No. 720,757. PATENTED FEB. 17, 1903.

E. TÓTH.

DOOR LOCK.

APPLICATION FILED APR. 28, 1902.

NO MODEL.

Fig. 1.

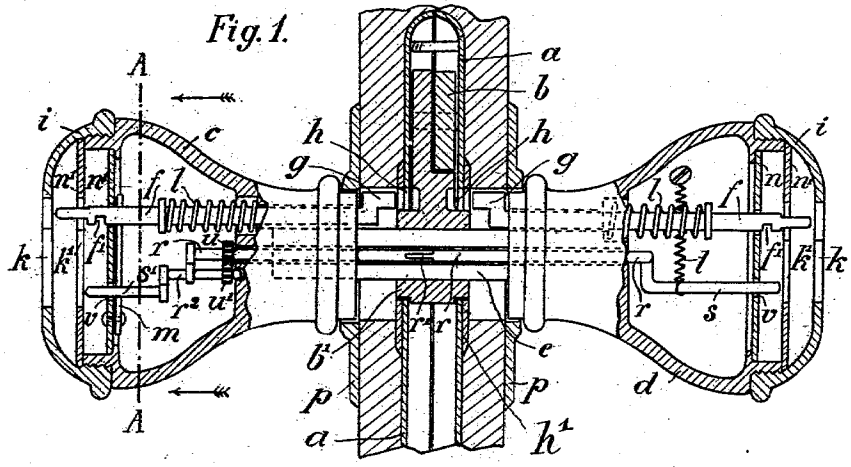


Fig. 3.

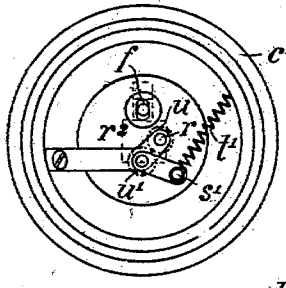


Fig. 4.

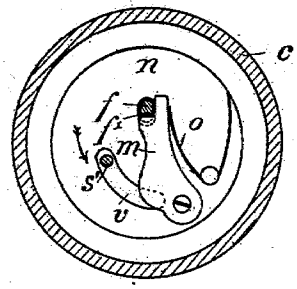


Fig. 2.

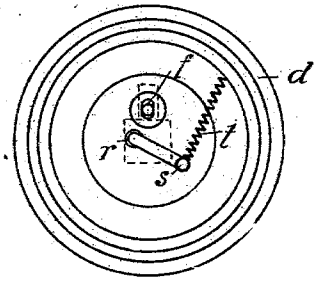
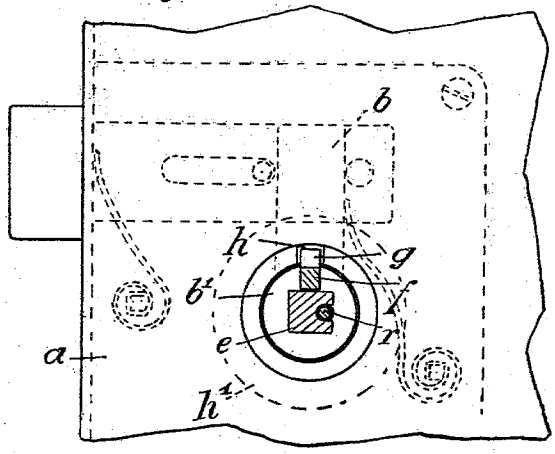


Fig. 5.



Witnesses:-

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DOOR-LOCK.

SPECIFICATION forming part of Letters Patent No. 720,757, dated February 17, 1903.

Application filed April 28, 1902. Serial No. 105,054. (No model.)

To all whom it may concern:

Be it known that I, ELEK TÓTH, a subject of the Emperor of Austria-Hungary, and a resident of Lugos, Austria-Hungary, have invented certain new and useful Improvements in Door-Locks, of which the following is a full, clear, and exact description.

The present invention relates to improvements in door-locks; and it consists, essentially, in arranging the part of the said lock so as to enable the same to be locked and unlocked from either side by the aid of a key inserted in a keyhole provided in the knob or handle of the lock.

In order to render the present specification easily intelligible, reference is had to the accompanying drawings, in which similar letters of reference denote similar parts throughout the several views.

Figure 1 is a vertical section through the lock and both knobs. Figs. 2 and 3 are elevations of the two knobs seen from the right and left hand sides of Fig. 1, respectively, the cover-plate being removed in both cases. Fig. 4 is a section on the line A A of Fig. 1 seen in the direction of the arrows, and Fig. 5 is a general elevation of the whole lock with the knob removed and the knob-bar in cross-section.

The lock-casing a is fixed in the door in the usual manner and provided at either side with knobs c and d, which are mounted on the spindle e, on which the boss b' of the bolt-operating lever-arm b, Fig. 5, is mounted. The stationary ring h', surrounding the said boss b', is provided with a recess h, and when the head of a sliding bolt enters this recess the boss, and with it the arm b, will be prevented from turning, and thus the lock will be locked. The knobs c and d are hollow and provided with covers i, advantageously screwed onto the same. Within the knobs, advantageously above the spindle e, two sliding bolts f, one extending from the boss of the arm b into each knob, are provided, being suitably guided in the said knobs and normally pressed outwardly by means of springs $l\,l$. The inner ends of the bolts are cranked at g, so as to engage the recesses h of the stationary rings h' when the said bolts are pressed inwardly by means of a key. The forward ends of the bolts f extend through the two plates n and n' of each handle and are advantageously rounded to receive the key. The other portions of the said bolts are square or of other suitable cross-section adapted to prevent their turning in their bearings. Toward the knob end of the said bolts they are each provided with a notch f', into which a pawl m, Fig. 4, is adapted to spring under the influence of the pawl-spring o when the said bolts have been pushed inwardly by means of the key. When the said pawl is in engagement with the said notch, the bolts are locked with the inner ends in engagement with the recess h of the corresponding ring h'.

In order to render it possible to open the door by means of the key from either side, whichever of the two bolts f may have been locked, the following device is employed: Advantageously within the spindle e itself a bar r is mounted, Figs. 1 and 5, said bar being made in two parts, coupled at r' in order to render the fitting together of the lock more convenient. At the right-hand side the said bar is provided with a crank-arm s, normally held up in the slot v of the plate n by means of a spring t, the end of the said crank extending slightly beyond the said plate n. At the left-hand end of the bar r the same is provided with a pinion u, which meshes with a pinion u', mounted on a stub-shaft r^2, suitably supported in the left-hand knob and having its crank-arm s' extending through the plate n in a slot v, similar to the arrangement within the right-hand knob, the said crank-arm s'' being held up in its slot by means of the spring t'. The cover-plates i of the knobs and the forward inner plates n' are provided with corresponding keyholes k and k', and the knobs are mounted in the plates p in the well-known manner.

The lock is manipulated in the following manner: When the door is unlocked, the bolts f are pressed outwardly by means of their springs $l\,l$, and the door may be opened and closed in the usual manner by simply turning the handles or knobs. When it is required to lock the door from either side, it is only necessary to insert the key and press one of the bolts f inwardly, when the pawl m will spring into the recess or notch f' and retain the said bolt with its inner end in the recess h of the stationary ring h' and pre-

vent the movement of the bolt-operating arm *b*. In order to unlock the door, the key is inserted and then turned, when the bit will depress the crank-arm *s* or *s'*, according to which side the said key is inserted, against the action of its respective spring *t* or *t'*, and the end of the said crank-arm will push back its respective pawl *m* out of engagement with the notch *f'*, so that the bolt *f* is free and will be thrown back by the operation of its spring *l*.

It will be clear from the foregoing description that it is quite immaterial from which side the door is unlocked, since both crank-arms *s* and *s'* will be moved simultaneously from either side owing to the action of the bar *r* and the pinions *u* and *u'*. It is also evident that the lock may be provided with any of the known devices which render it operable by means of a certain key only; but as these devices are known in a great variety it is not necessary to describe the same.

I claim as my invention—

1. In a door-lock having a knob mounted at each side of the door and a spindle to connect the said knobs, the combination of a pair of longitudinally-sliding bolts having their inner ends adapted to engage in stationary recesses at each side of the door and mounted within the said knobs and a keyhole in the ends of the said knobs to operate said bolts from either side to lock the door substantially as described.

2. In a door-lock having knobs as specified and a spindle connecting the same, an arm on the said spindle to operate the door-lock bolt, the combination of a pair of bolts mounted one in each knob, a stationary ring having a recess, one such ring being mounted at each side of the door, a keyhole in each knob to enable either of the said bolts to be pushed forward, means for arresting the bolt operated in its forward position and means for releasing the said bolt, on inserting the key from either side of the door in the manner and for the purpose substantially as described.

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

ELEK TÓTH.

Witnesses:
KAISER GIZELLAY,
TOTH IGNAZ.