

(No Model.)

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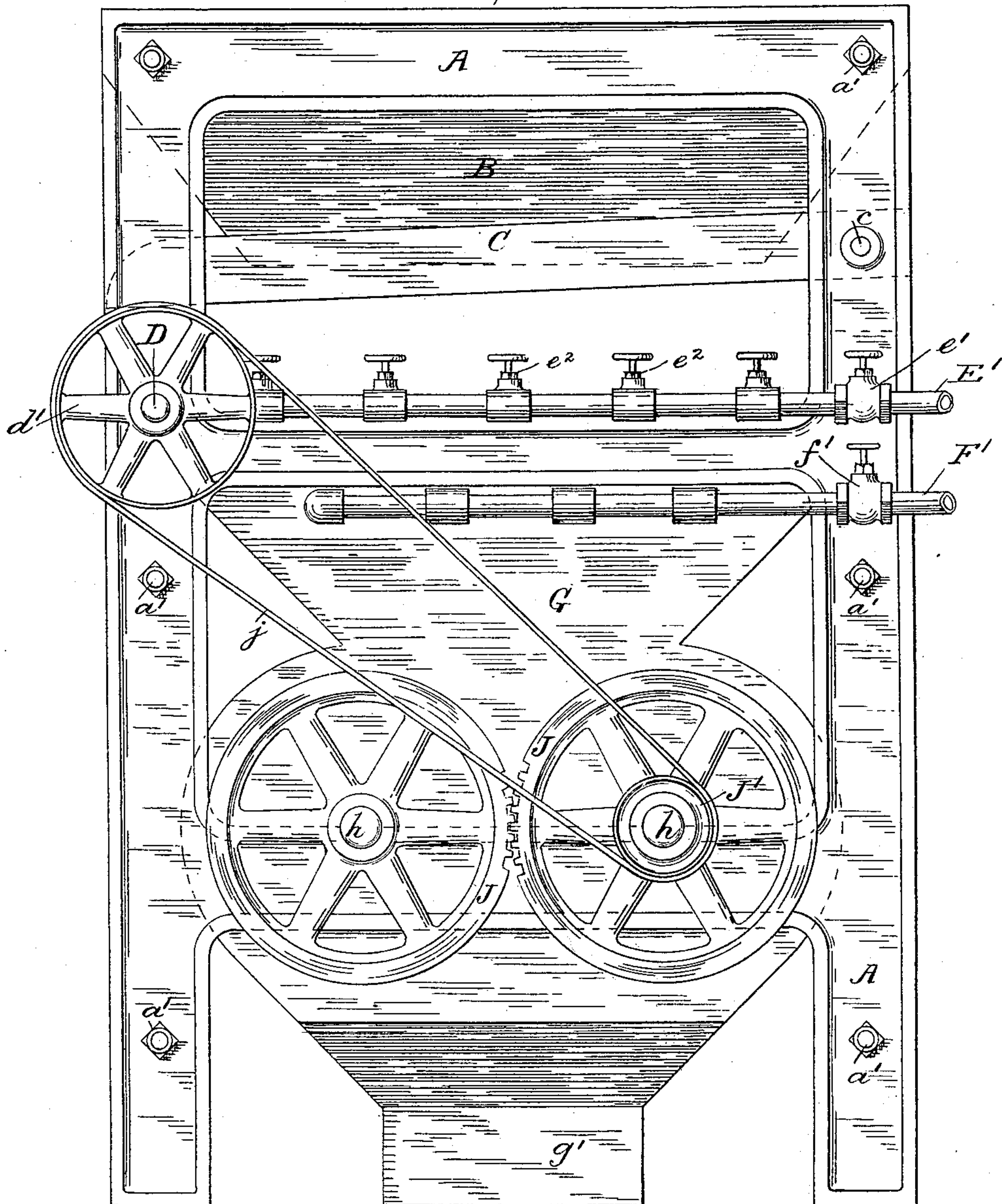
G. GUNTZ.

MACHINE FOR SCREENING AND MOISTENING MOLDING SAND.

No. 368,333.

Patented Aug. 16, 1887.

Fig 1



WITNESSES:

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(No Model.)

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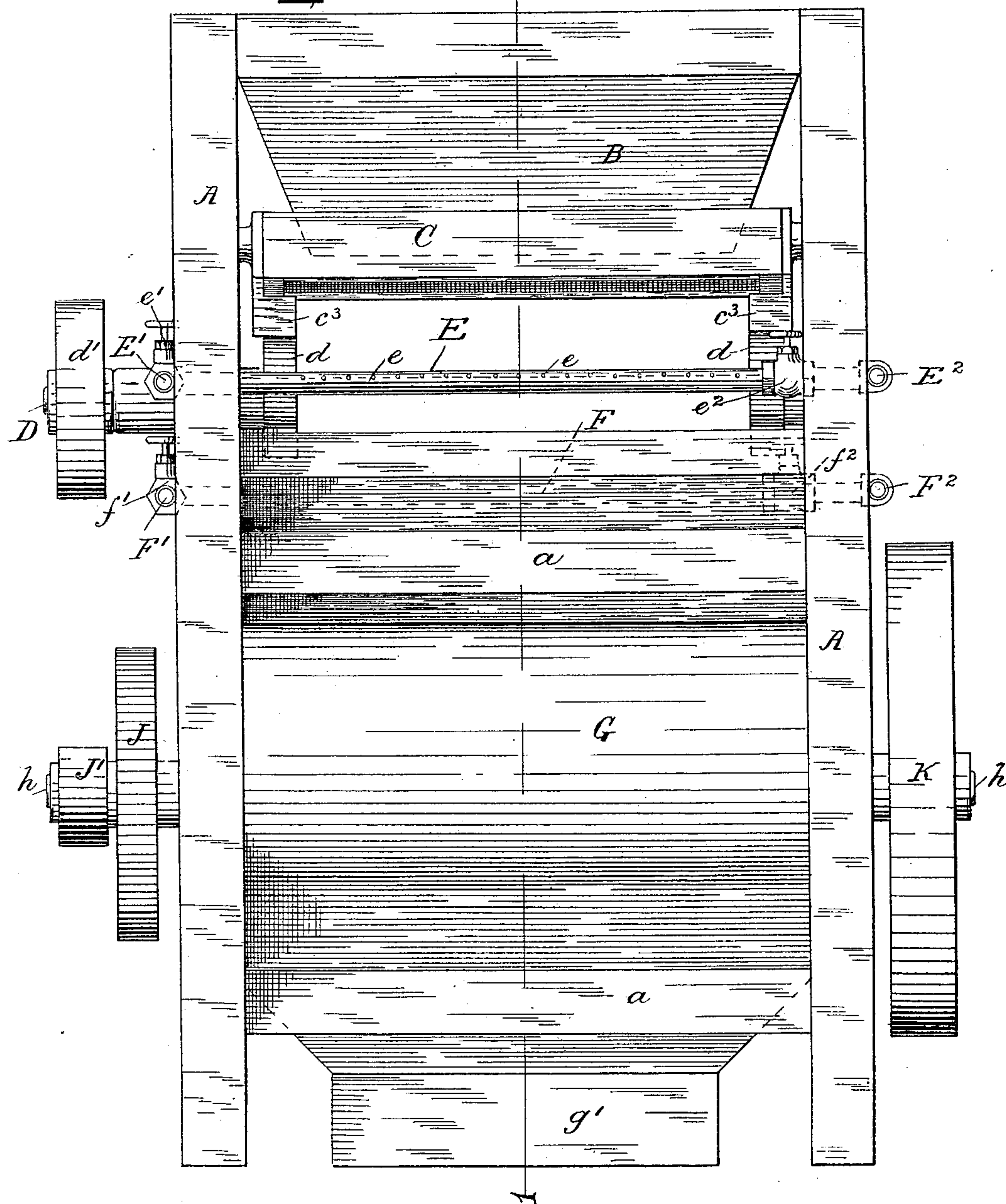
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Fig. 2 - 2



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3 Sheets—Sheet 3.

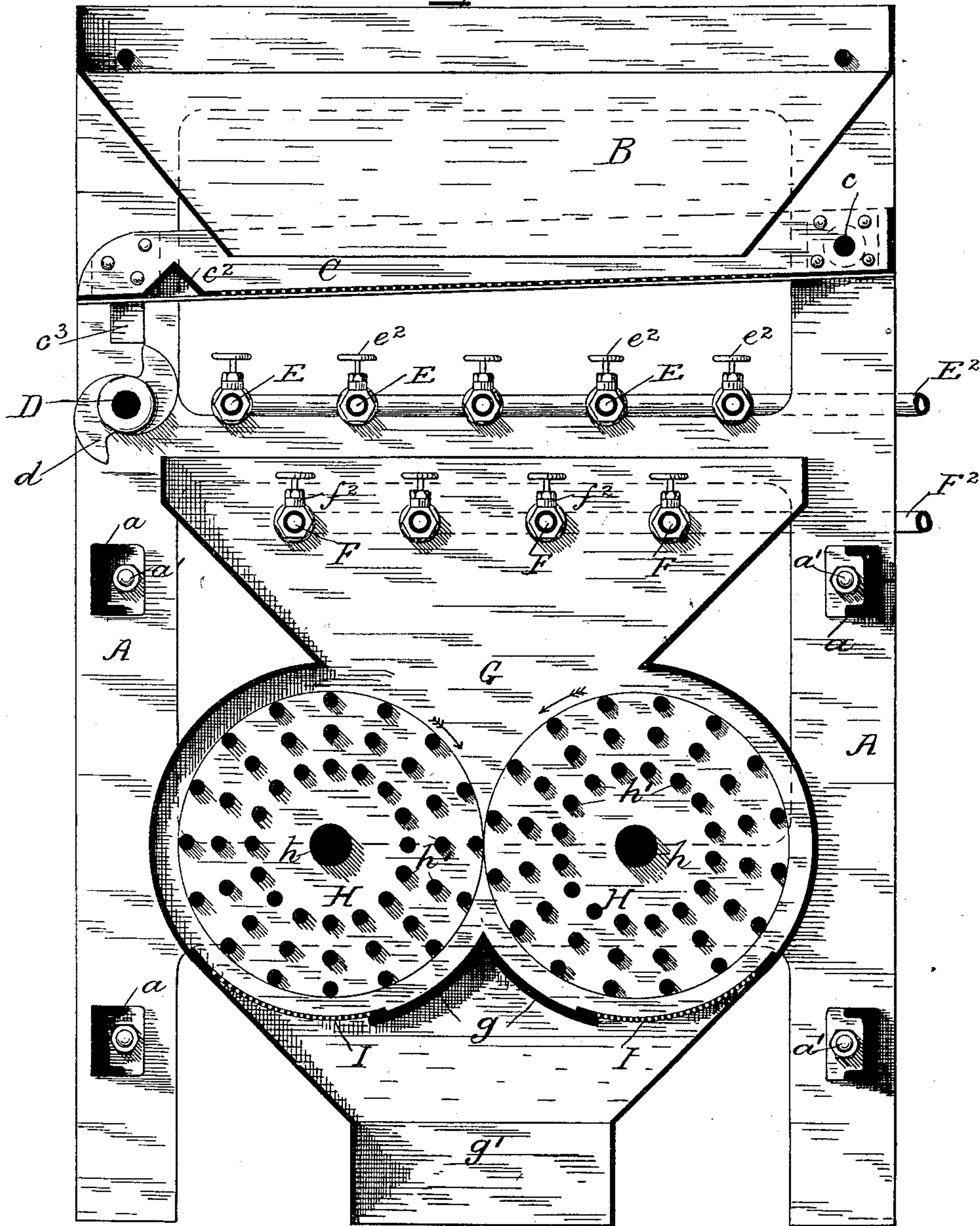
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MACHINE FOR SCREENING AND MOISTENING MOLDING SAND.

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Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE GUNTZ, OF WILKES-BARRÉ, PENNSYLVANIA.

MACHINE FOR SCREENING AND MOISTENING MOLDING-SAND.

SPECIFICATION forming part of Letters Patent No. 368,333, dated August 16, 1887.

Application filed January 17, 1887. Serial No. 224,586. (No model.)

To all whom it may concern:

Be it known that I, GEORGE GUNTZ, a citizen of the United States, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Screening and Moistening Molding-Sand; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to machines for screening and moistening the sand used by metal founders, and rendering it fit for ramming up in the molds.

This invention consists in the novel construction and combination of the parts herein-after fully described and claimed.

In the drawings, Figure 1 is a side view of the machine. Fig. 2 is an end view of the machine. Fig. 3 is a longitudinal vertical section through the machine.

A A are the side frames, held together by the distance-pieces *a* and bolts *a'*.

B is a hopper for the rough sand, secured between the side frames at the top of the machine.

C is a sieve pivotally connected to the side frames at one end by means of the bar *c*. The sieve cloth or wires are secured in the bottom of the sieve, and an upwardly-projecting rib, *c'*, extends across the bottom of the sieve near the rear end of it, which is left open. The sieve inclines toward the rear of the machine, and the rib *c'* is made lower than the sides. Striker-blocks *c''* are also secured to the rear end of the sieve.

D is a shaft journaled in the side frames, and provided with the cams *d* underneath the striker-blocks and with the belt-pulley *d'*.

E are water spray-pipes extending transversely across the machine under the sieve, and having small holes *e* in their upper sides about forty-five degrees above their horizontal center lines. The pipes E are connected to the inlet-pipe E' at one end, and a valve, *e'*,

is provided in the pipe E' for controlling the inlet of water to all the pipes E simultaneously. Each pipe E is provided with a separate valve, *e''*, for controlling the outlet of water at the waste end of it, and is connected to the outlet-pipe E².

F are also water spray-pipes extending across the machine below and between the pipes E. The pipes F are provided with small holes *f* and separate outlet-valves *f''*, and are connected to the inlet-pipe F', having the inlet-valve *f'*, and outlet-pipe F² exactly as described of the pipes E.

The sand from the hopper B falls onto the sieve, which is jarred by the revolving cams. The fine dry sand passes through the sieve, and all stones, sticks, and rubbish are worked to the rear end of the machine and discharged over the rib *c'* as they accumulate on top of the sand.

The perforated pipes E and F constitute a spray-producer, and the water from them moistens the fine sand as it falls through the sieve. By having separate outlet-valves to each spray-pipe and valves in the inlet-pipes as well the spray is distributed to the sand very evenly, and its volume can be nicely regulated.

The moistened sand might be allowed to accumulate under the machine until every particle of it became equally moist by contact; but in order to save time the particles of sand are rubbed together forcibly in the following manner:

G is a hopper for catching the sand, secured between the side frames.

H are trundles secured upon shafts *h* journaled in the side frames. Each trundle consists of two heads having a series of transverse bars, *h'*, extending between them and fastened into them in any convenient manner. The trundles are revolved in opposite directions, as indicated by the arrows in Fig. 3. The exterior of the hopper G is made to conform to the shape of the trundles, and a partition, *g*, extends transversely across the hopper, as shown in Fig. 3.

I are sieves or perforated plates secured under the trundles, which allow the sand to pass downward and out of the machine by the spout

g' , but retard its motion so that the trundles have time to act upon it and mix it up thoroughly.

J are gear-wheels secured on the trundle-shafts for revolving them simultaneously.

J' is a belt-pulley secured on one of the trundle-shafts, and connected to the belt-pulley d' by the belt j .

K is the main driving-pulley, also secured upon one of the trundle-shafts.

I do not confine myself to the use of the above-described sieve, as a rotary or other form of sieve could also be used in combination with the moistening and mixing devices.

What I claim is—

1. In a molding sand machine, the combination of a sieve for the sand with a spray-producer for moistening the fine sand as it falls through the sieve.

2. In a molding-sand machine, the combination of an inclined sieve for the sand, provided with a rib across its lower end to prevent the sand from sliding off it, a revolving cam for jarring the sieve, and a spray-producer for moistening the fine sand as it falls through the sieve.

3. In a molding-sand machine, the combination of a sieve for the sand, a series of perforated spray-pipes, each provided with a separate outlet-regulating valve, and an inlet-pipe connecting with the spray-pipes, and provided with an inlet-regulating valve, so that the fine sand may be moistened as it falls through the sieve.

4. In a molding-sand machine, the combination of a sieve for the sand, a double series

of perforated spray-pipes alternating with each other at different levels and provided with a separate outlet-regulating valve for each pipe, and the inlet-pipes connecting with the spray-pipes and provided with a separate inlet-valve for each series of pipes, so that the fine sand may be moistened as it falls through the sieve.

5. In a molding-sand machine, the combination of a sieve for the sand, a spray-producer for moistening the fine sand as it falls through the sieve, and a trundle for mixing the moist sand.

6. In a molding-sand machine, the combination of a sieve for the sand, a spray-producer for moistening the fine sand as it falls through the sieve, and two trundles revolving in opposite directions for mixing the moist sand, substantially as set forth.

7. In a molding-sand machine, the combination of two trundles revolving in opposite directions and each provided with a series of transverse bars, a hopper inclosing the said trundles and provided with a partition extending transversely across it between the trundles, and the perforated plates or sieves secured between the partition and the hopper, under the trundles, to retard the progress of the moist sand through the machine, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE GUNTZ.

Witnesses:

HARRY S. REETS,

GEO. H. MONTGOMERY.