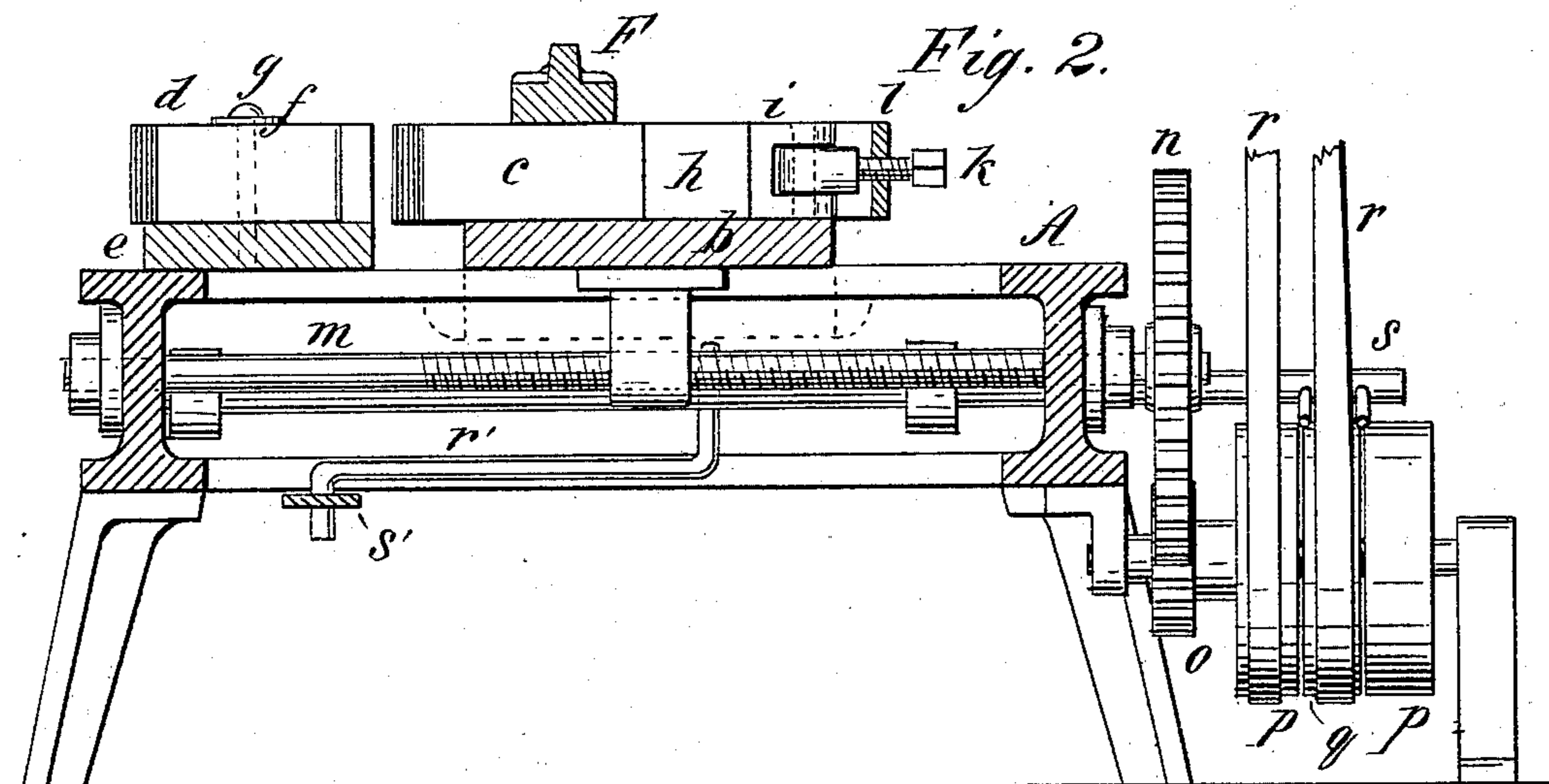
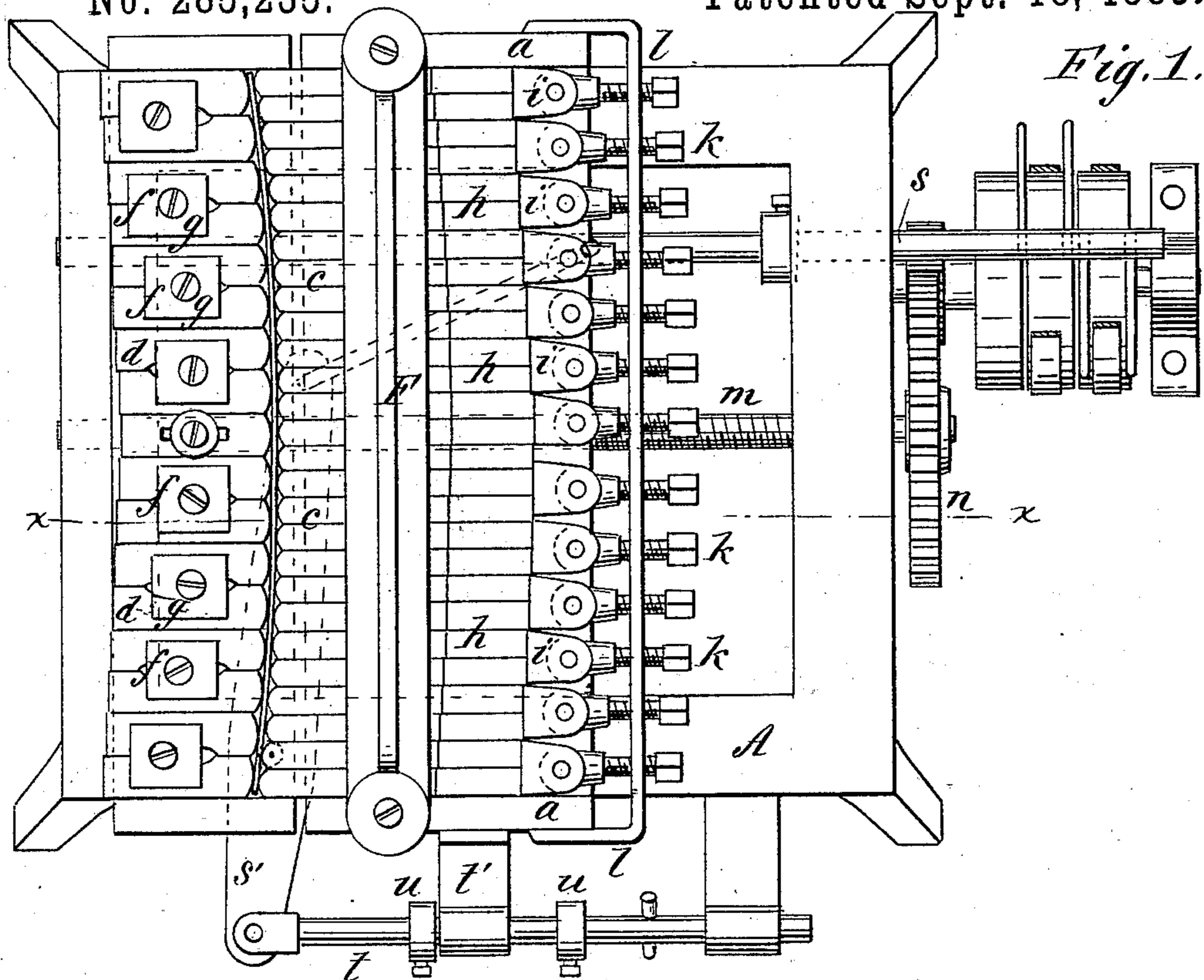


(No Model.)

J. CREAGAN.
SPRING SETTING MACHINE.

No. 285,235.

Patented Sept. 18, 1883.



WITNESSES:

Doim Twitchell
L. Sedgewick

INVENTOR:

BY *J. Creagan*
Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN CREAGAN, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-FOURTH TO
CHARLES D. TYLER, JR., OF SAME PLACE.

SPRING-SETTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 285,235, dated September 18, 1883.

Application filed May 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN CREAGAN, of Cleveland, Cuyahoga county, and State of Ohio, have invented a new and useful Improvement in Spring-Setting Machines, of which the following is a full, clear, and exact description.

My improvements relate to machines of the class shown in the Letters Patent No. 258,382, granted to Creagan and Tyler, May 23, 1882; and the present invention consists in means for holding and adjusting the bars or formers, and in certain other features of construction, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a plan view of the machine, and Fig. 2 is a transverse section of the same on the line *x x*, Fig. 1.

In the general construction the machine is the same as shown in the Letters Patent aforesaid.

A is the frame, in which is a sliding carriage composed of end bars, *a a*, connected by a plate, *b*, upon which the bars or formers *c c* are clamped by a top bar, *F*. *d d* are the stationary bars or formers, clamped upon a fixed plate, *e*, by plates *f* and screws *g*, each plate *f* taking upon two of the stationary formers *d*, for holding the same in place as adjusted. Upon the bars or formers *c* are rubber blocks or buffers *h*, which are held up to place against the bars *c* by metal blocks *i*, each block taking against two of the formers; and the blocks *i* are attached by knuckle-joints to the ends of adjusting-screws *k*, which are tapped through a plate, *l*, that is fixed to the end bars, *a*. This construction allows of the adjustment of the bars or formers *c d* to the form required to be given to the spring, and the buffers *h* will give way to any slight inequality in the adjustment of the bars. The

carriage carrying the bars *c* is operated by a screw, *m*, and on the end of the screw is a gear-wheel, *n*, meshing with a pinion, *o*, on a counter-shaft, which also carries two loose pulleys, *p p*, and a fast pulley, *q*, for the driving-belts *r r*. *s* is the belt-shifting rod, connected by a link, *r'*, to the lever *s'*, and the lever is connected to a slide-rod, *t*, that is fitted in suitable guides, one on the frame A and the other, *t'*, upon the sliding carriage. Upon the rod *t* are collars *u u*.

In the operation of the machine, the bars or formers *c d* being set to give the required curve to the spring and the carriage drawn back, the spring is put in place and the rod *t* then moved to shift the driving-belt upon the fast pulley *q*, for turning the screw in the direction to force the carriage inward, the other belt being at the same time moved upon one of the loose pulleys. In the forward movement of the carriage, when the spring has been compressed between the formers, the guide *t'* comes in contact with one of the collars *u* upon the slide-rod *t*, thereby causing the movement of the rod and of the lever *s'*, and shifting the belts *r*, so that the belt for turning the screw in the opposite direction is carried upon the fast pulley and the other one upon one of the loose pulleys. The carriage is thus brought back until the guide *t'*, acting upon the other collar *u*, moves the slide-rod *t* to the outward position, and the carriage moves forward, the spring having been in the meanwhile removed and another one inserted.

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

The combination, with the stationary plate *e* and formers *d*, of the clamping-screws *g* and plates *f*, substantially as described.

JOHN CREAGAN.

Witnesses:

SAMUEL W. TURNER,
JAMES TOOLE.