(No Model.)

W. E. DILLARD.

TOP PROP.

No. 427,559. Patented May 13, 1890.

Fig 1.

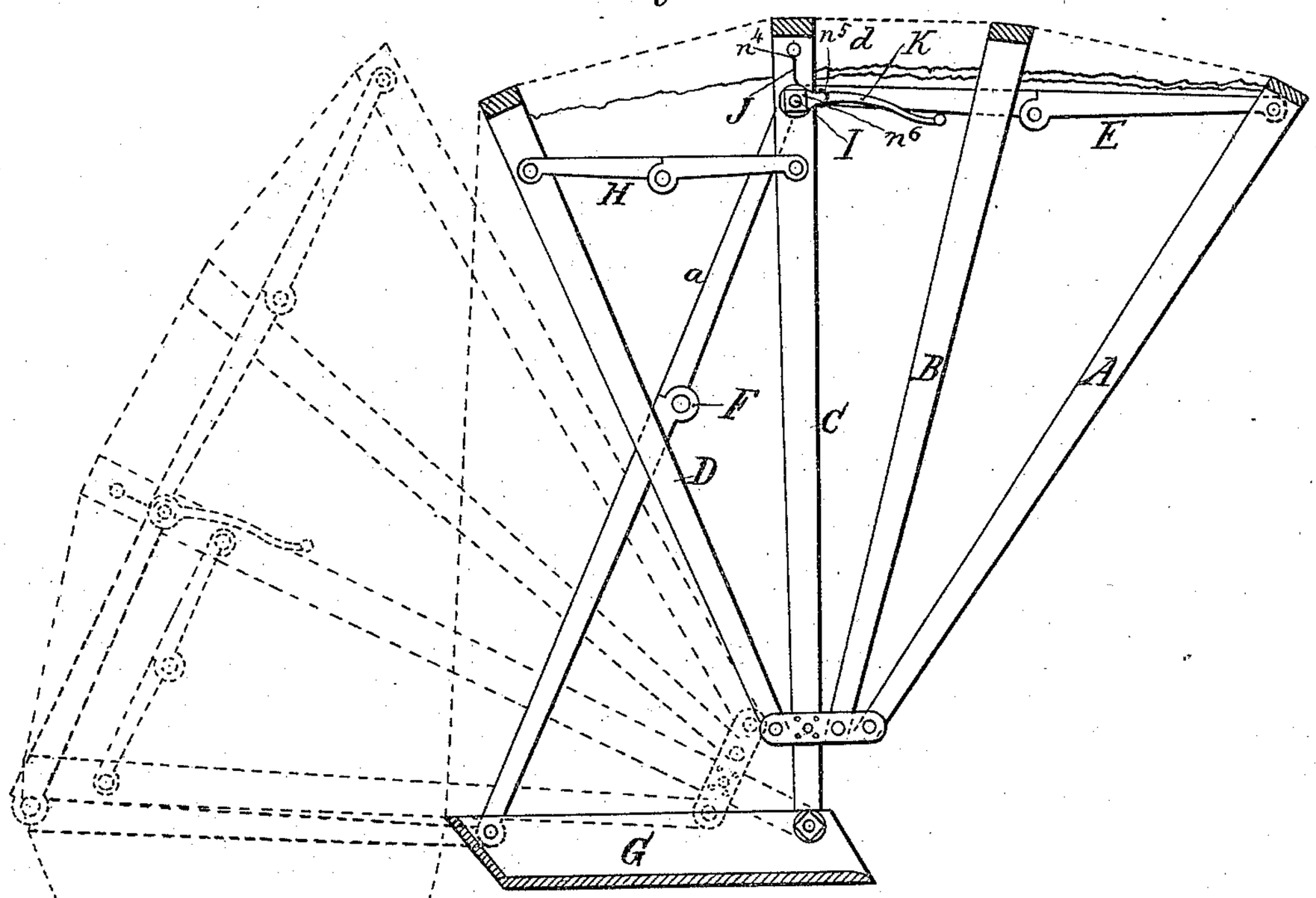


Fig 2.

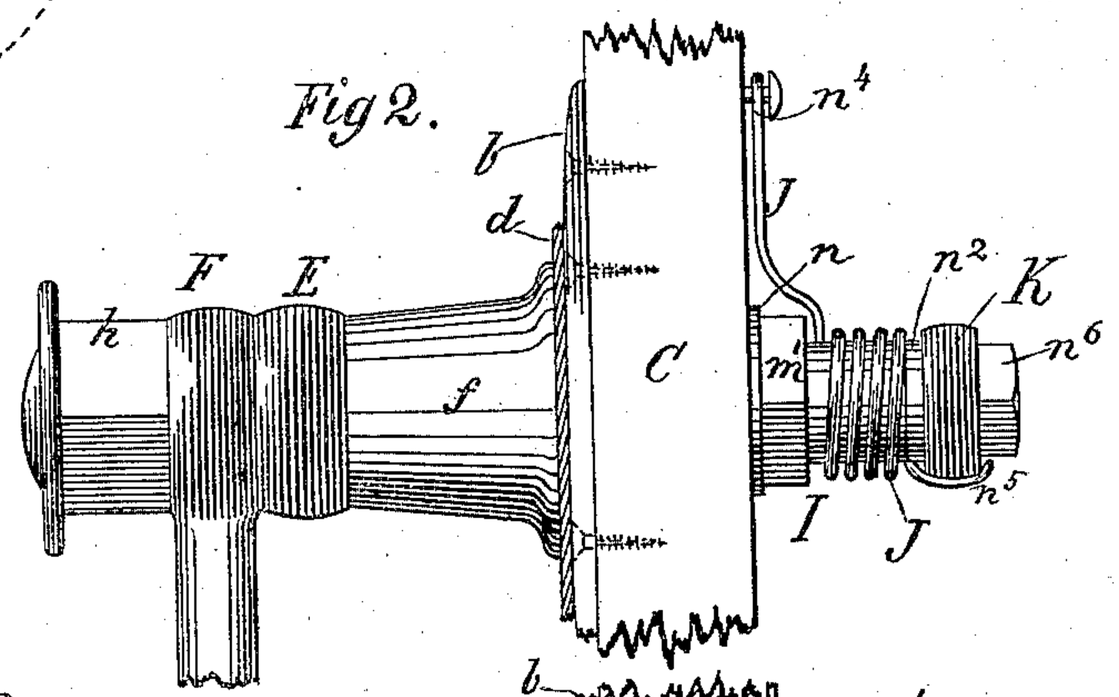
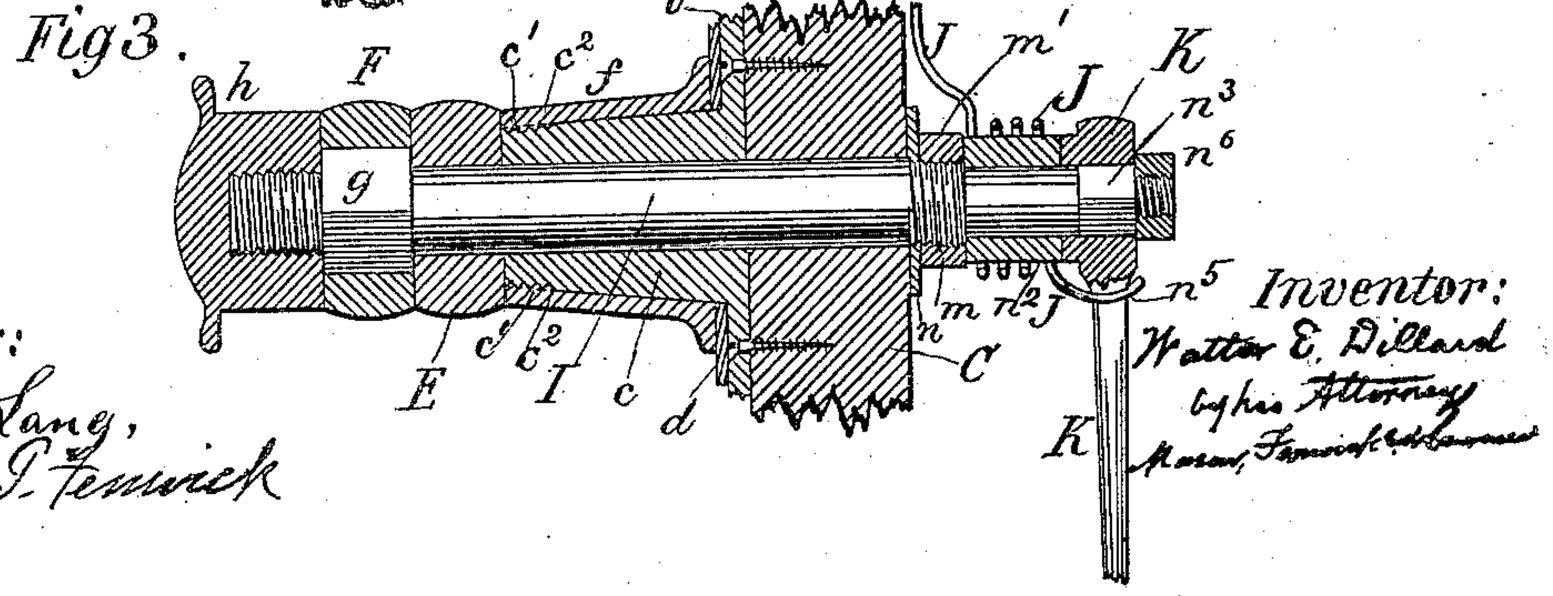


Fig 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALTER EUGENE DILLARD, OF TAPPAHANNOCK, VIRGINIA.

TOP-PROP.

SPECIFICATION forming part of Letters Patent No. 427,559, dated May 13, 1890.

Application filed March 6, 1890. Serial No. 342,868. (No model.)

To all whom it may concern:

Be it known that I, WALTER EUGENE DILLARD, a citizen of the United States, residing at Tappahannock, in the county of Essex and State of Virginia, have invented certain new and useful Improvements in Top Irons and Props for Vehicles; and I do hereby 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.

My invention consists in a novel construction of the joint-bolt which passes through one of the bows and the eye of the upper limb of the upright or diagonal brace, and in the application to this bolt on the inside of a vehicle of a lever-handle and a spiral spring, the latter being coiled around the bolt directly or upon a thimble thereon, and attached by one of its ends to the bow through which the bolt passes and by its other end connected to the lever-handle.

It also consists in certain other constructions, combinations, and arrangements, as will be hereinafter set forth.

By my invention the joint of the diagonal brace is kept closed by spring-pressure, and can be broken by moving the lever-handle in one direction, and thereby the top of the vehicle lowered gradually and safely, and while said top is being lowered the spring will be coiled more tightly upon the bolt until the top is fully lowered, whereupon the top by its position and preponderating weight will overbalance the resistance of the thus tightly-coiled spring and hold the lever-handle as though it were fastened by a catch, and then as soon as the lever-handle is moved in a reverse direction with the hand and the top started to its raised position the force of the spring co-operating with the force applied to the lever-handle will aid in elevating the top to its fully-raised position, the work being mainly done by the spring as soon as the top is moved upward far enough to so decrease its leverage weight backward as to give the force of the spring the advantage over the same.

The benefit of my invention lies in its great simplicity, which results from uniting in the one joint-bolt located at the top of the upper limb of the diagonal brace the capabilities, by aid of a hand-lever accessible from the inside of the vehicle, of breaking the middle joint of said brace for the purpose of lowering the top of the vehicle, and simultaneously, by the same lever-handle, bringing the spring into a condition for aiding the driver in raising the top, said spring being so applied that catches or detents for holding the lever are rendered unnecessary.

In the accompanying drawings, Figure 1 is an elevation of one of the inner sides of a buggy with my invention applied thereto, the dotted lines representing the lowered position of the buggy and the full lines its raised position. Fig. 2 is a broken enlarged side elevation of the upper limb of the diagonal brace, the upper joint-bolt, the spring, and lever-handle all in the position they occupy when the top of the vehicle is up; and Fig. 3 is also an enlarged detail vertical section showing the parts seen in Fig. 2 as they appear when the top is down.

In the drawings, A B C D represent the bows of the top; E, the upper horizontal jointed bar or brace, which is fastened to the bows A and C; F, the lower or diagonal joint bar or brace extending from the upper part of the bow C down to the back of the driver's seat G, and H is the concealed jointed bar or brace, which is fastened to the bows C and D by pivot-screws in the usual way, and occupies a position between the outside leather covering and the inside lining or trimming. The parts described may all be of usual construction, except so far as may be necessary to adapt them to my invention, which I will now describe.

I is a horizontal joint-bolt for the upper limb *a* of the brace F. It is passed through a round hole in the bow C, so as to have an extension outside and inside the same, as shown. The outside extension has fitted upon its cylindrical portion the metal clamp-plate *b*, conical top-prop bearing-box *c*, screw-threaded, as at c', on its periphery at its outer end, leather covering *d*, tubular metal washer *f*, flanged at its inner end and screw-threaded, as at c^2, internally at its outer end, and the rear limb a' of the horizontal brace E, as shown, and beyond the eye of the rear limb of brace E the extension is made with a squared portion *g*, on which the squared eye

of the upper limb of the diagonal brace F is fitted, so that the brace and joint-bolt move rigidly together whenever the said bolt is turned partly around, and the terminus g' of the extension is cylindrical and screw-threaded, receiving a finishing cap-nut h, as shown.

Instead of making the portion g square, any ordinary key-fastening may be adopted, so as to unite the brace and bolt rigidly together.

On the inner extension of the joint-bolt I a screw-thread m is cut next to the bow C, and on this portion a washer n and nut m' are fitted, and inward from the nut the extension is made cylindrical, and on said portion is fitted a turning sleeve or thimble n^2, for lessening friction and wear on the bolt while turning back and forth, and around this sleeve a spring J is coiled, and inward beyond the thimble or sleeve the extension is formed with a square n^3, on which a lever-handle K is fitted, so as to move rigidly with the joint-bolt. The spring is fastened by one of its ends to the bow C, as indicated at n^4, and by its other end is connected to the lever-handle K, as indicated at n^5. The lever-handle is confined on the joint-bolt by a nut n^6, screwed on the inner terminus of the said bolt. By means of the nut m' the parts can be drawn up tightly together, and thus rattling avoided, and by the sleeve the spring is relieved and uniform uncoiling of the same insured.

The lever-handle may be in the form of a wheel with a handle or knob on its face, or with an extension from its periphery. This handle is located on the inside of the buggy, between the lining or trimming and outside leather, just the same as in case of ordinary concealed joints; or it may be exposed on the inside, so as to be easily accessible, and may be of such configuration as to present an ornamental finish. The handle being rigid with the joint-bolt, and the brace F also rigid therewith, the driver can, without moving from his seat in the buggy, lower or raise the top at the intermediate joint of the brace F between the eye portions of parts a a' of braces E F. An ordinary radially-split or a spirally-formed spring-ring washer may be applied to prevent rattling, and at all of the brace-joints a similar washer may be provided for the same purpose.

My invention, if applied to vehicles already made, does not require additional holes through the leather and lining, as the joint-bolt passes through the bow C. In a word, it does not change even the outside cap-nut of said joint-bolt.

To apply my invention all that is necessary, so far as the brace F is concerned, is to square the eye-hole therein, and this can be done by shaping the hole already in the brace square, or by providing in its eye a rectangular key-seat, such squared end or key-seat corresponding to a square or key on the bolt, or it might be effected by cutting off the end of the brace and welding a short end with a square hole or key-seat in it to the upper limb of the brace F.

As nearly all tops now in use have steel bow-sockets, the outside irons employed in my invention can be readily applied thereto.

My invention is simple, effective, and of very slight cost, and does not require to be manufactured with the vehicle, although it may be thus utilized.

What I claim is—

1. In a vehicle-top, the combination of the bow C, top-prop joint-bolt I, having a squared portion g, the lever-handle K, the plate b, having conical screw-threaded tubular bearing-box c, screw-threaded tubular washer f, braces E and F, and finishing cap-nut h, substantially as described.

2. The combination of the bow C, top-prop joint-bolt I, having a squared portion g, screw-threaded top-prop bearing-box c, screw-threaded tubular washer f, brace F, spiral spring J, and nut m', substantially as described.

3. The combination, with a top-prop joint-bolt I, having a squared portion g, of brace F, spiral spring J, sleeve n^2, and nut m', substantially as described.

4. In a vehicle-top, the combination, with bow C and the top-prop joint-bolt I, passed through the bow, and to which the upper limb of the diagonal brace F is connected rigidly, of a sleeve, a lever-handle, and a coiled spring, substantially as described.

5. The combination, with screw-threaded top-prop bearing-box, screw-threaded tubular washer, and the top-prop joint-bolt I, to which the upper limb of the brace F is connected rigidly, of a coiled spring, substantially as described.

6. In a carriage-top prop, in combination, a joint-bolt I, having a lever-handle, a sleeve upon said bolt, a spring coiled around said sleeve and connected by one end to the lever-handle of the bolt and by the other end to a bow of the carriage-top, and a jointed brace F, whereby friction is lessened and the intermediate joint of the top-prop brace is held unbroken by spring-tension, the descent of the top eased by spring resistance, and the elevation of the top effected by the joint aid of the lever and the spring, substantially as described.

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

WALTER EUGENE DILLARD.

Witnesses:

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