No. 654,617. Patented July 31, 1900.

# J. W. FITZGERALD.

## TAMPING ROLLER.

(Application filed Sept. 20, 1899.)

(No Model.)

Fig. 1.

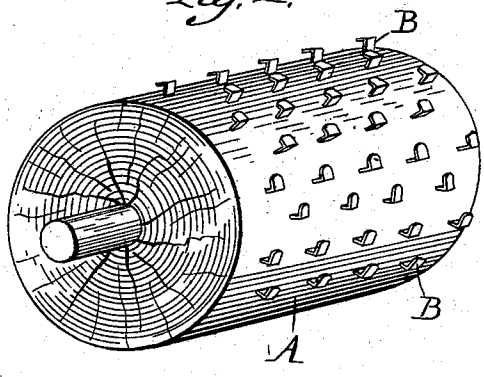



Fig. 2.

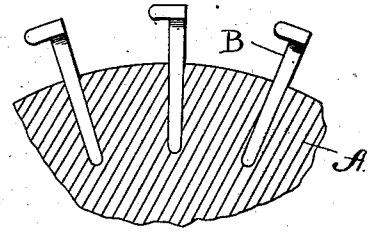



Fig. 4.

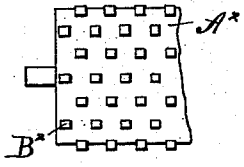
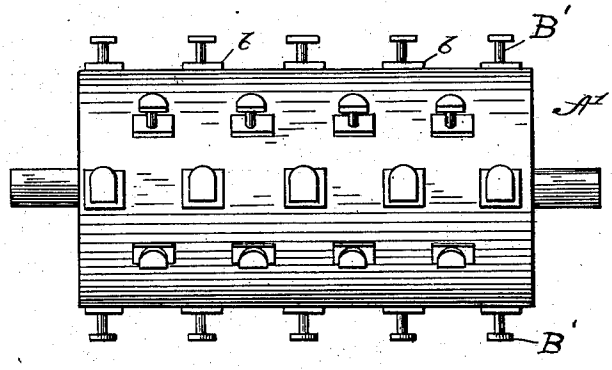



Fig. 3.




Attest.
F. L. Middleton
C. Middleton

Inventor.
John W. Fitzgerald.
by Spear & Ellis
Attys.

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# UNITED STATES PATENT OFFICE.

JOHN WESTEY FITZGERALD, OF KERN, CALIFORNIA.

## TAMPING-ROLLER.

SPECIFICATION forming part of Letters Patent No. 654,617, dated July 31, 1900.

Application filed September 20, 1899. Serial No. 731,110. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WESTEY FITZGERALD, a citizen of the United States, residing at Kern, in the county of Kern and State of California, have invented certain new and useful Improvements in Tamping-Rollers, of which the following is a specification.

In smoothing and hardening ground or other surfaces for roads, sidewalks, paving, and like purposes it has always been the custom to use heavy smooth-surfaced rollers, which are drawn, pushed, or propelled over the area to be hardened. Such rollers are effective more in appearance than in reality. They produce a smooth surface, but not necessarily a hard one, and this is particularly the case when the surface is composed of loose dry material lacking in cohesive quality. A road, for instance, rolled apparently smooth and hard will when exposed to traffic soon become cut up and rutted in spots where the material is softer than at other points, although the smooth-surfaced roller has left a superficially hard and smooth appearance throughout.

I ascribe the inception of my invention to frequent watching of the effect produced by the passage of great numbers of sheep over a surface of a soft nature. These light footprints repeated in thousands over the same surface will in a comparatively-short time compress a loose surface into a dense, smooth, and equally-hard surface, which will stand ordinary use and traffic without breaking. I have accordingly devised a roller, which I term a "tamping-roller," whose object is to act on the surface by an indefinite number of separate impressions, and thus produce an effect similar to that above described.

My roller may be self-propelled by an engine mounted on a frame in which the roller is journaled or may be moved by horse or human power. I have considered it unnecessary to show more than the roller itself, because I design it to be used as a substitute for all smooth-surfaced rollers for these purposes, and the construction of such rollers, so far as mounting, supporting, and propelling are concerned, is well known.

In the accompanying drawings, Figure 1 represents a perspective of a roller provided with a multitude of separate tamping-surfaces. Fig. 2 is a cross-section of part of the same roller enlarged. Fig. 3 is an elevation of a roller with a modified way of attaching the tamping-shoes. Fig. 4 shows a roller with integral tamping-shoes.

A, Fig. 1, represents a roller which in this case is supposed to be a solid cylindrical log of wood of sufficient weight to be effective in compressing the surface. The cylindrical area of this roller is studded with a multitude of tamping-shoes B, which are here shown as headed spikes driven securely into the wood to an equal depth. The shoes are of small size relatively to the roller, and I prefer to give their contact-surfaces a curve which will be concentric with that of the roller itself, as shown in Fig. 2. Such shoes may be spaced over the surface in any desired manner; but I prefer to place them in rows and alternating, as shown. The roller of Figs. 1 and 2 is well adapted to country districts, and especially to lumbering countries, where suitable logs of wood can be produced and made into rollers. I have used such a roller with inserted headed spikes with excellent results.

In Fig. 3 I have shown a roller A′ provided with shoes B′, which in this case have base-flanges *b*, by which they are bolted to the surface of the roller.

In Fig. 4 I have shown a metal roller $A^2$ having its surface formed with integral shoes $B^2$.

I have of course designated only a few of the forms in which my invention can be embodied, and I do not desire to limit myself to any or all of such forms, as I wish to avail myself of such modifications and equivalents as will produce the result I have in view and which fall properly within the spirit of my invention. In all the forms shown, and in their modifications and equivalents, the roller is provided with a working face composed of separate bearing-surfaces, which act separately upon a small area of ground in producing individual compressions, the final result being secured by indefinite multiplication and repe-

tition of each individual and separate impression.

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

A road-roller provided with separate compression-shoes.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 5th day of September, 1899.

JOHN WESTEY FITZGERALD.

Witnesses:

CHAS. J. LINDGREN,

JAMES CURRAN.