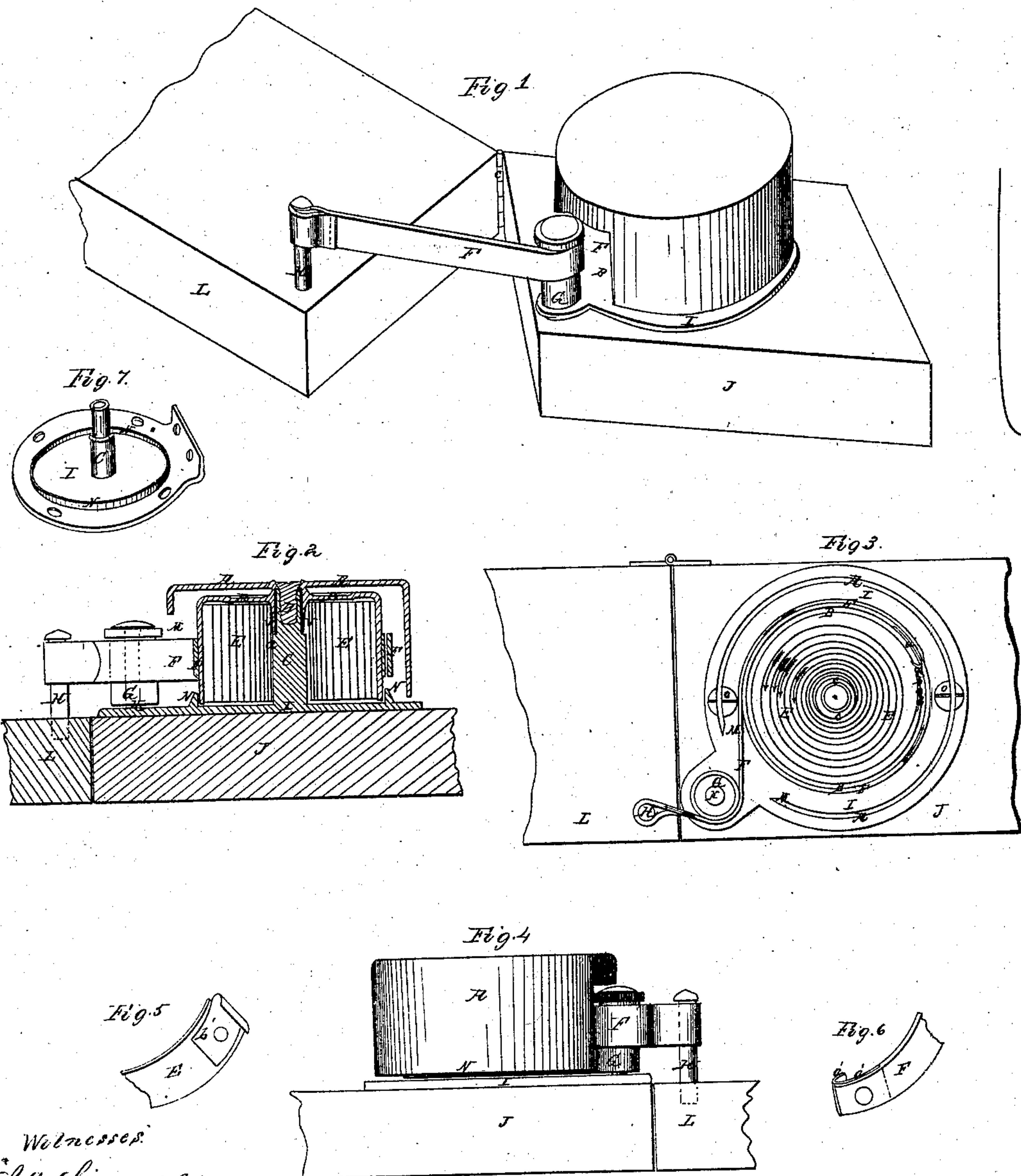


*J. W. Briggs,*

*Door Spring.*

*N<sup>o</sup> 33,332.*

*Patented Sep. 24, 1861.*



*Witnesses:*  
*L. O. Simmons*  
*G. H. Barber.*



# UNITED STATES PATENT OFFICE.

JOSEPH W. BRIGGS, OF CLEVELAND, OHIO, ASSIGNOR TO HIMSELF AND  
KYSE SMITH, OF SAME PLACE.

## GATE OR DOOR SPRING.

Specification forming part of Letters Patent No. 33,332, dated September 24, 1861.

### *To all whom it may concern:*

Be it known that I, JOSEPH W. BRIGGS, of the city of Cleveland, in the county of Cuyahoga, in the State of Ohio, have invented a new and Improved Mode of Constructing Gate or Door Springs; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, like letters referring to like parts.

The nature of my invention consists in the construction of a gate or door spring that will close a gate or door that may be hinged to open only to the right or left hand, or whether they are hinged to open both ways to the right and left hand, by being pulled or pushed open by persons from either side. Gates and doors being so different in their constructions and there being so many varieties of gates and doors that an invention that can be easily applied at small expense and that will close with such force as may be required all the different varieties of gates and doors is a desideratum in every community, and especially with that large class of persons who rent dwellings and business places, as such an invention is not rendered useless in removing from place to place, though the gates and doors of which places are differently constructed and open in different directions, and I accomplish this greatly-desired object with a cheap, durable, and neatly-constructed article, well protected from dust and storms.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I construct the bed-plate I, Figures 1, 2, and 3, of cast-iron, provided with the stationary shaft C and projecture N.

B is a drum. On the inside of this drum a hub V is cast, as represented in Fig. 2. This hub passes under a portion of coiled spring E, by which means the article is made more compact than it could be if the hub was formed on the outside of the drum.

G is a friction-roller secured to the bed-plate I by means of bolt K, which bolt passes through the roller and is riveted on the under side of the bed-plate, or may be held by being screwed to the bed-plate.

F is a leather strap. On the inner end of this strap a sheet-iron point is secured by means of a rivet, as represented at *a'*, Fig. 6. The curved portion of this sheet-iron point is used to attach the strap to the drum E, which curved portion is held by being passed into a slot formed in the drum, as represented in Fig. 3. The outer end of the leather strap F is provided with a loop formed by turning the end of the strap back and securing it by stitching or by a rivet and is used to secure the end of the strap to bolt H, as represented.

The coiled spring E is secured within the drum by attaching the inner end to stub *d'* on shaft C, as shown in Fig. 2. The coiled spring is provided with a curved point on its outer end, as represented at *b'*, Fig. 5. This point is made of sheet-iron and riveted to the end of the spring, or the end of the spring may be turned to form this curve. This curved end of the spring is secured to the drum B by passing the curve into the slot in the drum, as represented in Fig. 3.

A is a cover used for the purpose of protecting the spring, drum, and strap from storm and dust, and by preventing snow or rain from coming in contact with the spring the spring so secured will not only last, but retain its capacity longer, and the leather strap will also be more durable and lasting.

An opening M is made in the cover A, through which opening the leather strap F passes put from the drum B to bolt H. The cover A and drum B are each secured to shaft C by means of a screw D passing into the end of shaft C, as represented in Fig. 2.

J represents a section of the fence, and L a portion of the gate, and *c'* the gate-hinge, as shown in Figs. 1 and 3. Holes are cast in the bed-plate I, through which screws O O, Fig. 3, are passed to secure the invention in its position on the fence or door-jamb. This invention may be constructed of any desirable size that experience and taste may dictate, with coiled springs of any desired capacity.

Fig. 1 shows the invention applied to a gate that opens to the left hand, and represents the gate as being partly open.

Fig. 4 represents the invention as applied



to a gate that opens to the right hand, to close which the strap F is applied to the reverse side of the friction-roller G, by means of which friction-roller the invention is applicable to close gates or doors opening to the right or left hand, as well as those gates and doors that swing both to the right and left hand, and by the use of the friction-roller, also, the point of leverage remains fixed whether the gate or door be partly or fully opened.

In applying this invention the spring may be wound up to bring the gate or door to quickly and with a perfect slam, or it may be wound up so as to bring the gate or door to a closed position quite easy and present but little resistance in opening the same. When a gate is hinged to open both ways, the invention is applied so that part of the spring will be over the gate and part on the rail of the fence, about midway from either edge of the rail, and the strap attached to the gate and the spring secured to the fence-rail, or it may be secured by placing the spring on the gate and securing the strap to the fence-post; and when this invention is applied to close a door that opens both ways, to the right and left hand, the spring is applied to the door-jamb directly over the door. An opening is made in the top of the door of sufficient size to let the door swing to and fro and pass the spring easily. The outer end of the strap is then made fast to the top of the door, and as the door is opened in one direction the strap will draw directly from the drum, and as it swings past the center and is opened the other way the strap will draw over the friction-roller, when the spring will be drawn up as the door is opened, and the power of the spring will draw the door to its natural and closed position, and as a person passes out from the door or from a gate they will not remain open. The cover A as applied to this spring is susceptible of almost any kind of a finish—silvered, brass, or japanned—as taste may dictate.

The projecture N, as represented on the inner side of the bed-plate, is for the greater protection of the coiled spring, as this coiled

spring is the source from which the power is derived by which the gate or door is closed. Too much care cannot be bestowed in regard to its projection.

The construction of the hub, as represented, on the inside of the drum and passing under the coiled spring when the drum is applied to the shaft is of much importance, not only in the construction of gate or door springs, but in all cases where a drum and coiled spring are used, and especially in such places where it is an object to use as little space as possible, and when applied to an invention like this it is a saving of stock, as the cover and drum can each be made shorter than they could be made if the hub was formed on the outside of the drum, and when applied to a door that opens either way it allows of a smaller hole being made in the top of the door, through which the spring passes as the door is swung back and forth.

In the drawings, Fig. 7 represents a plan by which the bed-plate may be formed with a bracket, by which the invention can be secured to a gate or door in case it should ever be found necessary so to secure it.

I am aware that many inventions have been made for the purpose of closing doors; but I am not aware that any invention has ever been made which by the use of only one coiled spring inclosed in a drum and covered as this my present invention is could be applied to close all the different varieties of gates or doors that this will close. Therefore

What I claim as my invention or improvement, and desire to secure by Letters Patent of the United States, is—

The combination of the bed-plate I, friction-roller G, cover A, strap F, coiled spring E, and drum B, constructed as described, with the stationary shaft C and projecture N on bed-plate I and hub V on the inside of drum B, for the purposes set forth.

JOSEPH W. BRIGGS.

Witnesses:

L. O. SIMMONS,  
G. M. BARBER.