Nov. 23, 1943. M. E. WHITEMAN 2,334,973

TAMPING ROLLER

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Fig. 1

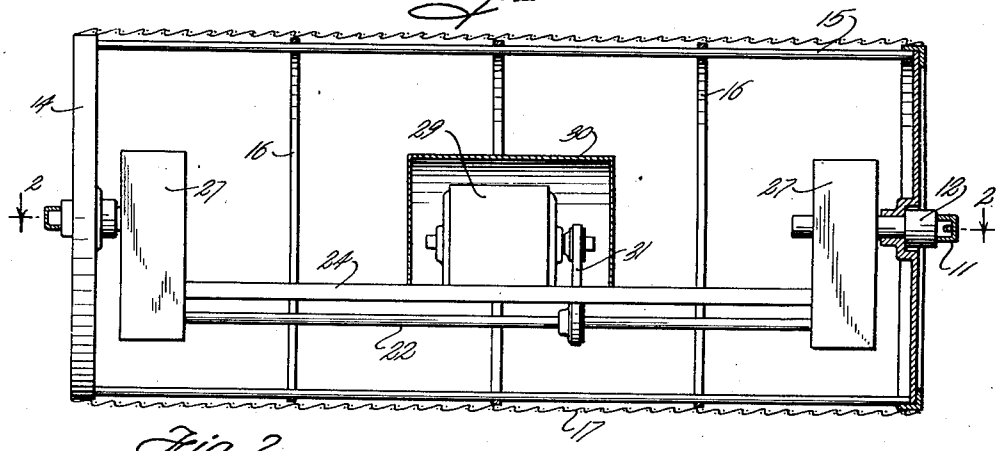


Fig. 2

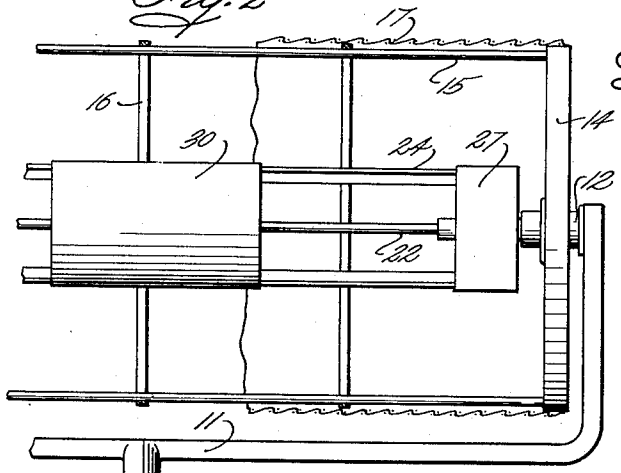


Fig. 4

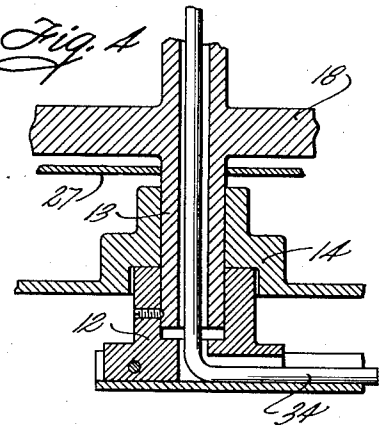
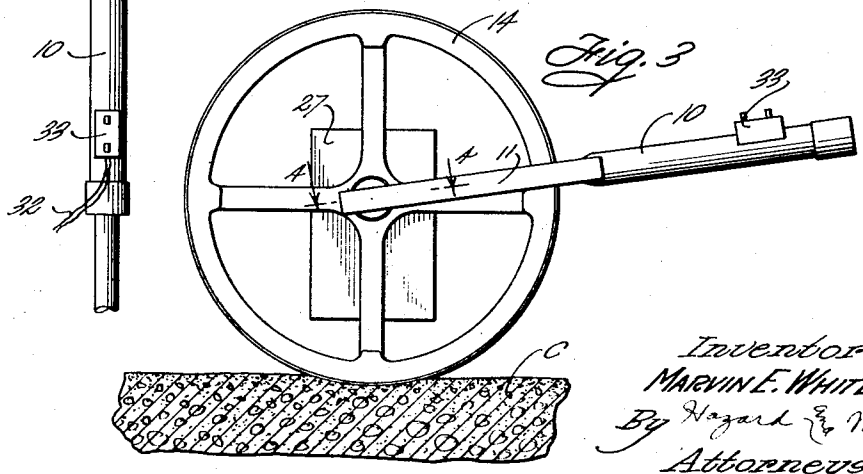


Fig. 3



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Fig. 5

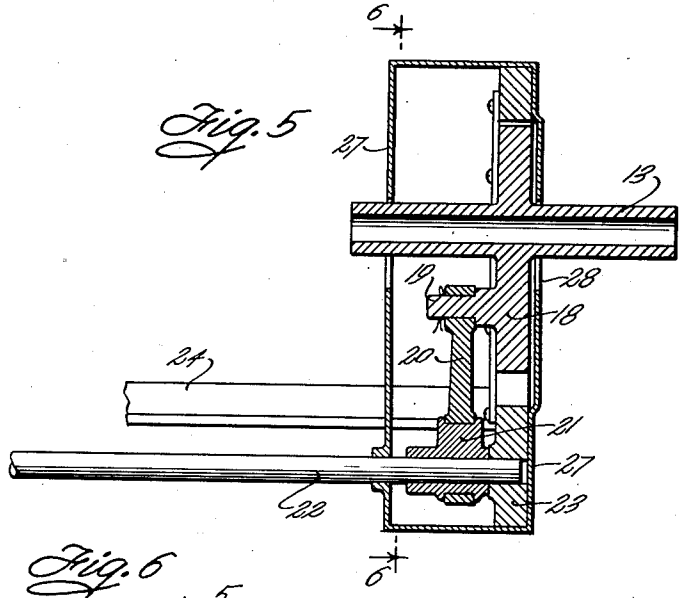


Fig. 6

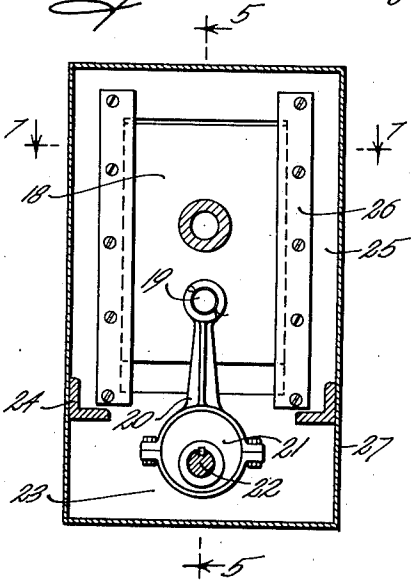
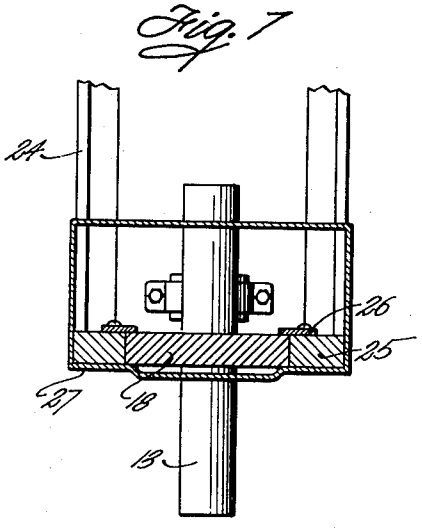


Fig. 7



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UNITED STATES PATENT OFFICE

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TAMPING ROLLER

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Application August 11, 1941, Serial No. 406,320

5 Claims. (Cl. 94—48)

This invention relates to a concrete tamper for tamping freshly poured concrete.

An object of the invention is to provide a concrete tamper in the form of a roller adapted to be rolled over freshly poured concrete, the roller being equipped with a means for imparting a succession of downward impulses thereto so that as the roller is rolled over the concrete the concrete will be effectively settled and the float or fine portions of the concrete will be worked to the surface for finish purposes.

An object of the invention is to provide a concrete tamper comprising a roller having therein a tamping mechanism which is relatively heavy and which is vertically reciprocated, the weight of the parts employed to produce the tamping of the roller being utilized to impart to the roller the downward impulses.

With the foregoing and other objects in view, which will be made manifest in the following detailed description and specifically pointed out in the appended claims, reference is had to the accompanying drawings for an illustrative embodiment of the invention, wherein:

Figure 1 is a vertical section through a concrete tamper embodying the present invention;

Fig. 2 is a partial view in horizontal section taken substantially upon the line 2—2 upon Fig. 1;

Fig. 3 is a view in end elevation of the tamper;

Fig. 4 is a sectional view taken substantially upon the line 4—4 upon Fig. 3;

Fig. 5 is a partial vertical section taken substantially upon the line 5—5 upon Fig. 6;

Fig. 6 is a vertical section taken substantially upon the line 6—6 upon Fig. 5 in the direction indicated; and

Fig. 7 is a horizontal section taken substantially upon the line 7—7 upon Fig. 6.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, the improved concrete tamper comprises a handle 10 preferably formed of pipe so as to be hollow. At the forward end of the handle there is a fork 11 preferably formed of channel iron. At the forward ends of the arms of the fork there are bushings 12 which connect the fork to hollow trunnions or stub axles 13 on which wheels 14 are rotatably mounted. The wheels of the roller are connected by longitudinally extending bars 15, which in turn may be connected by intermediate rings 16. The framework of the roller thus provided is preferably covered with screen 17. The hollow trunnions or stub axles 13 are equipped with rectangular flanges 18 having arms 19 which pivotally suspend pitmans or connecting rods 20 that are in turn connected to eccentrics 21 on a driven shaft 22. Bearings 23 are provided for the ends of the driven shaft. These bearings support angle irons 24. Upright runners 25 extend upwardly from the angle irons against the side edges of the flanges 18 and are guided by guides 26. The flanges, connecting rods, eccentrics, and bearings at each end of the driven shaft 22 are enclosed within a suitable housing 27 slotted as at 28 adjacent the hollow trunnions or stub shafts to permit vertical reciprocation of the housing and associated structure with respect thereto.

An electric motor 29 is mounted on the frame provided by the angle irons 24 and is preferably enclosed within a housing 30. This motor has a driving connection such as by a belt drive 31 with the driven shaft and is supplied with electric current from a suitable source through a cord 32 leading to a switch box 33 on the handle from which wiring 34 leads through one of the bushings 12 and one of the hollow trunnions or stub axles 13.

The operation of the concrete tamper is as follows. After the concrete C has been poured the roller is rolled thereover by means of handle 10. The electric motor 29 is driven to rotate the driven shaft 22 which in turn rotates the eccentrics 21. The pitman or connecting rod connection between the eccentrics and the hollow trunnions or stub axles is such as to vertically reciprocate the frame 24 and all structure mounted thereon vertically toward and away from the axis of rotation of the roller established by the hollow trunnions or stub axles 13. This vertical reciprocation is guided by the runners 25 which slide against the sides of the rectangular flange 18. The length of throw or movement of the frame relative to the axis of rotation of the roller need not be great. Frequently a throw of approximately one-quarter to one-half inch is adequate. By the vertical reciprocation of the frame relative to the axis of rotation of the roller, a succession of downward impulses is imparted to the roller which settles the concrete C and tends to work its float to the surface as the roller is rolled thereover. In this way the weight of the frame, the motor, the driven shaft and the associated structure is utilized to impart a series of downward impulses to the roller.

The housings 27 are preferably partially filled with oil so that all parts will be adequately lubricated.

Various changes may be made in the details

of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. A concrete tamper comprising a roller, a handle therefor, means connecting the handle to the roller whereby the roller may rotate about its axis relative to the handle, a frame suspended within the roller from said means, and means for reciprocating the frame toward and from the axis of rotation.

2. A concrete tamper comprising a roller, a handle therefor, means connecting the handle to the roller whereby the roller may rotate about its axis relative to the handle, a frame suspended within the roller from said means, and means mounted on the frame for reciprocating the frame toward and from the axis of rotation of the roller.

3. A concrete tamper comprising a roller, a handle therefor, means connecting the handle to the roller whereby the roller may rotate about its axis relative to the handle, a frame suspended within the roller from said means, an electric motor on the frame, a driven shaft driven thereby, and means connecting the driven shaft to said means for reciprocating the frame relative thereto.

4. A concrete tamper comprising a roller, a handle therefor, means connecting the handle to the roller whereby the roller may rotate about its axis relative to the handle, a frame suspended within the roller from said means, an electric motor on the frame, a driven shaft driven thereby, eccentrics on the shaft, and connecting rods connecting the eccentrics to said means.

5. A concrete tamper comprising a roller, means providing trunnions at the ends of the roller, a handle for the roller connected to the trunnions, a frame within the roller, and means connecting the frame to the trunnions for reciprocating the frame relatively thereto so as to impart a series of impulses to the roller.

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