

(No Model.)

B. D. DRUEN.
SPRING TRACE POST.

No. 527,595.

Patented Oct. 16, 1894.

Fig. 1

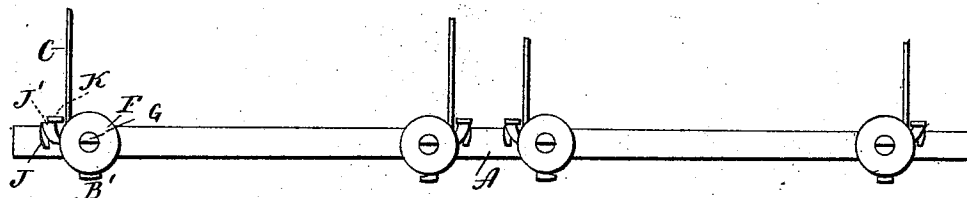


Fig. 2

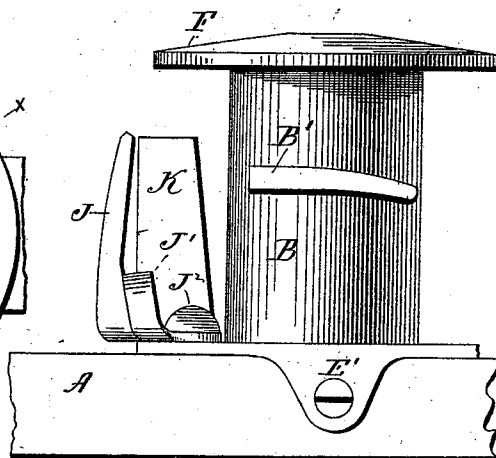


Fig. 3

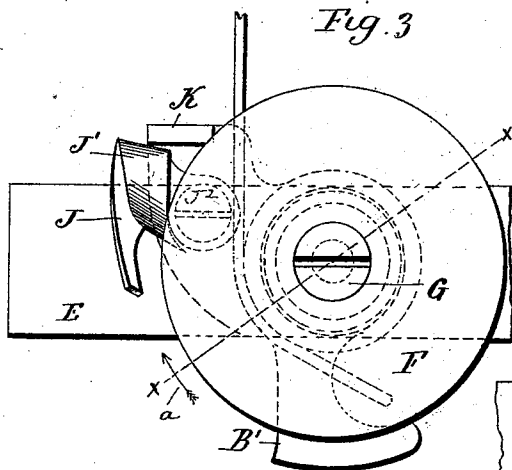
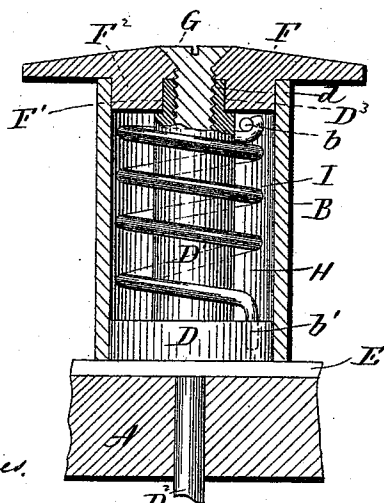


Fig. 4



Witnesses.
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UNITED STATES PATENT OFFICE.

BERNARD D. DRUEN, OF NEW HAVEN, CONNECTICUT.

SPRING TRACE-POST.

SPECIFICATION forming part of Letters Patent No. 527,595, dated October 16, 1894.

Application filed December 11, 1893. Serial No. 493,448. (No model.)

To all whom it may concern:

Be it known that I, BERNARD D. DRUEN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Spring Trace-Posts; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a plan of a whiffletree provided with four spring trace-posts constructed in accordance with my invention; Fig. 2, a view in side elevation of one of the posts drawn, full size; Fig. 3, a plan view of the post with the cap or guard thereof removed; Fig. 4, a view of the post in vertical section on the line $x-x$ of Fig. 3.

My invention relates to an improvement in spring trace-posts, the object being to produce a simple, compact, durable and effective construction.

With these ends in view, my invention consists in a spring trace-post having certain details of construction and combinations of parts as will be hereinafter described, and pointed out in the claim.

As shown in Fig. 1 of the drawings, the fixed whiffletree A, is provided with four of my improved posts, of which it will be sufficient to describe one. Each post is constructed with a rotatable sleeve B, furnished upon its rear face with an inwardly turned trace-hook B', of any approved construction, to which a trace C, is secured. At its lower end the said sleeve fits over an annular shoulder D, formed at the lower end of a stud D', which is rigidly secured to the whiffletree by means of a stem D², as shown in Fig. 4 of the drawings. The said annular shoulder D, rests upon and is secured to the plate E, which is fastened to the upper face of the whiffletree A, by means of depending ears E', or otherwise. This plate may be extended so as to have all of the four posts connected with it, or each post, or each pair of posts may have their own plate.

The particular manner of constructing the plate or plates and their attachment to the whiffletree, may be varied as desired, for that constitutes no part of my present invention.

The upper end of the post D' is reduced in

diameter to form a bearing D³, and is constructed with a counter-bore d , which is threaded. An annular guard or cap F, considerably larger in diameter than the diameter of the sleeve B, is secured to the upper end of the stud by means of a screw G, which passes centrally through it, and into the threaded counter-bore d aforesaid, the bearing D³ formed at the upper end of the stud being received by a recess F', formed in a collar F², located upon the lower face of the cap or guard F. The exterior diameter of the said collar corresponds to the exterior diameter of the annular shoulder D, whereby it is adapted to fit into the upper end of the sleeve B. It will thus be seen that while the annular shoulder D forms a bearing for the lower end of the sleeve, the collar F², forms a bearing for the upper end thereof. As thus constructed, the sleeve is interposed between the plate E, and the overhanging cap or guard F, and is adapted in length so that it may rotate between the same. The said sleeve is considerably larger in diameter than the diameter of the stud D' so that an annular chamber H, is formed between them. The said chamber receives a spiral spring I, encircling the stud, and connected at its upper end with the sleeve, which is provided for the purpose with an inwardly projecting pin b , and connected at its lower end with the shoulder D, which is thereto furnished with a small hole b' . The said spring is coiled and arranged so that it will resist the rotation of the sleeve B, and so that it will normally maintain the same with the trace-hook B' in the position in which the same is shown in the drawings. When however, sufficient strain is imposed upon the trace, the sleeve will be rotated in the direction of the arrow a , against the tension of the spring, permitting the end of the trace to move forward, whereby the trace is virtually lengthened, but as soon as this strain is relieved, the spring will immediately restore the sleeve to its normal position.

To limit the rotation of the sleeve, and hence the movement of the trace, I provide a cushion in the form of an abutment spring J, located in position to be engaged by the hook B' when the sleeve has made about a quarter turn. As shown, the spring consists of a wrought metal strip, having a coil J, to increase its re-

siliency, and having its lower end perforated to receive a screw J², by means of which it is secured to the plate E. In addition to this spring abutment, I provide a solid abutment, consisting of a finger or post K, formed as herein shown integral with the plate E, and located at a point directly in front of the spring J. The said finger K also constitutes a guard for the trace, preventing the same from outward movement, and from engagement with the said spring. I do not limit myself to constructing either the abutment spring, or finger as shown, for obviously they may take other forms. The spiral spring is connected with the sleeve, so that when the same is removed, it will be removed also. This is not imperative.

My improved device, as will be seen, is composed of few parts, which are of simple and durable construction, conveniently assembled, and readily accessible for cleaning and repair. It will not, moreover, rattle when in use.

By locating the trace-hook upon the sleeve and connecting the sleeve upon its inside with a spring, and rotating the sleeve instead of extending the trace-hook through a slot formed in the sleeve, I secure a construction in which dust and grit are excluded from the bearings, whereby the device is caused to work smoothly, and with little wear. I am aware, however, that a trace-post comprising a box provided with an outwardly projecting trace-hook, and containing a spring, one end

of which is connected with it for opposing its rotation, and also furnished at its upper end with an overhanging cap, is old, and I do not claim such construction broadly.

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

In a spring trace-post, the combination with a stud adapted at its lower end to be attached to the whiffletree, and having an annular shoulder located at its lower end; of a sleeve open at both ends, provided with an outwardly projecting trace-hook, surrounding the said stud, and fitting at its lower end over the shoulder located at the lower end thereof; a cap, larger in diameter than the diameter of the sleeve, secured to the upper end of the stud and provided with a shoulder, fitting within the upper end of the sleeve and forming a bearing therefor; a spring interposed between the stud and sleeve, and secured at its upper end to the sleeve and at its lower end to the shoulder, located at the lower end of the stud; an abutment post, arranged to limit the rotation of the sleeve, and a cushion to coact with the said abutment substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BERNARD D. DRUEN.

Witnesses:

FRED C. EARLE,

LILLIAN D. KELSEY.