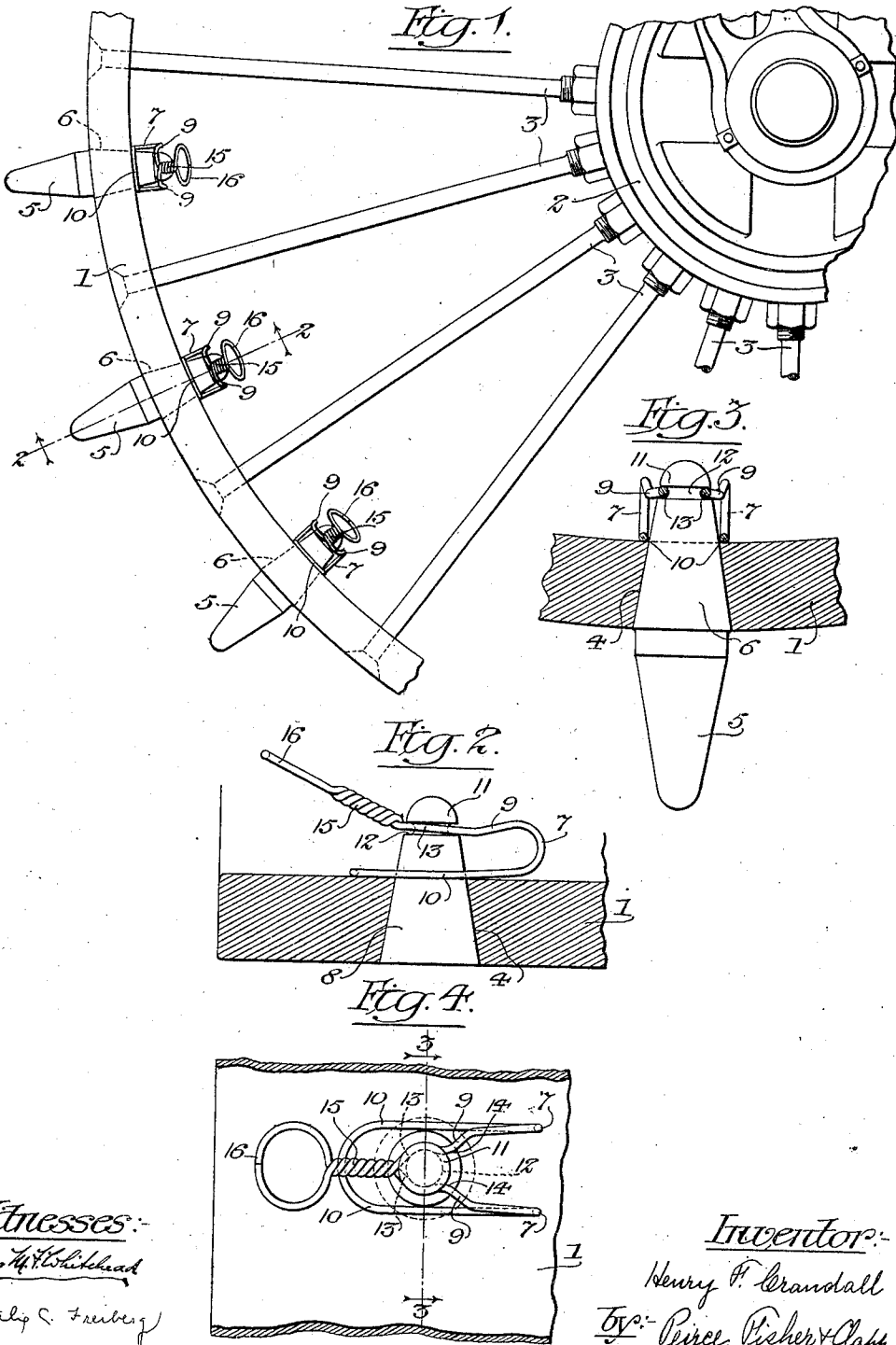


H. F. CRANDALL.
ROAD ROLLER.
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990,847.

Patented May 2, 1911.



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UNITED STATES PATENT OFFICE.

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ROAD-ROLLER.

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To all whom it may concern:

Be it known that I, HENRY F. CRANDALL, a citizen of the United States, and a resident of Racine, county of Racine, and State of Wisconsin, have invented certain new and useful Improvements in Road-Rollers, of which the following is a description.

The invention relates more particularly to means for securing suitable spikes or picks within seats on the rim of the roller and seeks to provide simple and effective means for this purpose which will prevent the spikes from working or wearing loose in their seats, but which will permit the ready removal of the spikes or picks and the substitution therefor of suitable plugs.

The invention consists in the features of improvement hereinafter set forth, illustrated in the preferred form in the accompanying drawing and more particularly pointed out in the appended claims.

In the drawing, Figure 1 is a view in elevation of a portion of the roll or wheel of the road roller, with the spikes or picks mounted in position thereon. Fig. 2 is an enlarged detail section on the line 2—2 of Fig. 1 but showing a plug held in position in one of the seats of the wheel rim. Fig. 3 is a detail section on lines 3—3 of Figs. 2 and 4 showing a spike or pick held in position. Fig. 4 is a view of the parts shown in Figs. 2 and 3 looking toward the inner face of the wheel or roller rim.

The roller, a portion of which is illustrated in Fig. 1, comprises a rim 1, a hub 2 and spokes 3. The rim is preferably formed of cast metal of considerable thickness and is provided, at suitable intervals, with tapering openings or seats 4 for receiving the shanks of removable spike teeth 5. The seats 4 extending through the rim, are preferably reamed to a true conical taper and the spike teeth 5 are provided with turned conical shanks 6 which snugly fit within the seats 4, while the outer portions of the spike teeth project beyond the tread of the rim to tear up or disintegrate the old road bed over which the roller travels. The seats 4 afford broad bearing surfaces to take up the great strains brought upon the spikes in operation. To prevent the spike teeth from working loose and thus wearing and enlarging the seats, removable spring keepers 7 are provided which may be readily inserted between the roller rim and the inner ends of the spike

teeth to hold the latter in position and take up any wear upon the parts, while at the same time permitting the ready removal of the spikes, so that suitable plugs 8 may be substituted therefor when the roller is to be used for ordinary purposes.

Each spring keeper 7 is made of a single length of spring steel wire bent to the U-shaped form shown. The inner and outer members 9 and 10 of the U-shaped spring keepers are double or comprise two parts which embrace or extend on opposite sides of the inner projecting ends of the spike shanks 6 or plugs 8 as the keepers are inserted into position. The parts of the outer member 10 of each keeper are spaced farther from each other than are the parts of the inner member 9 and rest upon the inner face of the wheel or roller rim 1. The parts of the inner members 9 of the keepers are arranged to engage shoulders 11 formed upon the inner ends of the spike shanks 6 and of the plugs 8. These shoulders or seats 11 are preferably formed by providing annular grooves 12 at the inner ends of the spike shanks and plugs. The portions of the members 9 of the keepers which engage the grooves 12 are preferably in the form of loops 13 having contracted throats 14, so that, as the keepers are inserted into position, the grooves or neck portions at the inner ends of the spikes or plugs are engaged by the loops 13, and, as the throats of these loops are somewhat smaller than the diameter of the neck portions of the spike shanks and plugs, the keepers are securely held in position against accidental displacement. When the keepers are thus inserted into position, they are placed under considerable tension and serve to prevent the accidental displacement of the spike teeth or plugs and also automatically take up any wear upon the seats, thus preventing the teeth from working loose and wearing the seats. The ends of the parts of the inner members 9 of the keepers are twisted together to form shanks 15, which are preferably inclined away from the inner face of the roller rim and which terminate in suitable loops or handles 16. By means of these handles the spring keepers may be readily inserted and removed from position and the spike teeth or plugs can thus be easily removed and interchanged.

It is obvious that changes may be made in the details set forth without departure from

the essentials of the invention, as defined in the claims.

I claim as my invention:—

1. In road rollers, the combination with a roller rim having tapered seats extending therethrough at suitable intervals, of removable spike teeth having tapered shanks fitting the seats of said rim and bodily detachable spring keepers adapted to be removably inserted between said rim and the inner ends of the shanks of said spike teeth, said keepers having portions embracing the shanks of said spike teeth, substantially as described.

2. In road rollers, the combination with a roller rim having tapered seats extending therethrough at suitable intervals, of removable spike teeth having tapered shanks fitting said seats and provided with shoulders at their inner ends, and double, U-shaped spring keepers arranged to embrace the inner projecting ends of the shanks of said teeth and be removably inserted between the shouldered ends of said spike teeth and said rim, substantially as described.

3. In road rollers, the combination with the roller rim having tapered seats extending therethrough at suitable intervals, of removable spike teeth having tapered shanks fitting said seats and provided with shoulders at their inner ends, and removable, U-shaped spring keepers having double inner and outer members adapted to embrace the

inner projecting ends of the shanks of said teeth with the outer members engaging the roller rim and the inner members engaging said shoulders, substantially as described.

4. In road rollers, the combination with a roller rim having conical seats extending therethrough at suitable intervals, of removable spike teeth having conical shanks fitting said seats and provided with annular shoulders at their inner ends, and bodily detachable spring keepers adapted to be removably inserted between said shoulders and the roller rim, said keepers having portions arranged to embrace the shanks of said spike teeth, substantially as described.

5. In road rollers, the combination with the roller rim having conical seats extending therethrough at suitable intervals, of removable spike teeth having conical shanks fitting said seats and provided with annular shoulders, and removable, U-shaped spring keepers having double inner and outer members arranged to embrace the inner ends of the shanks of said spike teeth and engage said shoulders and the inner face of the roller rim respectively, the inner members of said keepers having loops with contracted throats arranged to engage the spike shanks beneath said shoulders, substantially as described.

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Witnesses:

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