(No Model.)

L. MANNSTAEDT.

SAFE.

No. 553,348. Patented Jan. 21, 1896.

Fig: 1

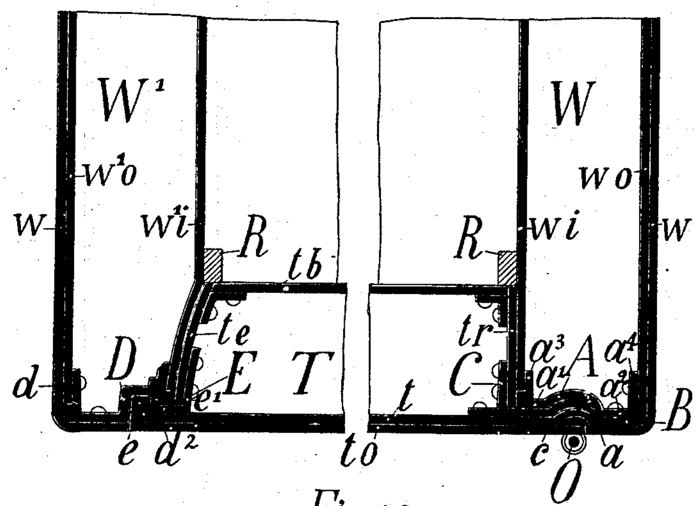
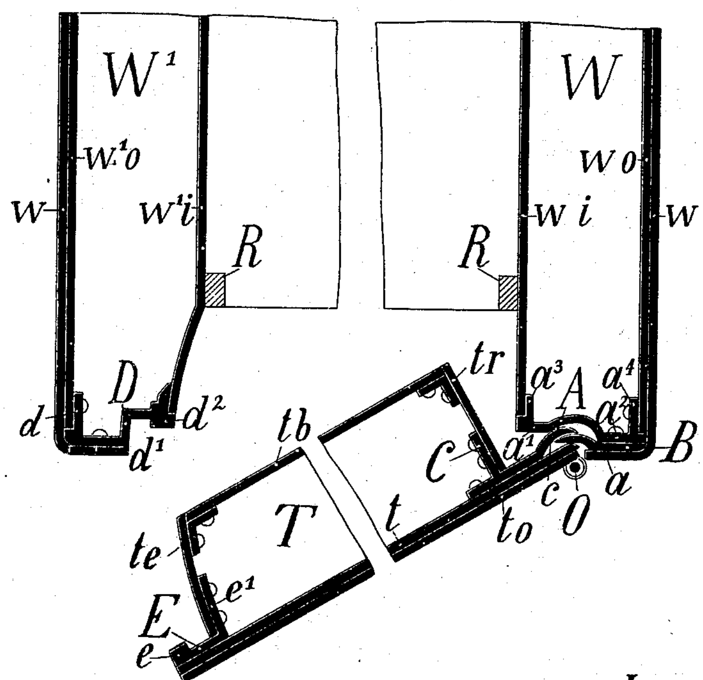


Fig: 2



Witnesses:

A. Tamnas
Walter Boecker

Inventor:

Louis Mannstaedt
per
Karl S. Mayer
att.

UNITED STATES PATENT OFFICE.

LOUIS MANNSTAEDT, OF KALK, GERMANY.

SAFE.

SPECIFICATION forming part of Letters Patent No. 553,348, dated January 21, 1896.

Application filed August 11, 1894. Serial No. 520,093. (No model.) Patented in Switzerland May 11, 1894, No. 9,201; in France May 31, 1894, No. 225,746; in Belgium May 31, 1894, No. 84,026; in Austria June 1, 1894, No. 295; in Italy June 6, 1894, XXVIII, 36,510, LXXI, 386, and in England July 2, 1894, No. 12,807.

To all whom it may concern:

Be it known that I, LOUIS MANNSTAEDT, a subject of the Emperor of Germany, residing at Kalk, near Cologne, Germany, have invented a new and useful Improvement in Safes, (for which I have obtained a patent in France, No. 225,746, bearing date May 31, 1894; in Belgium, No. 84,026, bearing date May 31, 1894; in Austria, No. M 295, bearing date June 1, 1894; in Switzerland, No. 9,201, bearing date May 11, 1894; in Italy, Reg. Gen., Vol. XXVIII, No. 36,510, Reg. Att., Vol. LXXI, No. 386, bearing date June 6, 1894, and in England, No. 12,807, bearing date July 2, 1894,) of which the following is a specification.

The invention relates to the construction of the doors and sides of safes, and has for its object to secure an absolute closure of the door almost hermetically, so that no heat or air can enter and that especially no thief can open it or break it open, even by means of the best tools.

In the accompanying drawings, Figure 1 is a horizontal section through the front part of the safe, the door shut. Fig. 2 shows a a similar section, the door open.

In making the front edge or side of the right side W of the safe—that is, the side to which the door is hinged—I use a rolled iron bar A, of special section, which in the main is of channel shape, but the bottom side of which is partly bent upward, the straight parts a' a^2 flanking the arch a, lying at different levels. The side edges a^3 and a^4 of the iron A are set back, as shown in the figure, by the thickness of the wall-plates *wi* and *wo*. The arch to which the arched part a of the iron A is bent corresponds to a circle struck from the center of the hinge-bolt O. Upon the outside of the part a^2 I rivet an iron B, having resemblance in shape to a sickle, the bent part being also curved to a circle struck from the center of the hinge, but of so much a smaller radius than the arch a that a hollow space is left between A and B of the thickness of another sickle-shaped iron C, forming part of the door itself, and to which I shall refer below. At the left side, to which the lock is attached, I form the front edge of the side W′ also by a specially-rolled iron D of double channel or **S**-section in the main, the stay adjacent to the door being made in steps. The left stay d is set back by the thickness of the plate $w'o$ forming the inner half of the outer side. In a similar manner the corresponding stay at the right side of the iron D is set back by the thickness of the inner plate $w'i$ of the left side of the safe. This has for its object to get all joints smooth and flush, so that the outside covering-plates w can be well fitted thereto.

Corresponding to the rolled irons A, B and D are shaped the irons forming the corresponding side edges of the door. To the inner steel plate t of the door T is riveted the **T**-shaped iron C, having legs of unequal length and shape, the left leg being as usual, the right one being of sickle shape, as mentioned above, the curved part corresponding in thickness and form exactly to the recess formed by the two irons A and B, the steel plate t again, and the bent part c of the iron C, leaving a free space between each other, into which enters the sickle-shaped part of the iron B when the door is closed, as will be seen from Figs. 1 and 2. The irons A B C and the plates w, t and *to* thus form a fourfold joint at this side of the door, the parts of which work into each other like teeth, and it will be easily understood that this joint, good workmanship of course being used, will not only resist the tools of burglars, but it will also prevent the entrance of heated gases and of fire by the zigzag of the joint.

At the lock side of the door I form the side edge by means of an iron E of hook shape. The hook e fits into the recess d' of the corresponding iron D. The iron E is riveted to the inside of the steel plate t, and its leg e' is bent to a circle struck from the center of the door-hinge O. To the outside of the part e' is riveted the plate *te*, forming the left-side edge of the door, the plate *tr*, riveted to the iron C, forming the right side edge of the same, and the plate *tb* riveted to *te* and *tr* by angle-irons, as shown, forms the back side of the door. The groove formed between e and *te* takes up the thick part d^2 of the iron D when the door is shut, and from Fig. 1 it will be

seen that at this side also a complicated joint is made which will resist all trials of opening the safe by illegal means.

The rabbets R at the inside of the safe keep the door in its proper position when closing.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a safe the combination of the specially shaped rolled iron A with a sickle shaped iron B, the sides *wi* and *wo* riveted to the iron A, and the plate *w*, to form the front edge of the hinge side of the safe having a sickle shaped hollow space for a correspondingly shaped iron of the door to enter into this space when the door is being closed so as to form a perfectly secure joint at the hinge side of the door.

2. In a safe the combination of the specially shaped irons A, B at the right side of the safe with a specially shaped iron C of T section in the main, and having one leg sickle shaped to form part of the right side edge of the door, so that the sickle shaped leg *c* enters into the corresponding hollow space between the irons A and B when the door is closed.

LOUIS MANNSTAEDT.

Witnesses:

SOPHIE NAGEL,

MARIA NAGEL.