

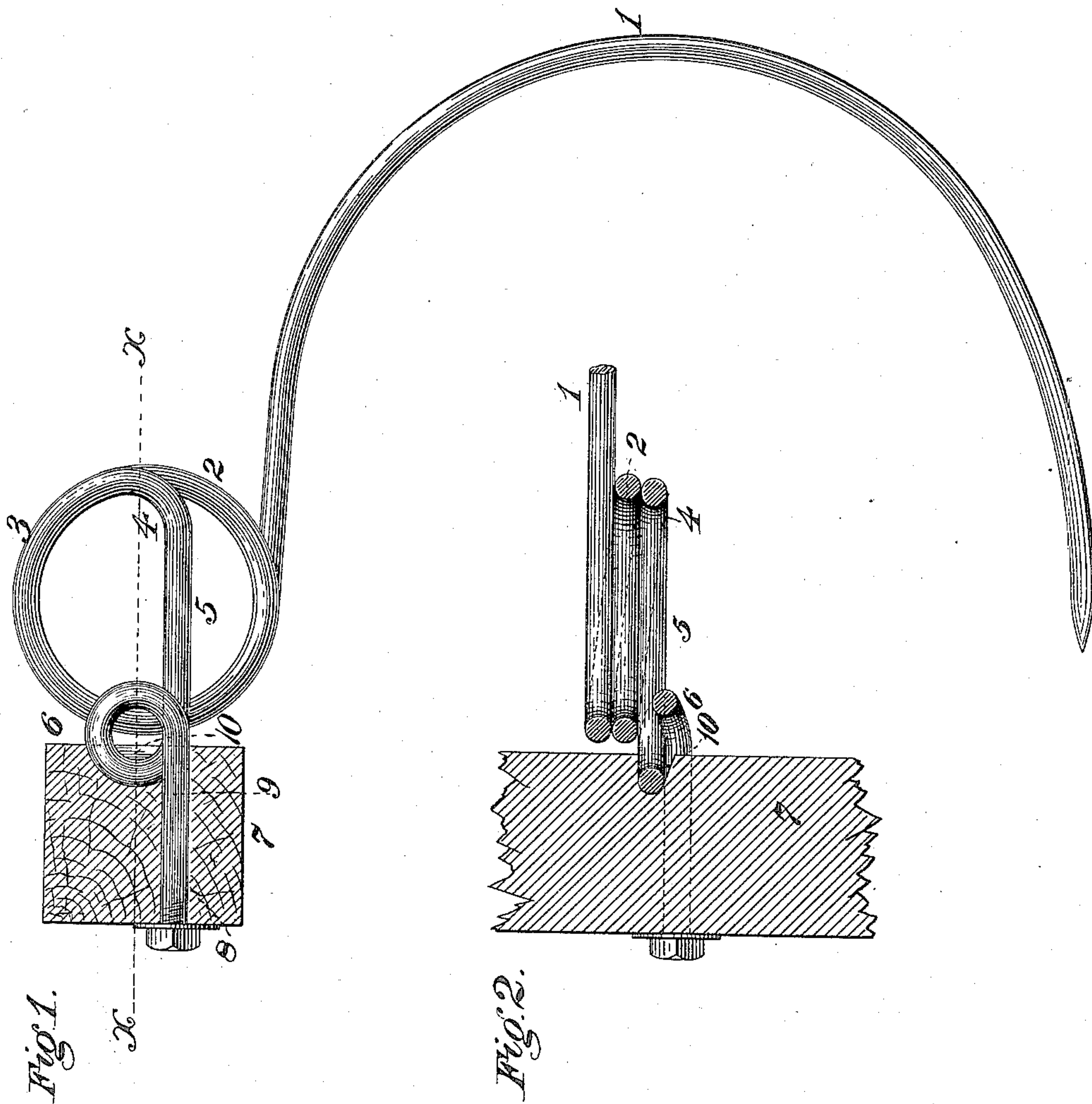
(No Model.)

F. G. GOETTMANN, Sr.

RAKE TOOTH.

No. 330,108.

Patented Nov. 10, 1885.



WITNESSES:
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FREDERICK G. GOETTMANN, SR., OF ALLEGHENY, PENNSYLVANIA.

RAKE-TOOTH.

SPECIFICATION forming part of Letters Patent No. 330,108, dated November 10, 1885.

Application filed January 21, 1885. Serial No. 153,488. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK G. GOETTMANN, Sr., a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Rake-Teeth, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a view in side elevation of my improved form of rake, showing the manner of connecting the same to the rake-head, which is shown in section. Fig. 2 is a sectional view on the line *xx*, Fig. 1.

My invention relates to certain novel features of construction of rake-teeth, and in the manner of securing the same to the rake-head.

The object of my invention is to so construct the teeth of the rake as to render available the whole of the spring action of the coil at the upper end of the tooth, and to provide for the firm and ready attachment of the tooth to the rake-head; and to these ends my invention consists in the construction and combination of parts, all as more fully hereinafter described and claimed.

The wire or rod for the tooth is bent at one end into the usual form, as shown at 1, and the opposite end is bent in a reverse direction, so as to form one or two complete coils, 2, and a partial coil, 3. The portion of the wire forming this partial coil is bent at an acute angle with the coil, as shown at 4, so as to extend in a straight line across the coils 2, forming what may be termed a "chord" of the arc of the circle of the coils which lies above or below it; or, in lieu of forming only a partial coil, 3, a complete coil may be formed, and the portion of the wire beyond that coil may be bent so as to form a tangent to the lower part of the circle of the coils 2; but in either case the straight portion 5 should extend rearwardly in a horizontal plane parallel with the upper straight portion of the tooth 1, or in the same horizontal plane therewith. In the straight portion 5 is formed an eye or shoulder, 6. Said shoulder should be so located as to lie, in part at least, beyond the outer perimeter of the coils. In the rake-head 7 is formed the transverse opening 8, through

which passes the stem portion 9 of the tooth, and in the rear side of the rake-head, at one side of the opening 8, is formed the recess or mortise 10, for the reception of the eye or shoulder 6. This recess or mortise 10 should be of such a depth that when the shoulder 6 is drawn firmly therein by the nut on the end of the stem 9, projecting through the rake-head, the coils will be held a short distance away from the rake-head, so as to allow perfect freedom in their spring action when the point of the tooth encounters any obstruction. The recess 10 is also made of a width only sufficient to receive the shoulder 6, and thereby prevent any lateral movement or turning of the tooth.

It will be apparent that by so constructing the tooth that the spring-coils are held away from the rake-head the entire spring action of the coils is available, and that there is no rubbing and wearing action between the head and coils.

If desired, the recess 10 may be formed in a metal plate to be attached to the rake-head, or the rake-head may be made of metal, with the transverse opening and the recess formed therein.

I claim herein as my invention—

1. A rake-tooth having a curved gathering part, 1, one or more spring-coils, 2, a straight portion, 5, a stem portion, 9, and a shoulder or abutment, 6, suitably arranged and shaped with reference to preventing a rotary motion of the rake-tooth, in combination with a rake-head having a transverse hole therethrough, and a recess in its rear side adjacent to the hole or opening for the reception of the abutment 6, and means attached to the stem portion 9 for holding the abutment in place, substantially as set forth.

2. A rake-tooth having in combination, in an integral structure, a curved gathering part, 1, one or more spring-coils, 2, a straight portion, 5, a stem portion, 9, adapted to project through the rake-head, with suitable means for fastening at the forwardly-projecting ends, and a shoulder or abutment, 6, adapted to engage a recess in the rake-head for preventing rotary motion of the rake-tooth on its stem 9, substantially as set forth.

3. A rake-tooth having in combination, in

an integral structure, a curved gathering part,
1, one or more spring-coils, 2, a straight por-
tion, 5, a small coil or twist lying wholly or
in part beyond the perimeter of the coils 2,
5 and a stem portion, 9, projecting beyond the
abutment, and provided with suitable means
for fastening at its forwardly-projecting end,
substantially as set forth.

In testimony whereof I have hereunto set
my hand.

FREDERICK G. GOETTMANN, SR.

Witnesses:

S. HARVEY THOMPSON,
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