A. B. KING.

SPRING-WHIFFLETREES.

No. 194,554. Patented Aug. 28, 1877.

Fig. 1.

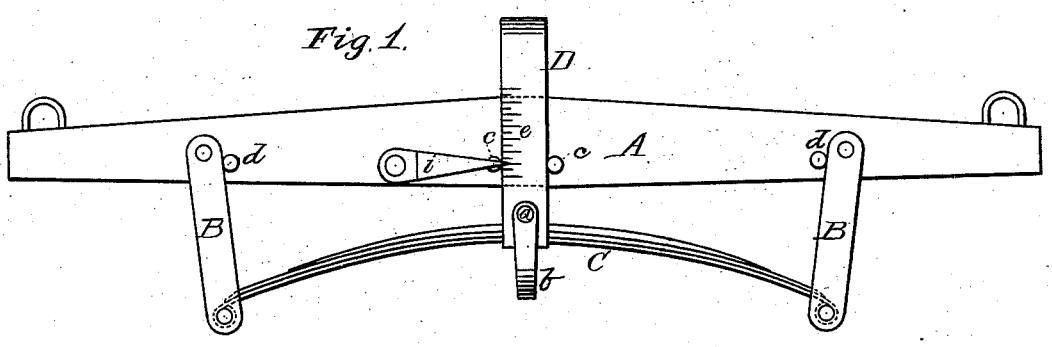


Fig. 2.

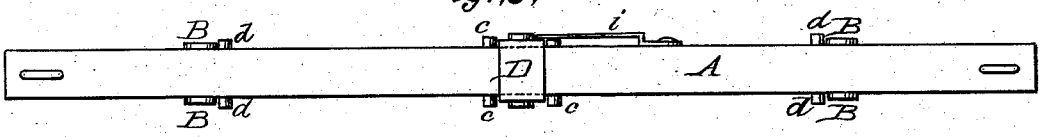
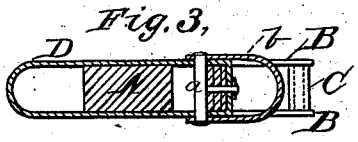


Fig. 3.



WITNESSES

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ABRAHAM B. KING, OF CAMDEN, OHIO, ASSIGNOR TO CATHARINE KING.

IMPROVEMENT IN SPRING-WHIFFLETREES.

Specification forming part of Letters Patent No. **194,554**, dated August 28, 1877; application filed January 20, 1877.

To all whom it may concern:

Be it known that I, ABRAHAM B. KING, of Camden, in the county of Preble and State of Ohio, have invented a new and valuable Improvement in Elastic Whiffletrees; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of this invention. Fig. 2 is a front view of the same. Fig. 3 is a transverse vertical central section.

This invention has relation to whiffletrees; and it consists in the construction and novel arrangement, in connection with the tree, of a longitudinal spring arranged in bearings in rear of the same, and provided with a check-band embracing the tree, all as hereinafter shown and described.

In the accompanying drawings, the letter A designates the wooden portion or tree, having at its ends the usual trace loops or fastenings. B B indicate pivoted arms or bearings, which are arranged in rear of the arms of the tree. Usually it is designed to use two pairs of pivoted arms, one pair being arranged between the center and each end of the tree and the arms comprising the pair being attached on the upper and lower sides of the same, as shown in the drawings. The rear ends of each pair of arms are connected by a suitable pin, or other bearing, to the ends of the spring C. This is usually made with several leaves, the longest having its ends connected with the bearings at the ends of the arms.

The spring may be straight, but is by preference reversely curved, so that its convex side will be toward the tree. The other plates of the spring are attached on the convex or inner side of the longest leaf mentioned, by means of a suitable clip or fastening.

D represents the check-band. This is a broad loop fastened above and below, and extending forward from the spring to which it is fastened, around the central or broadest portion of the tree, so that its length will be at right angles with the length of the latter. It is designed to play freely on the tree, back and forth, according to the strain on the spring, and to have sufficient length to allow the spring full play and to check it at this limit and prevent further tension, which would injure its elasticity.

The rear end of this band may form the clip whereby the leaves of the spring are secured together; and in front of said leaves, a bolt, *a*, is extended vertically, to the ends of which the clevis is pivoted.

In order that the band shall not have lateral play, guide-studs *c* are arranged on each side of it on the whiffletree. Similar studs *d* are provided at the inner edges of the bearing-arms of the spring, in rear of their pivotal points, to check their inward swing, when the spring is not under strain. In this manner the parts are kept in proper relative position and all lateral swinging or shaking is prevented.

In order to determine the degree of strain in the draft, it is designed to sometimes graduate the upper surface of the check-band, as indicated at *e*, and to provide an index, *i*, on the tree, which, being fixed in position, will indicate the tension on the scale as the band moves to the rear under the strain of the draft.

Instead of using springs having their bearings in pivoted arms, it is contemplated to sometimes employ springs having their ends curved forward toward the tree and inward and attached thereto; and the parts may be otherwise modified in ways which will readily occur to those skilled in the art without departing from the nature of the invention.

What I claim as new, and desire to secure by Letters Patent, is—

A whiffletree having a sliding-draft relief-band, D, embracing its middle portion, and a rear longitudinal spring, C, connected centrally to said relief-band, and at its ends to bearing-arms extending to the arms of the whiffletree, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ABRAHAM B. KING.

Witnesses:
C. M. ROHRER,
A. G. ROHRER.