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PATENTED DEC. 4, 1906.

F. A. COLES & F. SCHMITZ.
MACHINE FOR MAKING CORES.

APPLICATION FILED FEB. 23, 1906.

2 SHEETS—SHEET 1.

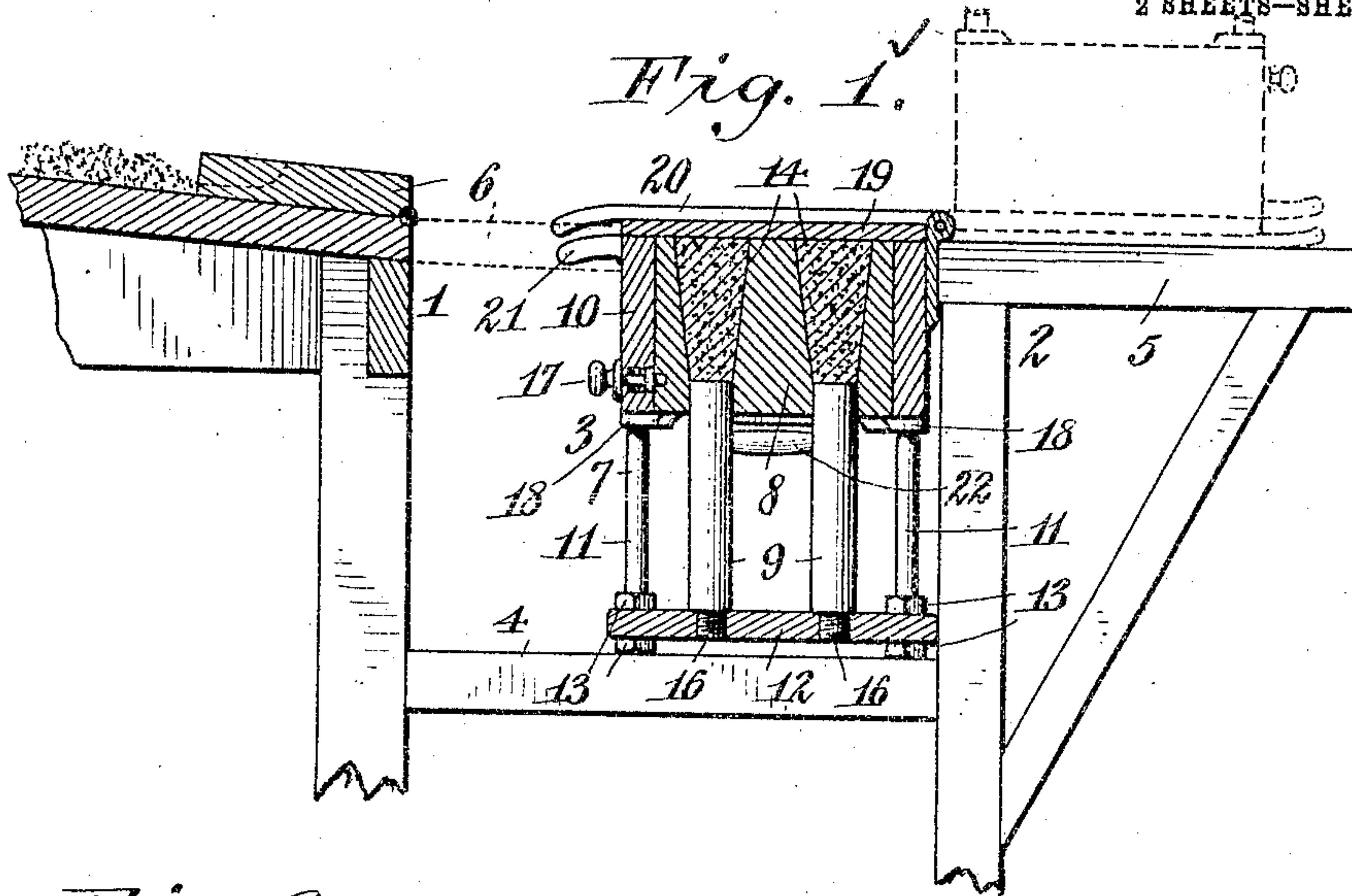


Fig. 2.

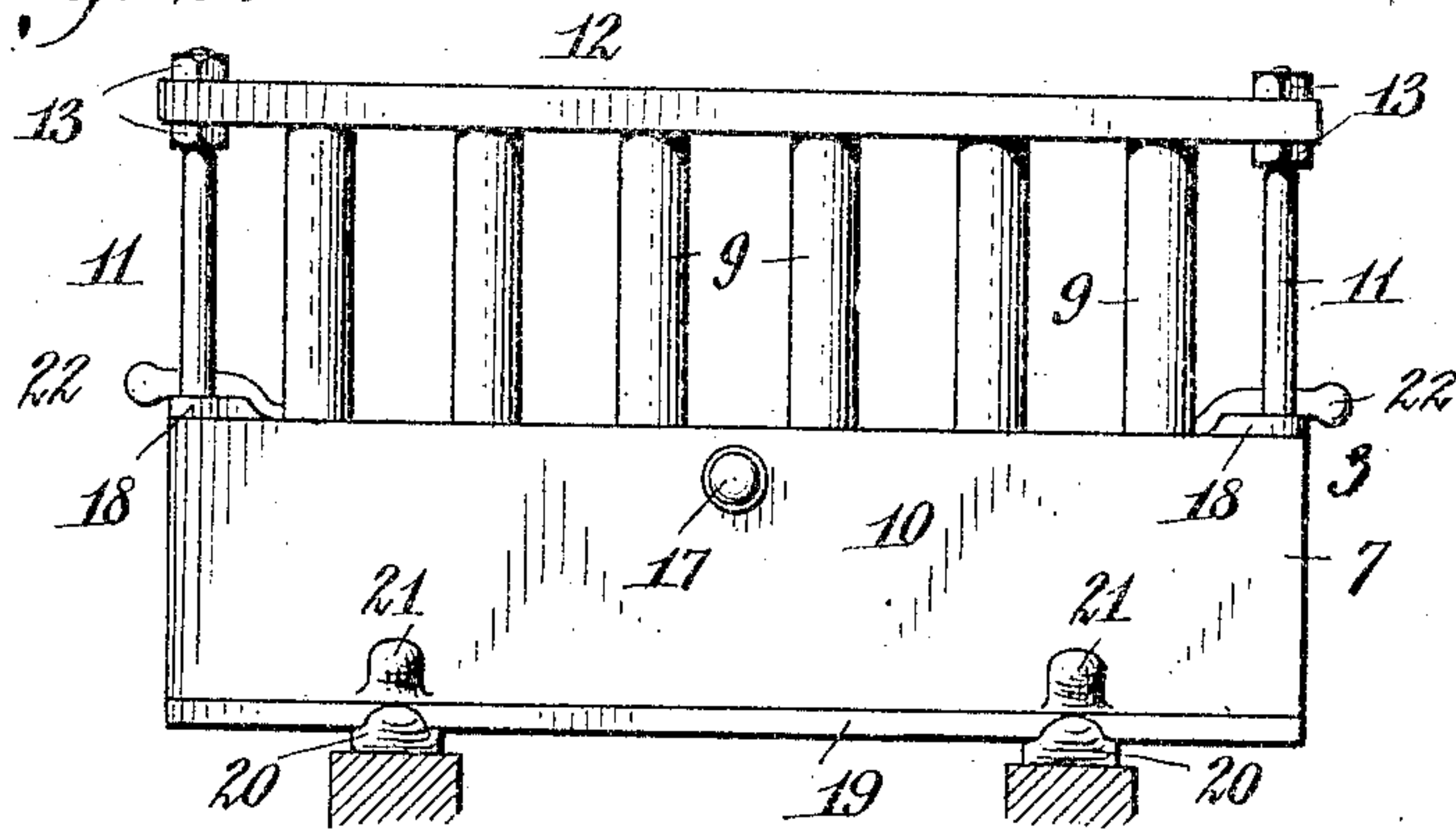
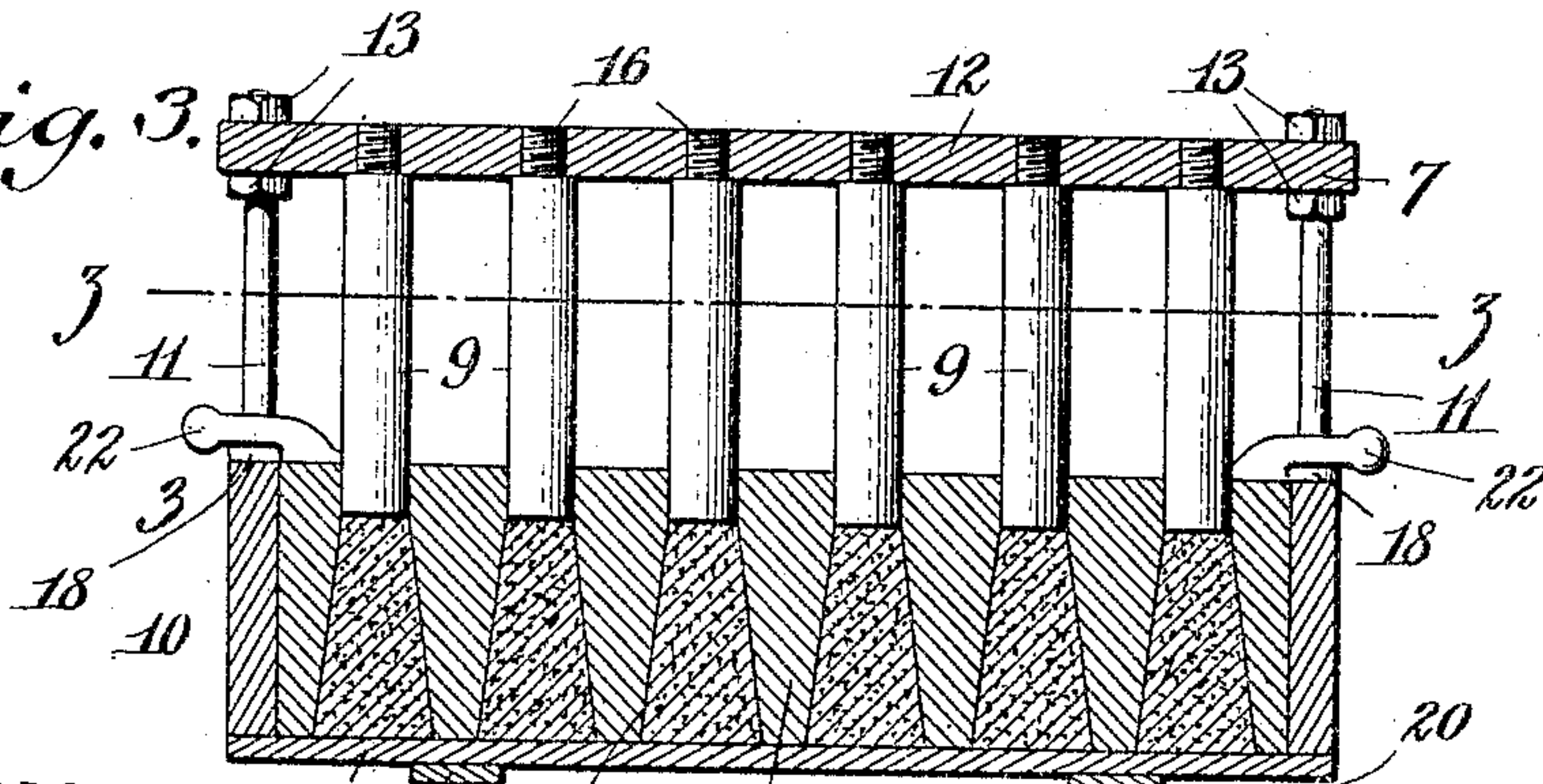


Fig. 3.



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By Emil Neuhart, Attorney.

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2 SHEETS—SHEET 2.

Fig. 4.

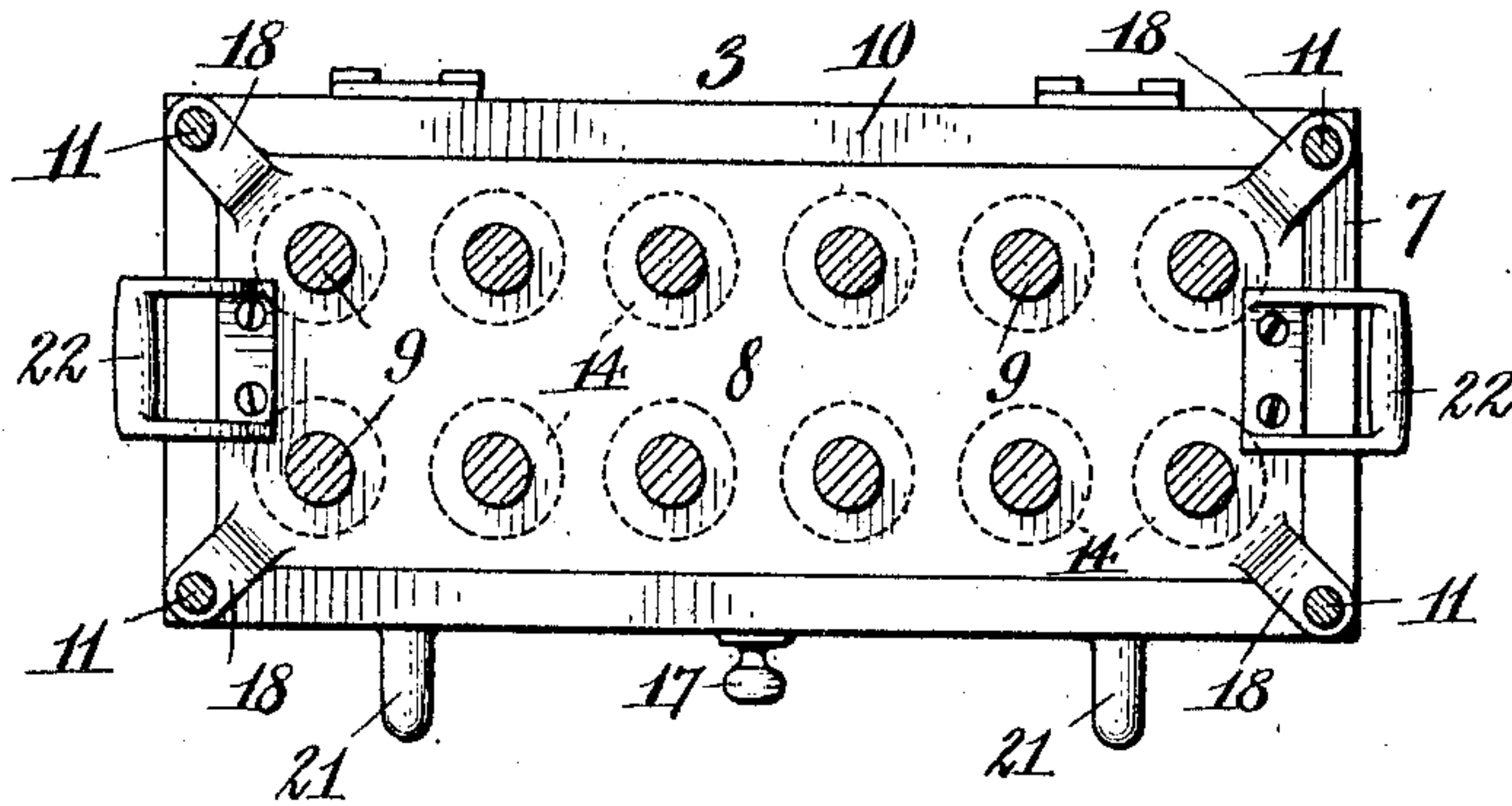


Fig. 5.

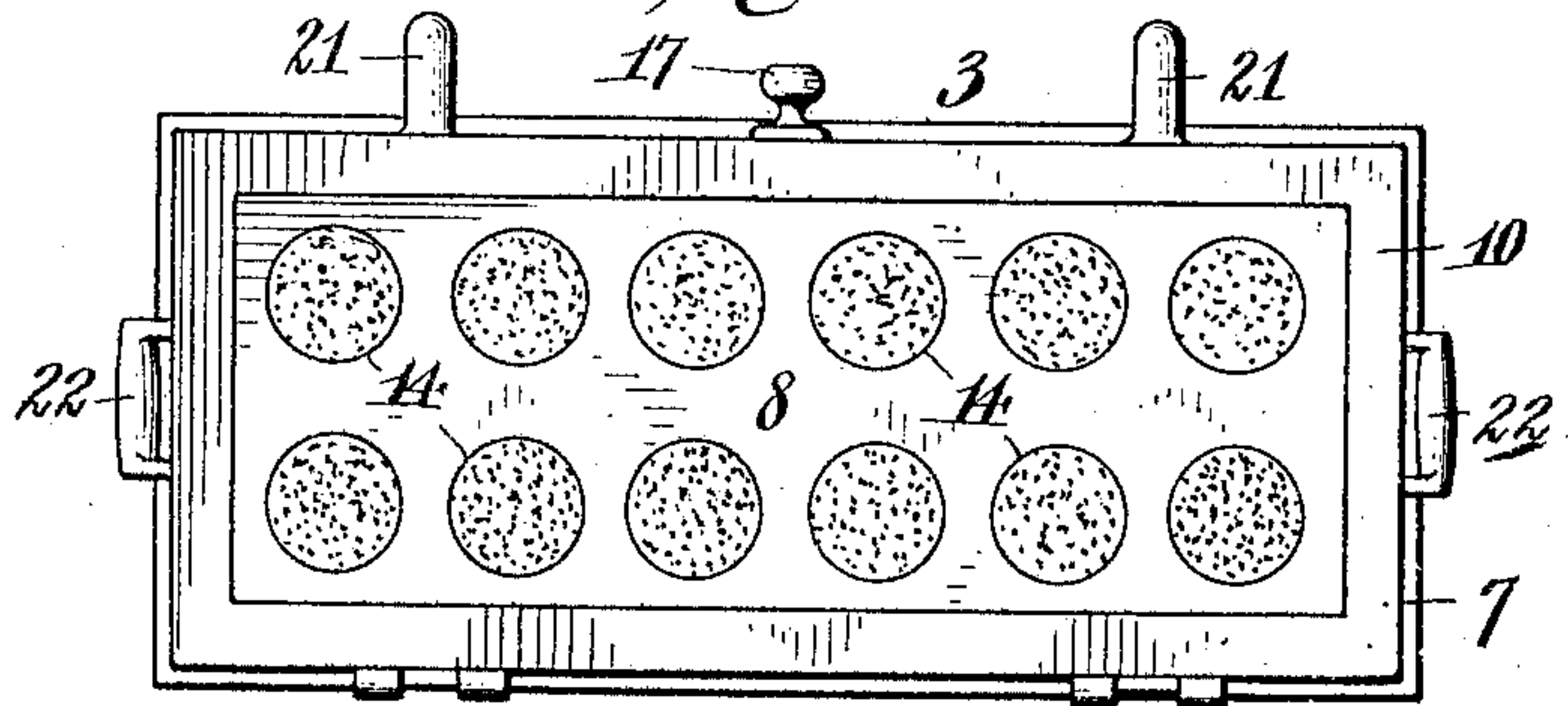
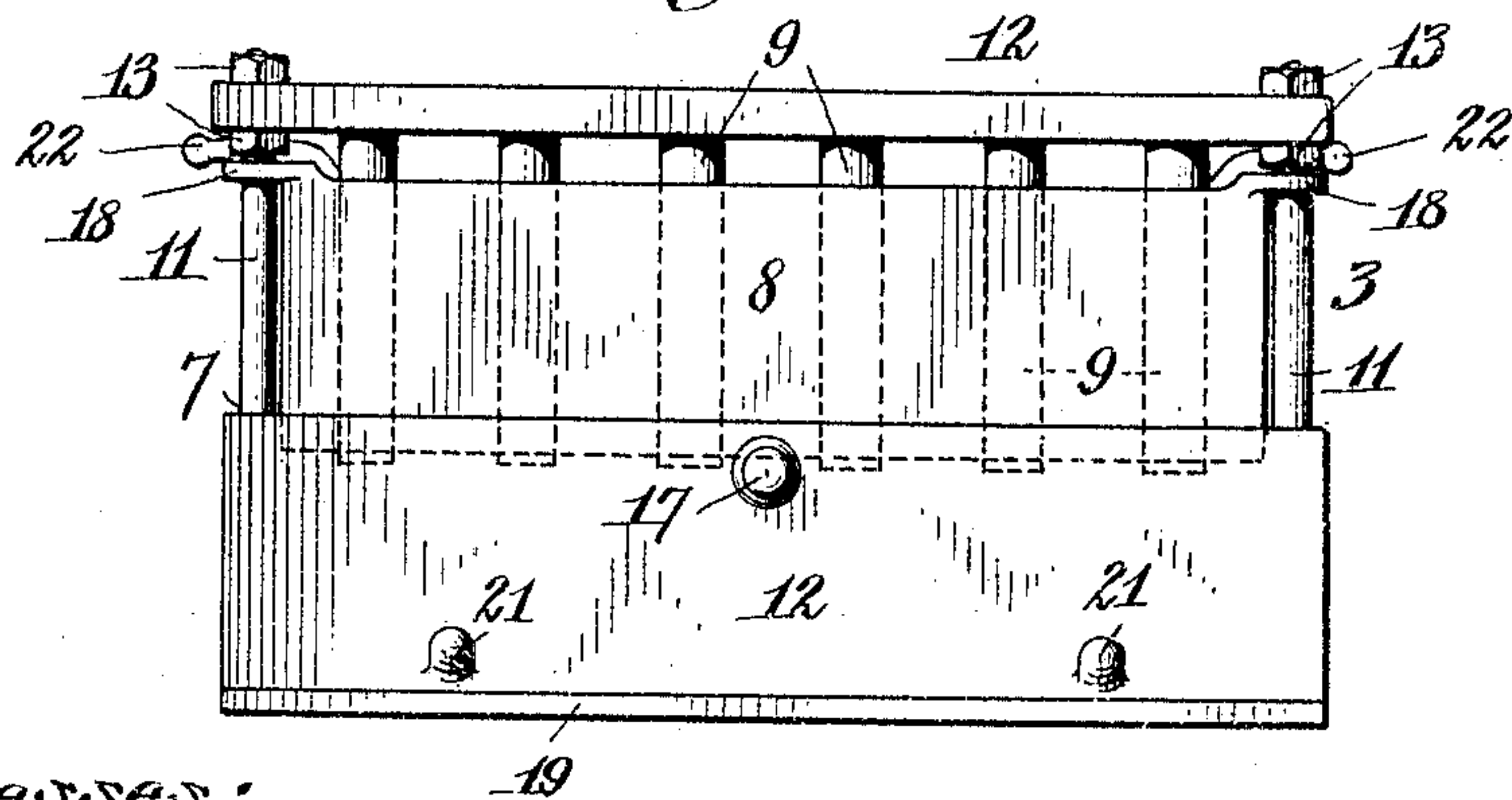


Fig. 6.



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UNITED STATES PATENT OFFICE.

FREDERICK A. COLES AND FRANK SCHMITZ, OF DEPEW, NEW YORK.

MACHINE FOR MAKING CORES.

No. 837,798.

Specification of Letters Patent.

Patented Dec. 4, 1906.

Application filed February 23, 1906. Serial No. 302,338.

To all whom it may concern:

Be it known that we, FREDERICK A. COLES and FRANK SCHMITZ, citizens of the United States, residing at Depew, in the county of Erie and State of New York, have invented certain new and useful Improvements in Machines for Making Cores, of which the following is a specification.

Our invention relates to core-making machines; and it has for its primary object the production of a machine in which cores can be quickly and conveniently made in large quantities and by means of which a great saving in cost of production is effected.

Other objects are to provide a suitable support and so attach our machine thereto that it may be quickly and conveniently swung into an inverted position for the removal of the cores; to provide a core-receiving plate and means to retain the same against the upper end of the machine while the latter is being inverted; and to provide a frame and a core-box vertically movable in said frame and to equip the frame with core-ejectors, which serve also as the bottom of the core-molding spaces.

With these and other objects in view our invention consists in the construction, arrangement, and combination of parts to be hereinafter described, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a vertical transverse section of our improved core-making machine, showing the same hinged to a core-maker's bench, particularly designed for use in connection with this invention. Fig. 2 is a side elevation showing the machine inverted and swung into the position shown in part in dotted lines in Fig. 1. Fig. 3 is a central longitudinal section of the machine inverted. Fig. 4 is a horizontal section taken on line $z z$, Fig. 3. Fig. 5 is a top plan view of the machine. Fig. 6 is a side elevation of the machine inverted, showing the core-box elevated to eject the cores.

Referring now to the drawings in detail, like numerals of reference refer to like parts in the several figures.

The numeral 1 designates a core-maker's sand-table, on which a supply of sand is kept to be used in forming cores.

2 designates a structure on which our improved core-making machine 3 is supported and which may be considered part of the table, an extension thereof, or as an independent structure. Said structure has two

supports 4 and 5, arranged in different horizontal planes, whose difference in height is substantially equal to the height of the machine. As shown in Fig. 1, the machine is normally a distance from the front edge of the table for a purpose to appear hereinafter, and in order to conveniently convey the sand to the machine a lid or extension 6 is pivotally secured to the edge of the table, which when in use is swung to the position shown in dotted lines, the free longitudinal edge thereof being in close proximity to or in contact with the machine. When not in use, the lid or extension may be swung onto the table, as shown in Fig. 1.

Normally the machine rests upon the lower support 4 in an upright position, it comprising a frame 7, a core-box 8, and core-ejectors 9. The frame consists of a rectangular member 10 open at the top and bottom and supported on rods 11, passing through a base-plate 12, nuts 13 being applied to the rods to bear against opposite sides of said plate. In this manner a rigid frame is provided capable of withstanding all strain to which it may be subjected.

Within the rectangular member, located at and forming the upper part of the frame, the core-box 8 is fitted to freely slide therein, said core-box having a number of core-forming spaces 14, into the lower ends of which project the core-ejectors 9, having their lower ends secured to the base-plate. Said core-ejectors are herein shown as having their lower ends reduced and threaded, as at 16, to engage threaded apertures in the base-plate. By reason of the ejectors entering the core-forming spaces they provide a bottom for said spaces. In order to hold the core-box elevated, a spring-catch 17 or other locking device is provided. Guide-lugs 18 are provided at the corners of the core-box and fit the rods 11, which therefore serve as guide-rods for the core-box.

The upper front edge of the machine, more particularly the frame, is pivotally secured to the rear edge of the elevated support, so as to permit the machine to be swung from the upright or normal position (shown in full lines, Fig. 1) to the inverted and elevated position. (Shown partly in dotted lines in said figure.)

When the machine is in its upright position, the lid or extension 6 of the table is swung into the position shown in dotted lines, Fig. 1, which permits the sand to be fed to the core-forming spaces within the

core-box. When thoroughly tamped or pressed, a plate 19 is laid onto the top of the machine and retained thereon by levers 20, pivoted to the upper front edge of the machine, the free ends of said levers extending beyond the upper rear edge of the machine to be grasped with extensions 21, formed on the rear face of the rectangular member 10 of the frame. By grasping the machine in this manner it may be swung upward and forward onto the elevated support. When in this position, the machine is inverted. The space between the table and the machine is provided for clearance to permit the machine to be swung upward without striking the table.

When the machine is elevated and inverted, the cores are ejected from the core-box by elevating the latter so as to slide on the guide-rods, preparatory to which action, however, the spring-catch 17 must be disengaged from the core-box. For convenience in elevating the core-box it is provided with handles 22. When the core-box is elevated to free the cores, the machine may be swung down onto the lower support, leaving the plate 19 and the cores on the elevated support, also levers 20. The plate bearing the cores may now be removed and carried to an oven to bake the cores. When the machine is swung into normal position on the lower support, the core-box is to be elevated into the rectangular member of the frame, after which the lid or extension on the table is swung into cooperating position with the machine, thereby placing the latter in condition for forming another set of cores.

Changes in the form and construction of the several parts may be made without departing from the principles of our invention or sacrificing any of the advantages thereof, and therefore we do not wish to limit ourselves to the exact construction herein shown, but desire the claims to be given the broadest construction permissible by the prior art.

Having thus described our invention, what we claim is—

1. The combination with a structure having two supports on different planes and a table for the sand having a hinged extension, of a core-making machine having core-forming spaces in its upper side and being nor-

mally a distance from the table to necessitate the use of said hinged extension for carrying the sand to the core-forming spaces, said core-making machine being hinged to the elevated support so as to be normally supported in upright position on the lower support and be swung in inverted position onto the elevated support.

2. In a core-making machine, the combination of a frame comprising a rectangular member open at the top and bottom, rods at the corners of said rectangular member and a base-plate connecting said rods and having upstanding ejectors, and a core-box within said rectangular member and having core-forming spaces into which said ejectors extend to form the bottom of said spaces, said core-box being movable in said frame.

3. In a core-making machine, the combination of a frame comprising a rectangular member open at the top and bottom, guide-rods at the corners of said rectangular member and a base-plate connecting said rods and having upstanding ejectors, a core-box within said rectangular member and guided on said guide-rod, said core-box having core-forming spaces into which said ejectors extend to form the bottom thereof, and means for holding the core-box against movement in said frame.

4. In a core-making machine, the combination of a frame comprising a rectangular member, guide-rods at the corners of said members, a base-plate secured to the lower ends of said guide-rods, and upstanding ejectors threaded into the base-plate, a core-box having core-forming spaces into the lower ends of which the said ejectors fit and being normally held within the rectangular member of the frame, said core-box having guides fitting said guide-rods, and means embodied in the construction of the machine to normally retain the core-box in said rectangular member.

In testimony whereof we have affixed our signatures in the presence of two subscribing witnesses.

FREDERICK A. COLES.
FRANK SCHMITZ.

Witnesses:

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