

No. 747,887.

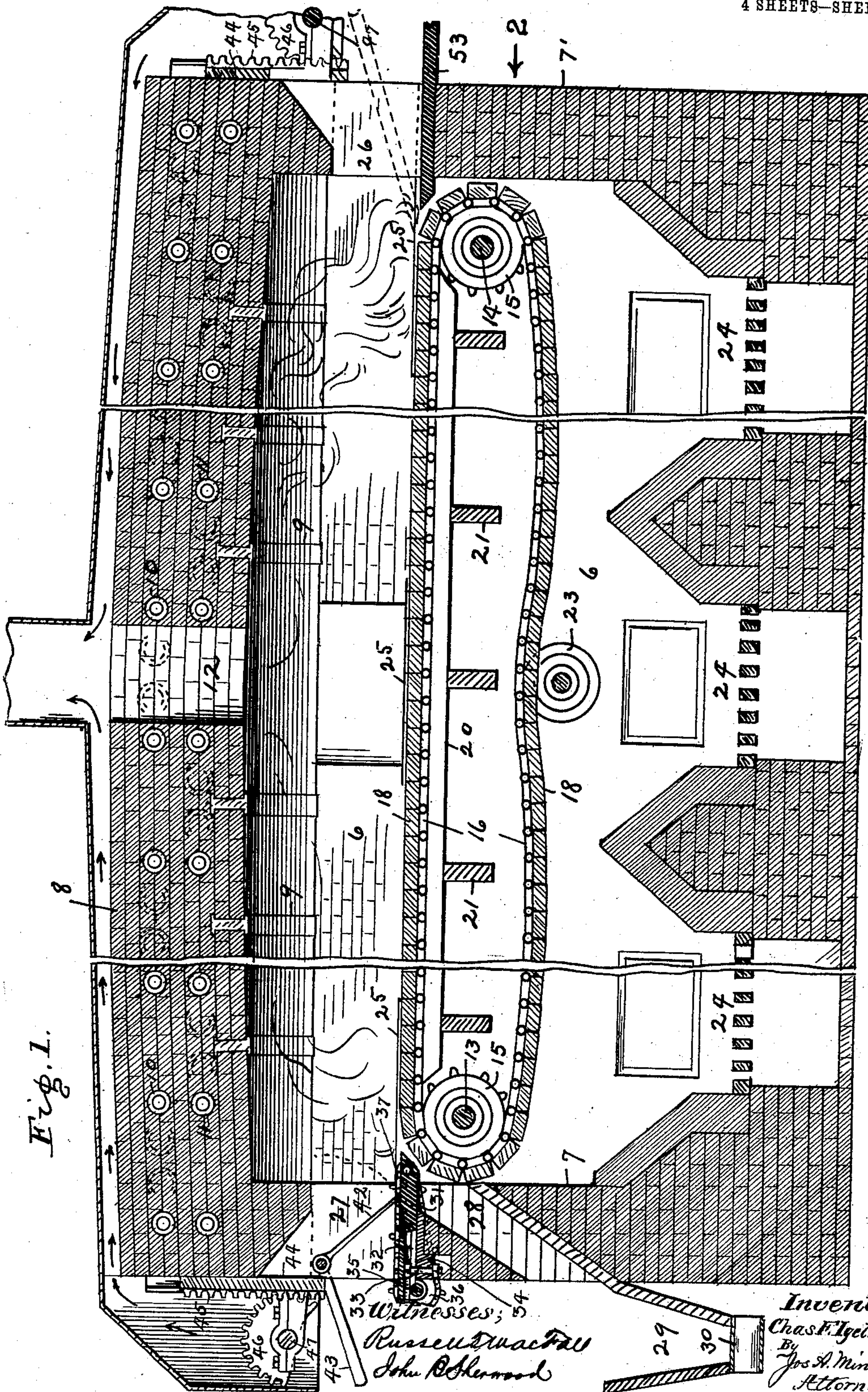
PATENTED DEC. 22, 1903.

C. F. IGELMANN.
BAKER'S OVEN.

APPLICATION FILED AUG. 30, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



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4 SHEETS—SHEET 2.

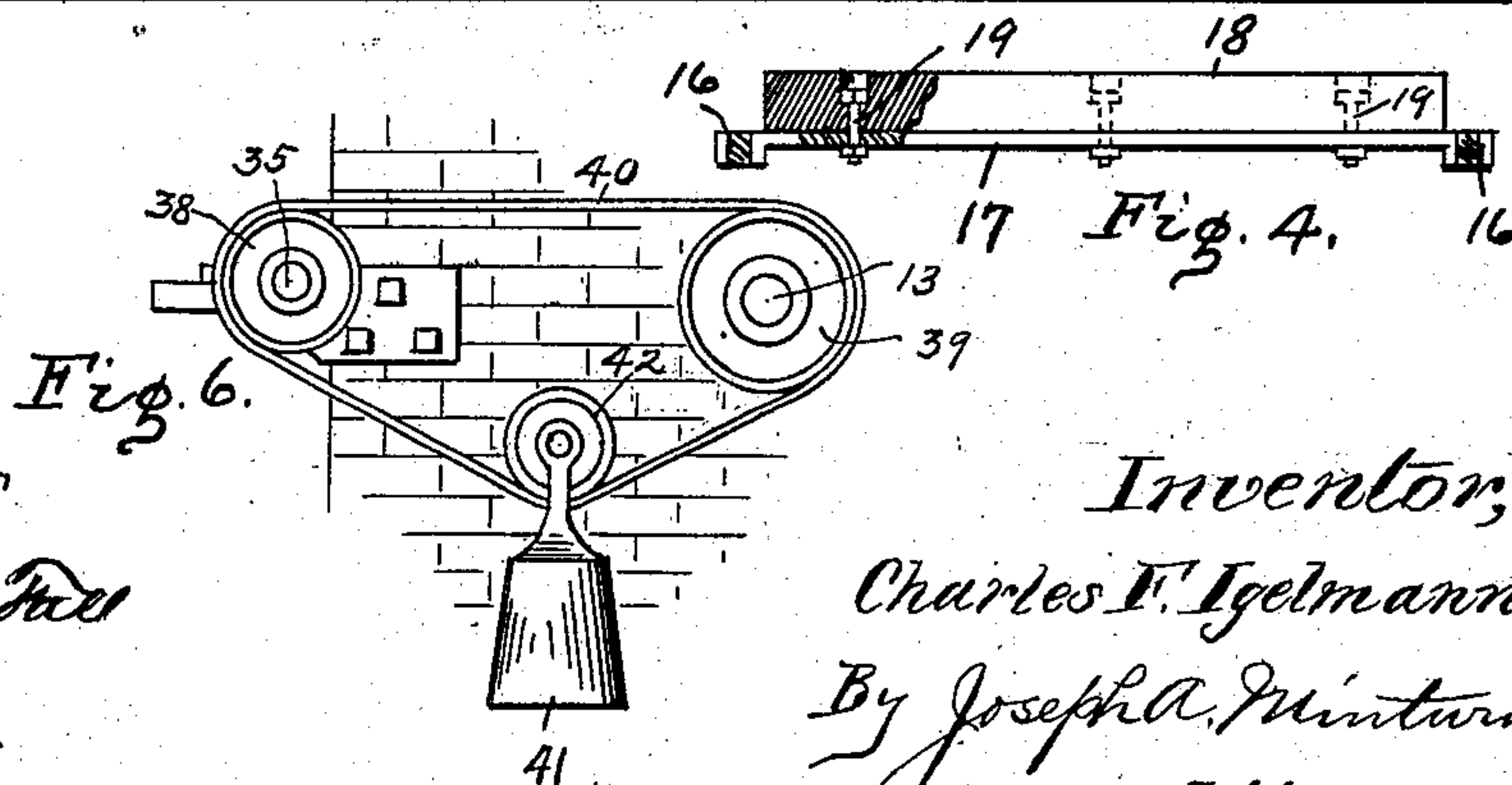
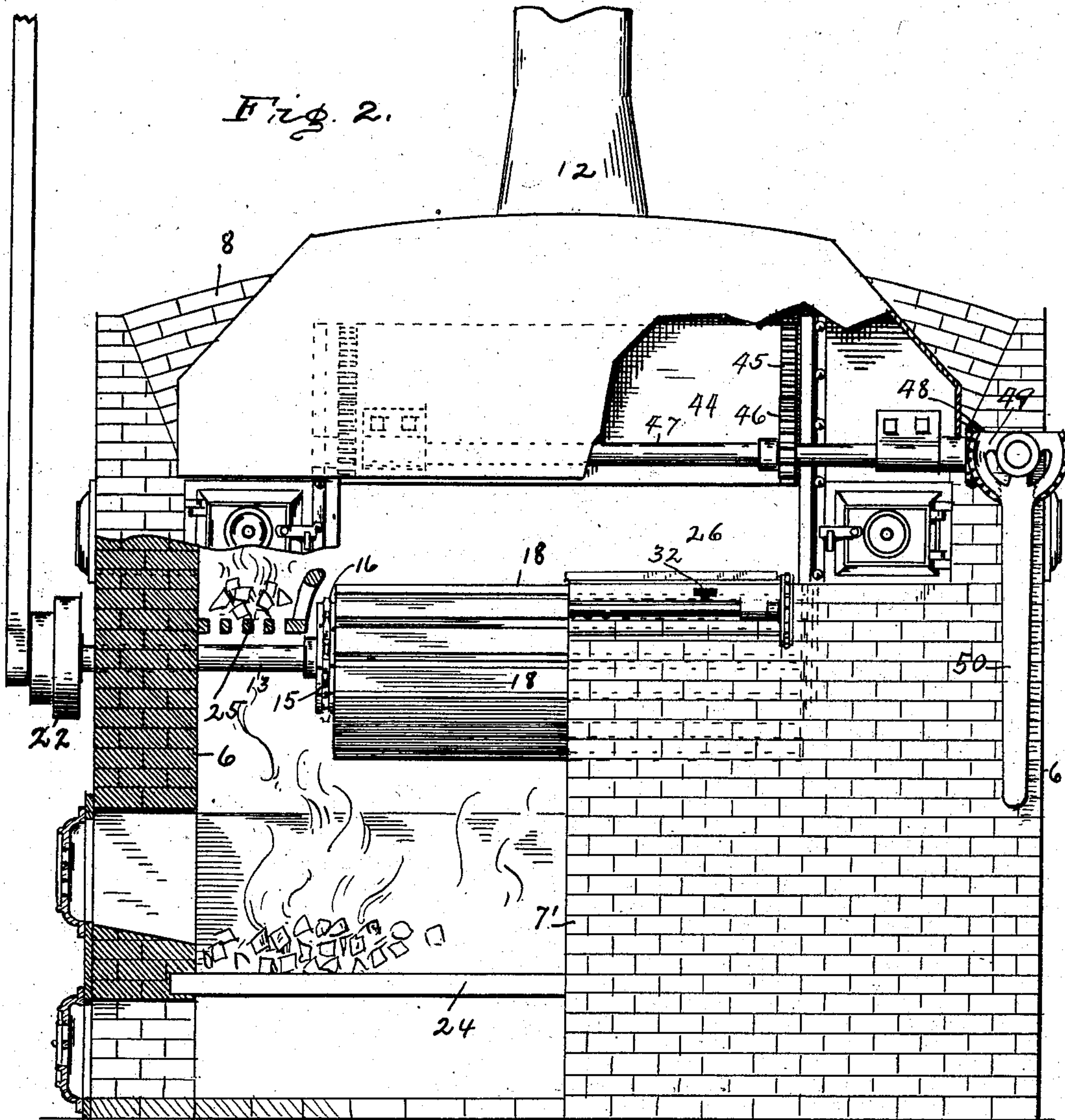


Fig. 6.

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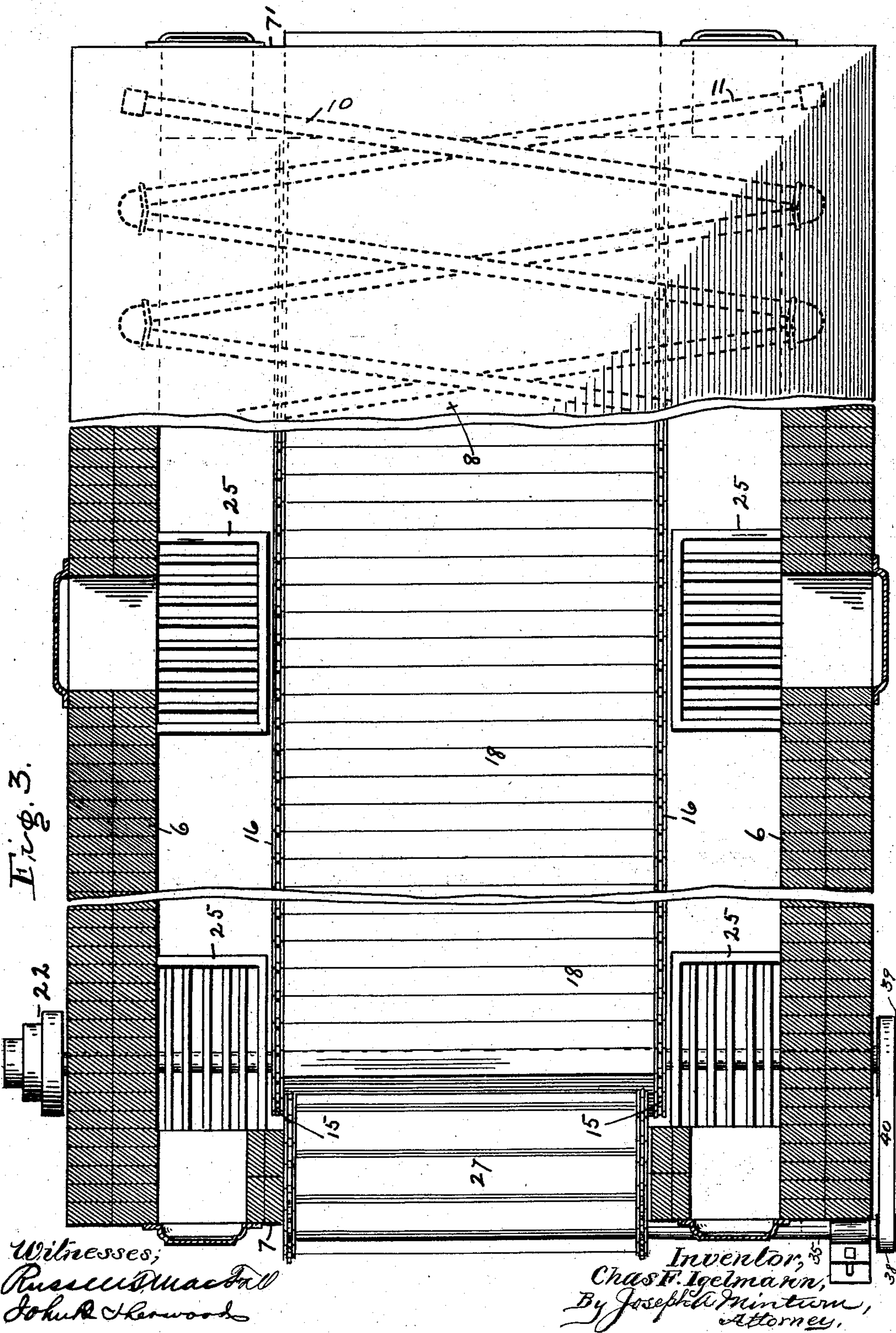
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4 SHEETS—SHEET 3.



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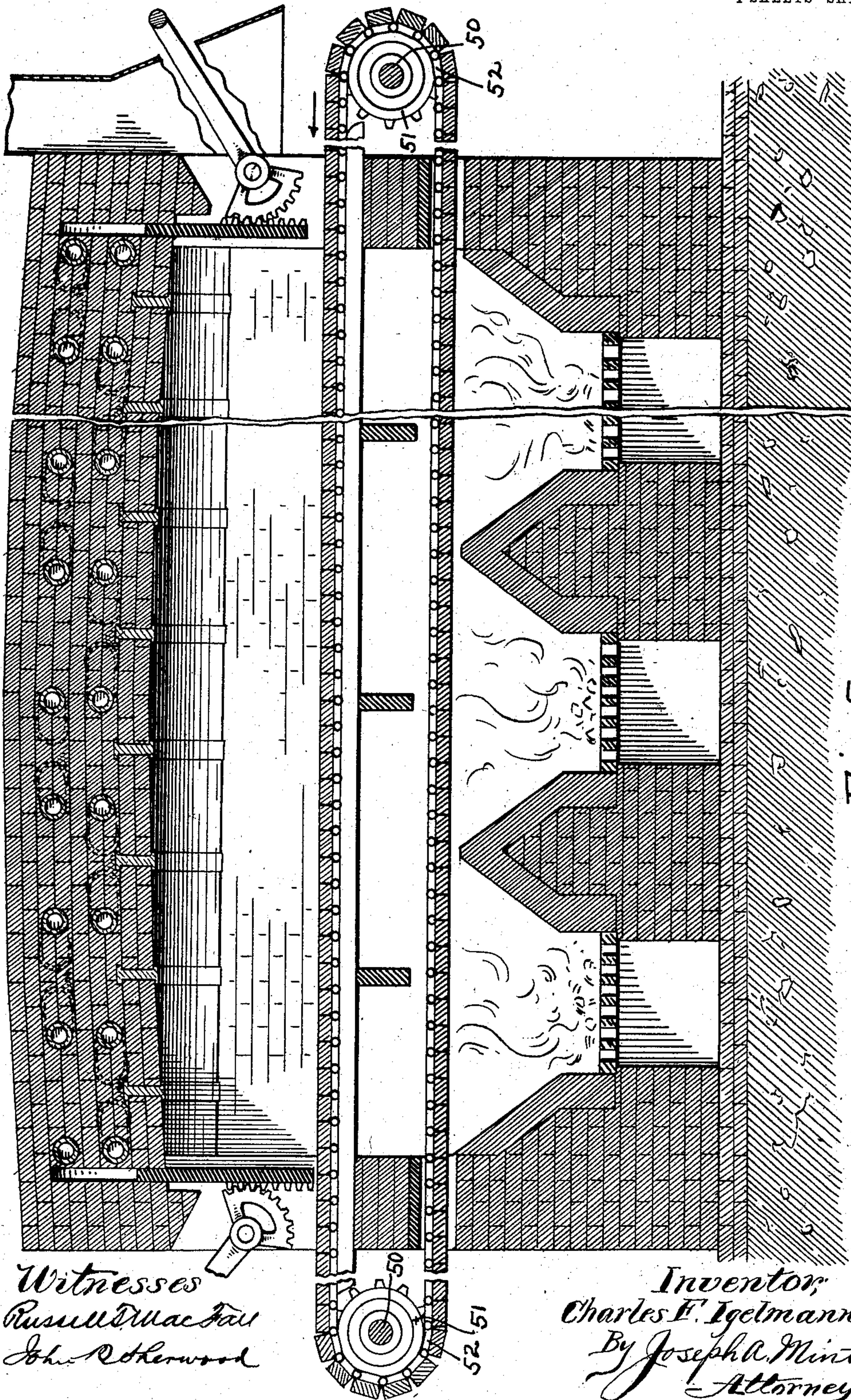
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

CHARLES F. IGELMANN, OF INDIANAPOLIS, INDIANA.

BAKER'S OVEN.

SPECIFICATION forming part of Letters Patent No. 747,887, dated December 22, 1903.

Application filed August 30, 1902. Serial No. 121,671. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. IGELMANN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Bakers' Ovens, of which the following is a specification.

This invention relates to improvements in bakers' ovens; and the object of the invention is to provide an oven in which the dough entering at one end is carried by a traveling-belt hearth through the oven and is discharged as a finished product at the other end of the oven.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the reference characters marked thereon, form a part of this specification, and in which—

Figure 1 is a longitudinal vertical central section of my improved oven; Fig. 2, an end elevation and partial transverse vertical section looking in the direction of the arrow 2 of Fig. 1; Fig. 3, a partial plan view and horizontal section of Fig. 1; Fig. 4, a detail showing the manner of attaching the hearth-tiles to the belt carrier; Fig. 5, a vertical section of a modified form of oven in which the hearth is extended outside of the oven, and Fig. 6 a detail in elevation of the belt connecting the driving-shaft of the auxiliary discharge with the main shaft of the oven.

Like characters of reference indicate like parts throughout the several views.

Referring to the drawings, 6 6 represent the side walls, and 7 7 the end walls, of a rectangular oven of brickwork, and 8 is the top, also made of brick, supported by the arched iron girders 9, which latter rest upon the side walls 6 6. This oven-top is arched toward the center both longitudinally and transversely in order to deflect the heat toward the middle of the oven. This top embodies in its construction a double series of hollow pipes 10 and 11, running in a zigzag pattern across the oven, the purpose of which is to distribute the heat uniformly throughout the said top. These are closed pipes to provide a

dead-air space therein. The top has the flue 12 centrally located.

Mounted on suitable bearings in the side walls 6 of the oven are the shafts 13 and 14 adjacent to the oven ends 7 7, respectively. Mounted on said shafts are the sprocket-wheels 15, around which pass a pair of link belts 16. These belts are connected by metal plates 17, which form the hearth on which the baking is done when a metal hearth is desired; but for most purposes an earthen hearth is preferred, and I therefore secure the earthenware blocks 18 to said metal plates by means of bolts 19 or in any suitable manner.

To maintain the blocks comprising the hearth in a uniform level condition, I provide the metal rails or stringers 20, upon and along which the link belts are drawn, and these rails are supported by the iron girders 21, the ends of which are bedded in the side walls of the oven. The end of shaft 13, projecting outside of the oven, has the cone-pulleys 22, by which the shaft will be rotated by belt connection with one of the pulleys of said cone. By shifting the belt from one pulley to a different-sized one the speed of the shaft, and therefore rate of travel of the hearth, may be regulated, thereby enabling the product of the oven to be subjected to a longer or shorter heating period, according to requirements.

The sagging of the belt carrier and hearth on the under or return side is prevented by idle wheels 23, over the top of which the chain belt passes, as shown in Fig. 1.

The oven is heated ordinarily by means of fires built in the fireplaces 24, of usual construction, built under the traveling hearth. This will be supplemented when required by fires built in the upper grates 25, opposite the baking-surface of the hearth and between the hearth and the oven-wall.

The material to be baked will be introduced into the oven through the opening 26 and may be discharged through the like opening 27 at the opposite end of the oven or through the downwardly-sloping chute 28. The position of the chute is such as to receive the baked goods as the latter is dumped by the turn of the hearth around the sprocket-wheels at the

end of the travel of the hearth, and for bread and other strong and substantially made goods that will stand the usage this means of discharge is preferable and will be employed. The chute 28 empties into a trough 29, having a belt carrier 30 to carry the product to any desired part of the bakery.

More fragile articles will be taken from the oven through the opening 27 by means of an auxiliary belt carrier, which is attached to and is carried by a horizontally-adjustable shelf 31. This shelf has under side grooves 32, which are larger at their inner portions to engage the heads of bolts 33. The stems of the bolts project through the lower portions of the slots and are secured in stationary plate 34. By tightening the nuts on the bolts the shelf can be secured at any desired position with relation to the traveling hearth. It can be placed in the position shown in the drawings, Fig. 1, covering the outlet through the chute, or it may be moved out to open the mouth of the chute.

The outer edge of the shelf has bearings for shaft 35, on which are mounted sprocket-wheels 36, around which are link belts 37, which pass around the shelf. The belts carry ribs to engage the edges of pans carrying the baked product and draw the pans out of the oven. The shaft 35 extends to the side of the oven and has pulley 38, which is belted to pulley 39 on the end of shaft 13. The belt 40, connecting said pulleys, is loose to allow adjustment of pulley 38 with the adjustment of shelf 31. The belt is kept taut enough to drive the shaft 35 by weight 41, suspended from pulley 42, supported on belt 40. (See Fig. 6.)

When it is desired to discharge pan goods through the chute 28, while allowing the pan to pass out horizontally, I use the scraper 42, which is turned down by raising handle 43, thereby scraping the baked material into the chute.

Openings 26 and 27 are closed by the vertically-sliding doors 44, having end racks 45, which are engaged by toothed segments 46, mounted on shaft 47. Shaft 47 has bevel cog-wheel 48, which engages the beveled segment 49. The latter is operated by lever 50 to raise and lower the doors 44.

The shelf 53 at the entrance-opening 26 may be raised to the oblique position (shown in dotted lines in Fig. 1) to slide the dough upon the traveling hearth.

In the modification shown in Fig. 5 the shafts 50, upon which the sprocket-wheels 51,

carrying the belts 52, to which the hearth is attached, are mounted on the outside of the oven, whereby the unbaked material may be deposited upon the hearth outside of the oven and will be carried through and to the outside of the oven at the opposite end of the latter without leaving the hearth. The construction will be readily understood from the drawings. If desired, only one end of the belt hearth may be carried outside of the oven.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. A baker's oven of brickwork having closed tubular passage-ways in said brickwork to distribute the heat therethrough.

2. A baker's oven having a roof arched from both sides and ends toward a common center and having tubular supporting-conduits passing transversely back and forth through said roof.

3. A baker's oven, a traveling hearth located therein having a horizontal carrying-surface, a horizontal shelf at the oven-discharge having a horizontal adjustment to and from the traveling hearth and a scraper pivoted above the shelf adapted to be lowered into contact therewith to compel the discharge of the product between the traveling hearth and shelf.

4. A baker's oven, a traveling belt hearth located therein having a horizontal earthenware surface, a horizontal shelf at the oven-discharge having a horizontal adjustment to and from the traveling hearth, and an endless apron traveling around the shelf in the same direction as the travel of the hearth.

5. A baker's oven, a traveling belt hearth located therein having a horizontal earthenware carrying-surface, a horizontal shelf at the oven-discharge having a horizontal adjustment to and from the traveling hearth, an endless apron traveling around the shelf in the same direction as the travel of the hearth and a scraper pivoted above the shelf adapted to be lowered into contact therewith to compel the discharge of the product between the traveling hearth and shelf.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 9th day of August, A. D. 1902.

CHARLES F. IGELMANN. [L. S.]

Witnesses:

J. A. MINTURN,

JOHN B. SHERWOOD.