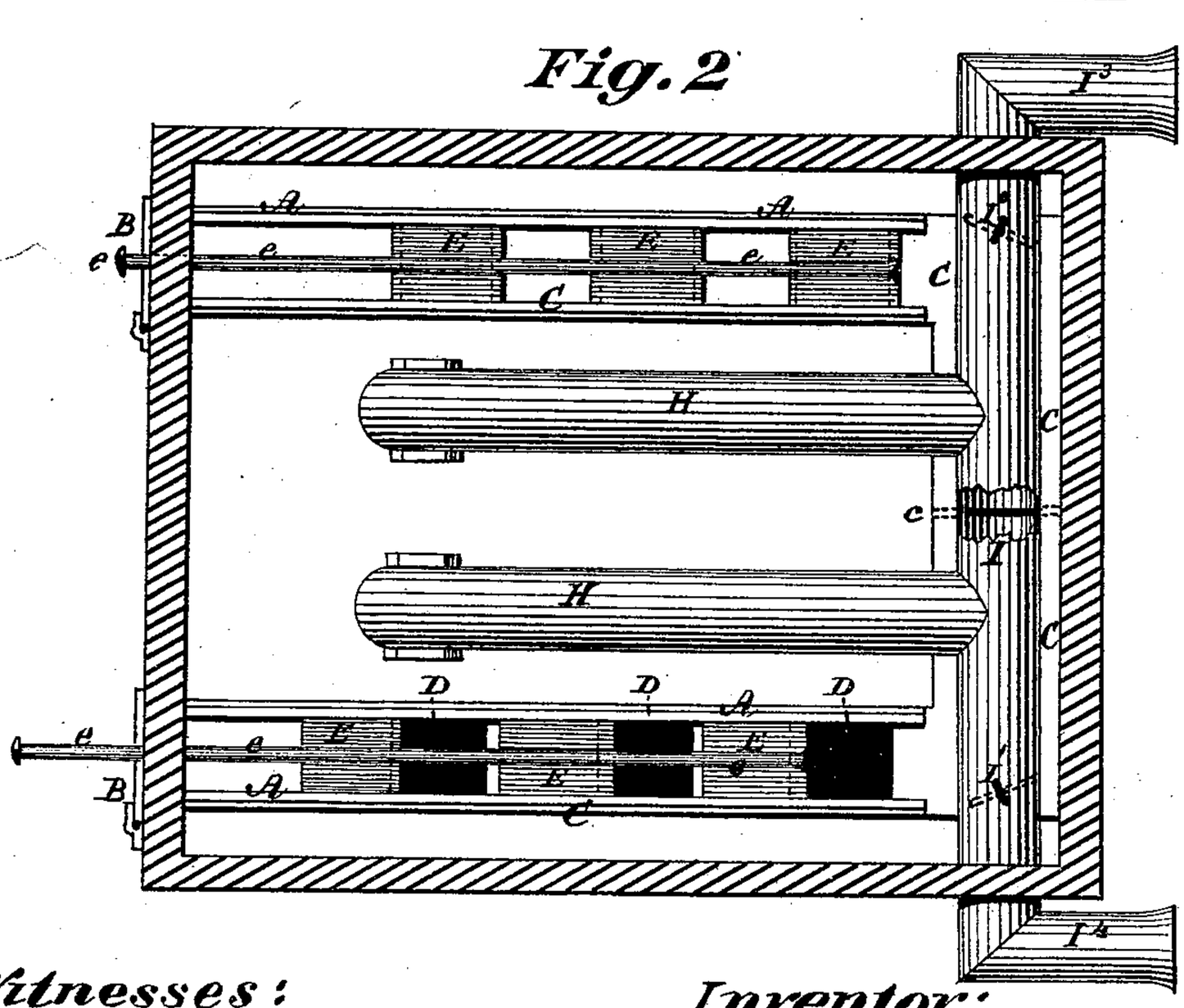


Fig. 2



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UNITED STATES PATENT OFFICE.

CHARLES W. HUGHES, OF HYCO, VIRGINIA.

TOBACCO-DRYING FURNACE.

SPECIFICATION forming part of Letters Patent No. 226,517, dated April 13, 1880.

Application filed February 24, 1880.

To all whom it may concern:

Be it known that I, CHARLES W. HUGHES, of Hyco, in the county of Halifax and State of Virginia, have invented a new and useful Improvement in Tobacco-Drying Furnaces, of which the following is a specification.

In curing tobacco a great variation of heat is required at different stages of the process. At the early stages it is only necessary to employ a moderate heat, sometimes only sufficient to dry the atmosphere in the dry-house, until the tobacco has reached a certain stage of curing and all of the juices have been removed, which, if allowed to remain in its cells, would cause it to mold and become sour. When the tobacco has been sufficiently sweated and has reached a proper condition of dryness it is necessary to apply a very high degree of heat. This has been applied heretofore by building open fires directly beneath the tobacco, at which stage both the tobacco and wood-work of the building are in such dry condition that they may be easily ignited, and frequently both the building and tobacco are entirely destroyed. A very high degree of heat thus applied to the tobacco when it is in proper condition is the only method known to the art of curing tobacco and giving to it the bright yellow color so highly valued.

The apparatus hereinaffer described enables the heat to be completely controlled at all times, and admits of using the heat both from radiation through its hot-air chambers and by turning on the direct heat from the furnace without disjoining or removing any of the flues from position.

In the accompanying drawings, Figure 1 is a vertical sectional view of the apparatus with portions of the walls and roof of the building inclosing it, and Fig. 2 a horizontal section through the furnaces and lower flues.

The furnaces A A are preferably built of brick arched over and extending into the building a sufficient distance, the doors B B of the furnace being secured to them outside of the building-walls. The main base-flues C are formed to be extensions of the furnace and extend back nearly to the rear wall of the building, and then turn at right angles and meet each other, a partition, *c*, being formed at the point where they join to preserve for each a separate draft and flue connection. The base-flues may be made by digging a trench and walling the sides of the same, or not, as may be desired.

The flues C are provided with openings D D D and valves or registers E E, operated by rods *e*, extending to the outside of the building, that may be opened or closed for the purpose hereinafter described.

The base-flues C C are connected at their rear ends, between the elbow and partition *c*, with return-flues F F, preferably of metal, raised slightly above the ground and supported by suitable sills. The front ends of the return-flues are connected with vertical flues G G, which project up a suitable distance in proportion to the height of the building and according to the situation of the tobacco, and are connected to back-take flues H H, passing to the rear of the building, and are both connected with a transverse escape flue or pipe, I, extending outside the building, and provided with dampers I' I^2 and wind-hoods I^3 I^4. The pipe I is divided by a partition between the points of intersection with the flues H H in order that the flues and furnaces of each section may have entirely independent draft.

When it is desired merely to warm the building sufficiently to further the preliminary drying operation the valves E E may be kept closed. When the tobacco has reached its proper condition in curing and is ready to be fired and a greatly-increased heat is required the valves E E are opened and the direct heat from the furnaces is admitted into the dry-house and may be kept up with great intensity until the process is completed and the desired color obtained without danger of burning the tobacco and building in which it is stored.

The valves E E also serve a good purpose in shutting off the smoke from the drying-chamber when the fires are kindled, so as not to give the tobacco a smoky or creosote taste.

Either of the valves or heat-registers in the base-flue C C may be opened, or partially opened, so that the heat may be admitted from either furnace or into either side of the dry-

house, as may be desired. A more intense heat may be generated in one furnace than in the other when it is found that the tobacco hung nearest the furnace to be operated is not sufficiently dry.

The heat may thus be completely controlled and directed to any portion of the dry-house desired.

I claim as my invention and desire to secure by Letters Patent—

1. In a tobacco-furnace, the combination of the base-flues C, partition *c*, return-flues F, vertical flues G, back-take flues H, and transverse flue I, divided by its partition, the whole forming two independent furnaces and flue-connections, as set forth.

2. The combination of the base-flues C, provided with registers E, with the return-flues F, vertical flues G, and back-take flues H, as set forth.

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