

(No Model.)

W. H. ALBACH.
TURN BUCKLE.

No. 500,836.

Patented July 4, 1893.

Fig. 1.

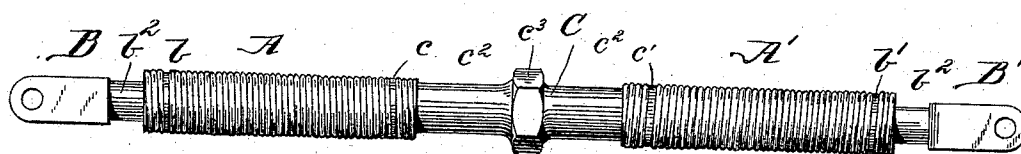


Fig. 2.

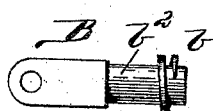


Fig. 4.

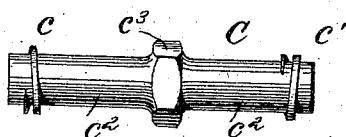


Fig. 5.

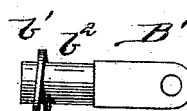


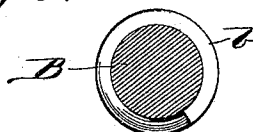
Fig. 5.



Fig. 6.



Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM H. ALBACH, OF MANSFIELD, OHIO, ASSIGNOR TO THE BARR CASH
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TURNBUCKLE.

SPECIFICATION forming part of Letters Patent No. 500,836, dated July 4, 1893.

Original application filed August 28, 1889, Serial No. 322,262. Divided and this application filed November 26, 1892. Serial No. 453,180. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ALBACH, a citizen of the United States, residing at Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Turnbuckles, of which the following is a specification.

In the use of wire and other flexible lines for many purposes, especially in store-service apparatus, it is desirable to keep them tense or taut, but at the same time allow them a certain elasticity to compensate for shocks or undue strain. Heretofore this has been accomplished by the use of ordinary turn-buckles applied by means of guys to the supports for the line or lines and by the interposition of coiled springs between the supports and the line itself. In my invention I propose to dispense with such ordinary turn-buckle, so far at least as it serves as a means for tightening up the line, and to accomplish the conjoint purpose by forming the spring-connection itself as a turn-buckle. To this end I employ two coiled springs, one coiled to the right and the other to the left, connecting one of said springs to the support and the other to the wire, or whatever it may be, and uniting these springs by a central rod or spindle, having at each end a spiral flange or wing, turning respectively to the right and to the left and adapted to enter between the coils of the springs and be adjusted therealong by turning the spindle, thus taking up slack, or letting it out to tauten the line or relax it, as may be found necessary, all as fully set forth in an application filed by me on the 28th day of August, 1889, Serial No. 322,262, for Letters Patent of the United States for an improvement in ways for cash and parcel carriers, of which this is a division, and patented to me January 12, 1893, as No. 490,093.

My invention, therefore, may be said to consist in a spring turn-buckle.

In the drawings: Figure 1 is a side elevation of assembled mechanism constituting a turn-buckle constructed according to my invention. Figs. 2 and 3 are eye-bolts or rods with right and left threads to enter between the outer coils of the springs and serve as means of attachment to the support and line. Fig. 4

represents the central rod or spindle having right and left threads at opposite ends; Figs. 5 and 6, right and left coiled springs detached from the other mechanism, and Fig. 7, an enlarged transverse section or end view of one of the eye-rods or of the central spindle, showing the thread thereon.

A represents a right hand, and A' a left hand coiled spring. Each of these is to be attached at one end to one of the members intended to be united; that is, in the case of a wire or other line, one of them will be attached to said line and the other to the support or part to be connected by the line with a distant point. The means adopted for fastening these ends to the respective parts that they are intended to unite, may be of any suitable description, but I prefer to employ eye-rods, B and B', the first having a right hand thread, *b*, and the second a left hand thread, *b'*, adapted to enter between the coils of the spring and screw therealong. These eye-rods, except for that part intended to remain permanently outside of the coils, are cylindrical, as at *b*², and of such diameter as practically to fill the internal walls of the coils, thus insuring a firm grasp of the threads. The threads themselves may have any suitable shape adapted to hold against the coils and will be pointed at the advancing end to enter readily between said coils and may, with advantage, be pointed at the retreating ends. They also may be advantageously somewhat undercut partially to embrace and saddle the wire, thus insuring against slip in the axial direction. When the eye-rods have been turned so as to bring within the grasp of their threads two or three of the coils, they will be so firmly secured to the springs that they can not be pulled off without breaking the wire or straightening out the coils. They may then be attached to the support or to the line as the case may be; or conversely they may first be attached to the support and to the line, or whatever is to be connected, and the coiled wire springs themselves screwed upon them.

C is a central rod having at one end a right hand thread, *c*, and at the other end a left hand thread, *c'*, the characteristics of these

threads being the same as those of the threads upon the eye-rods and the diameter of the cylindrical parts, c^2 , of the rod being the diameter of the internal walls of the spring coils. This central rod is intended to unite the two springs by screwing therein. It is or may be square, or polygonal in cross section, at its center, as at c^3 , for the use of a wrench or spanner, or it may be roughened for the grasp of the hand or fingers, depending upon the strength of the springs, the power necessary to be applied and the tension it is desired to secure by means of the turn-buckle. Now, applying this central rod to the coiled springs already attached to their supports and lines, the right hand thread will be introduced between the right hand coils and the left hand thread will be introduced between the left hand coils, and then, by turning the rod, the springs will be drawn to any desired tightness, tautening the wire or other line, and yet leaving it a certain resiliency which will take up shock or strains that otherwise might break it.

It is evident that instead of two coiled springs with a central rod, a single coiled spring may be used, screwing upon fixed rods or spindles at each end, right or left hand threaded, according as the coils are right or left hand.

I claim—

1. The spring turn-buckle, herein described, consisting of two coiled springs having right and left turns respectively, and a central spindle having right and left spiral flanges at its ends.

2. The turn-buckle, herein described, consisting of two coiled springs having right and left turns respectively, a central spindle having at its end right and left spiral wings or flanges screwing into the coils of said springs and terminal eye-rods having right and left spiral flanges screwing into the extreme ends of said springs.

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