

(No Model.)

J. C. KLAUDER.
GRAIN DRIER.

No. 328,788.

Patented Oct. 20, 1885.

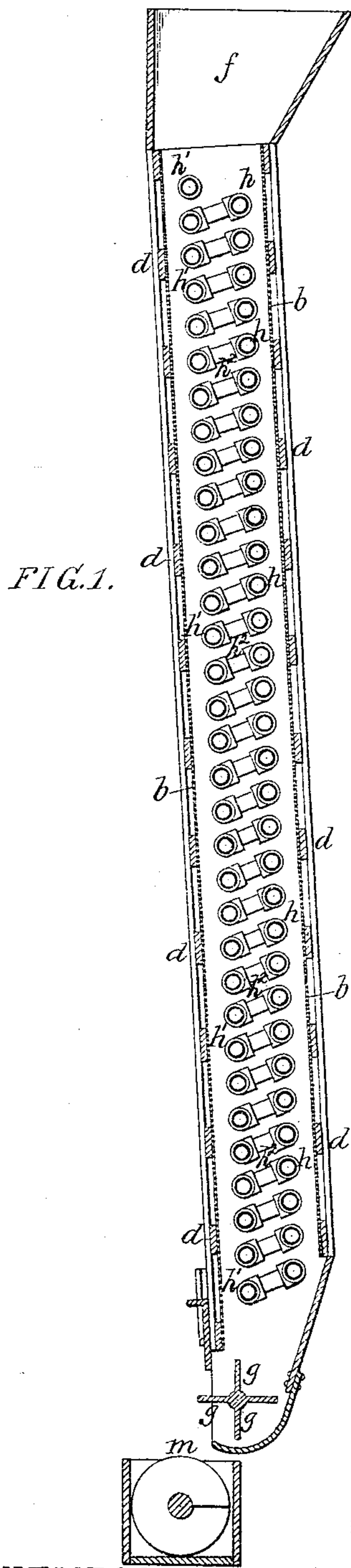


FIG. 1.

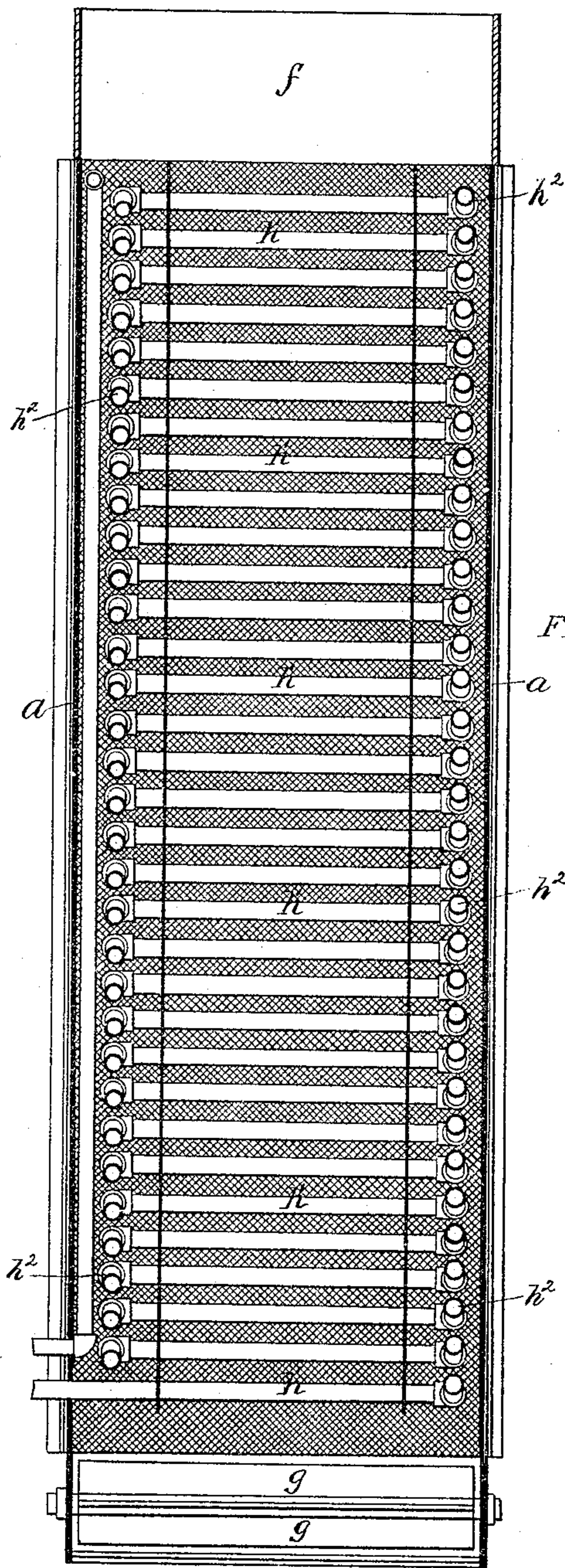


FIG. 2.

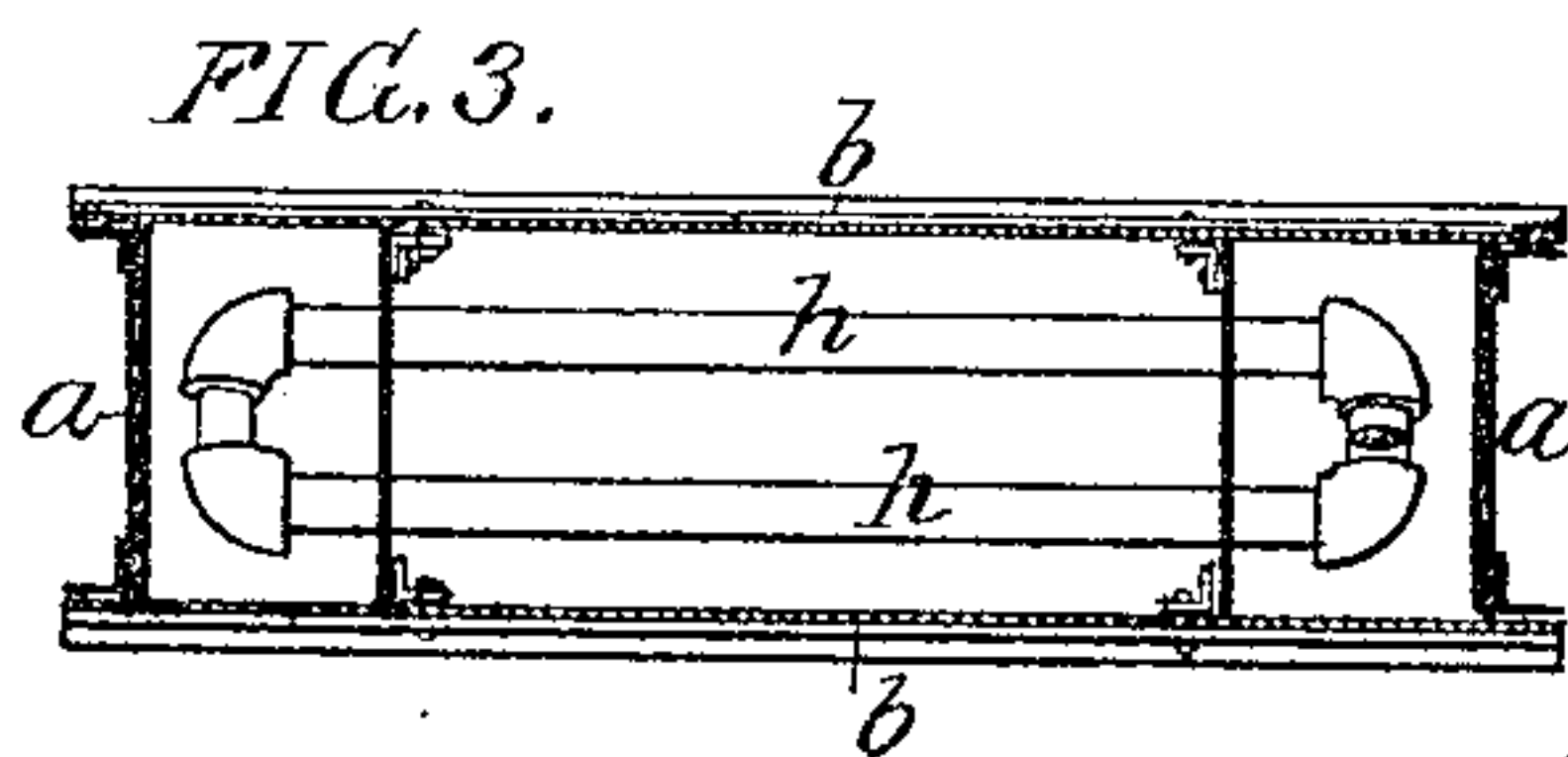


FIG. 3.

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UNITED STATES PATENT OFFICE.

JOHN C. KLAUDER, OF PHILADELPHIA, PENNSYLVANIA.

GRAIN-DRIER.

SPECIFICATION forming part of Letters Patent No. 328,788, dated October 20, 1885.

Application filed April 2, 1883. Serial No. 90,251. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. KLAUDER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented
5 an Improved Apparatus for Preparing Corn for being Ground into Meal, of which the following is a specification.

My invention relates to a certain improvement in apparatus for drying corn preparatory
10 to grinding the same into meal, the object of the invention being to so construct the kiln that the thorough drying of the grain will be effected without scorching the same, and without the use of blast or suction apparatus for
15 causing a draft through the kiln.

In the accompanying drawings, Figure 1 is a transverse section of the kiln; Fig. 2, a longitudinal section of the same, and Fig. 3 a sectional plan view.

20 The casing of my improved kiln is in the present instance rectangular, and comprises the opposite ends, *a a*, and sides *b b*, the latter being made of wire-gauze or perforated sheet metal, suitably strengthened and braced by
25 external slats, *d*, so as to resist the outward pressure of the corn, which is fed into the top of the kiln through a hopper, *f*, and is discharged from the lower end of the said kiln by means of a shaft with radial blades *g*, this
30 shaft being rotated by suitable means at a rate of speed proportionate to the speed at which the corn must traverse the kiln.

Centrally within the kiln are arranged two vertical rows of steam-pipes, *h h'*, the ends of
35 which are connected together by short inclined pipes *h²*, so arranged that the steam entering the top pipe, *h*, at the left-hand end, for instance, will traverse the same, then pass through the first connecting-pipe, *h²*, into the
40 right-hand end of the top pipe, *h'*, then pass through the same to the opposite connecting-pipe, *h²*, and through the latter to the left-hand end of the second pipe, *h*, and so on to the bottom pipe, *h'*, from which it is discharged.

The space between the rows of pipes *h*, and
45 the spaces between said pipes and the sides *b* of the casing present narrow channels, down which the corn is compelled to flow in thin layers in traversing the kiln, so that the heat from the steam-pipes is caused to act most
50 effectively in drying the corn.

The degree of temperature to which the corn is subjected will depend upon the pressure of steam in the pipes *h*, and this can be readily
55 controlled by suitable valves.

The corn is discharged from the kiln into
60 the trough or box of a conveyer, *m*, by which it is conveyed to a suitable receptable or to the mills. This, however, is not essential.

It will be noticed on reference to Fig. 1 that
65 the kiln occupies an inclined position. This is an important feature of my invention, as it permits the escape of the vapors from the upper side of the kiln as they rise from the mass of corn, whereas if the kiln were vertical
70 the vapors arising from that portion of the contents of the kiln not actually in contact with the casing would have a tendency to ascend vertically, and would have to traverse the mass of corn before escaping at the hop-
75 per, or else cumbrous and expensive blast or suction apparatus would have to be employed to cause a lateral draft through the kiln.

I therefore claim as my invention—

The combination, in a kiln for drying corn,
80 of the inclined casing having opposite perforated sides, the central steam-heated pipes, the feed-hopper at the top, and the discharging device at the bottom, as set forth.

In testimony whereof I have signed my name
85 to this specification in the presence of two subscribing witnesses.

JOHN C. KLAUDER.

Witnesses:

HARRY L. ASHENFELTER,
HARRY SMITH.