

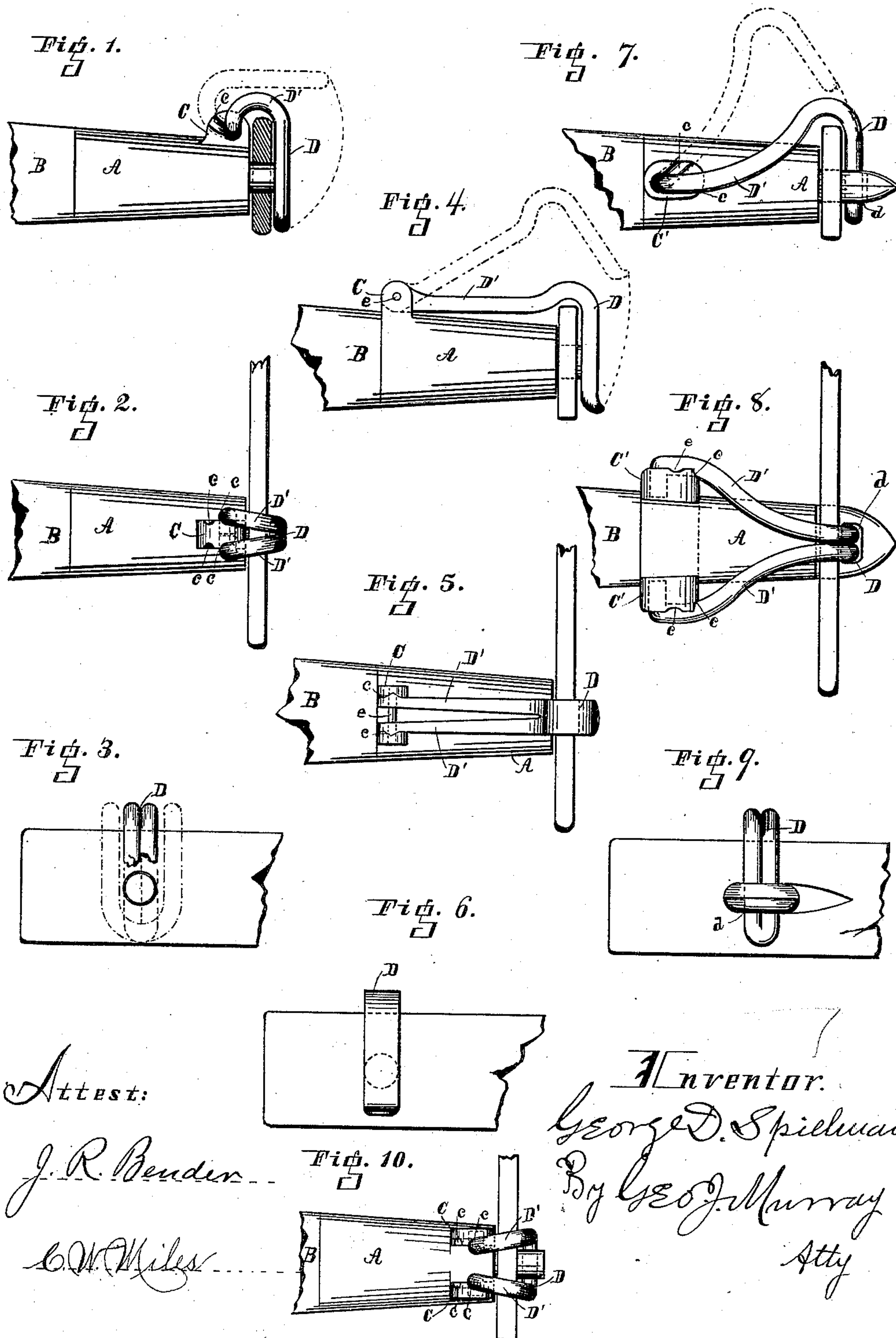
(No Model.)

G. D. SPIELMAN.

TRACE FASTENER.

No. 330,436.

Patented Nov. 17, 1885.



UNITED STATES PATENT OFFICE.

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TRACE-FASTENER.

SPECIFICATION forming part of Letters Patent No. 330,436, dated November 17, 1885.

Application filed June 1, 1885. Serial No. 167,177. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. SPIELMAN, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Trace-Fasteners, of which the following is a specification.

My invention is an improved trace-fastener. Its object is a cheap compact fastener to securely hold the trace in place on the single-tree without rattling or noise when in use.

It consists in a spring-latch journaled in lugs or bearings on the end of the single-tree, the bearing-surfaces surrounding the journal being grooved radially to engage the latch and hold it in the open or closed position. The spring of the metal of which the latch is formed permits it to be turned over the projections intervening the grooves to open or close it.

In the accompanying drawings, in which like parts are represented by similar reference-letters, wherever they occur throughout the various views, Figure 1 is a side elevation of one end of a single-tree provided with my improvement. The trace is shown in section vertical to the axis of its retaining-pin. Fig. 2 is a top elevation of the same. Fig. 3 is an end view, with the end of the latch broken away to expose the pin which projects from the single-tree. The position of the latch in this figure is shown by the extended inner dotted lines. The outer dotted lines show a form of latch that has the end of the hook looped to pass around the pin, which may project through the loop. A top view of this form is shown in Fig. 10, which is the preferred form of my fastening. Fig. 4 is a side elevation, and Fig. 5 a top elevation, of a modification, in which the latch is formed of spring-steel, the journal end being bifurcated, so that the forked legs may be pressed together to pass them between the lugs in which the latch is journaled. Fig. 6 is an end elevation of the fastening shown in Figs. 4 and 5. Fig. 7 is a side elevation, Fig. 8 a top plan view, and Fig. 9 an end elevation, of another modification of my invention. In this form of my invention the lugs or pivot-bearings are formed upon opposite sides of the single-tree ferrule, and the hooked end passes through a perforation either in the end of the single-tree or the extended end of the ferrule, when such is used.

The ferrule A, which is secured on the end of the single-tree B, as seen in Figs. 1, 2, and 3, has a single lug, C, projecting up from it. This is perforated to receive the inwardly-bent ends of the latch D. From the perforation to the top of the lug there are two radial grooves, *c*, formed on each side, one of them to lock the latch in its closed position by engaging its legs above the bent ends or pivots, as shown in full line in the drawings. The other grooves receive the legs of the latch when thrown up to the position shown in dotted line, Fig. 1, and retain the latch in the open position.

In Figs. 4, 5, and 6 there are two lugs, C, projecting up from the ferrule. The adjacent faces of these lugs have V-shaped grooves, instead of circular ones, as in the preceding figures, to engage V-shaped projections on the inside of the legs D' of the latch. In this form the latch is pivoted to the lugs by the pin *e*, which passes through them.

In Fig. 10 the lugs are arranged as in Figs. 4 and 5, except that the radial grooves are circular and the latch differs from the form shown in Figs. 1 and 2 in having its ends bent outward at a right angle to enter perforations in lugs C. The latch in this form is an open loop, and is sprung into its place by closing the legs, the same as in Fig. 5. The open free end of the loop permits the trace-pin to pass through it when the latch is closed.

In Figs. 7, 8, and 9 the journal-bearings for the latch are oval-shaped bosses C'. The ends of these are bored to receive inwardly-bent ends of the latch D, and their ends are radially grooved, like the lugs C, Figs. 1 and 2. The latch in this case is also made of spring-wire, the free end being closed to pass through the perforations *d* in the ends of the single-tree or the nose of the ferrule. When the end of the single-tree is of wood and not provided with a ferrule, as is often the case in light buggy-work, the latch-journal may be simply a ring, as indicated in dotted line, Fig. 8, which can be slipped over the ends of the single-tree and secured in any suitable manner.

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

1. In a trace-fastening, the combination of the lugs C, having grooves *c*, and transversely perforated to receive the latch-pivot, with the

latch D, having spring-legs D' to engage the grooves in the lugs and retain the latch in position over the trace, substantially as specified.

5 2. The combination, substantially as specified, of the ferrule A, having two grooved lugs, C, projecting from it, with a spring-wire latch formed in the shape of an open loop, and having its legs bent outwardly to form pivots, said

latch being held in place and against the grooved sides of the lugs by the spring of its metal, for the purpose set forth.

GEORGE D. SPIELMAN.

Attest:

W. C. SPIELMAN,
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