

(No Model.)

2 Sheets—Sheet 1.

F. J. BIGGS.
LOCK CASE.

No. 503,400.

Patented Aug. 15, 1893.

Fig. 1.

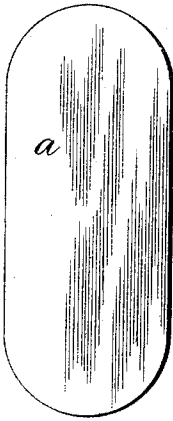


Fig. 2.

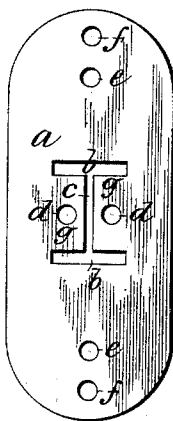


Fig. 3.

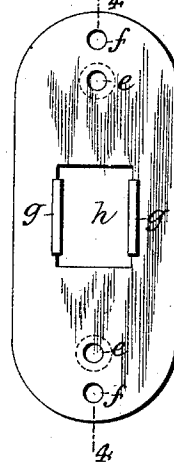


Fig. 4.

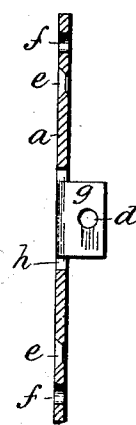


Fig. 5.



Fig. 6.



Fig. 7.

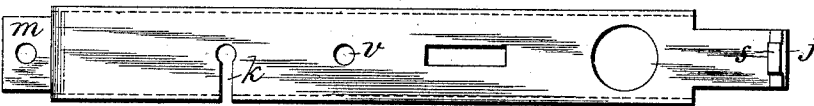


Fig. 8.

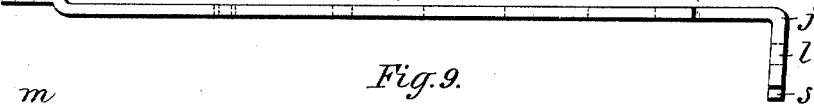


Fig. 9.

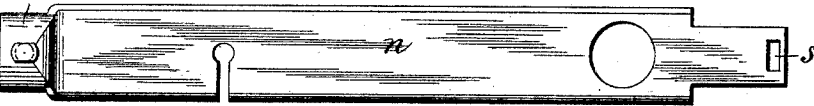
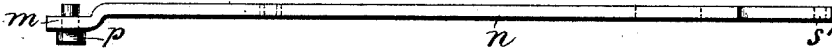


Fig. 10.



WITNESSES:

Fred White
C. K. Fraser.

INVENTOR:

Frederick James Biggs,
By his Attorneys:
Arthur C. Fraser & Co.

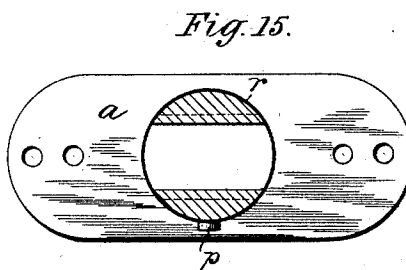
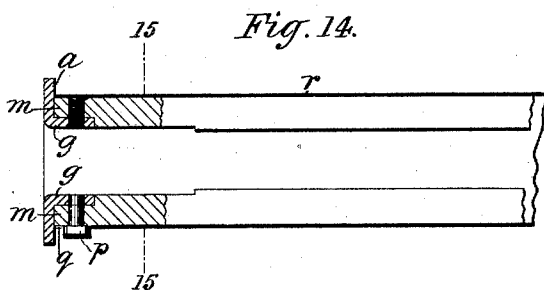
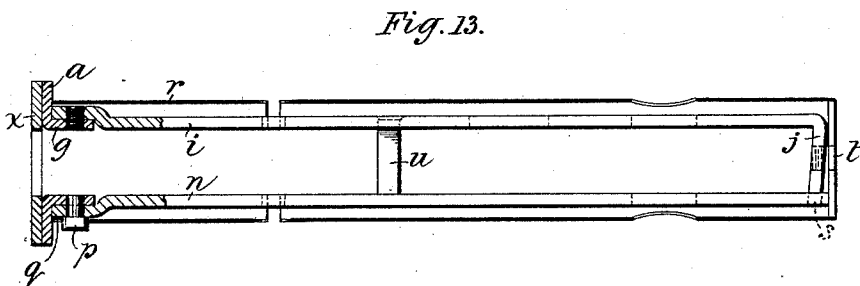
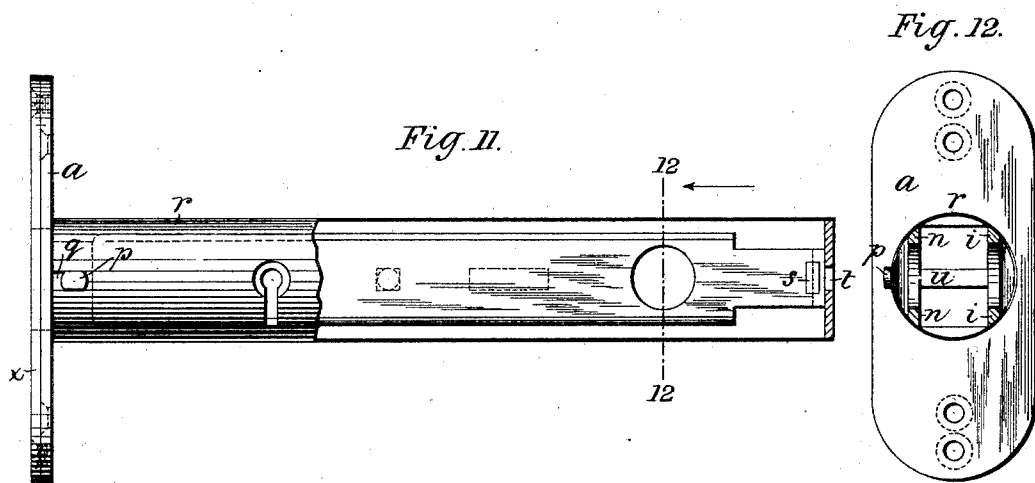
(No Model.)

2 Sheets—Sheet 2.

F. J. BIGGS.
LOCK CASE.

No. 503,400.

Patented Aug. 15, 1893.



WITNESSES:

Ed White

C. K. Fraser.

INVENTOR:

Frederick James Biggs,

By his Attorneys:

Arthur G. Fraser & Co

UNITED STATES PATENT OFFICE.

FREDERICK JAMES BIGGS, OF LONDON, ENGLAND, ASSIGNOR TO THE
TUBULAR LOCK SYNDICATE, LIMITED, OF SAME PLACE.

LOCK-CASE.

SPECIFICATION forming part of Letters Patent No. 503,400, dated August 15, 1893.

Application filed August 30, 1892. Serial No. 444,531. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK JAMES BIGGS, of London, England, have invented certain new and useful Improvements in
5 Tubular Locks, of which the following is a specification.

This invention relates to tubular locks of the class which have two side walls or "half rounds" constituting the lock frame with-
10 in an inclosing tube, as, for instance, in the locks described in United States Patents Nos. 450,765 and 452,893.

The object of the present invention is to improve, cheapen and lighten locks of this
15 general character. To this end in carrying out my invention I provide certain improvements in the structural details of such locks which will be fully hereinafter set forth.

In the accompanying drawings which illustrate the invention:—Figure 1 is a front or back view of the metal blank from which the fore plate with its lugs is made. Fig. 2 is a similar view of the blank after the punching or stamping operation in which are formed
25 two parallel horizontal slots *b b*, a connecting vertical slot *c*, the apertures *d d* and the screw holes *e e* and *f f*. Fig. 3 is a back view and Fig. 4 a section on line 4—4 of Fig. 3 of the fore plate when completed. Fig. 5 is a face
30 view of the permanently fixed side wall as first stamped from a metal sheet. Fig. 6 is a face view of same when the requisite holes have been punched therein. Fig. 7 is a face view and Fig. 8 a plan or top view of the same side
35 wall when completed. Fig. 9 is a face view and Fig. 10 a plan or top view of the other or detachable side wall when completed. Fig. 11 is a side elevation of a tubular lock constructed according to my invention with part
40 of the tubular case broken away; Fig. 12 a section on line 12—12 of Fig. 11, and Fig. 13 a plan, with the tubular case, fore and face plates and front portions of the side walls in mid-section, of the lock frame and case. Fig.
45 14 is a fragmentary plan corresponding to part of Fig. 13 and Fig. 15 a section on line 15—15 of Fig. 14 of a lock frame and case of the same construction as those illustrated in Figs. 1 to 13, except that the side walls are
50 made in the form of half rounds.

In manufacturing the improved fore plate

the blank or sheet *a*, Fig. 1, is first punched by means of suitable tools, as will be well understood, with the slots *b b* and *c*, apertures *d d* and the usual screw holes *e e f f* as seen in Fig. 55
2. Then after the holes *e e* have been countersunk for the heads of the screws that are to fix the lock to a door, the tongues *g g*, Fig. 2, between the slots *b b* and having the apertures *d d*, are forced out by means of a suitable press so as to form lugs (see *g g* Figs. 3
60 and 4) projecting at right angles rearwardly of the fore plate *a* thereby leaving a hole *h* for the passage of the usual latch bolt. The fore plate is thus completed except that it
65 may be polished or finished if thought desirable and that one of the apertures *d d* will generally be tapped to receive the screw by which the permanently attached side wall is fixed.
70

In manufacturing the side wall that is to be permanently attached to the fore plate a metal sheet or blank is first stamped of the required outline as seen at *i* in Fig. 5. Then this sheet is punched with the requisite holes, see Fig. 6; 75
the form and position of these holes will of course vary in different locks, and will chiefly depend upon the construction or arrangement of the mechanism to be fitted in the locks. Next after the key slot *k* has been cut and the
80 rearmost hole *l* has been tapped the sheet is stamped or pressed into the form seen in Figs. 7 and 8, that is to say, the front portion *m* is bent outward so as to lie conveniently upon the lug *g* of the fore plate and the rear end is
85 flanged inward at *j*, the tapped hole *l* being in the flange. The detachable side wall *n*, Figs. 9 and 10, is manufactured in a similar manner, that is to say, a metal sheet or blank is first stamped of the required outline; then 90
this sheet is punched with the requisite holes; next after the key slot has been cut the front portion *m* is bent outward. Subsequently the stud *p* is fixed into the hole in the front portion *m*, the said stud projecting at both sides 95
of the hole, its inside projection being for the purpose of attaching the side wall to the corresponding lug of the fore plate for which purpose the said projection is made to enter the aperture of the lug; the outer projection 100
of the stud *p* is to receive the usual slot or gap *q* in the front end of the tubular case *r*,

see Fig. 11. It will be seen that the flange *j* of the side wall *i* has a tongue *s*, and that near the rear end of the side wall *n* is a slot *s'* Figs. 9 and 10, which when this side wall is in place the tongue *s* enters,—see Figs. 11 and 13. This connection of the rear ends of the two side walls serves to keep them at the proper distance apart, and to assist in retaining the detachable side wall in place, and the stamped holes or incisions in perfectly opposite positions. It is obvious that the flange may be on the wall *n* instead of as shown on the wall *i*, and that various forms of connection may be substituted for the tongue and slot connection illustrated. The tapped hole *l* in the flange comes immediately in line with the usual central screw hole *t* in the end of the tubular case—see Figs. 11 and 13 so that the usual fixing screw can be passed through the hole *t* and screwed into the hole *l*.

It will be seen on reference to Fig. 12 that the outer faces of the walls *i* and *n* are beveled at their upper and lower edges to the curve of the tubular case *r* which fits them. This gives sufficient bearing or internal support for the tubular case, although of course not so much as is given by the half rounds hitherto adopted in locks of this class.

u, Figs. 12 and 13, is the usual stump fixed in the hole *v*, Figs. 6 and 7, of the side wall *i*. *x*, Figs. 11 and 13, is the usual face plate screwed to the fore plate *a*.

Figs. 14 and 15 will be understood without further explanation, but it may be stated that they represent a lock the fore plate *a* of which is made with lugs *g* in the manner already explained while the side walls consist of half rounds of the old form except that their front portions *m m* are made like those of the side walls shown in Figs. 7 to 10 so as to be attached to the lugs *g* as hereinbefore explained.

It will be readily understood that when the side walls are made by punching and stamping them from metal sheets perfect accuracy and uniformity in the positions of the various holes are obtained so that when two corresponding side walls are attached to the same fore plate every hole in each plate comes perfectly true as regards its position relatively to the corresponding holes or parts in the other plate and to the internal mechanism when this is subsequently placed in the lock. Such accuracy and truth cannot be obtained without incurring the care and expense of skilled workmen when the walls are cast and the holes are subsequently cut out or drilled as has hitherto been the practice.

What I claim, and desire to secure by Letters Patent, is—

1. In a tubular lock, the combination with a fixed side plate, and a detachable side plate,

of a fore plate *a*, of stamped sheet metal, having rearwardly bent tongues *g g*, bolt hole *h* between said tongues, apertures *d d* in said tongues, said fixed side plate fixed to one of said tongues *g*, and said detachable side plate having a pin engaging said hole *d* in the other tongue *g*, all combined and arranged substantially as set forth.

2. In a tubular lock, the combination with a fore plate having a bolt hole *h* and rearwardly projecting tongues *g* at side thereof, said tongues having apertures *d*, of a fixed side plate *i*, of stamped sheet metal, having an outwardly bent end *m* fitting against the outer side of one of said tongues *g* and fixed thereto, having the key slot *k*, the rearmost hole *l*, and the inwardly bent end *j* having the tongue *s*, and a removable side wall *n* fitting against the outer side of the other tongue *g*, detachably connected thereto, extending rearwardly, and having a slot *s'* at its rear end, receiving and engaging said tongue *s* of the fixed side plate, all combined and arranged substantially as and for the purpose set forth.

3. In a tubular lock, a fore plate *a*, having bolt hole *h*, and rearwardly projecting tongues *g* at sides of said hole, said tongues having perforations *d*, in combination with a fixed side plate *i*, engaging the outer side of and fixed to one of said tongues *g* and extending thence rearwardly and having an inwardly projecting rear end *j* having rearmost hole *l*, a detachable plate *n* having outwardly bent end *m* constructed with an inwardly projecting pin and an outwardly projecting stud *p*, said end *m* fitting against the outer side of the other tongue *g* and its pin engaging the aperture *d* thereof, said detachable side plate constructed of stamped sheet metal, extending rearwardly across the end of and engaging the rear end of said fixed plate *i*, and a tubular casing sliding over and inclosing said side plates, having a groove *q* at its front end sliding over said stud *p*, and a hole *t* in its rear end coinciding with said hole *l* in said fixed side plate, whereby by tapping a screw into said hole *l* through said hole *t* the casing and side walls can be locked together and their relative rotation will be prevented by said stud *p*, said side walls having beveled edges contacting with the interior of said shell at top and bottom, all combined and arranged, substantially as and for the purpose set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FREDERICK JAMES BIGGS.

Witnesses:

JOHN C. NEWBURN,
THOMAS L. WHITEHEAD.