O. SKEPPSTEDT.

CORE MAKING MACHINE.

APPLICATION FILED SEPT. 13, 1920.

1,417,577. **Patented May 30, 1922.**

Fig. 1.

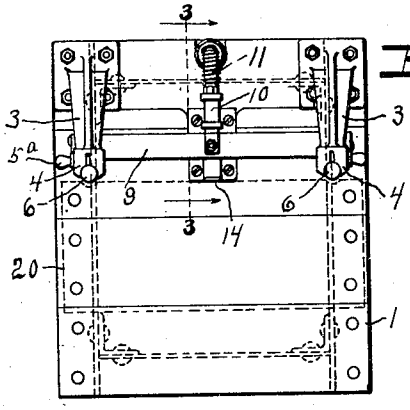


Fig. 2.

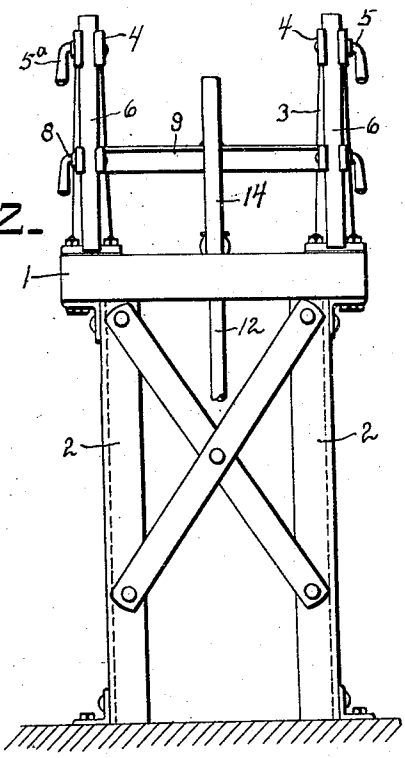


Fig. 3.

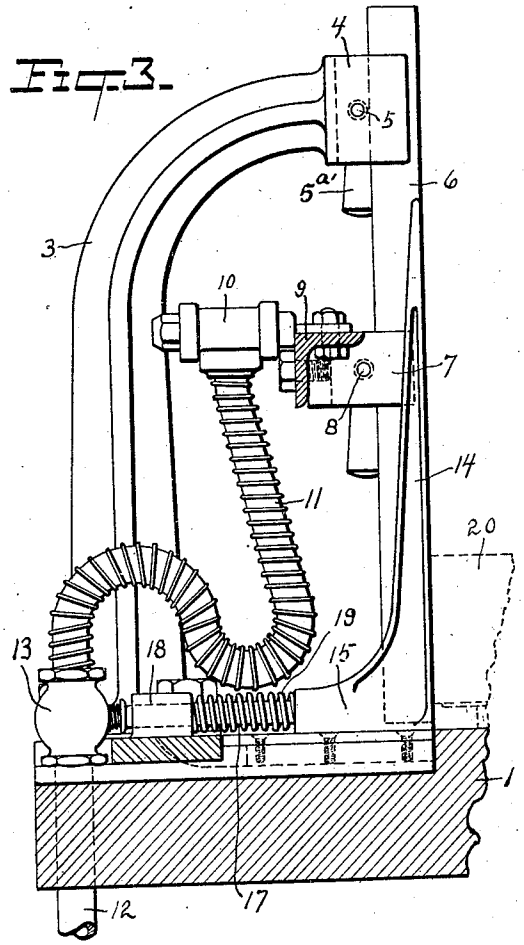
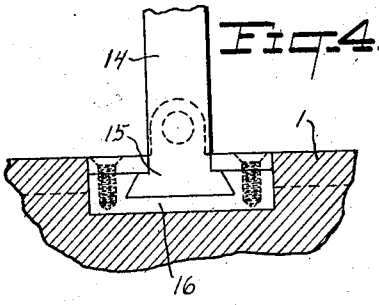


Fig. 4.



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CORE-MAKING MACHINE.

1,417,577. Specification of Letters Patent. Patented May 30, 1922.

Application filed September 13, 1920. Serial No. 409,985.

To all whom it may concern:

Be it known that I, OLOF SKEPPSTEDT, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Core-Making Machines, of which the following is a specification.

My invention relates to core making machines, and has for its purpose to impart a vibratory movement to the core box, in order to thoroughly loosen the cores, to permit the removal of the box therefrom. This has usually been done by hand, with the expenditure of considerable time, and not always with satisfactory results, as the operation, when performed by hand, is not always uniform.

The chief purpose of the present invention is to provide a machine by which the work of separating the cores from the box can be quickly and uniformly performed, so that all parts of the core-box will receive the same amount of agitation. It is also constructed and arranged so that the vibratory action will be produced by placing the core-box in a proper position in the machine to be acted upon. By its use the cost of producing cores is greatly reduced, and the efficiency of the work increased.

The machine is also capable of adjustment, so as to increase or decrease the vibratory action, as desired, so that it will conform to the various sizes and weights of core-boxes to be operated upon thereby.

In the drawings:

Fig. 1 is a plan view of the invention.

Fig. 2 is a front elevation thereof.

Fig. 3 is a vertical cross-section on the broken line 3—3 of Fig. 1.

Fig. 4 is a detail of the lower part of the trip arm 14.

1 represents a table or bed-plate, which may be supported as shown on legs 2, or in any other suitable manner. At one end of the table is a pair of supports 3 curved upwardly toward the front of the table, and provided at their upper ends with clamp-sockets 4, the jaws of which are adapted to be compressed by means of screws 5, provided at one end with handles 5^a, by means of which they are operated.

Vertically supported in the sockets 4 are bars 6, to a central part of which are attached clamps 7, provided with clamping screws 8. The clamps 7 are united by a cross-bar 9, secured to which is an air-actuated vibratory member 10, which may be of any approved construction, and which is connected with a source of air supply by means of a flexible tube 11 and pipe 12. Intermediate said tube and pipe is a valve chamber 13, containing a valve which normally closes the inlet of air from the pipe 12.

Midway between the bars 6 is a trip arm 14, having a foot 15 slidable in a plate 16 in the table 1. Connected with said foot is a plunger 17, passing through a guide-block 18 on the table 1, and operatively connected with the valve in the chamber 13, so as to open said valve upon the arm 14 being moved in the direction thereof. By means of a coiled spring 19 on the plunger 17 between the foot 15 and guide 18 such plunger and the arm 14 are held normally in an inoperative position.

A core box is represented in broken lines at 20, such core-box being supported on the table 1 in proximity to the bars 6 and arm 14. By moving said box toward the rear of the table the arm 14 is forced rearwardly, permitting passage of the air to the vibrator 10, and imparting a vibratory action to the bars 6. The rearward movement of the core-box brings it into contact with said bars, whereupon the box is given a corresponding vibration, loosening the cores without injury thereto. The box, which is in an inverted position for this operation can then be easily removed from the cores. A more even vibration is obtained in this way than by the usual process.

As soon as the box has been sufficiently agitated it is moved away from the bars 6, the arm 14 returning to its former position, and the vibratory action ceasing. It will be seen that the action of the machine is entirely automatic, the placing of the box in position for the operation of the bars 6 starting the vibratory movement of such arms.

The bars 6 are capable of vertical adjustment in the sockets 4, for the purpose of increasing or diminishing the intensity of the vibrations, as may be desired, and a similar result may be produced by adjustment of the clamps 7 upwardly or downwardly on the bars 6. When a large core-box is in position in the machine, a greater amount of vibratory action is required than

for one that is comparatively smaller. The arm 14 is of sufficient height to insure its operation by a box of any ordinary size.

While the device has been herein shown and set forth as being specially adapted for use with core-boxes, it is not limited to such use, but can be adapted for other operations, such as in connection with the match plate of a foundry flask. In this use one of the bars 6 would be sufficient to perform the work.

What I claim and desire to secure by Letters Patent, is:

1. A device of the class described, comprising a table; a pair of vibratory members supported above the same; vibratory devices adapted to impart movement to said vibratory members; and a trip-arm movable on said table, operatively connected with said vibratory devices, and adapted to be actuated by a core-box when in position on said table.

2. A device of the class described, comprising a table; a bar supported thereon so as to be capable of vibratory movement; vibratory devices operatively connected with said bar; and a trip member, movably mounted on said table, operatively connected with said vibratory devices, and adapted to be actuated by an object positioned on said table.

3. A device of the class described, comprising a table; adapted for the support of a core-box; a pair of supports mounted on said table and provided with clamping devices at their upper ends; bars secured in said clamping devices, and united by a cross-bar; a vibratory member secured to said cross-bar, and provided with means for imparting vibration thereto; and a trip arm, slidable on said table, operatively connected with the vibratory devices, and adapted to be actuated by a core-box positioned on said table.

4. A device of the class described, comprising a table adapted for the support of a core-box; a pair of supports mounted on said table and provided with clamping devices at their upper ends; bars secured in said clamping devices so as to be capable of adjustment therein; vibratory devices operatively connected with said bars; and a trip-arm supported on said table, operatively connected with said vibratory devices, and adapted to be actuated by a core-box positioned on said table.

5. A device of the class described, comprising a table adapted for the support of an object to be vibrated; a pair of supports mounted on said table; bars held in said supports so as to be capable of being held in adjusted positions therein; a cross-bar uniting said bars so as to be capable of adjustment longitudinally thereof; a vibrator secured to said cross-bar; vibratory devices operatively connected with said vibrator, normally out of action; a trip arm slidably supported on said table and operatively connected with said vibratory devices; and means for holding said trip arm yieldably in an inoperative position.

6. A device of the class described, comprising a table; a core-box movably supported on said table; vibratory devices normally inoperative, rigidly supported on said table, and means, whereby a limited lateral movement of said box will cause said vibratory devices to operate.

In testimony whereof I affix my signature.

OLOF SKEPPSTEDT.