Aug. 10, 1926. 1,595,255

H. A. SMITH

VIBRATING MACHINE.

Filed Nov. 16, 1925

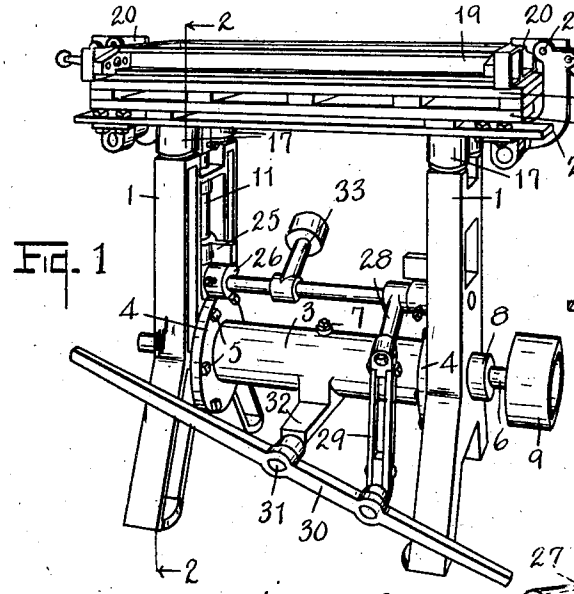


Fig. 1

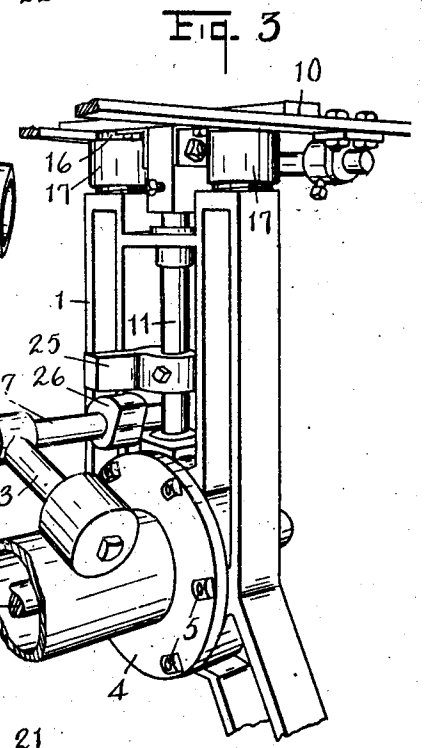


Fig. 3

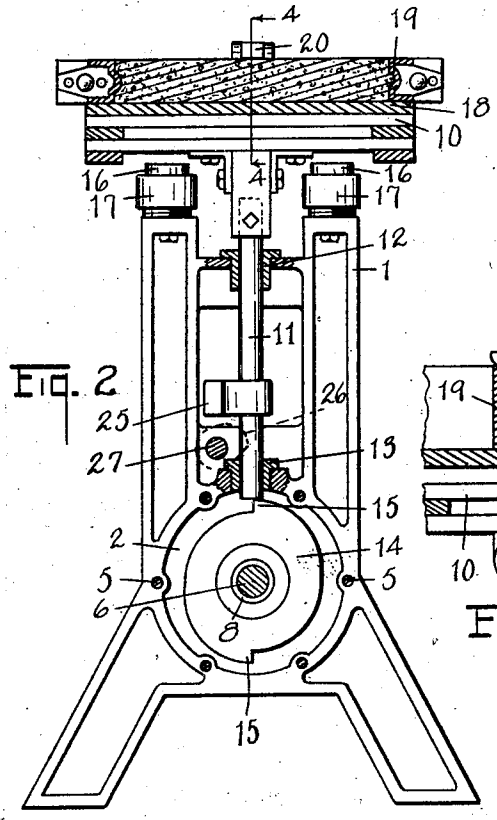


Fig. 2

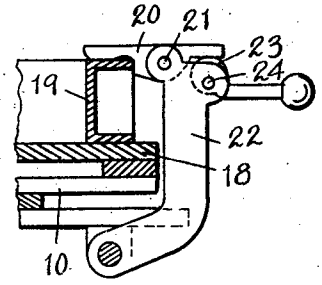


Fig. 4

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UNITED STATES PATENT OFFICE.

HIRAM A. SMITH, OF KALAMAZOO, MICHIGAN.

VIBRATING MACHINE.

Application filed November 16, 1925. Serial No. 69,539.

My improved vibrating machine is especially designed by me for use in connection with the manufacture of concrete blocks and staves although it is well adapted for use in vibrating flasks and the like.

The main object of this invention is to provide an improved vibrating machine which is well adapted for heavy work, is effective for the purpose and easy to manipulate.

A further object is to provide an improved vibrating machine in which the main bearing parts are effectively housed.

Objects pertaining to details and economies of construction and operation of my invention will definitely appear from the detailed description to follow. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing forming a part of this application, in which:—

Fig. 1 is a side elevation of a vibrating machine embodying the features of my invention as adapted for use in the manufacture of concrete staves and the like.

Fig. 2 is a vertical section on a line corresponding to line 2—2 of Fig. 1.

Fig. 3 is an enlarged fragmentary perspective.

Fig. 4 is an enlarged detail on a line corresponding to line 4—4 of Fig. 2.

Referring to the drawing, I provide a frame comprising a pair of pedestals 1, preferably castings, having inwardly facing cam housings 2 formed therein. A tubular shaft housing 3 having end flanges 4 is secured to the pedestals by the bolts 5 closing these cam housings and providing a housing for the driving shaft 6. The shaft and cam housings are adapted to retain lubricant and the shaft housing has an oil plug 7 for the introduction of lubricant. The pedestals are provided with bearings 8 for the shaft. At one end the shaft is provided with a pulley 9.

The vibrating platform 10 is carried by the rods 11 vertically reciprocable in the bearings 12 and 13 on the pedestals. The lower ends of these rods project into the cam housings to be engaged by the double cams 14 on the shaft 6. The lifts 15 of the cams 14 have abrupt drops so that when the lifts pass from under the supporting rods 11 the platform is allowed to fall, striking the bumpers 16 on the upper ends of the pedestals. These bumpers are preferably blocks of wood set into suitable holders 17.

The form or mold flask in the structure illustrated is provided with a bottom or platen 18 and a flask proper 19. These parts are held upon the platform by means of the clamps 20 pivoted at 21 on the arms 22 projecting upwardly at the ends of the platform.

The eccentrics 23 pivoted at 24 on the arms engage the outer ends of the clamps 20 so that the inner ends are clamped upon the flasks. As the shaft is rotated the platform is repeatedly raised and permitted to fall, thereby jarring and shaking the flask properly settling and compacting its contents.

To support the platform in inoperative position I provide the rods 11 with rests 25 engageable with the cams 26 on the rockshaft 27 journaled in the pedestals. This rockshaft has an arm 28 connected by the link 29 to the lever 30 pivoted at 31 on the forwardly projecting arm 32 on the shaft housing 3. A counterweight arm 33 retains the rockshaft to inoperative position when the lever 30 is released.

With this arrangement of parts the main wearing parts can be effectively lubricated and they are well protected from dirt. While I have illustrated my improvements as especially designed by me for use in the manufacture of concrete staves and the like, they are well adapted for vibrating molds and for other purposes.

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

1. In a structure of the class described, the combination of a pair of pedestals having inwardly facing actuating cam housings therein, a tubular shaft housing provided with end flanges secured to said pedestals closing said cam housings and providing a frame cross member, a driving shaft disposed through said housing and provided with actuating cams disposed in said cam housings, said pedestals having bearings for said shaft, a platform supporting rods therefor projecting into said cam housings to coact with said cams, said pedestals being provided with bearings for said rods, bumpers on the upper ends of said pedestals, rests on said platform supporting rods, a rockshaft mounted on said pedestal above said shaft housing and

provided with cams adapted to engage said rests for holding the rods in inoperative relation relative to said actuating cams, and means for actuating said rock shaft.

2. In a structure of the class described, the combination of a pair of pedestals having inwardly facing actuating cam housings therein, a tubular shaft housing provided with end flanges secured to said pedestals closing said cam housings and providing a frame cross member, a driving shaft disposed through said housing and provided with actuating cams disposed in said cam housings, said pedestals having bearings for said shaft, a platform, supporting rods therefor projecting into said cam housings to coact with said cams, said pedestals being provided with bearings for said rods, and bumpers on the upper ends of said pedestals.

3. In a structure of the class described, the combination of a pair of pedestals having inwardly facing actuating cam housings therein, a tubular shaft housing provided with end flanges secured to said pedestals closing said cam housings and providing a frame cross member, a driving shaft disposed through said housing and provided with actuating cams disposed in said cam housing, said pedestals having bearings for said shaft, a platform, supporting rods therefor projecting into said cam housings to coact with said cams, said pedestals being provided with bearings for said rods, bumpers on the upper ends of said pedestals, and arms on said platform projecting upwardly at the ends thereof, and clamps on said arms.

4. In a structure of the class described, the combination of a pair of pedestals having inwardly facing actuating cam housings therein, a tubular shaft housing secured to said pedestals closing said cam housings and providing a frame cross member, a driving shaft disposed through said housing and provided with actuating cams disposed in said cam housings, said pedestals having bearings for said shaft, a platform, and supporting rods therefor projecting into said cam housings in coacting relation to said cams, said pedestals being provided with bearings for said rods.

5. In a structure of the class described, the combination of a frame comprising a pair of pedestals, a driving shaft provided with actuating cams, said pedestals having bearings for said shaft, a platform, supporting rods therefor coacting with said cams, said pedestals being provided with bearings for said rods, rests on said platform supporting rods, a rockshaft mounted on said pedestal above said shaft housing and provided with cams adapted to engage said rests for holding the rods in inoperative relation relative to said actuating cams, and means for actuating said rock shaft.

6. In a structure of the class described, the combination of a frame comprising a pair of pedestals, a driving shaft provided with actuating cams, said pedestals having bearings for said shaft, a platform, supporting rods therefor coacting with said cams, said pedestals being provided with bearings for said rods, bumpers on the upper ends of said pedestals, arms on said platform projecting upwardly at the ends thereof, and clamps on said arms.

In witness whereof I have hereunto set my hand.

HIRAM A. SMITH.