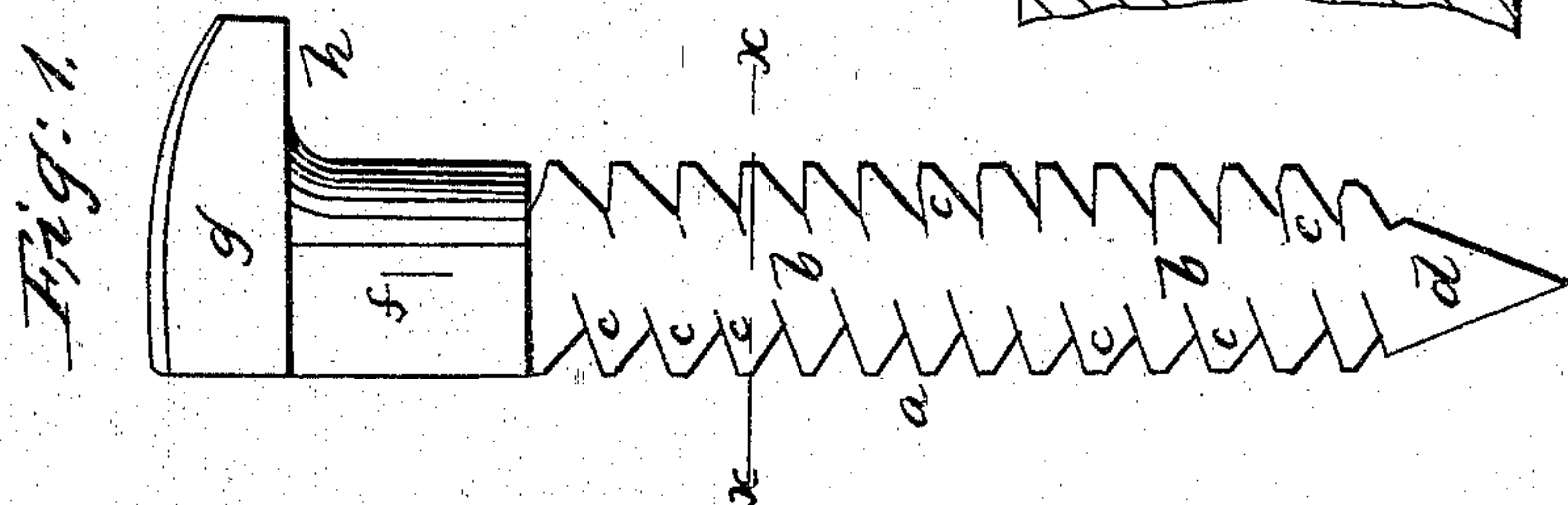
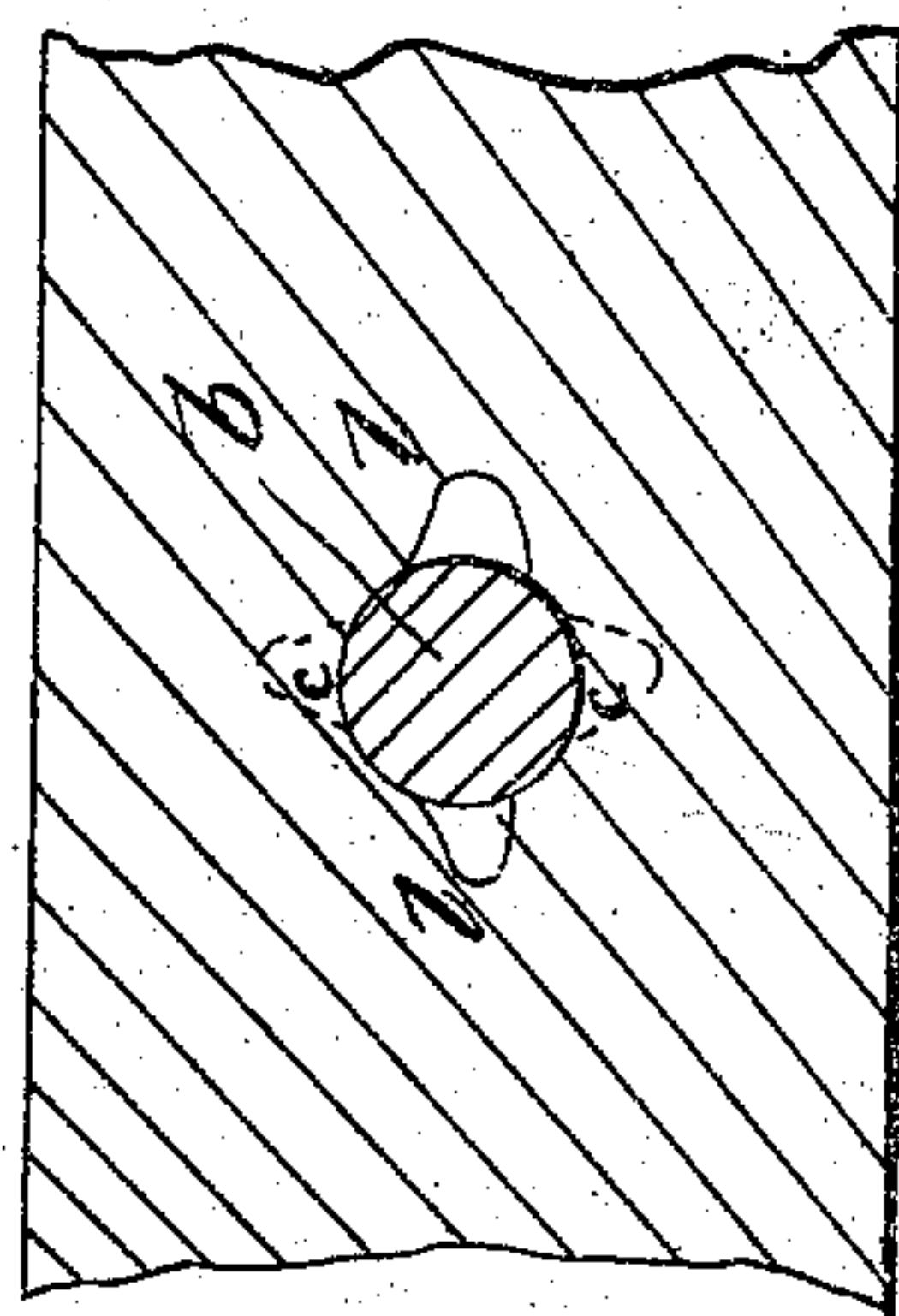
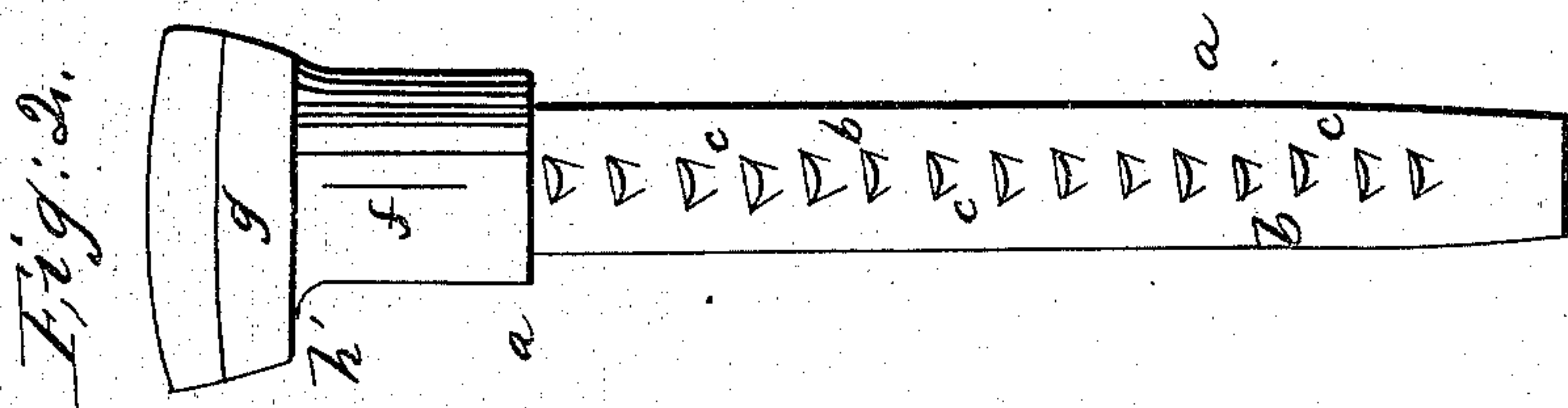


W. M. STORM.
RAILROAD SPIKE.

No. 48,494.

Patented June 27, 1865.



Witnesses:

Geo Fusch

E. L. Topple

Inventor.

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UNITED STATES PATENT OFFICE.

WILLIAM MONT STORM, OF HARLEM, NEW YORK, ASSIGNOR TO HIMSELF
AND CHAS. J. FERGUSON, OF NEW YORK CITY.

IMPROVED RAILROAD-SPIKE.

Specification forming part of Letters Patent No. 48,494, dated June 27, 1865.

To all whom it may concern:

Be it known that I, WILLIAM MONT STORM, of Harlem, in the county and State of New York, have invented a new and Improved Ser-rated Railroad-Spike; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to certain new and useful improvements in the construction of spikes for fastening rails or rail-chairs to the sleepers or cross-ties of railroads, the principal object of which is to produce a spike which, when driven into the sleeper and brought to its proper bearing on the rail or chair, shall be then so fastened within the sleeper that the movement of the cars upon and over the rails cannot in the least degree loosen them and finally withdraw the same from the sleeper, as has hitherto resulted from the manner of constructing the spikes used for these purposes. By my improvements the loosening of the spikes usually caused by the movement of the cars over the rails is not only entirely prevented, but the spike is so constructed that it can be easily withdrawn from the sleeper when desired to remove the rail to lay a new one in its place, and then inserted again, if desired or necessary, in the same opening from which it was withdrawn, and yet still hold the rail with sufficient tightness to and on the sleeper, which was not possible with the ordinary spikes heretofore employed, and the advantages of which are evident.

I accomplish the above-described results by forming on the shaft of the spike at points diametrically opposite to each other a series of projecting teeth, made of suitable shape, and extending nearly the entire length of the same, terminating at its lower end in a wedge having its line of intersection of the two inclined sides at right angles to the direction of the said teeth. The upper portion of the spike-shaft is of cylindrical shape, and of a diameter equal to the greatest diameter of the serrated portion of the same, and has a flat-shaped head projecting over its sides. First place the spike, constructed as described, by its wedge end, upon the sleeper, with its edge across the

grain, and then drive or force it into the same by striking, as in ordinary spikes, until its serrated portion is entirely within the wood, when, by turning the spike within the same by means of any suitable wrench applied to its head, its teeth are caused to thoroughly interlock with the fibers of the wood, whereby any upward play of the spike is prevented, and its teeth will always tightly hold it in the sleepers as is evident.

In the accompanying drawings my improvement is represented, of which Figure 1 is a side view of the spike, showing the teeth of the same and the spike-shaft in its larger diameter. Fig. 2 is a side view, showing the same in its smaller diameter. Fig. 3 is a cross-section in plane of line *x x*, Fig. 1; and Fig. 4, a cross-section, showing spike in sleeper, as will be presently described.

Similar letters of reference indicate like parts.

a a in the drawings represent a spike, made of any desired length and size; *b b*, its shaft, on two sides of which, diametrically opposite to each other, are formed a series of projecting teeth, *c c c*, &c., of any desired size and shape, number, and distance apart, and extending nearly for the whole length of the same, but terminating at its lower end in a wedge-shaped piece, *d*, having the line of intersection of its two inclined surfaces at right angles to the longer diameter of the spike-shaft. The top portion of the spike-shaft *b* is formed in the shape of a perfect cylinder, *f*, the diameter of which is equal to the larger diameter of the shaft, and terminates in a flat square-shaped projecting head, *g*, as in ordinary spikes, with this difference, that it projects over the shaft upon three in lieu of only one side.

The spike, as thus constructed and formed, is, when to be driven into the sleeper, placed upon the same with the wedge end across its length or grain, and then by means of a hammer or suitable implement driven into the sleeper until it has penetrated the same a sufficient distance that at least a portion of the cylindrical part of the shaft shall be within it, and that when the spike is set the under side, *h*, of its head shall bear upon the rail resting on the sleeper and tightly hold the same thereon and thereto. The spike is then turned by

means of a wrench applied to its head, bringing the head of the same over and upon the rail, the teeth on its shaft penetrating and interlocking with the fibers of the wood, whereby they will prevent, as is evident, any upward vibration or movement of the spike, however great the tendency of the cars in passing over the rails may be to vibrate the same, thereby securing a spike for railroad purposes which can never be loosened after having been once driven into the sleepers, except it be so desired, when it is easily removed therefrom by simply turning its head back to its original position and then withdrawing it, as with the ordinary spike.

It is, of course, evident that in driving or forcing the spike into the sleeper the opening made therein by the same corresponds to its contour or periphery, and that therefore when the spike is turned within the sleeper, as described, openings *t t* must necessarily be left therein corresponding to the shape and size of the teeth, into which, were no means provided to prevent it, moisture and rain would penetrate, causing the spike to rust and the sleeper to decay. To prevent this the upper portion of the spike-shaft is made of sufficient diameter to entirely fill the same.

In lieu of making the spike in the shape of a wedge at its lower end, it may terminate in a sharp point; and it is evident, also, that there are various kinds and shapes of teeth which

may be formed upon the spike-shaft; and, further, that there are a great number of variations which may be made in the peculiar shape and construction of the above-described spike without departing from the principle of the present invention, which is to so construct a spike for holding rails, &c., to and on the sleepers, or for other similar purposes, that after having been driven into the same it can then be, as it were, locked or so fastened therein as to be wholly unaffected by any tendency of the parts held to separate, whereby a strong, secure, and permanent fastening for rails, &c., is obtained, and one which the movement of the cars over the rails can in no way loosen, the advantages of which are evident and need no particular mention herein. One important advantage, however, resulting from my improved construction of the spike over others heretofore used is that a spike can be withdrawn from the sleeper and then inserted in the same hole, if necessary or desirable, and still have a strong hold upon the rail, as is evident.

Having thus described my invention, I claim and desire to secure by Letters Patent—

As an improved article of manufacture, a railroad-spike made substantially as herein described.

WM. MONT STORM.

Witnesses:

M. M. LIVINGSTON,
ALBERT W. BROWN.