

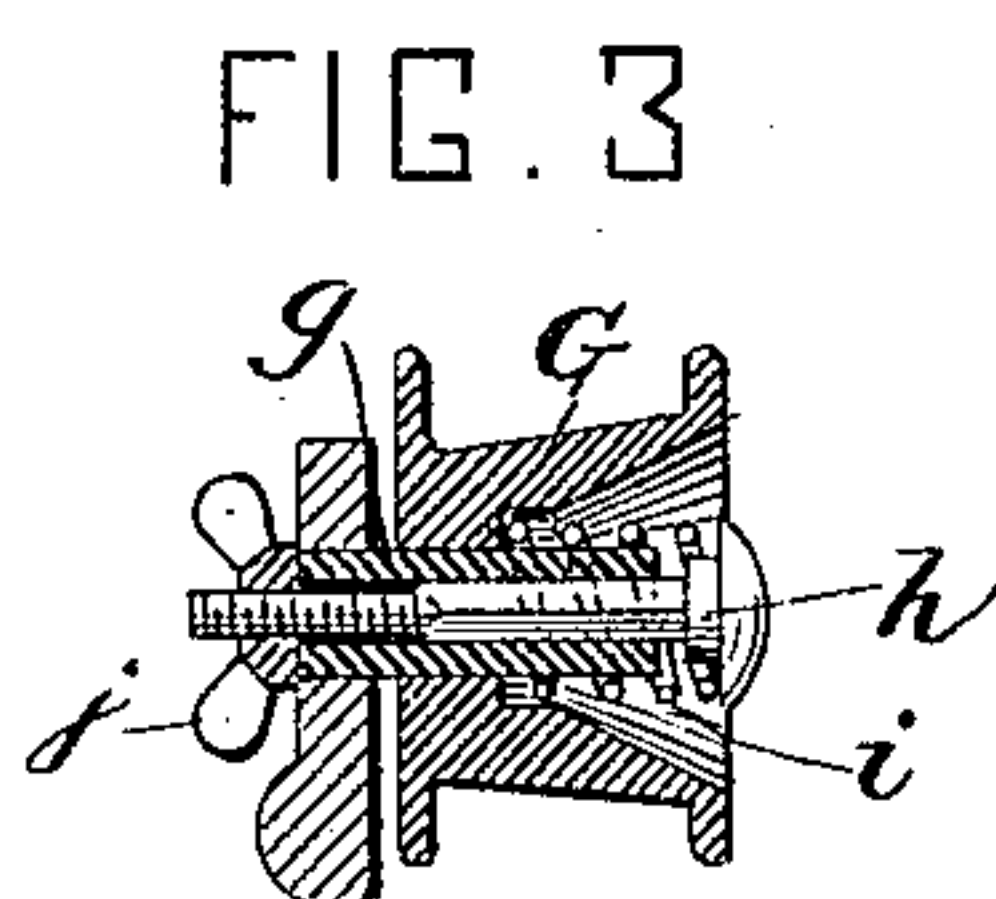
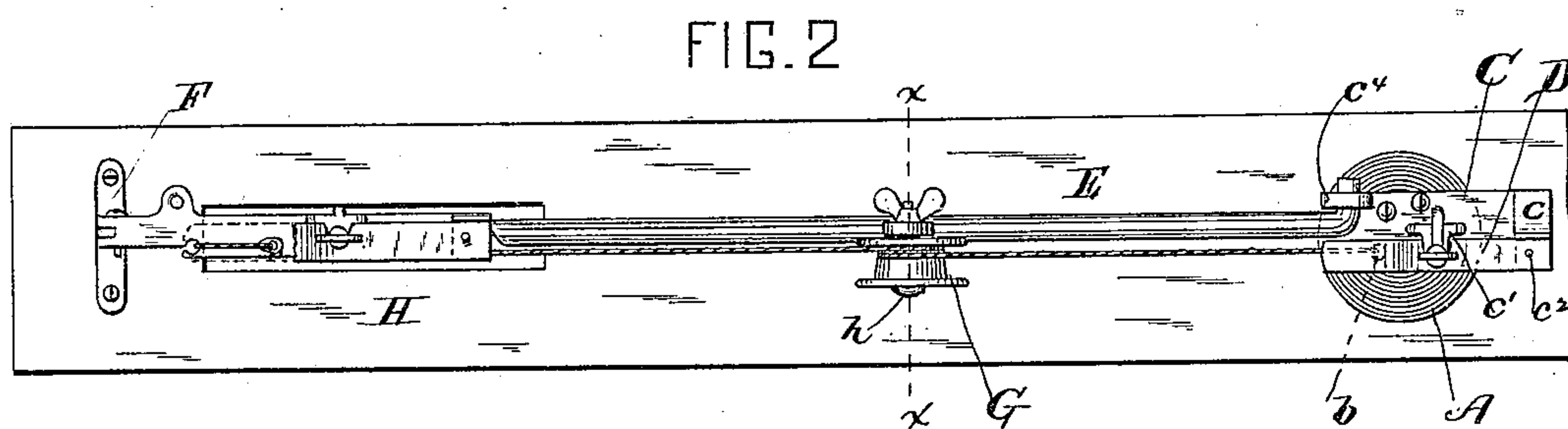
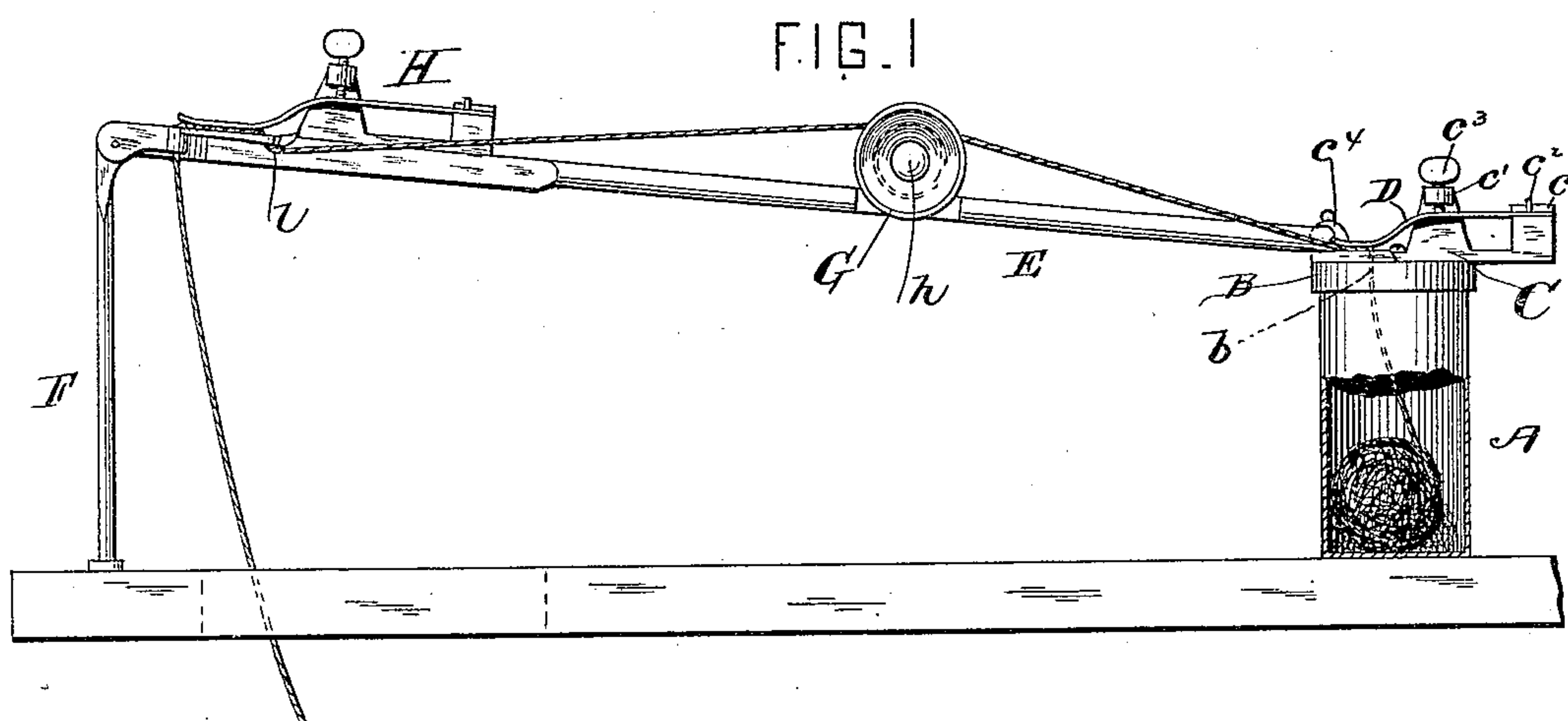
(Model.)

L. MILLER.

TENSION DEVICE FOR HARVESTER BINDERS.

No. 249,655.

Patented Nov. 15, 1881.



WITNESSES;

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UNITED STATES PATENT OFFICE.

LEWIS MILLER, OF AKRON, OHIO.

TENSION DEVICE FOR HARVESTER-BINDERS.

SPECIFICATION forming part of Letters Patent No. 249,655, dated November 15, 1881.

Application filed June 14, 1881. (Model.)

To all whom it may concern:

Be it known that I, LEWIS MILLER, of Akron, in the county of Summit and State of Ohio, have invented certain new and useful
5 Improvements in Cord-Tension Devices for Harvester-Binders; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part
10 of this specification, in which—

Figure 1 is a side elevation of the invention, partly in section; Fig. 2, a top view of the same; and Fig. 3, a sectional view taken on line *x x*, Fig. 2.

15 Similar letters of reference in the several figures denote the same parts.

This invention has for its object to provide simple and efficient means for giving proper tension to the binding cord or wire of a harvester-binder; and to this end it consists of a
20 device of novel construction, adapted to operate substantially as I will now proceed to describe.

In the drawings, A represents a box or receptacle for containing the binding-cord; B, the cover of said receptacle, made removable, and having at or near its center a perforation, *b*, for the passage of the binding-cord. Mounted upon and secured to the top of the cover is an
30 arm, C, which is perforated also for the passage of the cord and has two lateral offsets, *c c'*, the former of which is adapted to support one end of a metal leaf-spring, D, and has a pin, *c''*, adapted to pass through a hole in said
35 spring to hold it from lateral displacement, and the latter, *c'*, of which has a threaded perforation for the passage of the threaded shank of an adjusting thumb-nut, *c'''*, for adjusting the pressure of the spring D upon the cord.

40 E is a rod, jointed at one end to an eye, *e'*, on the arm C, and at the other end to a standard, F. Located upon this rod at or near its middle is a sheave or pulley, G, the same being mounted upon a hollow stud or bearing, *g*,
45 projecting laterally from a lug on said bar, and held in place on said bearing by means of a bolt, *h*, spiral spring *i*, and thumb-nut *j*. The opening through the bearing is made angular, and the shank of the bolt is formed to fit it,
50 for the purpose of preventing the rotation of the bolt and the consequent changing of the tension of the spring when the pulley is rotated. The cord, after passing under the flat spring D, is carried to the pulley G, and, after being

wound one or more times around the latter, is 55 carried into a guiding-eye, *l*, and thence under another flat spring, H, mounted and adjusted precisely like the spring D, and thence finally to the binding-arm of the machine.

In the operation of the device the springs 60 D and H are adjusted so as to keep the cord moderately taut between them and the pulley G, and the degree of tension required by the work to be performed and the character of the machine is regulated to a nicety by varying 65 the pressure of the spiral spring upon the pulley by means of the thumb-nut *j*.

The pulley might alone be used, but not with such good effect as in connection with the springs D and H. Its round smooth surface 70 does not cut nor abrade the cord, no matter how great the amount of tension applied by means of it, and for this reason it is far superior to ordinary devices.

I prefer to employ the flat tension-springs in 75 connection with the loose pulley, because they operate to keep the turns of the cord properly disposed and tightly wound upon the pulley, thereby enabling the latter to exert the same amount of tension at all times, uninfluenced 80 by any slack that may occur in the cord between the flat spring and the ball on the one hand, or between the other flat spring and the binding-arm on the other hand. This capability of the pulley of performing its functions instantly 85 without waiting for the taking up of any slack in the cord is of considerable importance, and I regard it a prominent feature of my invention.

I claim as my invention— 90

1. The combination, with the loose pulley and its spring-bolt and adjusting-nut, of the two leaf tension-springs acting upon the cord on opposite sides of the loose pulley, and operating to keep the turns of cord on the loose pulley at all times tight and properly disposed, 95 substantially as described.

2. The combination, with the tension-pulley and its bearing having the angular opening through it, of the bolt having the angular 100 shank, the spiral spring, and the adjusting-nut, substantially as described, for the purpose specified.

LEWIS MILLER.

Witnesses:

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