

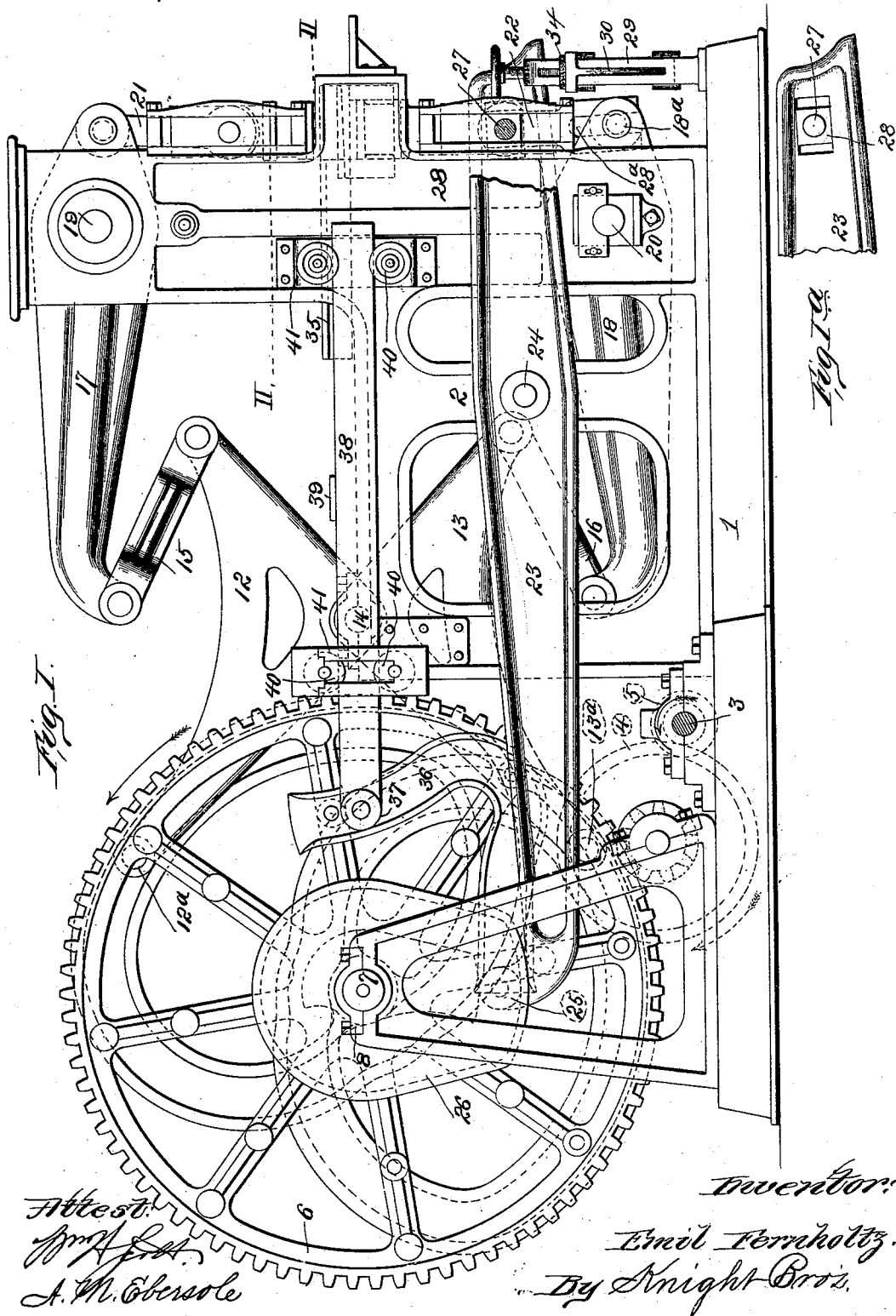
(No Model.)

2 Sheets—Sheet 1.

E. FERNHOLTZ.
BRICK MACHINE.

No. 509,302.

Patented Nov. 21, 1893.



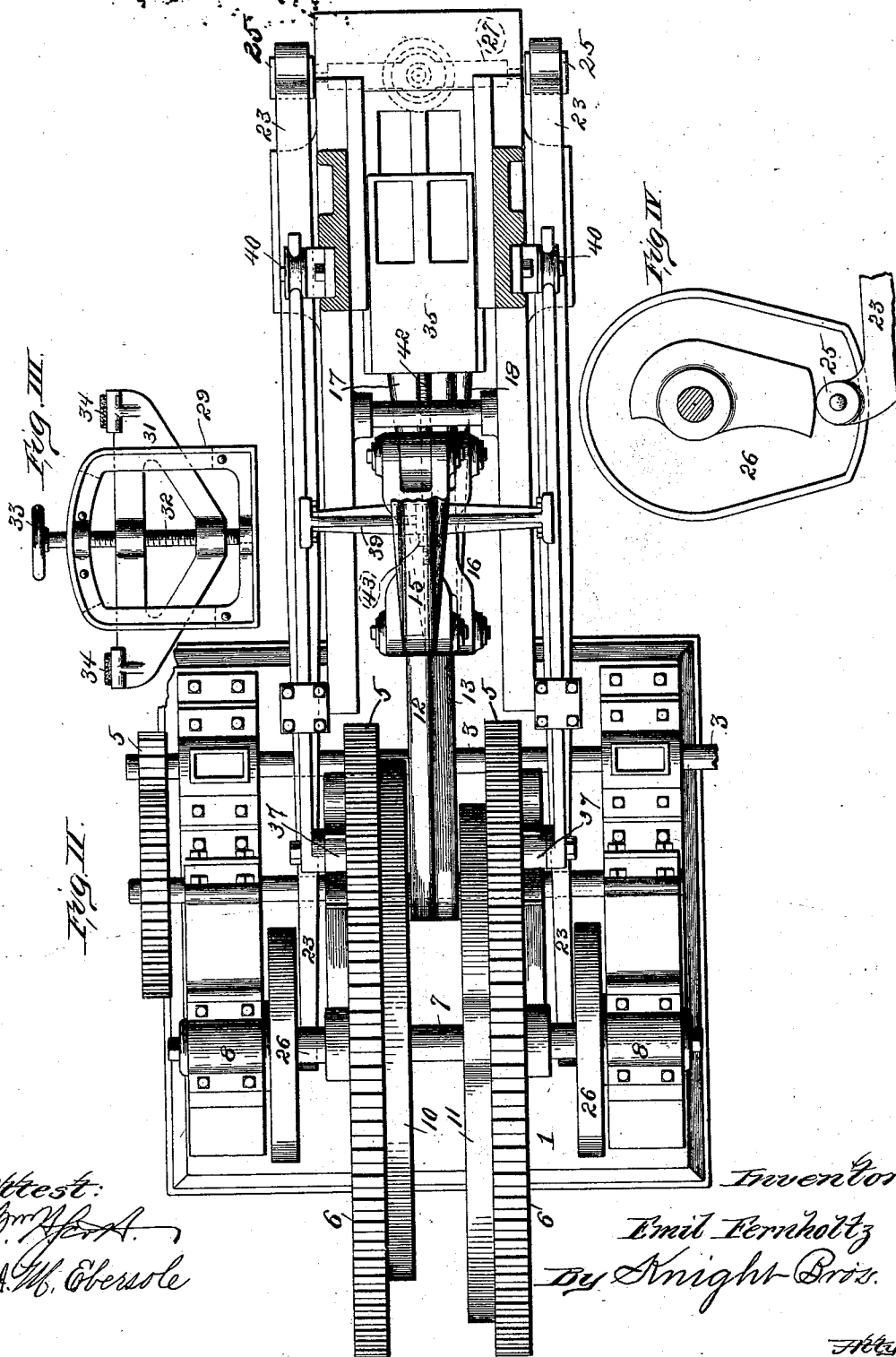
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Attest:
W. H. A.
A. M. Eberole

Inventor
Emil Fernholtz
by Knight Bros.

Atty.

UNITED STATES PATENT OFFICE.

EMIL FERNHOLTZ, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
JACOB STOCKE AND HENRY C. BECKMANN, OF SAME PLACE.

BRICK-MACHINE.

SPECIFICATION forming part of Letters Patent No. 509,302, dated November 21, 1893.

Application filed May 26, 1893. Serial No. 475,565. (No model.)

To all whom it may concern:

Be it known that I, EMIL FERNHOLTZ, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Brick-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a brick machine of the class employing a stationary mold, and upper and lower plungers, between which the brick is pressed in the mold, and my invention consists in features of novelty in the machine, as will be hereinafter fully described and pointed out in the claims.

Figure I is a side elevation, illustrating the parts of the machine in the positions assumed at the time of the discharge of the brick or bricks from the mold. Fig. I^a is a detail view of the forward end of the brick discharger operating lever. Fig. II is a plan or top view, with a part shown in horizontal section, taken on line II—II, Fig. I. Fig. III is a detail front elevation of the brick discharger lever rest or support. Fig. IV is an inside elevation of the operating cam of the brick discharger lever.

Referring to the drawings, 1 represents the base, and 2 the frame of the machine, which may be of any desired suitable construction. 3 is the drive shaft driven by a driving pulley (not shown) and 5 are spur-wheels on the shaft 3 from which power is transmitted to the master-wheels 6, carried by shaft 7, turning in bearings 8, through the medium of pinions mounted on shafts intermediate of the spur-wheels 5 and the said master-wheels 6.

On the two master-wheels 6 are cams 10 and 11, the wheels being so mounted on their shaft that the cams are at opposite sides of the wheels, as plainly shown in Fig. I.

12 and 13 are levers fulcrumed at 14, on the respective rear ends of which are rollers 12^a and 13^a, that move and work in the cams 10 and 11, and connected to the levers 12 and 13 through links 15 and 16, are levers 17 and 18 fulcrumed in the frame at 19 and 20 respectively; to the forward ends of which levers 17 and 18 are connected the upper and lower plunger carrying links 21 and 22.

The cams 10 and 11 are so arranged on the master-wheels that, during the period the

brick is being pressed, power is applied to the levers 12 and 13 at the time that the rollers carried by these levers are moving in the portions of the cams nearest the center of the master-wheel, by which means the greatest amount of power is obtained when needed to accomplish the pressing of the brick, and thus the amount of power may be proportionately increased in accordance with the size of master-wheel employed, and the cams be so constructed as to keep the pressure on the brick as long as desired, or to cause the plungers to move as rapidly or as slowly as desired to and from the mold.

For the purpose of raising the bricks from the mold, I employ levers 23 fulcrumed to the frame at 24, the rear ends of which are provided with rollers 25 that move in cams 26 carried by the shaft 7. The forward ends of the levers 23 are connected by means of a rod 27 to the lower plunger carrying links 22, the ends of the rod being connected to sliding boxings 28 in the levers 23 provided to allow a limited movement to the rod as the levers 23 move up and down. The levers 18 are provided with pins 18^a that pass through vertically elongated slots 28^a, in the links 22, see Fig. 1; the links 22 at the upper ends of the slots being supported on the pins 18^a of the levers 18, during the pressing of the bricks, the slot 28^a being provided in order that the plunger links 22 may be lifted by the raising of the forward ends of the levers 23, to lift the bricks up out of the mold from which they are moved by the charger on its forward movement.

29 is an upright frame located beneath the forward end of the levers 23, provided with slots 30, in which a movable frame 31 has vertical movement, the frame being capable of being raised and lowered by a screw 32, operated by a hand-wheel 33; and 34 are elastic buffers for arresting the jar of the levers 23 on their return after lifting the bricks from the mold.

It is quite frequently found necessary to alter the depth of the mold, owing to whether the clay employed is dry or damp, and it is for this purpose that I employ the movable frame 31, which is raised or lowered when desired, through the medium of the screw 32 to

limit the downward movement of the levers 23, and consequently the lower plunger carrying link bar 22.

The charger that carries the clay into the mold is represented by 35, and is moved forward and backward through the medium of cams 36 on the master-wheels, in which rollers 37, on horizontally moving bars 38 have movement. The bars 38 are connected by a cross-piece 39, and they move between grooved guide rollers 40, mounted in boxes 41. Connected to the charger, and to the cross-piece 39, is a screw rod 42, adjustably secured by a nut 43. The arrangement of the parts of the charger moving mechanism are such that the cam 36 in each revolution of the master-wheels causes the charger to move forward, and then backward, during the period that the plungers are removed from the mold, and there is consequently no conflict between the charger and the plungers. I have shown two of the charger moving bars 38, but I do not wish to confine myself to the employment of two bars, it being evident that one bar could be employed effectively, and do the work of the two bars shown.

Other means than the cam 36 might be employed to move the charger, and I do not wish to limit myself to the use of the cam, as a means of moving said charger. For instance, a crank might be employed and accomplish the work as effectively as the means shown. I claim as my invention—

1. In a brick machine, the combination of a plunger, a lever pivoted to the frame of the machine, and connected to said plunger, a second lever pivoted to the frame of the machine, a link connecting the inner ends of said levers, and a master-wheel having a cam groove engaging the outer end of said second lever; said cam groove passing from near the periphery of the wheel on one side of the center, to near the center of the wheel on the other side of the center, and said parts being so disposed that the point of contact between the lever and cam groove approaches the center of said wheel as the plunger enters the mold; substantially as and for the purpose set forth.

2. In a brick machine, the combination with a master-wheel, a charger, horizontally moving bar or bars connected to said charger, and to said master-wheel, and guide rollers between which said bar or bars move; substantially as and for the purpose set forth.

3. In a brick machine, the combination of the master-wheel, a charger, horizontally moving bars moving between guide rollers, and connected by a screw rod to said charger, a cam on said master-wheel, and a roller on said bars arranged and working said cam; substantially as and for the purpose set forth.

EMIL FERNHOLTZ.

In presence of—

E. J. FREUND,
HARRY F. MASSOT.