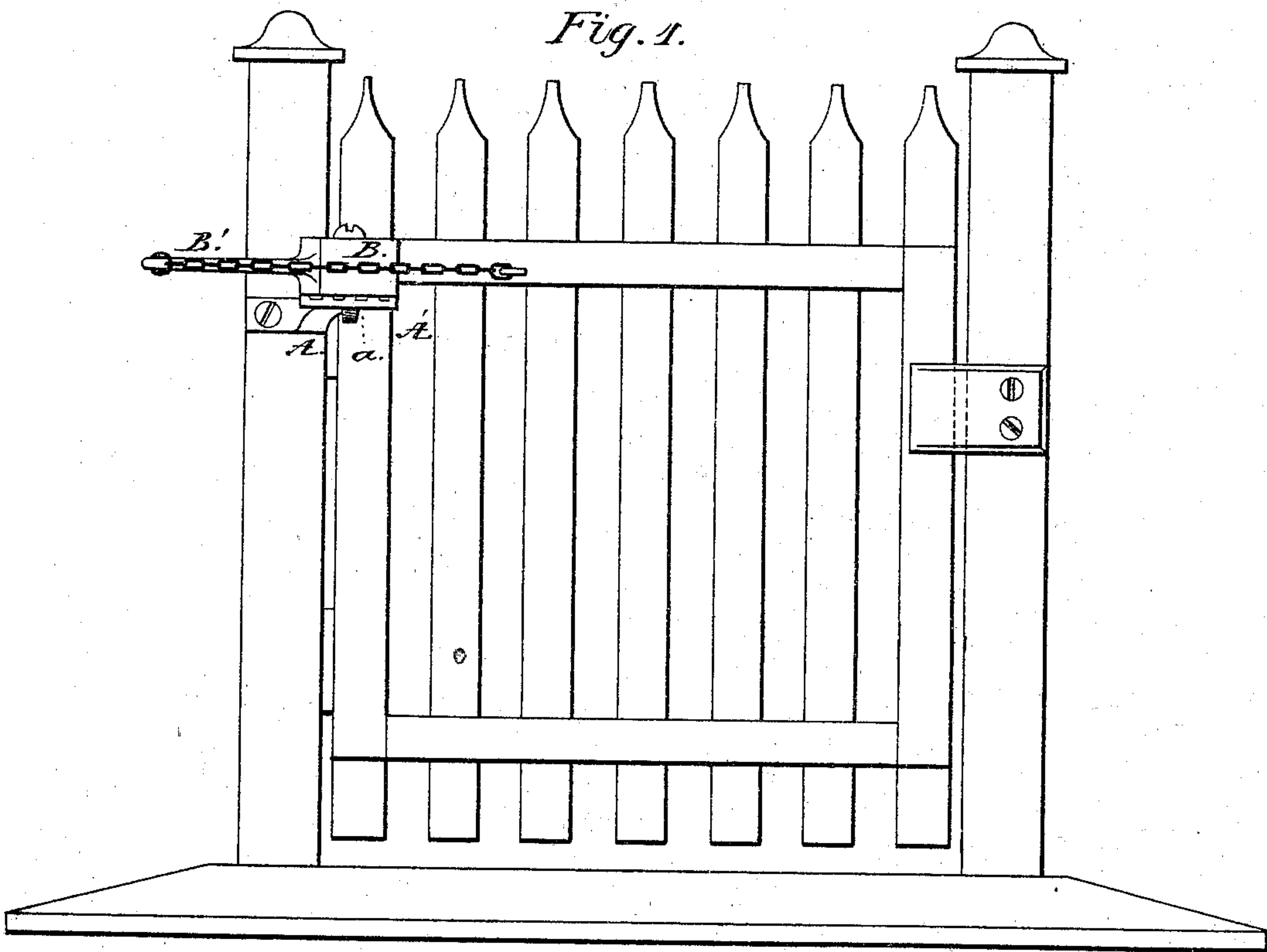


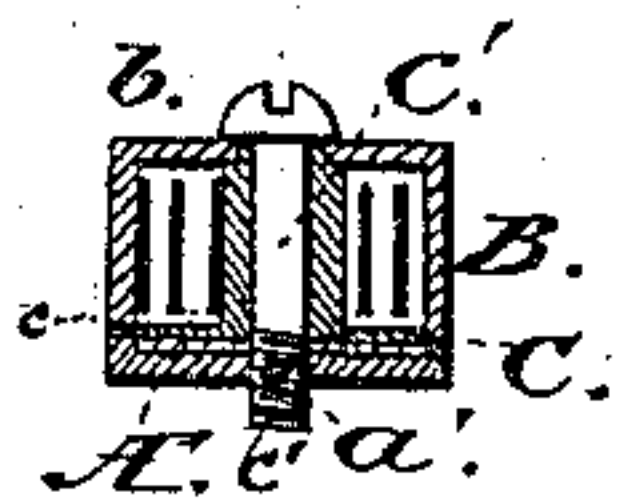
C. N. OWEN.  
Door and Gate Springs.

No. 137,619.

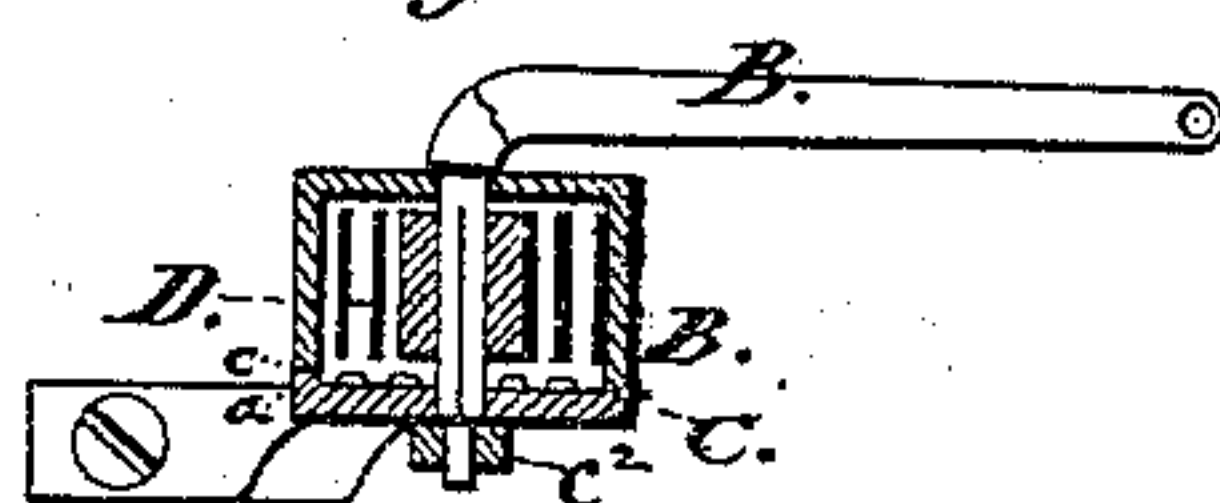
Patented April 8, 1873.



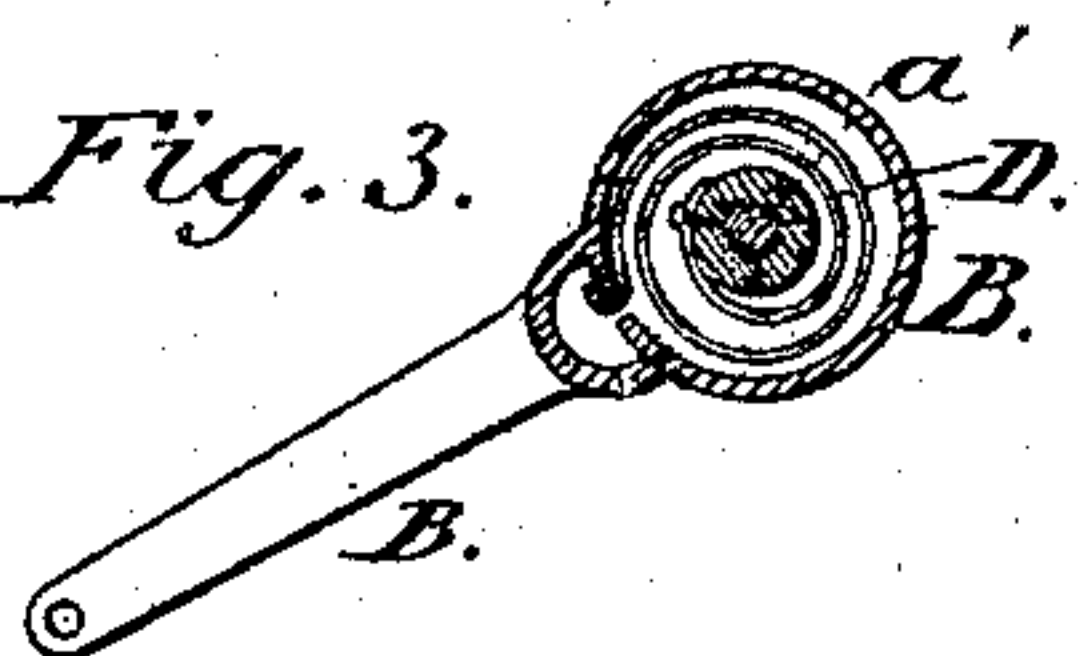
*Fig. 2.*



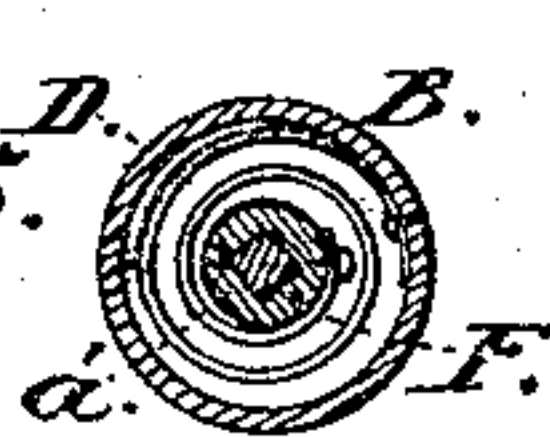
*Fig. 4.*



*Fig. 3.*



*Fig. 5.*



Attest;  
Alex. Mahon  
J. B. Thomas

Inventor;  
Charles N. Owen  
by A. L. Smith  
Attorney

# UNITED STATES PATENT OFFICE.

CHARLES N. OWEN, OF SALEM, OHIO.

## IMPROVEMENT IN DOOR AND GATE SPRINGS.

Specification forming part of Letters Patent No. **137,619**, dated April 8, 1873; application filed February 20, 1873.

*To all whom it may concern:*

Be it known that I, CHARLES N. OWEN, of Salem, in the county of Columbiana and State of Ohio, have invented certain new and useful Improvements in Gate and Door Springs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a view of a gate with my improved spring applied. Fig. 2 represents a vertical section through the spring and its inclosing-case. Fig. 3 is a horizontal section of the same. Fig. 4 is a vertical section through the spring and case, showing a modification in construction; and Fig. 5 is a horizontal section of Fig. 4.

Similar letters of reference indicate similar parts wherever used.

My invention consists in combining an inverted inclosing cup or case and chain-arm with a spring and stationary spurred plates or disks for adjusting the tension of the inclosed spring, arranged and operating as hereinafter set forth.

In the accompanying drawing, A represents a supporting arm or socket of suitable form for attachment to the gate-post or gate, and provided with a disk, A', upon the upper face of which is formed or cast a circle of cogs or spurs, *a*, arranged concentrically to a perforation in bolt-hole *a'*. B is an inverted hollow cup provided with a chain arm or handle, B'; and C is an intermediate disk, resting on disk A', and provided on its lower face with a circle of teeth or spurs, *c*, matching the teeth *a* of the corresponding circle on the upper face of disk A'. The disk C has a central hub or fixed shaft, C', which extends upward through a central perforation, *b*, in the cup or case B, and downward through the perforation *a'* in disk A', and is provided at each end with a screw-thread and nut, *c*<sup>1</sup> *c*<sup>2</sup>, by means of which the several parts are clamped or bolted together. A spring, D, coiled around the bolt or shaft C' is attached at one end to a spur on the fixed shaft C', and at the other end to a spur on or within a slot in the casing B. The chain-arm B' is connected by a chain with the swinging gate, or, where it is preferred to mount the inclosed spring on the gate itself, said arm is connected by the chain with the stationary post or gate support, and serves to hold the

outer end of arm B' at a fixed or uniform distance from the point at which the opposite end of the chain is connected; and when the gate is swung open the spring D is wound up or its coil tightened by the relative movement of the cup B' and shaft C', and serves, by its tension, to close the gate in a manner that will be readily understood.

In Figs. 4 and 5 I have shown a modification in the construction of the parts in which the outer inclosing-cup B is made stationary, relative to the supporting-disk A'. In this case the central spurred disk C is dispensed with, the circle of spurs matching the spurs *a* being formed on the lower edge or rim of cup B, and the shaft and bolt C' is made to turn in its bearings in disk A' and cup B, and has the swinging chain-arm B' mounted upon its upper end. A sleeve, F, provided with a square perforation, fitting upon a squared portion of and turning with the shaft C' and arm B', serves in this construction as the point of attachment of one end of the spring D, the other end being connected with the cup or casing, as before.

For increasing the tension of the spring it is simply necessary to loosen the nuts *c*<sup>2</sup>, release the spurs *a* and *c*, and turn the plates so as to tighten the spring or increase its tension, interlock the matching-spurs in such adjusted relation, and tighten the nuts.

By the construction described the spring is effectually protected from the weather, may be easily and readily adjusted, and is rendered much more durable, and also more efficient in action.

It will be obvious that the construction shown in Figs. 4 and 5 may be used without departing from the spirit of my invention.

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

The combination of the spring-inclosing cup or case B, chain-arm B', stationary bracket or disk A' and interlocking spurs on the stationary bracket, and intermediate stationary disk C for adjusting the tension of the spring on the chain-arm B', substantially as described.

CHARLES N. OWEN.

Witnesses:

PETER AMBLER,  
THOMAS KENNETT.