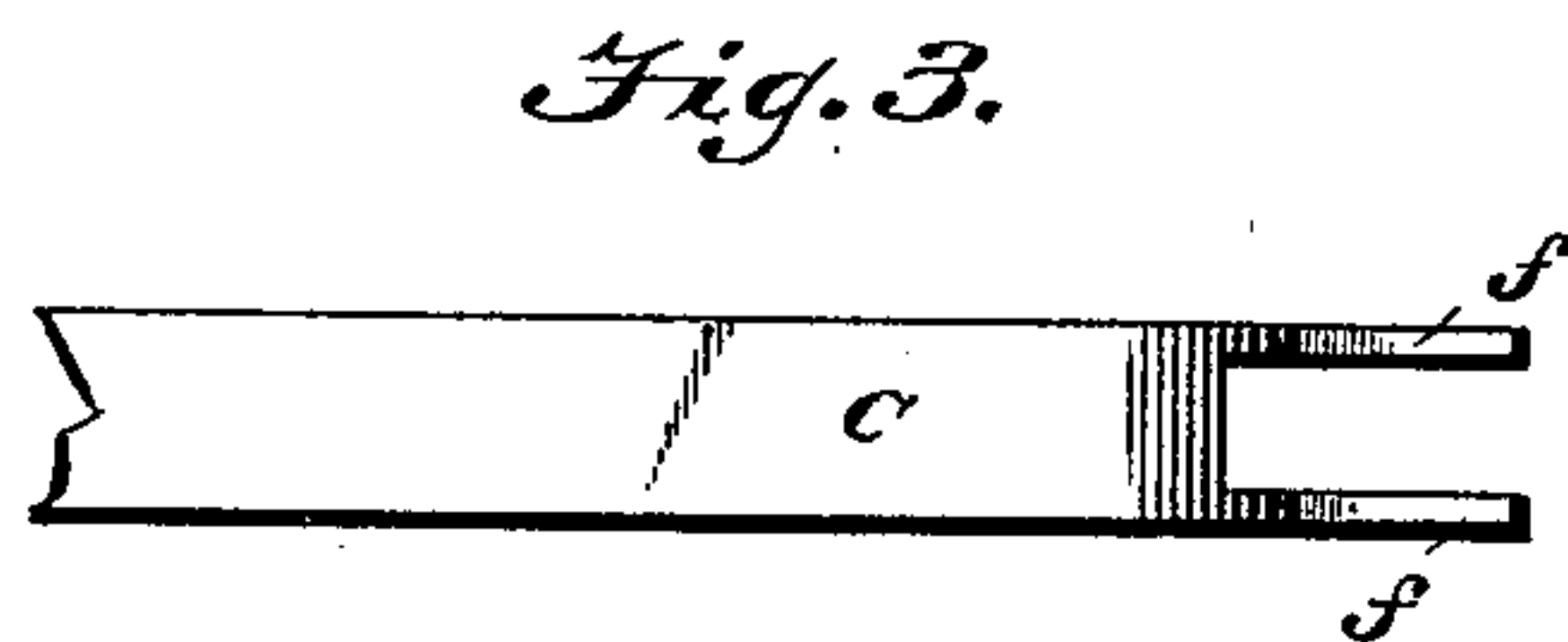
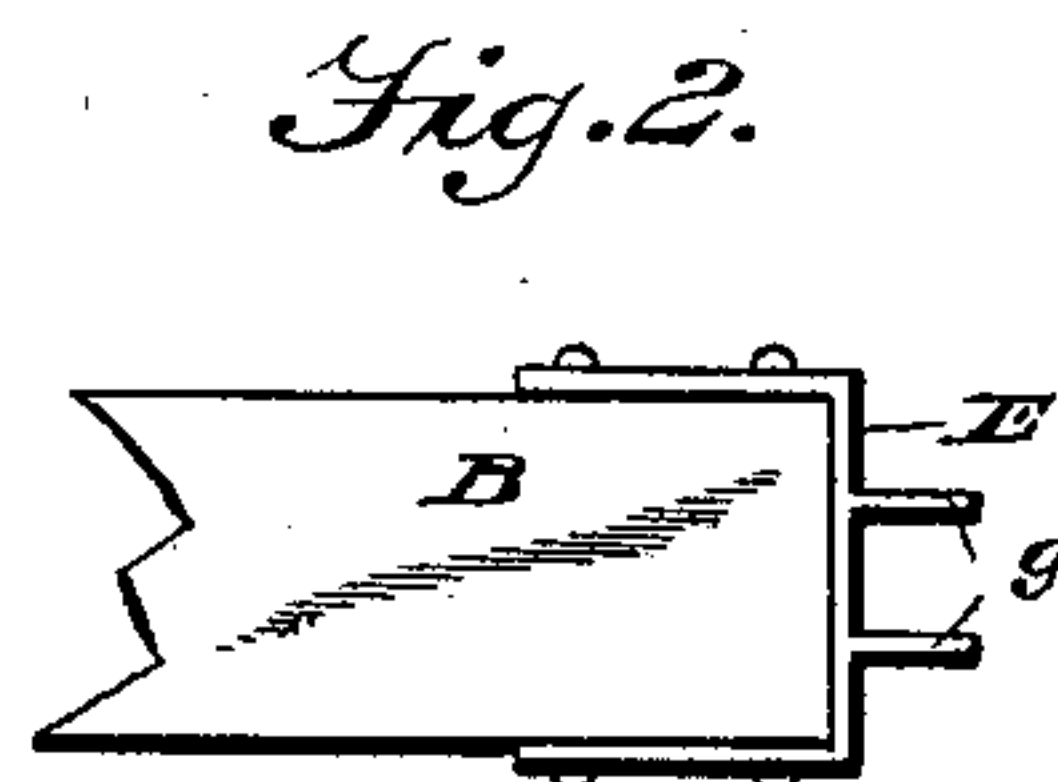
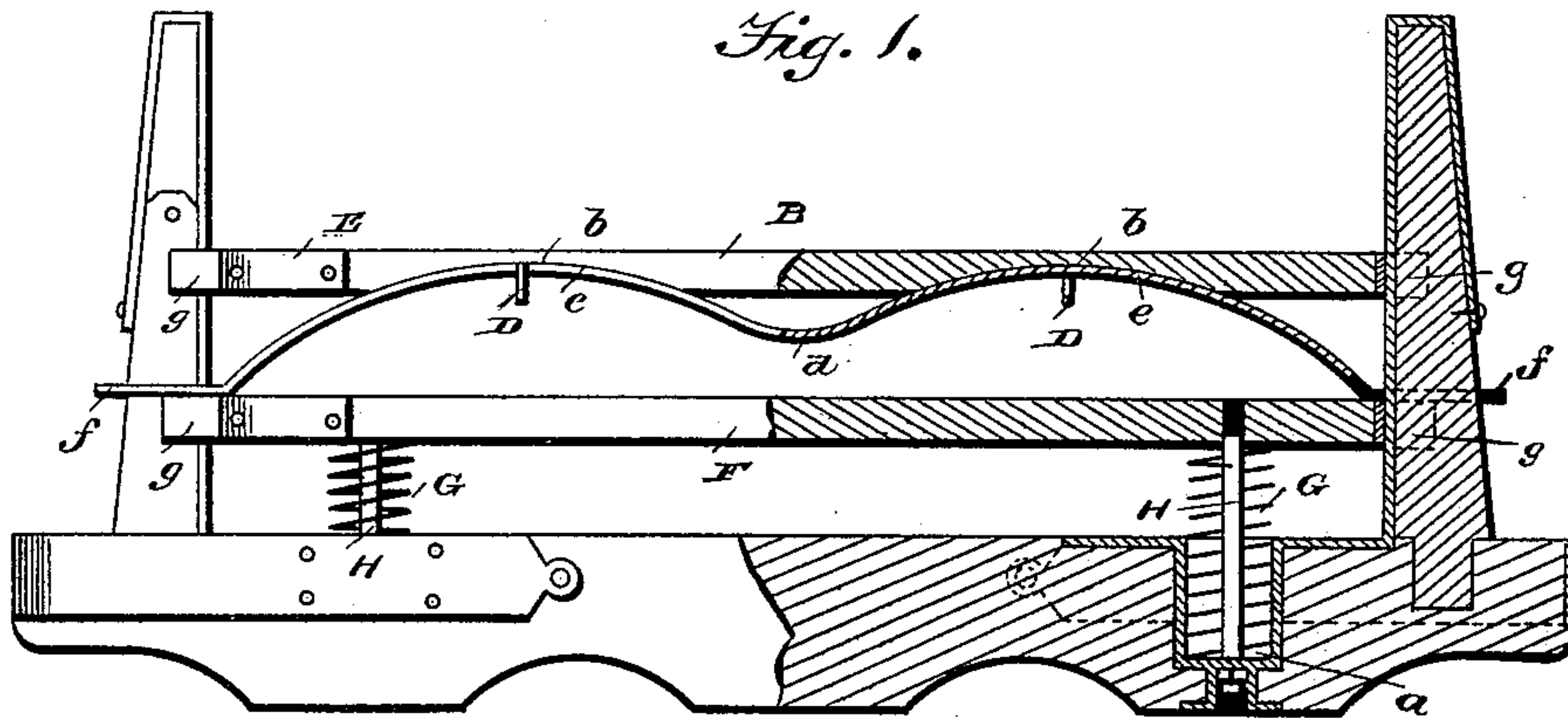


(No Model.)

W. COLE.
BOLSTER SPRING.

No. 391,023.

Patented Oct. 16, 1888.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WESLEY COLE, OF CHICAGO, ILLINOIS.

BOLSTER-SPRING.

SPECIFICATION forming part of Letters Patent No. 391,023, dated October 16, 1888.

Application filed April 28, 1888. Serial No. 272,166. (No model.)

To all whom it may concern:

Be it known that I, WESLEY COLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bolster-Springs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to improvements in wagon-bolsters; and it consists in the combination, with a spring of a peculiar form, of a cross-bar having its ends adapted to guide the same and its under side adapted to serve in connection with the spring, as will be hereinafter fully set forth, and more particularly pointed out in the claims.

In the accompanying drawings, in which similar letters of reference indicate corresponding parts in the several views, Figure 1 is a front view of a bolster, partly in section, with my improvements attached. Fig. 2 is an end view of a portion of one of the cross-bars, and Fig. 3 is a view of a portion of the spring.

Referring by letter to the said drawings, A indicates a wagon-bolster, which may be of any ordinary or approved construction, having the sockets *a*, to receive spiral or coil springs, as will be presently explained.

B indicates the cross-bar arranged above the bolster and parallel with the base thereof. This cross-bar has its under side at a suitable point from the center recessed to receive the upward-curved portions of the spring C, as shown at *b*.

D indicates staples arranged on the under side of the cross-bar B, and, straddling the recesses *b*, serve as holders or guides for the flat spring C.

The spring C is of a peculiar formation, being curved in a serpentine form longitudinally, there being a central downward bend, *d*, and from opposite ends thereof upward bends *e*, which are of a greater sweeping curvature. The upward bends *e* are held within the recesses *b* of the cross-bar B by means of the straddling staples D, but allowed to move longitudinally with respect to each other. It should be here noted that I attach importance to this form of spring and to the fact that the middle bend is of less size or curvature than

those at the ends, as by this construction a light load may ride easy, as when the middle bend strikes the bolster or interposed cross-bar the spring stiffens and will resist great strain.

The spring C has its ends terminating in straight portions *f*, which are slotted to receive the standards which rise from the bolster, and these slotted portions are of a sufficient length to allow the spring when expanded to move outwardly or longitudinally without interference.

E indicates guide-tips for the ends of the cross-bar B, as more fully shown in Fig. 2 of the drawings. These guide-tips bind the ends of the said cross-bar and serve the additional function of wear-plates, having forks or bifurcated extensions *g*, which embrace the standards in a manner similar to the said spring C, thereby allowing it to move with great ease and be truly guided in such movement.

F indicates a lower or intermediate cross-bar, which has its ends provided with guide-tips similar to those of the upper cross-bar, and is designed to serve as a bearing for the spring C when depressed.

The bolster is provided with the usual spiral or coil springs, G, arranged in sockets, as shown, and these springs bear on the under side of the lower cross-bar, F, and keep the same normally elevated.

Through the bolster and the springs G, I arrange vertical rods H, which have their upper ends entering a perforation in the cross-bar F, as more fully shown in Fig. 1.

While I have shown and described the intermediate or lower cross-bar and also the spiral or coil spring supporting the same, yet I do not wish to be confined to the combined use of these parts, as such may be omitted, in which case the forked ends of the flat spring would bear upon the bolster instead of the intermediate cross-bar.

Having described my invention, what I claim is—

1. The combination, with a bolster and its standards, of the cross-bar provided with guide-tips bifurcated, as shown, and also recessed on its under side, the spring C, having a central downward curve or bend and upward bends rising therefrom of greater sweeping curvature, and its ends terminating in straight and

slotted portions, and the staples straddling the said spring within the recesses of the cross-bar, substantially as specified.

2. The combination, with a bolster, of the
5 two cross-bars, the lower one of which has spring-supports and both provided at opposite ends with guide-tips, and the spring C, having a central downward curve and upward curves at opposite ends of the central curve,
10 and having its opposite ends terminating in

slotted portions, the said spring being interposed between the two movable cross-bars, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WESLEY COLE.

Witnesses:

A. P. BOYNTON,
S. B. BOYNTON.