(No Model.)

# O. S. & W. S. FOSTER.

## SPRING SETTING MACHINE.

No. 490,845. Patented Jan. 31, 1893.

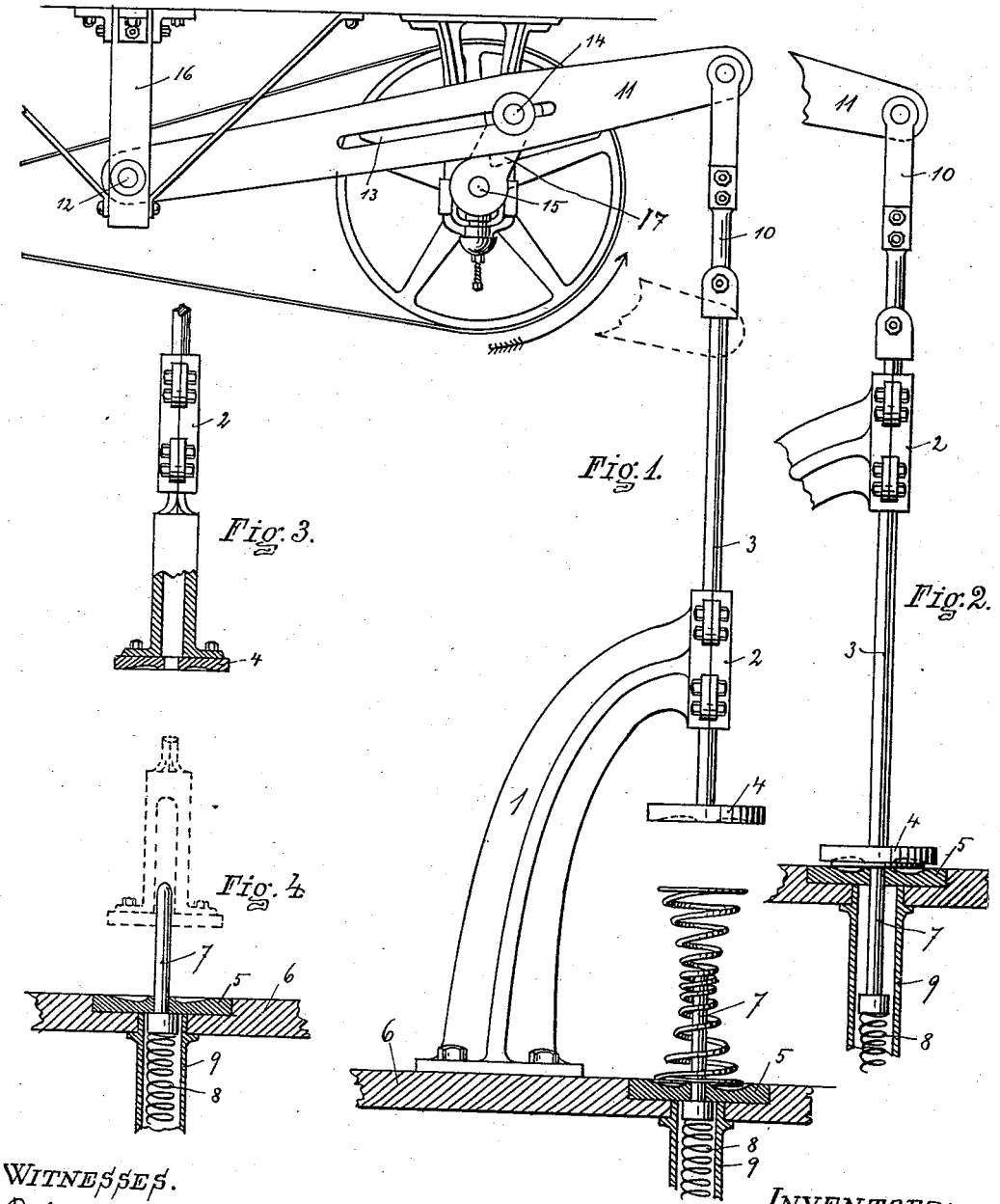


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES.
Rich. A. George.
M. E. Robinson

INVENTORS:
Oscar S. Foster
William S. Foster
By Risley & Perry
Attys.

# UNITED STATES PATENT OFFICE.

OSCAR S. FOSTER AND WILLIAM S. FOSTER, OF UTICA, NEW YORK.

## SPRING-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 490,845, dated January 31, 1893.

Application filed April 22, 1892. Serial No. 430,169. (No model.)

*To all whom it may concern:*

Be it known that we, OSCAR S. FOSTER and WILLIAM S. FOSTER, of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Spring-Setting Machines; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

Our invention relates to an improvement in spring setting machines.

In the manufacture of spiral furniture springs they are usually made by winding the wire onto formers, and in order to produce a spring which will in use retain its proper length the springs are wound a considerable degree longer than the proposed spring is to be after which they are compressed or "set" which reduces them to their proper length, which they will afterward in use maintain. It is for the purpose of compressing or "setting" the springs that this machine is constructed.

In the drawings which accompany and form a part of this specification and in which similar numerals of reference refer to corresponding parts in the several figures, Figure 1 shows the machine partially in section with the spring to be operated upon applied and in position. Fig. 2 shows the parts of the machine at the completion of the stroke of the compresser. Fig. 3 shows a modified form of compresser. Fig. 4 shows the retracting spring holding pin of the machine in connection with an outline of the modified form of compresser head.

Referring more specifically to the reference numerals marked on the drawings in a more particular description of the device, 1 indicates a guide stand mounted on a suitable table or support and provided with a guide sleeve 2 at its upper end through which plays vertically sliding presser bar 3 on the lower end of which is provided a saucer or presser plate 4 having a circularly grooved face adapted to receive the end of the spring to be operated on. In line with the press bar 4 on the table is provided a saucer or fixed plate 5 having a circularly grooved face and a central opening through which projects movable spring holding pin 7 having a head at its lower end to prevent its displacement and provided with a spring 8 located in a barrel 9 beneath the pin and tensioned to force the pin upward. To the upper end of the press bar 4 is attached a connecting rod 10 which connects with one end of walking beam 11 the opposite end thereof being pivoted at 12 to a suitable support 16, which may be affixed to the ceiling. In the walking beam, between its ends is provided a slotted opening 13 in which engages the crank pin 14 of crank 17, which crank is secured upon shaft 15 which is mounted in suitable bearings, also preferably secured to the ceiling of a building.

The operation of the device is substantially as follows: Power being applied to shaft 15 to rotate it preferably in the direction indicated by the arrow the crank operates beam 11, the crank pin playing along slot 13 and the vibrating end of the walking beam is given a long sweep. The free end of the beam is connected by connecting rod 10 with presser bar 3, which is thereby played up and down in sleeve 2. The springs to be set are placed by hand over pin 7 where the bar is up and as it descends the spring is caught by the presser plate 4 and pressed downward upon saucer 5, the pin 7 being driven down by plate 4 against the tension of spring 8. When the press bar and upper presser plate ascends the spring is removed from pin 7 properly "set" and another spring substituted to be operated upon in like manner.

In the modified form of construction shown in Figs. 3 and 4 the presser plate is provided with an enlarged hollow end over which is secured a presser plate having an opening adapted to allow the passage of the pin 7 so that the pin need not descend with the upper presser plate unless the spring or pin becomes disarranged or the spring binds upon the pin.

It is evident that modifications and changes other than those described may be made without departing from the equivalents of our construction.

What we claim as new and desire to secure by Letters Patent is

1. In a spring setting machine a table having a spring holding plate having a circularly

grooved face fixed therein, a spring holding pin projecting from the center of the plate, a vertically sliding presser bar 3 mounted on guide sleeve 2 held by an arm directly over the plate in the table and carrying the presser plate having a circularly grooved face for engaging the spring to be operated on, all combined substantially as set forth.

2. In a spring setting machine the combination of a circularly grooved faced spring holding plate fixed in a table, a movable spring holding pin projecting through the center of the plate, a spring under the pin adapted to force it upward, a barrel containing the spring and acting as a guide for the pin, a vertically sliding presser bar 3 on the lower end of which is provided a circularly grooved faced presser plate, guide sleeve 2 for the presser bar supported on a stand directly over the presser plate in the table, a slotted walking beam, a crank engaging in the slot and a connecting rod between the end of the walking beam and the presser bar, all combined substantially as set forth.

In witness whereof we have affixed our signatures in presence of two witnesses.

OSCAR S. FOSTER.
WILLIAM S. FOSTER.

Witnesses:
RICH. A. GEORGE,
M. E. ROBINSON.