

(No Model.)

2 Sheets—Sheet 1

H. A. GARVEY.
MACHINE FOR MIXING MORTAR.

No. 438,805.

Patented Oct. 21, 1890.

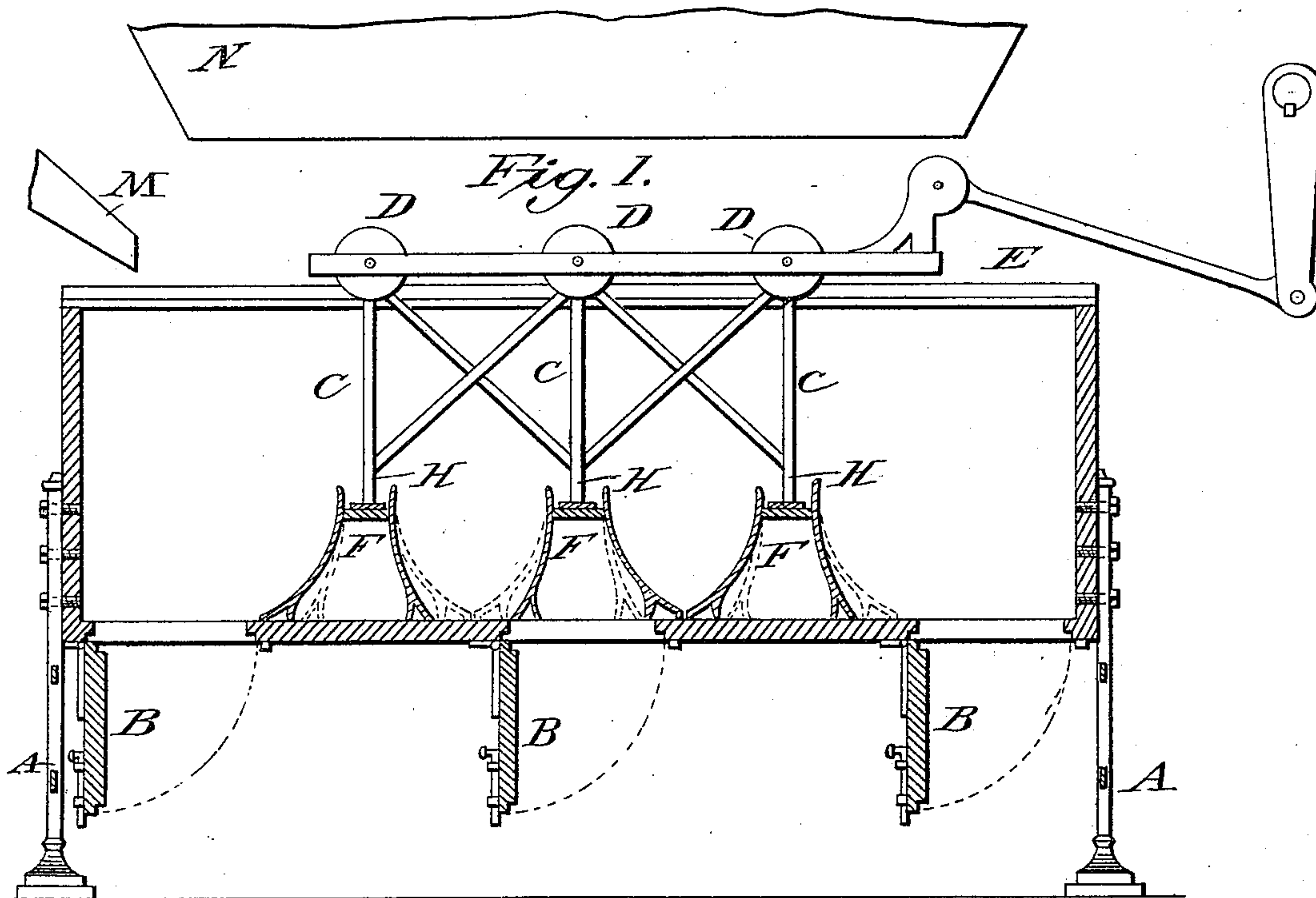


Fig. 2.

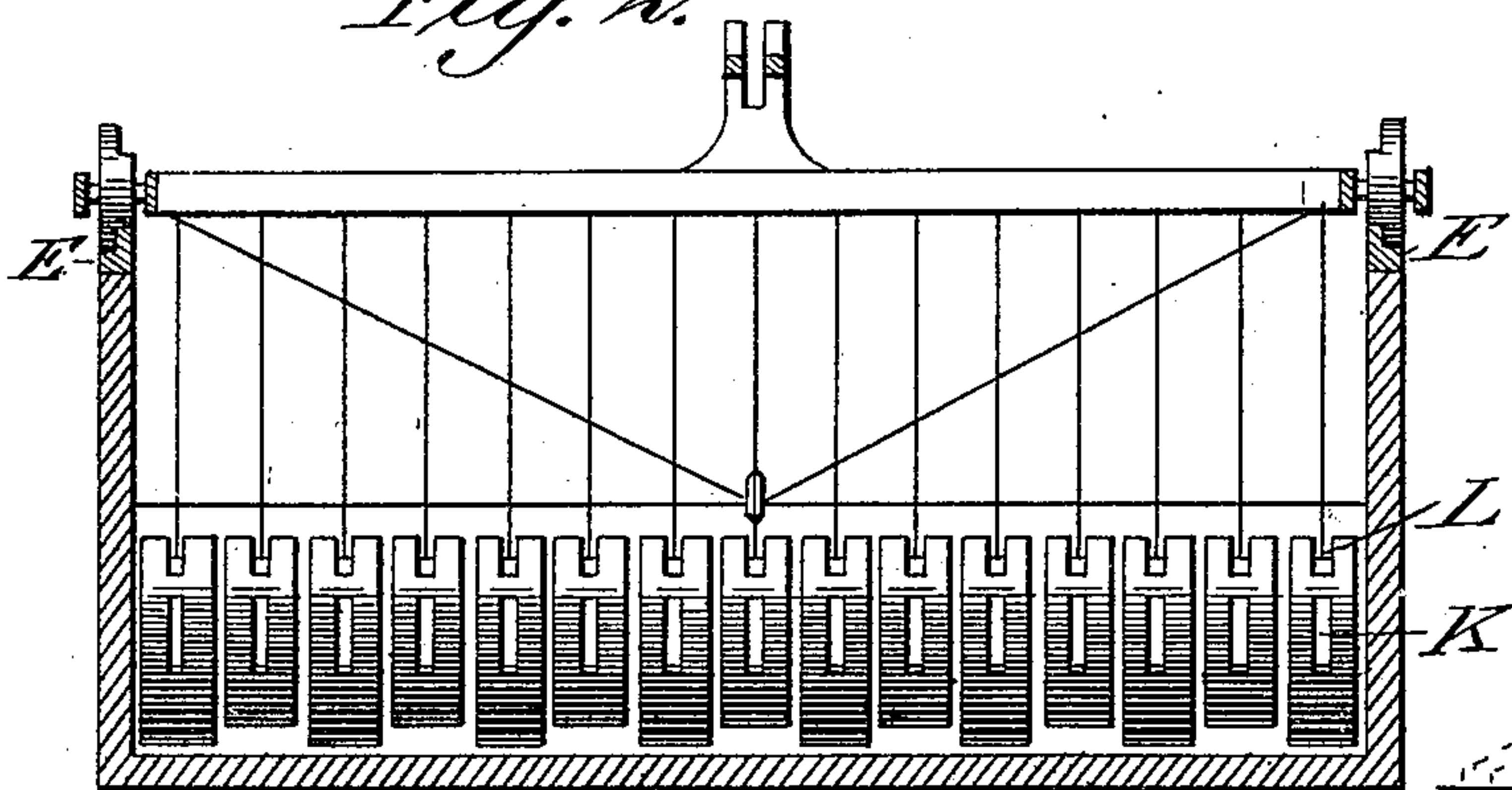
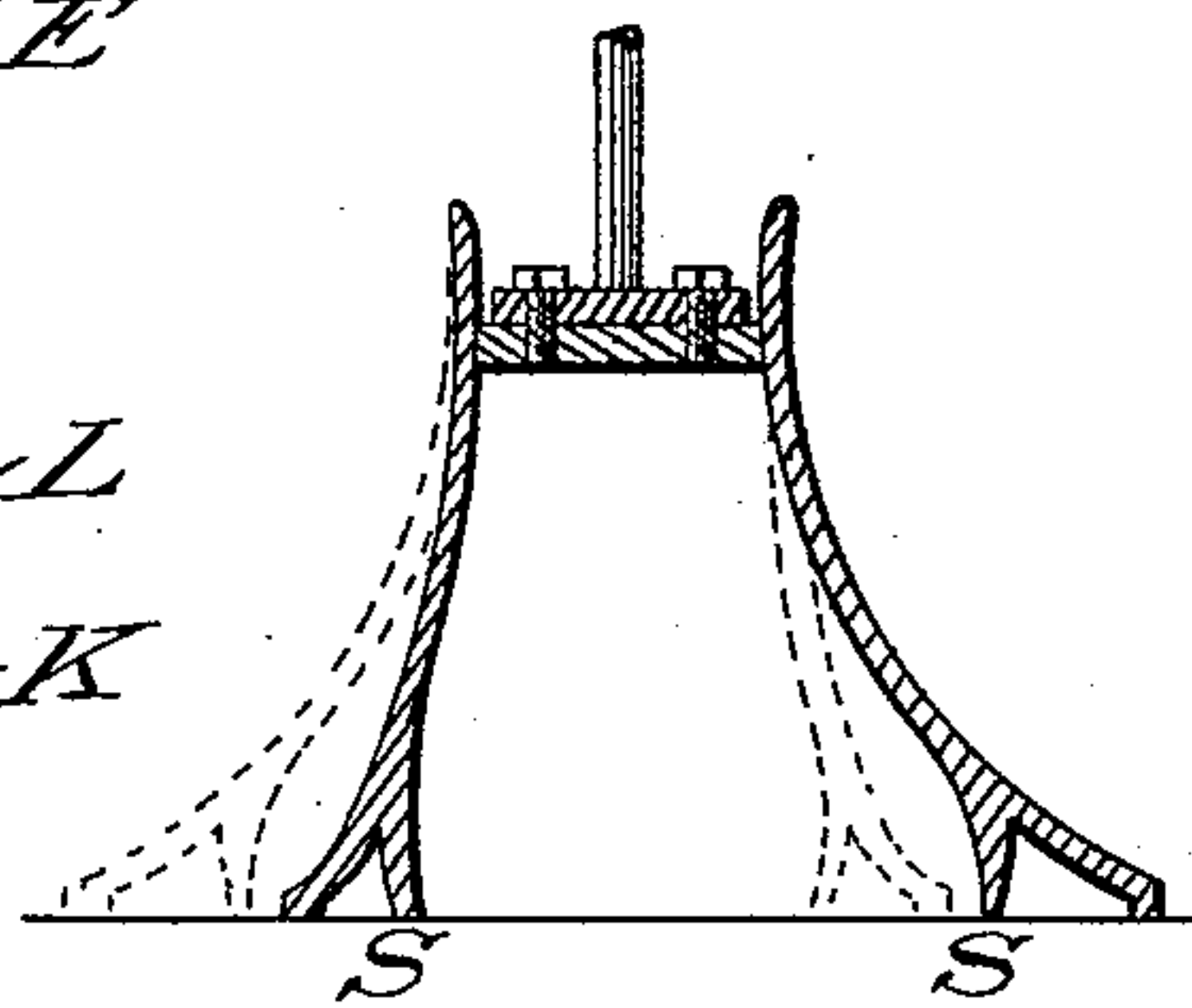


Fig. 3.



Witnesses:

Wm. S. Bennett
Arthur Nicholson,

Inventor:

Henry A. Garvey

(No Model.)

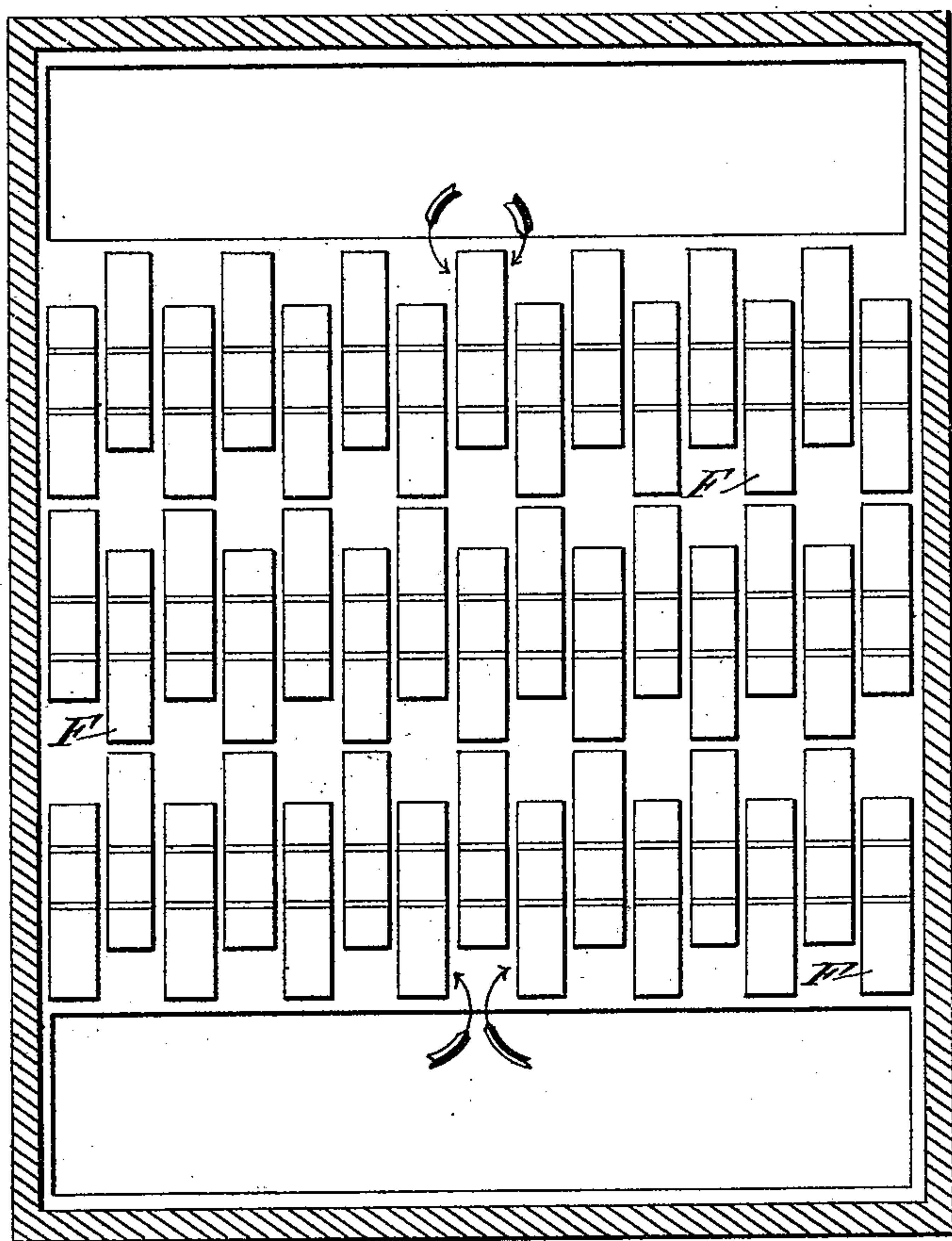
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Fig. 4.



Witnesses:

Arthur Nicholson
Jas S. Bennett

Inventor:

Henry A. Garvey

UNITED STATES PATENT OFFICE.

HENRY A. GARVEY, OF NEW YORK, N. Y.

MACHINE FOR MIXING MORTAR.

SPECIFICATION forming part of Letters Patent No. 438,805, dated October 21, 1890.

Application filed December 13, 1889. Serial No. 333,678. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. GARVEY, a citizen of the United States, and a resident of the city, county, and State of New York, have
5 invented a new and useful and Improved Machine for Mixing Mortar, of which the following is a full, clear, and exact description.

My invention is designed particularly for mixing or making mortars for use by builders, and doing it thoroughly and cheaply.
10

The invention consists in novel features of construction, and also in certain combinations of parts of the apparatus for carrying out various principles of the devices, all as
15 hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which letters of reference indicate corresponding parts in all the figures.

20 Figure 1 is a longitudinal sectional elevation of the mixing-machine, showing three groups of hoe attachments connected as a whole. Fig. 2 is a transverse sectional elevation of the mixing-machine. Fig. 3 is a larger
25 vertical sectional view of the hoe attachment F than appears in Fig. 1, and is given for clearness. Fig. 4 is an outline plan of mixer, showing a group of three transverse rows of quadruple curved-faced hoes, also showing
30 the changes alternately in the alignment of the faces of the hoes, which, as represented in Fig. 3, show a long and a short projecting face, the dotted line indicating the alternate one.

35 Fig. 1 represents a tank placed on standards A sufficiently high to let the dumping-doors B swing clear.

C represents a group of three independent transverse rows of hoes, each row bolted to a
40 separate cross-beam by means of shanks H, one of which is attached to each hoe, said cross-beam terminating at both ends in axles to which are fitted flanged wheels which rest on tracks shown in Fig. 1 and by sectional
45 view in Fig. 2. Said group of three transverse rows of hoes are secured in their respective positions by means of longitudinal bars on extreme ends of axles in such a manner as to admit of the removal of a group for
50 repairs. The number of groups of hoes used

depend on the amount of work required of a mixer.

F is a hoe attachment having two exterior faces with downward and outward concave curves designed to give a lifting and rolling
55 motion to material under treatment. F also has two interior curved faces formed by the flanges S.

F in Figs. 1 and 3 show from a center line, assumed to be dropped from center of shank
60 H to base of hoe, a greater projection at bottom of one exterior curved face. This formation tends to force the mortar in front of a group in the shape of a broken wave, and also leaves a side space between the long and
65 the short faces of the hoes when placed with alternate projections, as indicated in Figs. 1 and 3 by dotted lines and in Fig. 4 by the arrows.

The front view of hoe in Fig. 2 shows two
70 spaces in the face thereof, which spaces are duplicated on opposite face. These spaces relieve the pressure on the alignment of hoes while in motion by allowing a certain amount of material to squeeze through, and, in conjunction with the spaces at sides formed by
75 the long and the short faces of hoes in juxtaposition, supply interior faces of hoes with material to treat.

The shank H forms an important feature
80 of hoe by serving as a disintegrator for plastering-hair, which is applied while in a moist state and is lumpy and detrimental until separated. The said shanks, from their number in a group, form a coarse screen, which
85 effectually separates the hair, while their upper ends form a connection with the cross-beam by being secured thereto.

Owing to the natural consistency of mortar, the movement of the machine as required is
90 necessarily slow and could be given by any method chosen which gives a backward and forward motion. The working of the material is continued until the components become a homogeneous mass, when the doors B are
95 dropped and motion continued until the batch is discharged.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A quadruple curved-faced hoe having two exterior and two interior faces, the exterior faces having curves of a concave character with different sweeps, while the interior
5 faces, formed by the backs of the exterior faces and the flanges S, show irregular curves, the four faces showing different distances from a center line dropped from shank H to
base-line of hoe, substantially as set forth.
- 10 2. In a machine for mixing mortar, the combination of the four-faced hoe formed in transverse alignment, as shown in Fig. 2, with the long and the short projecting faces placed alternately, as shown in Fig. 4, and the shanks
H of the hoes connected rigidly with the cross- 15
beams, substantially as set forth.
3. In a machine for mixing mortar, the combination of the quadruple-curved-faced hoe, the alignment of the hoe with long and short
projecting faces alternating and the shanks 20
H operating in connection with the cross-beams, the flanged wheels and tracks, the tank, the crank, and pitman, as and for the purpose set forth.

HENRY A. GARVEY.

Witnesses:

MAXWELL TILFORD,
PHILIP J. TALBOT.