

(No Model.)

C. W. F. THODE.
DOOR SPRING.

No. 452,418.

Patented May 19, 1891.

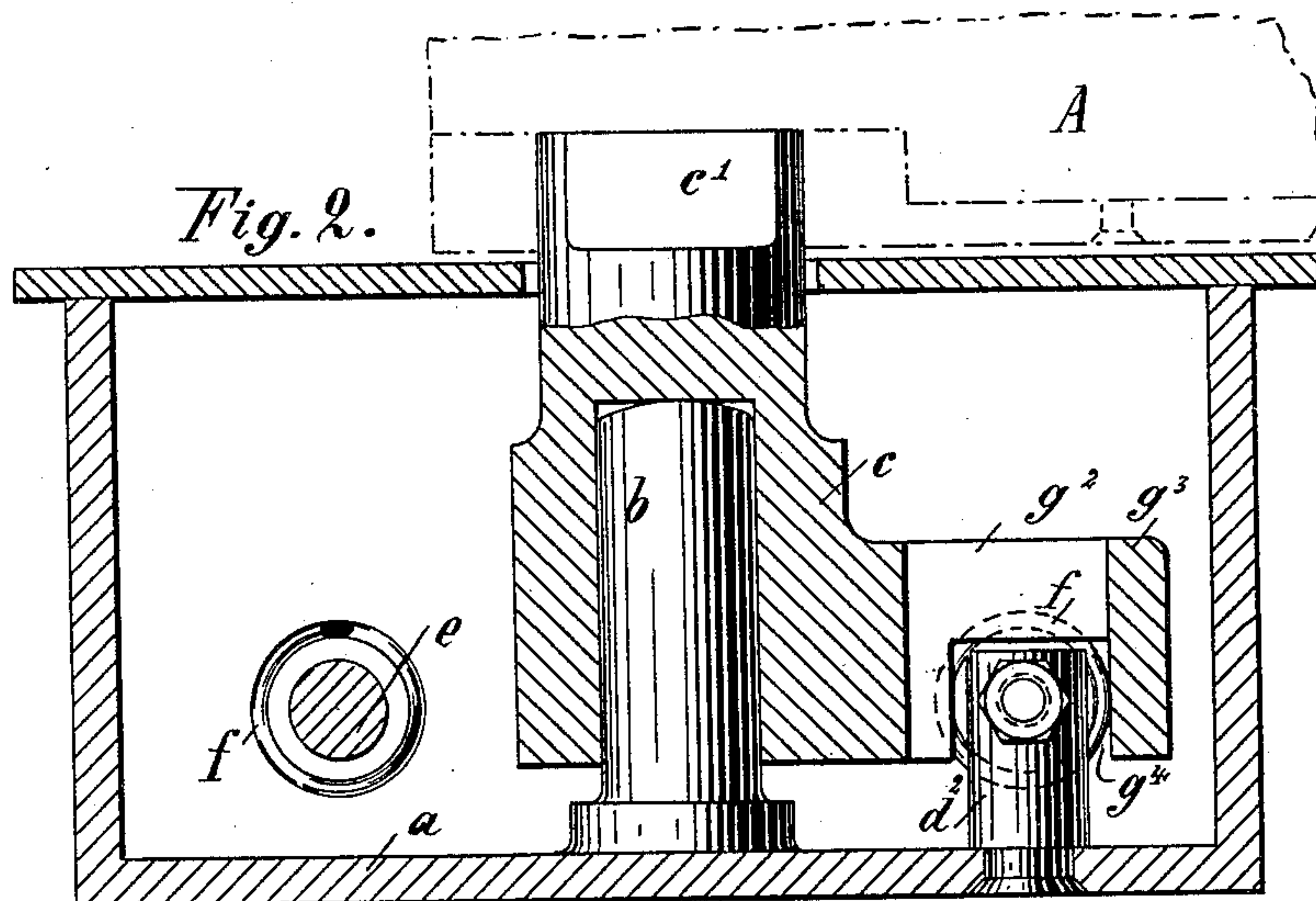
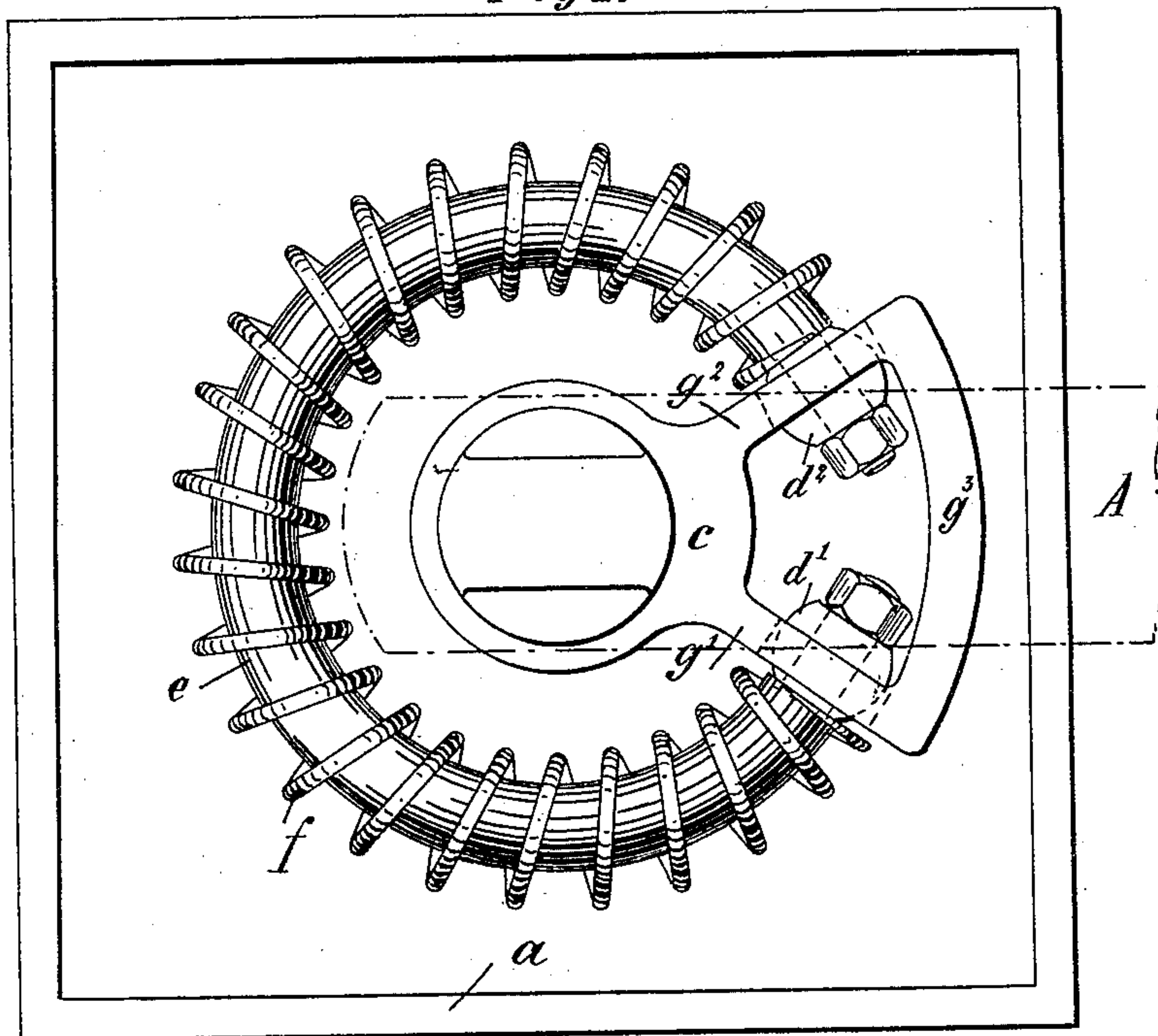


Fig.1.



Witnesses:

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CARL WILHELM FRIEDERICH THODE, OF HAMBURG, GERMANY.

DOOR-SPRING.

SPECIFICATION forming part of Letters Patent No. 452,418, dated May 19, 1891.

Application filed August 28, 1890. Serial No. 363,316. (No model.)

To all whom it may concern:

Be it known that I, CARL WILHELM FRIEDERICH THODE, a subject of the Emperor of Germany, residing at Hamburg, Germany, have invented certain new and useful Improvements in Door-Checks; and I do hereby declare the following to be a full, clear, and exact description of the same.

In the accompanying drawings is shown in plan, Figure 1, and cross-section, Fig. 2, a device for automatically shutting doors which have to be passed by many persons.

On the bottom of the box *a*, which is set into the door-sill, is a strong pintle *b*, around which the knuckle *c* is capable of being turned. This catches with its upper end *c'* into the under edge of the door-leaf *A*, so that by the movement of the door the knuckle *c* must be drawn in the same direction.

To effect an automatic shutting of the door-leaf, there are two pins *d'* *d*² fixed on the bottom of the box *a* and fastened to an annulus *e*. This annulus *e* serves as a core or support for a very strong spiral spring *f*. The knuckle *c* has two radial arms *g'* *g*², which are rigidly supported opposite each other by the binding-piece or segment *g*³. The arms *g'* *g*² are provided with openings *g*⁴, in order that the pins *d'* *d*² may pass through when the knuckle is moved, and against which pins they present comparatively plane surfaces, so that they may work against the spiral spring *f*. When the door is opened, the knuckle is drawn with

it, and under the influence of the arm *g'* the spring is compressed between this arm and the pin *d*². Let the door then be set free and the spring will expand again—that is to say, the arm *g'* of the knuckle, and thereby the door *A* also, are returned to their original positions. If the door is drawn in the other direction, then the spring *f* will be compressed between the arm *g*² and the pin *d'*. As the door itself recedes the spring is compressed almost entirely against the pins *d'* *d*².

By the arrangement described the elasticity of the whole spring is utilized, and thereby a break or crack of the same, as in other constructions, is prevented.

What I claim is—

A door-check having in combination a pintle *b*, a knuckle *c*, riding thereon and having two radial arms, studs *d'* *d*², annulus *e*, supported thereby, and the spring *f*, carried by said annulus and compressed between said studs, and the arms of the knuckle which are adapted to bear alternately upon the opposite ends of the spring as the door is swung in one or the other direction, substantially as set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

CARL WILHELM FRIEDERICH THODE.

Witnesses:

ALFRED JOSEPH,
SIGFRIED KALLMES.