(No Model.)

W. H. HALL.

TEDDER.

No. 352,974. Patented Nov. 23, 1886.

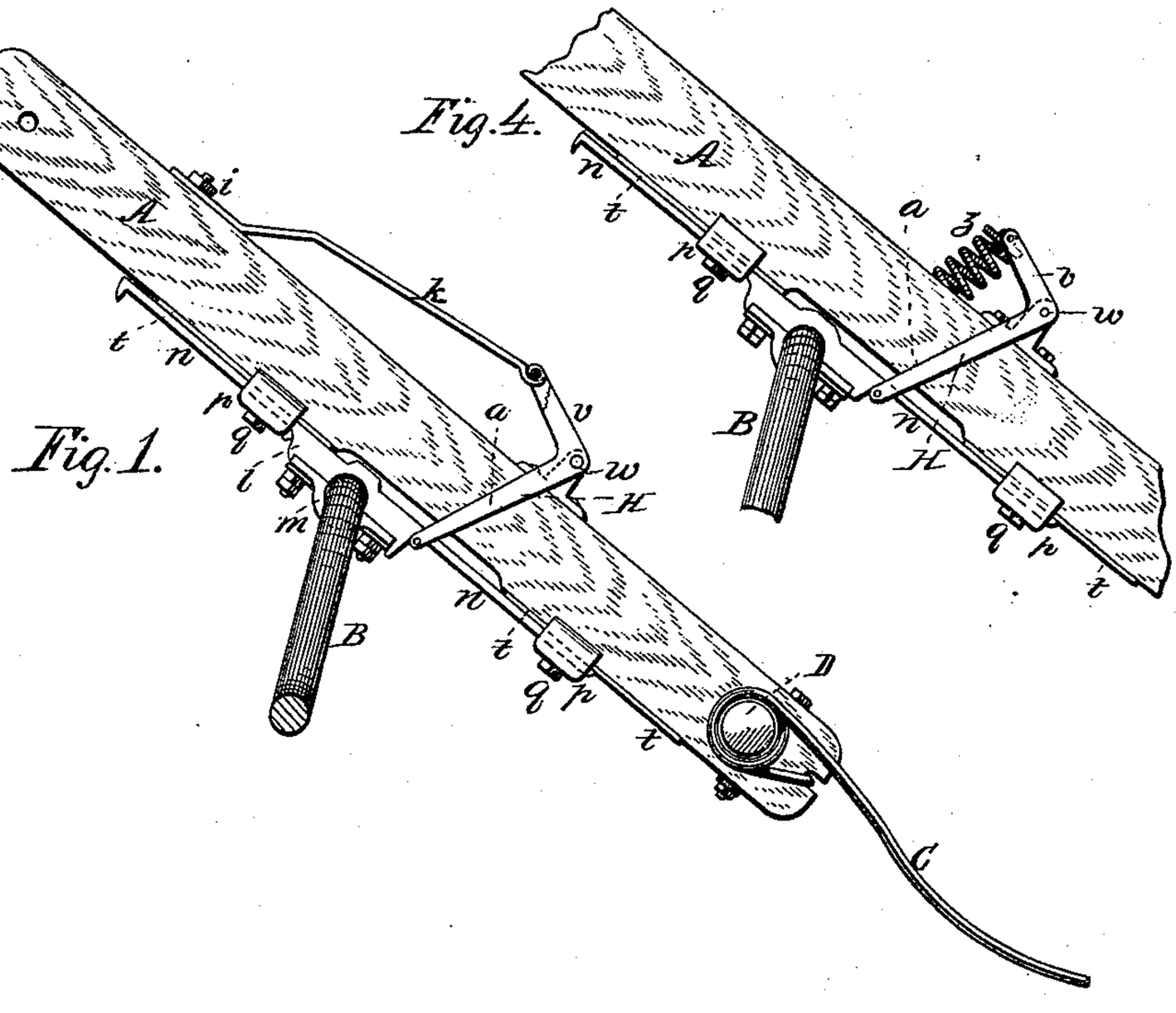


Fig. 1.

Fig. 4.

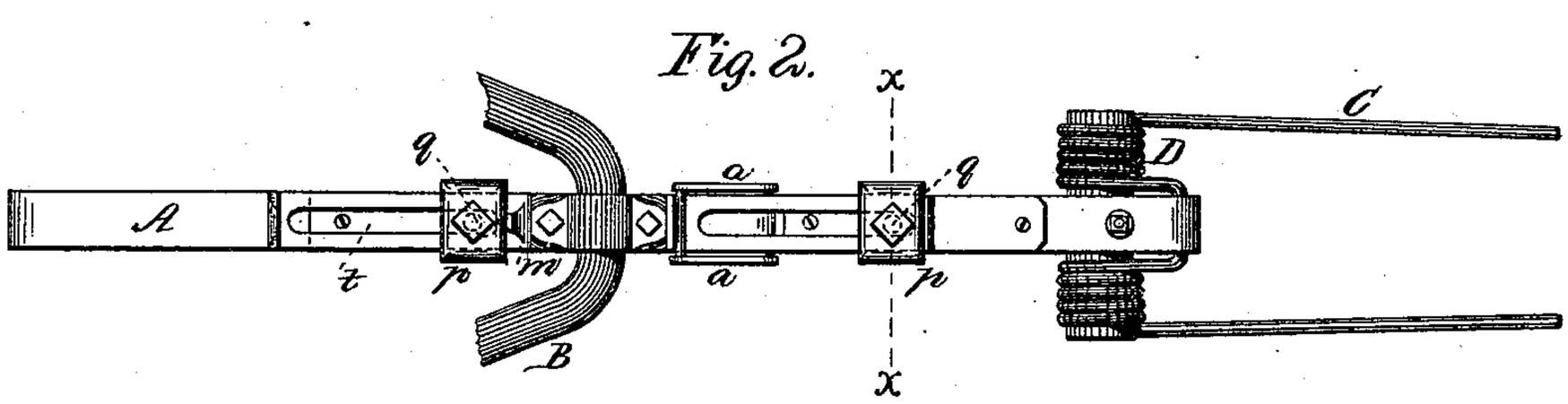
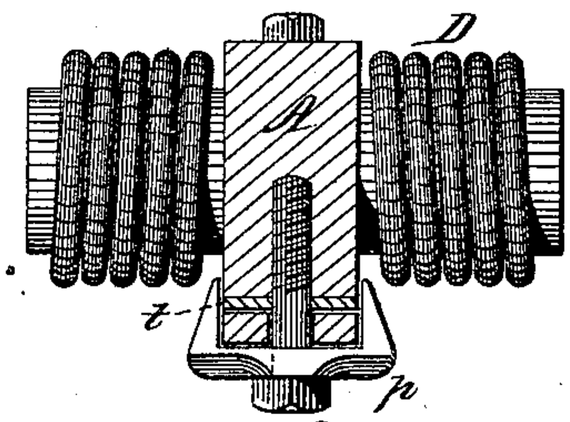


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WILLIAM H. HALL, OF TIFFIN, OHIO.

TEDDER.

SPECIFICATION forming part of Letters Patent No. 352,974, dated November 23, 1886.

Application filed January 5, 1886. Serial No. 187,661. (No model.)

To all whom it may concern:

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

My invention relates especially to the mode of mounting the tedder-arm or fork-handle upon the crank which actuates it. Its object is to provide a convenient and effective means of controlling the longitudinal movement of this arm, whereby it may be relieved from the shock caused by the fork encountering an obstruction.

It consists in the combination, with a sliding box in which the actuating-shaft has its bearing, of a crank controlling the movement of such box; in the combination, with that crank, of a spring or springs operating upon the opposite arm to that which engages with the sliding box; in the provision of a spring specially adapted to the purposes of this combination, and in features of the construction and mutual adaptation of these parts, more specifically hereinafter set forth.

In the drawings, Figure 1 is a side view of a tedder fork-arm having my improvement in its preferred form mounted thereon. Fig. 2 is a plan of the same, as seen from beneath. Fig. 3 is a cross-section taken through the fork-arm at *x x* in Fig. 2, showing the form of the bracket or guide-plate in which the box slides. Fig. 4 is a side view of a tedder fork-arm having a modified form of my improvement mounted thereon.

A is a fork-arm, having any suitable fork, C, mounted thereon by means of the coiled spring D, or in any other proper manner.

B represents a section of the actuating-crank, having its bearing in the box, of which *l* represents the pillow-block, and *m* the cap. This box has projections *n* extending longitudinally of the fork-arm and sliding in brackets or hangers *p p*, which brackets or hangers are firmly secured to the fork-arm by screws *q q*, or in any other suitable manner. The extensions *n* of the box are preferably slotted at *o*, the screws *q q* extending through the slot and affording a stop to the movement of the box in each direction, while serving at the same time, in connection with the brackets, as a guide, rigidly supporting the box against any lateral displacement or deflection from the proper line of its movement.

H is a crank having one arm, *a*, extending substantially transverse to the movement of the sliding box and engaging with said box. This crank is pivoted at *w*, and has an arm, *v*, engaging with a spring, (shown as *k* in Fig. 1 and as *z* in Fig. 4,) whose stress is exerted toward retaining the sliding box in its normal position. In Fig. 1 the spring *k* is composed of a flat plate of metal firmly secured to the fork-arm at *i* by screw, bolt, or other appropriate means, and extended away from said fork-arm to the point of its engagement with the crank-arm, to which it is pivotally connected by loop or in any other suitable manner. As exhibited in Fig. 1, this plate tends to press the end of the crank against which it engages outward or away from the fork-arm, and when any force is exerted upon the opposite crank-arm, tending to force it in the direction of the lower end of the fork-arm, this spring yields elastically to allow the corresponding movement of the arm with which it engages, which is toward the fork-arm.

In the modification shown in Fig. 4 a coiled spring is substituted for the plate-spring, and the stress upon the arm which engages with the box, tending to move that arm toward the lower end of the fork-arm, is resisted by the coiled spring, which tends also to force the crank back to its normal position.

The operation is as follows: When the fork strikes any obstruction that tends to force it upward, the fork-arm slides lengthwise of the box, the guides or brackets containing extensions of said box moving along said extensions. This movement is resisted by the spring pressing upon the crank-arm and tending to hold the box in its normal position. As soon as the shock is past, the stress of the spring forces the box and fork-arm to their normal relative positions. Were the spring applied directly to the sliding box its movement would necessarily be equal to that of the box, and it would be difficult to provide at once for sufficient longitudinal movement and sufficient rigidity. The spring would also, when so applied, be especially liable to become tangled or other-

wise obstructed. By the construction here shown I overcome these difficulties and obtain the advantage of the arm *a* engaging with the box substantially transversely of the path of its movement, while the crank arrangement enables me to vary at will the ratio between the movement of the box by changing the ratio between the length of the spring-arm of the crank and the box-arm.

The crank may be applied to the opposite end of the box, or connected to the box or extension thereof at any other point. Wherever it is attached it should be so applied as to exert the stress in the direction of the normal relative position of box and fork-arm. The plate-spring *k* may readily be made to exert its stress in the direction of the fork-arm instead of away from it, and the same is true of the coiled spring. By reversing the position of the crank, so that its elbow shall be toward the upper end of the fork-arm instead of the lower end, the direction of its stress may be reversed, while the spring continues to operate in the same direction, as shown in the drawings.

t t are metallic plates interposed between the fork-arm and the extension *n* on the sliding box, to prevent wear of the wood. These plates may be dispensed with. The brackets and the mode of securing them to the fork-arm may be modified, and the crank and spring may be applied to other constructions of sliding box.

I have shown modifications of some of these parts in an application filed simultaneously herewith, in which application I have made claim to some of the features here shown, and I reserve the right to all such features as fully as they may be claimed in said application.

I claim—

1. In combination with the sliding box of a tedder fork-arm, a crank pivotally mounted on said fork-arm, having one arm engaging with said sliding box and the other arm actuated by a spring, whereby the longitudinal movement of said sliding box is controlled, for the purpose described.

2. The combination of the sliding box of a tedder fork-arm, the crank having one arm engaging with said sliding box, and a flexible metallic plate bearing elastically upon the other arm of said crank, and thereby controlling the longitudinal movement of said box, for the purpose described.

3. The combination of the sliding box with its slotted extensions, the brackets in which the same is guided, the tedder-arm, and the crank having one arm engaging with the sliding box and the other arm actuated by a spring, whereby the movement of the box is controlled, for the purpose described.

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