(No Model.)

C. M. BURGESS.

LOCK OR LATCH BOLT.

No. 435,554. Patented Sept. 2, 1890.

Fig. 1.

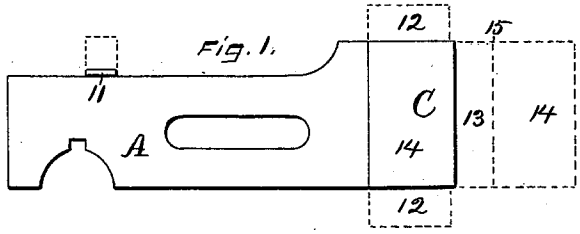


Fig. 2.

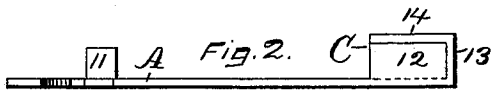


Fig. 3.

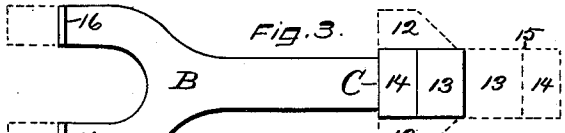


Fig. 4.



Fig. 5.

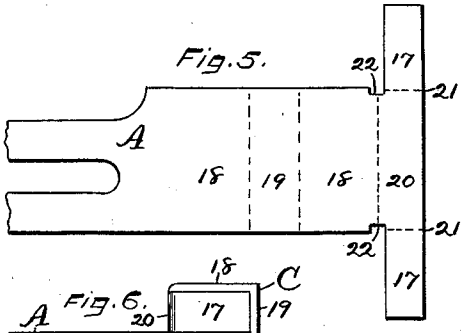


Fig. 6.

Fig. 7.

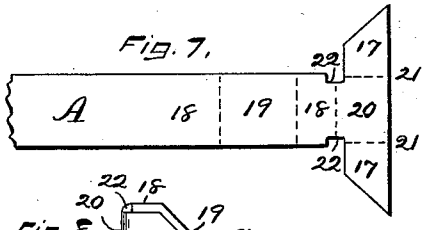


Fig. 8.

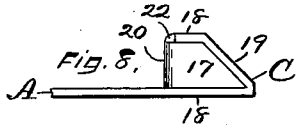


Fig. 9.

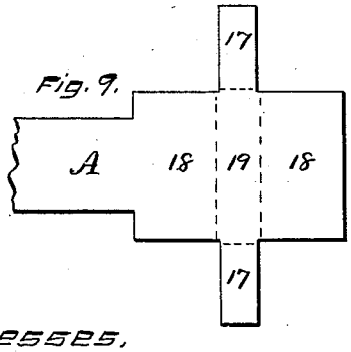
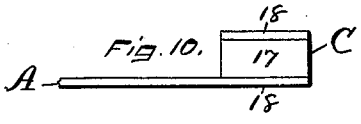


Fig. 10.



Witnesses,
John Edwards Jr.
W. H. Pierce

Inventor.
Charles M. Burgess,
By James Shepard
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES M. BURGESS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE RUSSELL & ERWIN MANUFACTURING COMPANY, OF SAME PLACE.

LOCK OR LATCH BOLT.

SPECIFICATION forming part of Letters Patent No. 435,554, dated September 2, 1890.

Application filed May 27, 1890. Serial No. 353,323. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. BURGESS, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Lock and Latch Bolts, of which the following is a specification.

My invention relates to improvements in bolts for locks, latches, door-bolts, and analogous devices; and the objects of my improvement are to simplify the construction, to economize in the production, and to produce a bolt from a single piece of sheet metal.

In the accompanying drawings, Figure 1 is a front elevation of my improved lock-bolt, together with a series of broken lines indicating the form of the blank from which said bolt is made. Fig. 2 is a plan view of the same. Figs. 3 and 4 are corresponding views of a latch-bolt. Fig. 5 is a plan view of the broad side of another form of blank for forming the head end of a lock-bolt. Fig. 6 is a plan or edge view of the bolt as formed therefrom. Figs. 7 and 8 are corresponding views of a like form of a latch-bolt. Fig. 9 is a plan view of the broad side of another form of blank for the head end of a lock-bolt, and Fig. 10 is a plan or edge view of the head end of a lock-bolt as formed therefrom.

The shank or tail A of the lock-bolt or the shank or tail B of the latch-bolt may be of any ordinary form or construction without departing from the main features of my invention, the principal part of which relates to forming the head end from a single piece of sheet metal by a suitably-prepared blank bent into form to make the head of a suitable thickness. In order, however, to show a complete bolt as formed from sheet metal, I have illustrated the bolts complete in Figs. 1, 2, 3, and 4.

In Fig. 1 I form the stud or projection 11 on the lock-bolt by bending it up from the body of the blank at right angles to the broad side of said body, and I do this by forming a wing on the blank at the upper edge of the bolt, as indicated by the broken lines immediately above said stud 11 in Fig. 1.

The head C of the lock-bolt, as shown, is of the usual form externally, and in the form illustrated in Figs. 1 and 2 I produce said head by means of the blank indicated by the broken lines, in which the wings 12 are bent up from the upper and lower edges of the blank to form the top and bottom edges of the bolt-head, the corresponding part of Fig. 2 being provided with a like figure of reference. The end of the blank is extended beyond the ends of said wings 12 far enough to form an end portion 13 and side portion 14 of the bolt, the metal being bent on a line substantially coincident with the outer ends of the wings 12 and on the line 15 to change the blank at the head into the thickened form illustrated in Fig. 2 and by the full lines in Fig. 1.

In Figs. 3 and 4 I have represented a latch-bolt with the head end bent up in substantially the same way. The tail end is bifurcated and originally formed of the length indicated by the broken lines at the left of Fig. 3, which ends are bent up to form the lugs 16, as shown, for the arms of the latch-hub to operate upon. It is, however, evident that the formation of the head on the outer end of the shank is not changed by the fact of the lugs 11 or 16 being formed integral or otherwise. As in the lock-bolt, Figs. 1 and 2, so in the latch-bolt, the side wings 12 (indicated by broken lines in Fig. 3) are bent up from the top and bottom edges of one broad side of the head to form the top and bottom sides of the head C, and a central extension at the outer end is left to form the outer end 13 and the other side face 14 by bending at the outer ends of the side wings and the line 15, so as to form the bolt-head, as shown in Fig. 4, and as illustrated by the full lines in Fig. 3. The head of the latch-bolt thus formed differs from the head of the lock-bolt only in proportion, and that the outer ends of the side wings are beveled and the outer end 13, which is bent over upon them, is correspondingly beveled instead of being square across.

Believing myself to be the first inventor of a lock-bolt or analogous bolt the head of which is brought into the proper thickness by bending or forming up from a single piece of metal integral with the shank or body of the bolt, I do not wish to confine myself to

the precise form of blanks and lines of bending illustrated in Figs. 1, 2, 3, and 4, nor to a bolt-head having right-angular corners. I have therefore illustrated other forms which involve the forming of such head on the shank or body of the bolt from a blank consisting of a single piece of sheet metal.

In Figs. 5 and 6, A designates the body part of the bolt, and 17 17 designate side wings which project at the end of the blank, and whose greatest length is at right angles to the length of said blank. The broken lines in Fig. 5 indicate the lines of bending. The parts 18 18 indicate the portions that form the two broad sides of the bolt-head, 19 designates the part that forms the outer end of the bolt, and 20 a part that covers the inner end of the bolt, the wings 17 at the top and bottom of said part being bent on the lines 21 21, Fig. 5, to bring said wings into the proper position for forming the top and bottom sides of the head, as shown in Fig. 6. Notches 22 are formed at the junction of the wings 17 and body of the blank to prevent too great an accumulation of metal at the corners in bending.

In Figs. 7 and 8 I have illustrated a blank and latch-bolt of the same construction as in Figs. 5 and 6, and with the same reference-letters and figures, the latch-bolt differing from the lock-bolt only in proportion and in its beveled end.

In the construction shown in Figs. 9 and 10 the side wings 17 17 are formed in the blank with their longest dimensions at right angles to the length of the blank; but they are formed at the top and bottom of the portion 19 for forming the outer end of the latch-bolt, instead of being formed on a portion at the end of the latch-bolt for forming the inner end. 18 18 designate the two broad sides of the head, and the lines of bending these wings into box-like form are indicated by the broken lines in Fig. 9, while Fig. 10 shows the completed latch-bolt head.

By the employment of homogeneous steel, suitable bending-dies, and a little finishing, the bolts may be finished so as to have full corners at the outer end of the head; but said corners may be rounded or beveled, if desired.

I claim as my invention—

1. The herein-described bolt having its shank and head formed integral, the head consisting of side wings bent up from the top and bottom edges of the blank, and outer end and broad sides formed by bending the blank transversely to its length, substantially as described, and for the purpose specified.

2. The herein-described bolt having its top and bottom sides formed by wings bent from the upper and lower edges of one of the broad sides of the bolt-head, while its outer end and one broad side are formed from an extension of the blank beyond the outer ends of said side wings, substantially as described, and for the purpose specified.

CHARLES M. BURGESS.

Witnesses:
T. S. BISHOP,
M. S. WIARD.