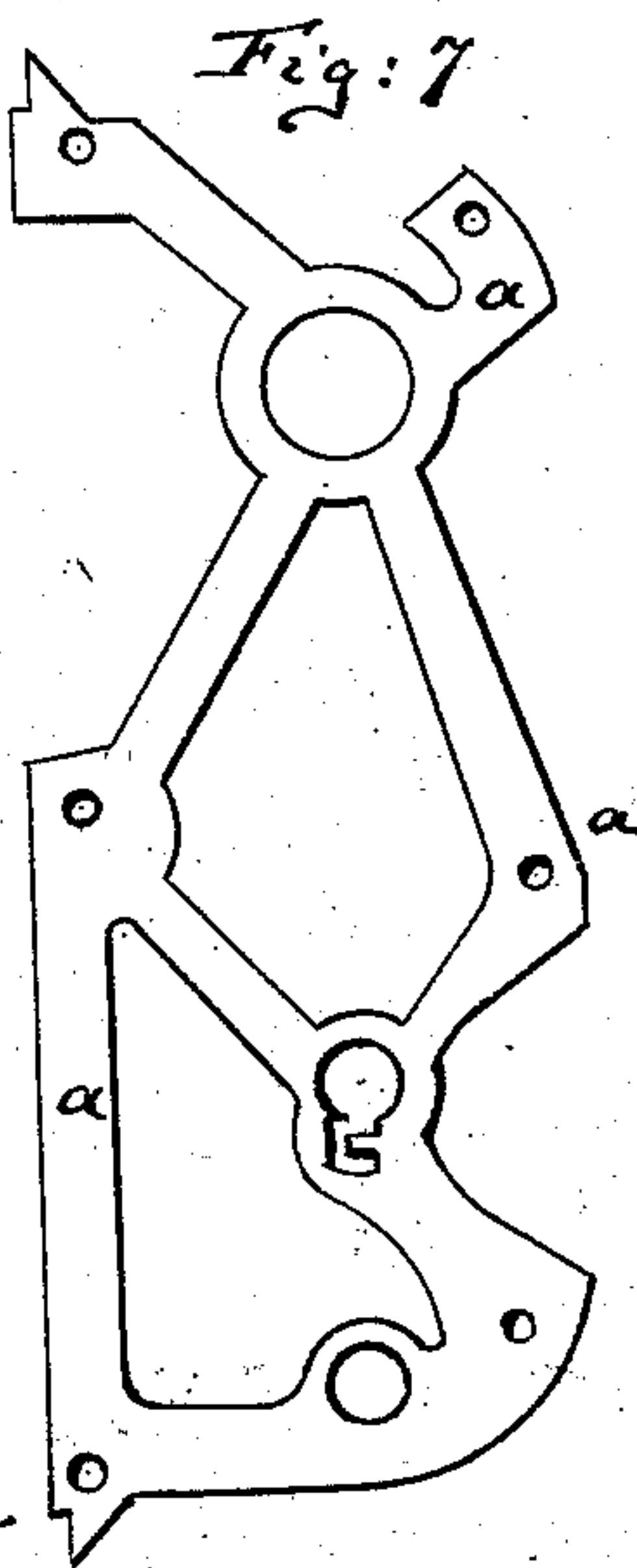
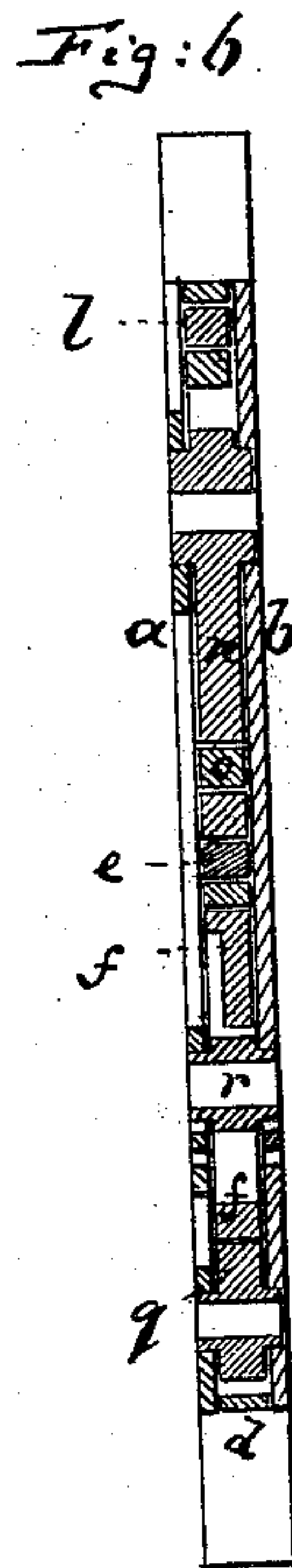
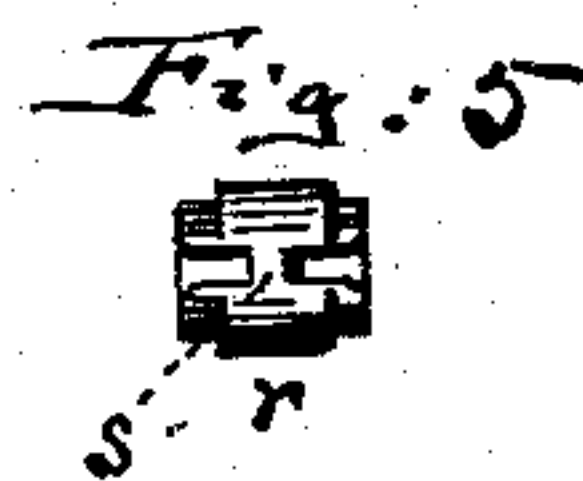
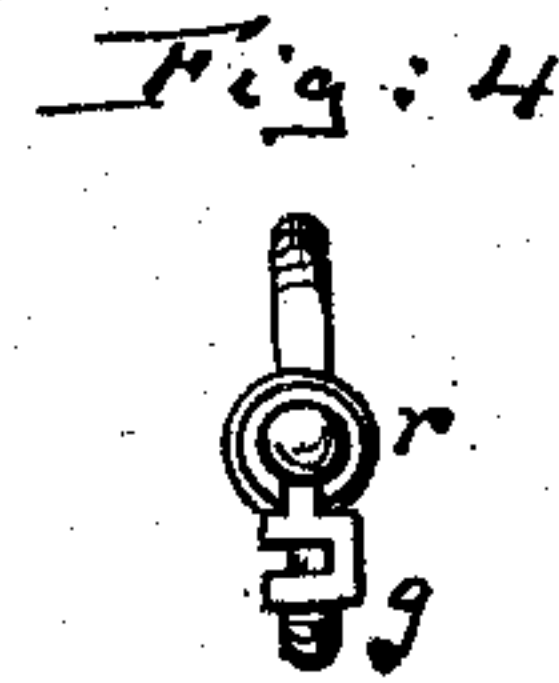
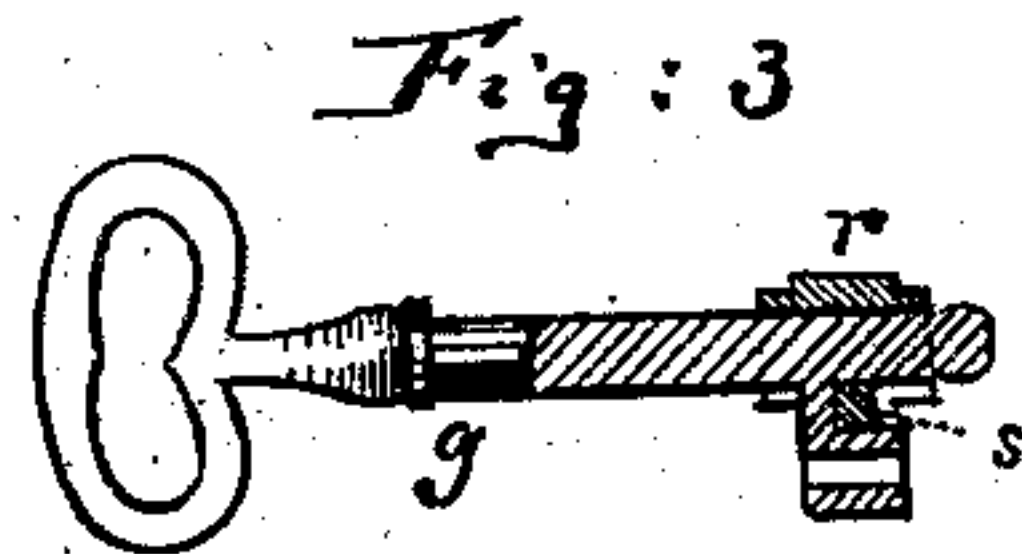
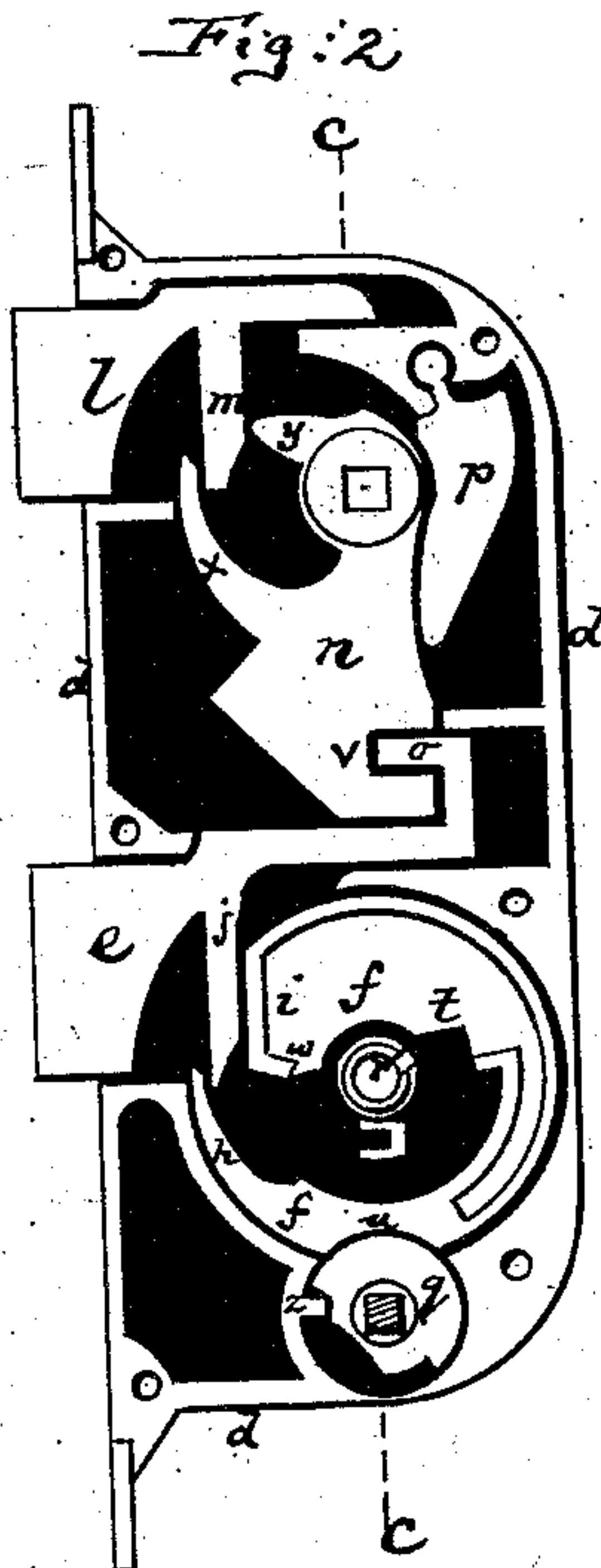
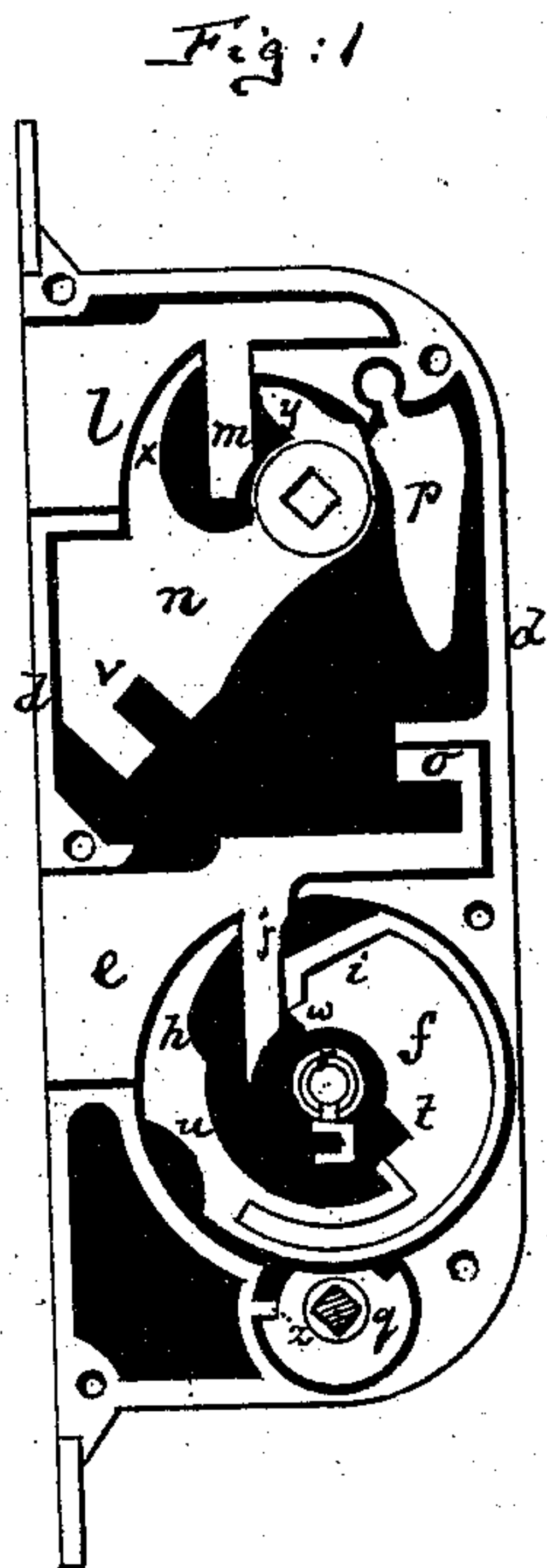


F. HASDENTEUFEL.

Lock.

No. 224,288.

Patented Feb. 10, 1880.



Witnesses:
John C. Tunbridge.
Wm H. C. Smith.

Inventor:
Friedrich Hasdenteufel
by his attorney
A. Briesen

UNITED STATES PATENT OFFICE.

FRIEDRICH HASDENTEUFEL, OF ISERLOHN, PRUSSIA, GERMANY.

LOCK.

SPECIFICATION forming part of Letters Patent No. 224,288, dated February 10, 1880.

Application filed August 14, 1879.

To all whom it may concern:

Be it known that I, FRIEDRICH HASDENTEUFEL, of Iserlohn, Prussia, in the Empire of Germany, have invented a new and Improved Lock for Doors, &c., of which the following is a specification.

In the accompanying drawings, Figure 1 is a face view of my improved lock, with one of the face-plates removed, showing the bolt withdrawn. Fig. 2 is a similar view, showing the bolt shot out. Fig. 3 is a sectional side view of the key and sleeve used with my improved lock. Fig. 4 is an end view of the same; Fig. 5, a detail side view of the sleeve. Fig. 6 is a transverse section of the lock on the line *c c*, Fig. 2; and Fig. 7, a face view of one of the face-plates.

Similar letters of reference indicate corresponding parts in all the figures.

This invention relates to an improved lock for doors and analogous purposes, which lock is of simple construction, positive in its motion, and difficult to pick.

The invention consists in the new arrangement and construction of bolts and of sleeve for the key, as hereinafter more fully described.

In the accompanying drawings, the letters *a b* represent the two face-plates of my improved lock, which are separated by the rim *d*, forming a lock-case, in the ordinary manner. The plate *a* is preferably removable, and is not represented in Figs. 1 and 2, but is separately shown in Fig. 7. Within the lock-case is placed the main sliding bolt *e*, which may be slid in and out by means of a key, in manner hereinafter described.

f is a tumbler-plate placed beneath the bolt *e*. This plate is cut out in the middle, so that the key *g* may be passed through it to operate the lock. The plate *f* is of circular form, with a notch at one side, said notch leading to the central opening, serving to form two hooks, *h* and *i*, as shown. Between these two hooks enters a toe-piece, *j*, that projects downward from the bolt *e*. It is evident that when the tumbler-plate *f* is oscillated in its proper bearings to the right or left by means of the key *g* the lock will be closed or opened, as the hooks *i* or *h* move the bolt *e* out or in by means of its toe-piece *j*. To turn the tumbler-plate in locking, the key strikes the edge or shoul-

der *t*, and to turn it for unlocking the key strikes the edge or shoulder *w* of the tumbler-plate.

l is the latch-bolt of the lock. This latch-bolt is situated above the main bolt *e*, and is operated substantially on the same principle as said main bolt. It has a downwardly-projecting toe-piece, *m*, which is acted upon by two hooks, *x* and *y*, that project from a tumbler-piece, *n*. The tumbler *n* is perforated for the admission of the knob-spindle, by which said tumbler is oscillated. The tumbler *n* extends downward to within a short distance from the bolt *e*, and is provided at its lower extremity with a recess, *v*, into which fits a hook, *o*, that extends from the bolt *e*, as shown. When the bolt *e* is in the locked position, as in Fig. 2, its hook *o* enters the recess *v* of the tumbler *n* and prevents said tumbler from being oscillated by the knob-spindle. It thereby prevents the turning of the knob-spindle and the opening of the latch. As soon as the bolt *e* is carried inward and the lock opened, Fig. 1, the hook *o* is disengaged from the recess *v*, allowing the latch-bolt *l* to be moved independently of the bolt *e*.

A pendent weight, *p*, or an equivalent spring, assists the tumbler *n* in dropping into the position shown in Fig. 2, and to throw out the latch whenever the bolt *e* is in the unlocked position.

The night-latch of my improved lock consists of a plate, *q*, fitted within the lock-case near the periphery of the tumbler *f*. The plate *q* may be oscillated by a suitable key or spindle, and is of approximately semicircular shape, as shown in the drawings. The periphery of the tumbler *f* is notched or recessed, as at *u*, at the place which is directly opposite the plate *q* when the lock is closed, said notch corresponding in size and form to the curved portion of the plate *q*. When the lock is closed the plate *q* can, by its key or spindle, be turned into the position shown in Fig. 2, in which its curved portion enters the slot or recess *u* of the tumbler *f* and prevents such tumbler from being oscillated. It will now be impossible to open the lock before the plate *q* is first swung into the position shown in Fig. 1, in which its curved portion is withdrawn from the recess *u* of the tumbler *f*. Small projections or shoul-

ders on the plate *q* strike against a stop, *z*, in the lock-case and prevent the plate *q* from being revolved too far in opening or closing said night-latch.

5 *r* is a short cylindrical sleeve placed between the face-plates *a b* in line with the key-hole. This sleeve has for its object to give additional security against opening the lock with false keys. It is of a diameter to admit the
10 key-stem, and is provided with a longitudinal slot traversed by a bridge, *s*, as clearly shown in Figs. 3 and 5. This bridge arrests the longitudinal motion of the key when inserted into the lock, and is about midway between the
15 ends of the sleeve, to have the same effect from whatever side the key is inserted. If the lock is to be operated from one side only, the bridge may be at or near the end of the sleeve.

The bit of the key is L-shaped, as shown in
20 Fig. 3, so that its upper narrow part strikes the bridge *s*, while its lower part extends farther into the lock—far enough, in fact, to reach the contact edges or shoulders *t* and *w* of the tumbler *f*. A false key, unless provided with
25 a bit extending farther into the lock than the bridge *s* will allow, cannot be used for picking the lock. The sleeve turns with the key in

opening or closing the lock, and is provided with bearings at the ends to give it proper support and allow it to be revolved in the plates *a b*. 30

I claim—

1. The combination of the circular rotated tumbler *f*, having hooks *h* and *i*, with the bolt *e*, having projecting toe *j*, that extends between said hooks, substantially as specified. 35

2. The combination of the bolt *e*, having hook-shaped projection *o*, with the tumbler *n* of the latch-bolt, having recess *v*, all arranged so that when the bolt *e* is locked the hook *o* will also lock the tumbler *n*, substantially as specified. 40

3. The combination of the bolt *e* and circular tumbler *f*, having recess *u*, with the semi-circular plate *q*, all arranged so that when the bolt *e* is locked the recess *u* is opposite the
45 plate *q*, substantially as and for the purpose specified.

This specification signed by me this 8th day of April, 1879.

FRIEDRICH HASDENTEUFEL.

Witnesses:

FRIEDRICH CARL GLASER,
CARL T. BURCHARDT.