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M. A. CHURCH

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POWER CONCRETE STRIKE-OFF TEMPLATE

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2 Sheets-Sheet 2

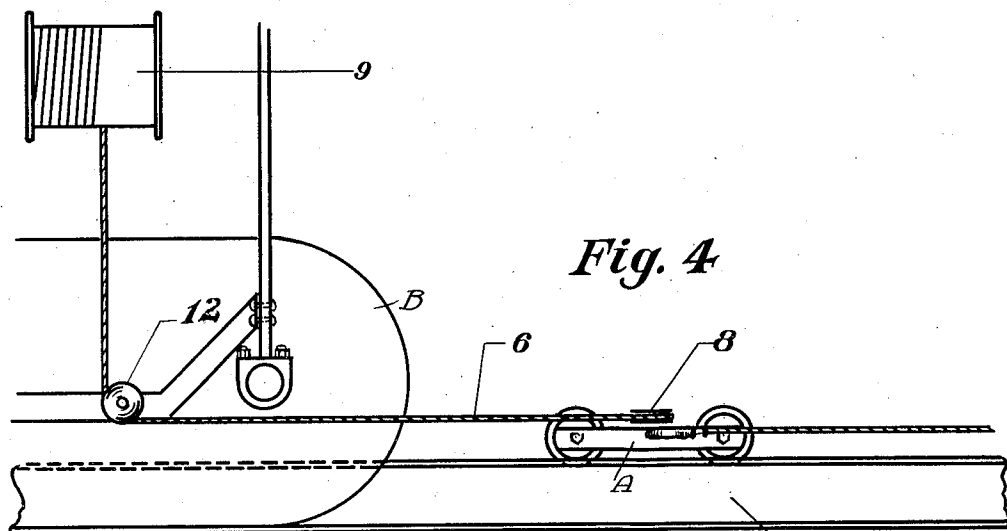
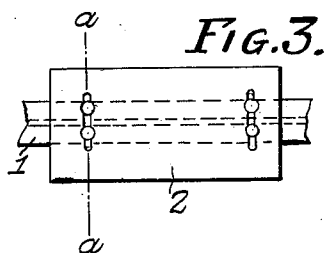
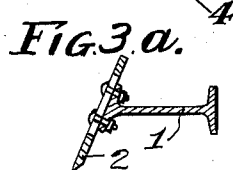
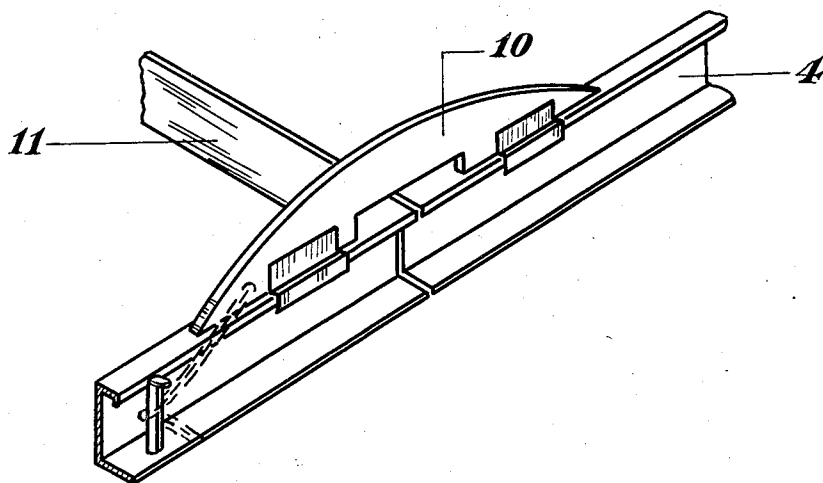


Fig. 5



INVENTOR.
Maury A. Church
BY
Paul J. Parker
ATTORNEY.

UNITED STATES PATENT OFFICE

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POWER CONCRETE STRIKE-OFF TEMPLATE

Maury Asa Church, Jefferson City, Mo.

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1 Claim. (Cl. 94—45)

Most States and municipalities now require the use of heavy wire mesh or iron rod reinforcement in the construction of concrete roads. They specify that such reinforcement must be laid in the concrete at a certain depth, usually about two inches or more from the surface. Concrete roads are now generally built by the use of power pavers, most of which receive dry gravel, sand and cement, these being mixed with water, and poured on to the road bed, all of which operations are done by power furnished by internal combustion engines integral with the paver, and most of which pavers have a drum also operated by their engines and controlled by a clutch, which drum may be used for accessories such as a crane for lifting batch-boxes from narrow gage industrial trains.

The road bed on which the concrete is poured is prepared in advance by grading and leveling fairly smooth earth or stone surface and by placing steel side forms at the edge of the road bed and fastening same, usually by means of steel stakes. The paver moves forward on said road bed and between the said side forms, usually on caterpillar type treads, advancing after each portion or section is poured from a bucket operated on a boom behind the paver. Most roads are now laid between side forms eighteen to twenty feet apart and the cement concrete batch is poured on the road bed between the side forms in three batches or buckets full dumped at equal intervals while the paver is in one position. The batch is of such consistency that it does not spread out evenly after being dumped, but remains somewhat piled or stacked as dumped. In order to prepare the freshly poured cement concrete for reception of reinforcing material it is necessary to strike off or level off same to the depth specified by the State or municipality at which the reinforcing material shall be inserted, built into, or laid into the concrete. Heretofore this striking off or leveling off has been done by hand shoveling and hand dragging with a board. This method has been unsatisfactory because of the labor and time required.

Other methods have been attempted. One of these was the use of sleds laid on the road bed before any cement concrete batch was poured, said sleds being usually T-irons laid with the cross of the T at the bottom, or flat on the road bed, and being of such height that the reinforcing material might be laid on them and the cement concrete poured onto and over said reinforcing material and the sleds, so that the reinforcing material was of the depth in the con-

crete specified, after which, and before hardening of the concrete, said sleds, which were attached to a crossbar on the paver, were dragged out of and through the concrete as the paver advanced. This latter method of using sleds for sustaining reinforcing material until the cement concrete is poured is now prohibited by the States and municipalities.

The device constituting the present invention is a steel strike-off template mounted on four flanged wheels, two on each end, running on the top of the side forms, as rails, and drawn along the road bed toward the paver by means of steel cables and pulleys, such cables being wound in by the said accessory or industrial or batch-box lifting drum provided on power pavers, or on any other drum which may be hereafter provided for this purpose alone or for this and other purposes.

Figure 1 is a plan view of the device constructed in accordance with the invention.

Figure 2 is a vertical transverse sectional view thereof.

Figure 3 is a fragmentary detail elevation of a blade of the device.

Figure 3a is a sectional view on the line a-a of Figure 3.

Figure 4 is a fragmentary side view of a paver and planer and their relation to each other.

Figure 5 is a fragmentary perspective view of an elevating means for the device.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail the device comprises a template formed from an I-beam which in the first instance has one of its flanges removed, the latter being replaced by welding it to the web of said beam at an angle, the beam being laid on its side with the replaced flange at approximately 55 degrees or 60 degrees angle and the angle between the lower side of the web of said beam and the replaced flange approximating between 120 degrees and 125 degrees. On this beam and carried by the replaced flange of the same which is the working side of said beam are blades 2, these being arranged side by side and mounted for raising and lowering movements upon said flange in any suitable manner, preferably through the use of nut carrying bolts. These blades 2 at their lower edges are so shaped to effect an arch and the I-beam is bent upwardly correspondingly to said arch as will be apparent in Figure 2 of the drawings.

At opposite ends of the I-beam are wheeled

or rolled carriages 3, the wheels or rollers of the latter being flanged at their inner sides and are adapted to travel upon the steel forms in the nature of rails 4 to be located at opposite sides of the road bed when in the making thereof. The carriages 3 are secured with the ends of the I-beam 1 in any suitable manner, preferably by brackets 5, as will be obvious in Figure 1 of the drawings.

At the outer sides of the carriages 3 are cables 6 which are trained over pulleys or sheaves 7 suitably supported at the outer sides of the said carriages and also over pulleys or sheaves 7' and a centering pulley or sheave 8, the latter and the said pulleys or sheaves 7' being carried by a cross-beam of a mobile planer hitch A of a paver B.

One end of each cable 6 is suitably fastened to the cross-beam of the hitch A, while the other end is passed onto a batch-box lifting drum 9 upon the paver B, as will be obvious from Figures 1 and 4 of the drawings.

For the purpose of elevating the template so that the blades 2 on the I-beam 1 will not collide with the steel expansion joint there are employed inserters, there being superimposed on each rail 4 a cam or elevating medium 10 which is removably secured in place in any suitable manner at the point of location of the inserter 11, which necessarily protrudes above the level sought to be struck off in the making or formation of a road bed.

The cables 6 under the action of the drum 9 on the paver B will draw the template toward the hitch A so as to strike off the surface of any

batch of cement or concrete dumped, leaving the batch at any desired depth, thereby preparing the first course of paving for immediate reception of wire mesh or bar mat reinforcement or any other type of reinforcing (not shown) and thus eliminating the necessity of hand shoveling and striking off with a board or hand instrument or tool.

The blades 2 of the template are designed and constructed for striking off the cement concrete in such manner as to level it with a crown of one-half inch when all the blades are adjusted with the top edge even, but the said blades are adjustable so that the center and intermediate ones may be set to give higher or lower crown or any desired shape of surface and the required level to a road bed.

On the paver B and below the drum 9 is a guide pulley or sheave 12 for the cables 6, the paver being of the caterpillar type, although it may be of any other style.

I claim:

A structure of the kind described, comprising spaced pairs of movable carriages, guide rails for the carriages, beams on the carriages, one beam being upwardly arched and having its web horizontally disposed, an angular flange provided on the arched beam, adjustable blades supported on the flange and set to the angularity thereof and to the arch of the beam, and let-out and draw cables having pulley connections with the pairs of carriages for moving the arched beam toward or away from the other beam.

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