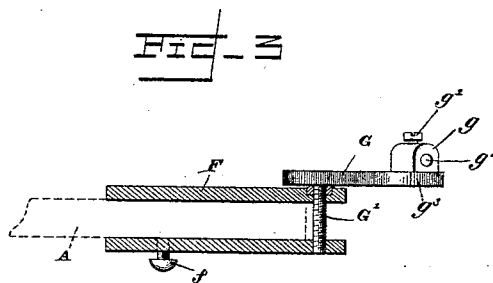
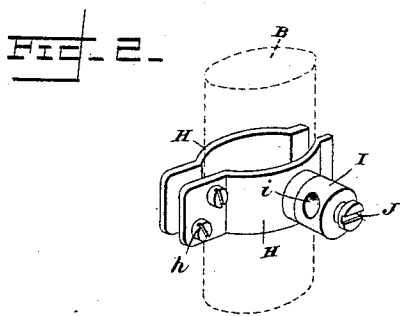
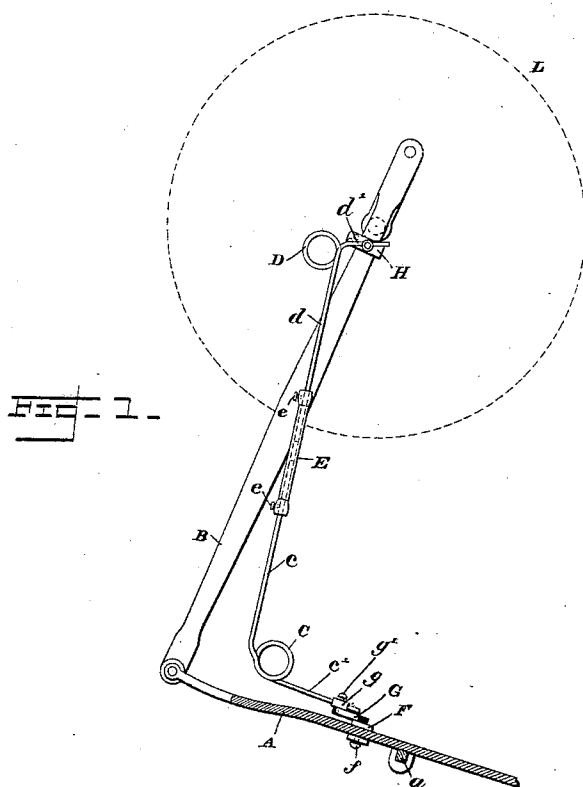


(No Model.)

C. A. VAN ALLEN.
DEVICE FOR OVERCOMING DEAD CENTERS.

No. 500,044.

Patented June 20, 1893.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES A. VAN ALLEN, OF DETROIT, MICHIGAN.

DEVICE FOR OVERCOMING DEAD-CENTERS.

SPECIFICATION forming part of Letters Patent No. 500,044, dated June 20, 1893.

Application filed August 31, 1892. Serial No. 444,637. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. VAN ALLEN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Devices for Overcoming Dead-Centers; 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.

This invention relates to an improved arrangement and construction of a spring mechanism for keeping pitmen off dead centers, the object of the invention being to provide a simple and cheap device which can be readily applied to the pitman used in various kinds of light running machinery and more especially to simplify and make more practical the construction of my improved spring shown in my former Letters-Patent No. 254,248, dated February 28, 1882, and No. 287,485, dated October 30, 1883, and the invention therefore consists in the construction, arrangement and combination of parts, substantially as will be hereinafter described and claimed.

In the annexed drawings illustrating my invention Figure 1 is a side elevation of my improved spring for keeping pitmen off dead centers, the same being shown as practically applied in connection with a pitman. Fig. 2 is an enlarged detail view of the clamp which holds the spring at the upper end of the pitman. Fig. 3 is a sectional view showing the construction and arrangement of the clamping device which holds the spring to the treadle.

Similar letters of reference designate corresponding parts throughout the different figures of the drawings.

A designates the treadle; B the pitman rod hinged thereto and L the wheel of some light running machine, to the crank shaft of which wheel the upper end of the pitman is pivoted. The treadle A is supported on its fulcrum *a*.

C designates the lower coil and D the upper coil which together constitute a part of my improved spring. The lower coil C is provided with the downwardly extending arm *c'*, which lies alongside of the treadle A and with the upwardly extending arm *c* which lies alongside of the pitman B. The coil D is provided

with the downwardly extending arm *d*, which lies alongside of the pitman B, and with the upwardly extending arm *d'*, which is connected to a clamp secured to the pitman rod near its upper end. The arms *c* and *d* have their ends in proximity to each other, and said ends are connected by means of a tube or sleeve E which receives the said two arms at its ends respectively, said sleeve being provided with set screws *e e* which serve to clamp the ends of the arms within the sleeve and thereby hold them securely. In this way it will be seen that the distance between the coils C and D may be lengthened or shortened. The sleeve E can be adjusted so that the coil C may be lifted to a higher position or the coil D be lowered into a lower position in order to suit the needs of different kinds of pitmen, both as regards the tension which may be required and also as regards the length of the pitman. It will be observed that both spring coils C and D preferably are situated in a vertical plane. The arm *c'* of the lower coil C enters the metallic block *g* through the perforation *g*² therein and is held in place by means of the set screw *g'*, it being evident that the arm *c'*, can, by means of this set screw *g'* be adjusted so as to make the distance between the coil C and the block *g* longer or shorter.

The block *g* is provided with a threaded projection *g*³ by means of which it is screwed into a plate G. Said plate G is provided with a threaded pin G' which is screwed into the clamping block F. Said block F has two jaws, as shown in Figs. 1 and 3, which receive between them the treadle A, and said block is secured to said treadle by means of a set screw *f*. Therefore it will be seen by this construction, consisting of intermovable parts, that the arm *c'* is movably connected to the treadle.

The spring is secured to the pitman near its upper end by means of the clamp shown in enlarged detail in Fig. 2, said clamp consisting of the two similarly-shaped halves H¹ H which are made as duplicates of each other, and which embrace the pitman rod in the manner shown in Fig. 1 and are secured to each other by means of the screws *h*, as shown in Fig. 3. One of the halves H of this clamp is provided with a block I, having a perforation *i* therein, and furnished with a threaded

shank by means of which it is screwed into the clamp section II. The perforation *i* receives the arm *d'* of the upper coil D and said arm is securely fastened in place by means of the set screw J, which permits the arms to be adjustable so that the distance between the coil D and the block I may be increased or lengthened as may be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the lower coil C, a downwardly extending arm *c'* on said coil, an upwardly extending arm *c* likewise on said coil, the coil D, a downwardly extending arm *d* on said coil and an upwardly extending arm *d'* likewise on said coil, a tube or sleeve E which connects the arms *c* and *d*, said sleeves being provided with set screws for clamping firmly the ends of the aforesaid arms therein in order that the distance between the coils

C and D may by the adjustment of the sleeve be lengthened or shortened, substantially as described.

2. In a device for overcoming dead centers, the combination of the lower coil C having a downwardly extending arm *c'* and an upwardly extending arm *c*, a coil D having a downwardly extending arm *d* and an upwardly extending arm *d'*, an adjustable tube or sleeve E which connects the arms *c* and *d*, a clamp for securing the lower end of the spring to the treadle and a clamp for securing the upper end of the spring to the pitman, substantially as described.

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

CHARLES A. VAN ALLEN.

Witnesses:

ADAM F. BECK,
W. J. BEERS.