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TAMPER OR SPADER

Filed April 2, 1929

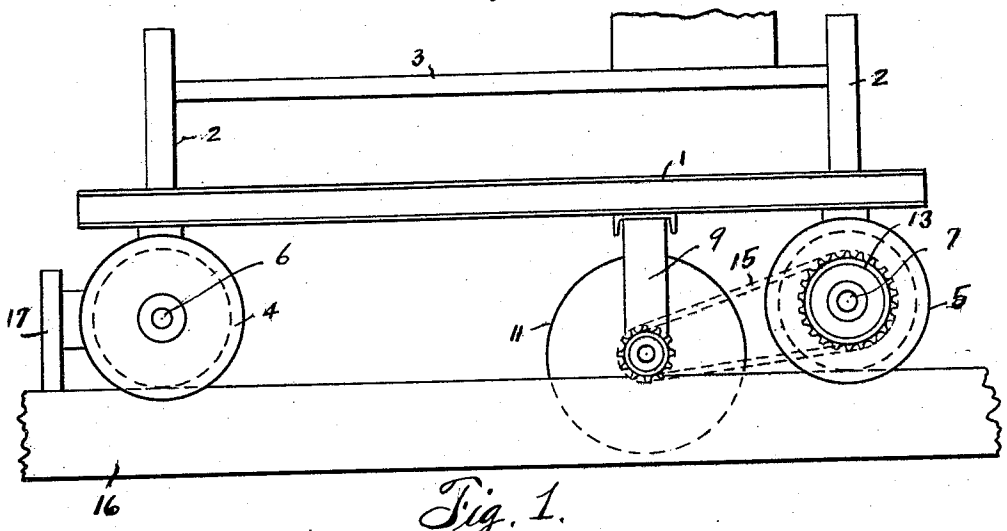


Fig. 1.

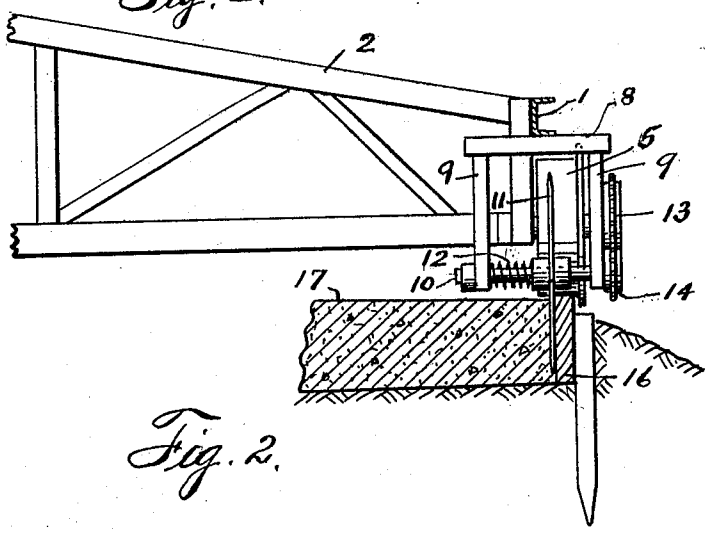


Fig. 2.

Inventor
Benjamin H. Flynn

By Hardway & Cathey
Attorneys

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BENJAMIN H. FLYNN, OF AMARILLO, TEXAS

TAMPER OR SPADER

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This invention relates to new and useful improvements in tampers or spaders for concrete work.

One object of the invention is to provide a machine of the character described whereby the margins of a concrete pavement street, or roadway, while in plastic state may be tamped or spaded so as to remove or fill up, all the voids therein, and to give said margins a smooth finished appearance when the forms are removed.

Another object of the invention is to provide a tamping machine equipped with a frame and carrier wheels on which the frame is mounted and which are designed to run on the side forms as a track, said machine also including tamping or spading discs held yieldingly against the inner sides of said side forms and driven from said carrier wheels.

With the above and other objects in view this invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawing, wherein:—

Figure 1 shows a side view of the machine, and

Figure 2 shows a fragmentary cross sectional view.

Referring now more particularly to the drawing, wherein like numerals of reference designate similar parts in each of the figures, the numerals 1, 1 designate the side members of the framework and the numerals 2, 2 designate the front and rear transverse trusses which are mounted on said framework and are tied together by the bar, or bars, as 3.

The machine is mounted to run on the front and rear carrier wheels 4, 5 which are fixed on the frame supporting axles 6, 7. Fixed to and depending from the framework, one on each side, are the brackets, as 8, having the spaced, depending arms, as 9. There is a transverse shaft 10 rotatable in suitable bearings in the arms 9 and splined on this shaft there is the tamper or spader disc 11. Surrounding the shaft 10 and interposed between the inner arm 9, and the hub of the disc 11 there is a strong coil spring 12 which forces the latter along the shaft and keeps it in yielding contact with the side form. The axle 7 is extended each way and fixed on each extended end there is a sprocket wheel as 13 which is aligned with a corresponding sprocket wheel 14 which is fixed on the outer end of the shaft 10, and operating over these sprocket wheels and transmitting rotation from the former to the latter there is a sprocket chain 15.

The numerals 16 designate the side forms erected at the sides of the roadway pavement, side walk, wall or the like to retain the plastic concrete 17 of which the roadway or the like is formed. When in use the carrier wheels 4, 5 travel along said side forms 16 as a track.

At the present time it is common practice to tamp by hand the margins of the roadway when the material is poured and while it is still plastic so that all voids in said margin will be filled and a finished construction given to said margin. This method of tamping by hand is slow, costly when efficiently done and inefficient when carelessly performed. The device or machine herein shown may be mounted to run on the forms 16 as a track and the plastic material is poured between said forms in advance of the machine. The machine may then be propelled along its track, either manually or by motive power. The transverse leveler 17ª at the front of the machine will smooth down the material, give it an approximately smooth upper surface and force the material out against the side forms 16. The tamper discs 11 will run along closely against the inner faces of the side forms 16 and will work between said side forms and the plastic material of the roadway to tamp or spade the margins of said material and trowel them down smoothly, removing all voids and thus leaving the margins of the roadway smooth and finished and free of voids. The springs 12, 12 operate to hold the discs closely against the inner sides of the side forms 16 and cause said discs to follow closely the course of said side forms. The discs 11 should be of such diameter as to extend down approximately to the lower margins of the side forms 16 so as to trowel the

outer margins of the roadway material substantially throughout their entire areas.

In setting up the side forms 16, care is taken to see that the upper edges of abutting forms are in perfect alinement because such forms are usually used as tracks for the wheels of a concrete road-laying machine, to which latter my invention may, of course, be applied as an attachment. Less care however, is taken to see that the bottom edges of abutting forms are in perfect end to end alinement. By employing the tamper or spader 11 in the form of a thin, sharp-edged, circular disc, as shown in Fig. 2, and having it of a diameter which is more than twice the height of the form 16, as shown in Fig. 1, the most forwardly advanced portion of the disc at all times will be approximately at the upper edge of the forms; and hence, should the lower portions of abutting forms be out of end to end alinement, there is no likelihood of the advancing disc being caught on an inwardly projecting end of a form section with the resulting breakage of parts of the mechanism. This shaft and size of the tamper or spader 11 is also advantageous in that it provides a considerable area of it, will at all times be in contact with and operating against the margin of the body of concrete and hence effective agitation of the plastic mass adjacent the form will result. The forward and advancing edge of the spader disc 11 travels in a downward direction and thus carries the more liquid portion of the concrete mass downwardly against the inner face of the form 16, while the upwardly moving rear half of the disc tends to aid the escape of air and thus prevent voids between the form and the body of the road, pavement, wall or the like in connection with which the invention is used. The shape of the spader disc 11 in connection with its spring-pressed slidable mounting on the shaft 10, also permits it to travel at all times in contact with the form 16 even if the latter is warped or bowed from end to end. While the spader disc is preferably driven from one of the carrier or track wheels of the machine or of a concrete road-laying machine, it is obvious that it may be driven in other ways and by other means than the one illustrated in the drawing.

The drawing and description disclose a preferred form of the invention by way of illustration but the broad principle of the invention will be comprehended within the scope of the appended claims.

What I claim is:

1. A tamping machine comprising a framework, carrier wheels therefor, rotatable side tamping or spading discs mounted on the framework and means establishing a driving relation between some of said carrier wheels and said discs.

2. A tamping machine comprising a framework, carrier wheels on which the framework is mounted, rotatable tamping or spading discs mounted on and depending beneath the framework, and means driven by some of said wheels and driving said discs.

3. A machine for tamping the margins of a concrete roadway confined between side forms and while in plastic state, including a framework, carrier wheels movable along said side forms, as a track, and on which the framework is mounted, tamping or spading discs mounted in the framework and positioned to work between the respective margins of the plastic roadway material and the adjacent side forms, said discs being rotatable, means driven from some of said carrier wheels and effective to rotate said discs.

4. A machine for tamping the margins of a concrete roadway confined between side forms and while in plastic state, including a framework, carrier wheels movable along said side forms, as a track, and on which the framework is mounted, tamping or spading discs mounted in the framework and positioned to work between the respective margins of the plastic roadway material and the adjacent side forms, and means holding said discs yieldingly against the inner sides of said side forms.

5. A machine for tamping the margins of a concrete roadway confined between side forms and while in plastic state, including a framework, carrier wheels movable along said side forms, as a track, and on which the framework is mounted, tamping or spading discs mounted in the framework and positioned to work between the respective margins of the plastic roadway material and the adjacent side forms, said discs being rotatable, means driven from some of said carrier wheels and effective to rotate said discs and means holding said discs yieldingly against the inner sides of said side forms.

6. In a machine of the character set forth, a framework to be moved adjacent a form which supports plastic concrete, means for supporting the framework, a spading disc rotatably supported by the framework and arranged to travel between the form and the concrete, and means for driving said disc.

7. In a machine of the character set forth, a framework to be moved adjacent a form which supports plastic concrete, a spading disc rotatably supported by the framework and arranged to travel between the form and the concrete, means for supporting the framework to position substantially half of the area of the rotatable disc between the form and the concrete, and means for rotating said disc.

8. In a machine of the character set forth, a framework to be moved adjacent a form which supports plastic concrete, means for supporting the framework, a rotatable spading disc carried by the framework and arranged to travel between the form and the concrete, the diameter of said disc being such

that the portion of it between the form and the concrete extends from the top of the form to a point adjacent the bottom thereof, and means for rotating said disc.

9. In a machine of the character set forth, a framework to be moved adjacent a form which supports plastic concrete, means for supporting the framework, a rotatable spading disc carried by said framework to travel between the form and the concrete, means for mounting said disc for movement in an axial direction, spring means for urging the disc axially in one direction.

10. In a machine of the character set forth, a framework to be moved adjacent a form which supports plastic concrete, means for supporting the framework, a rotatably mounted shaft carried by said framework, a spading disc splined on said shaft to rotate therewith but free to slide thereon, said disc being arranged to travel between the form and the concrete, spring means for urging said disc toward the form, and means for driving said shaft to rotate the disc.

In testimony whereof I have signed my name to this specification.

BENJAMIN H. FLYNN.