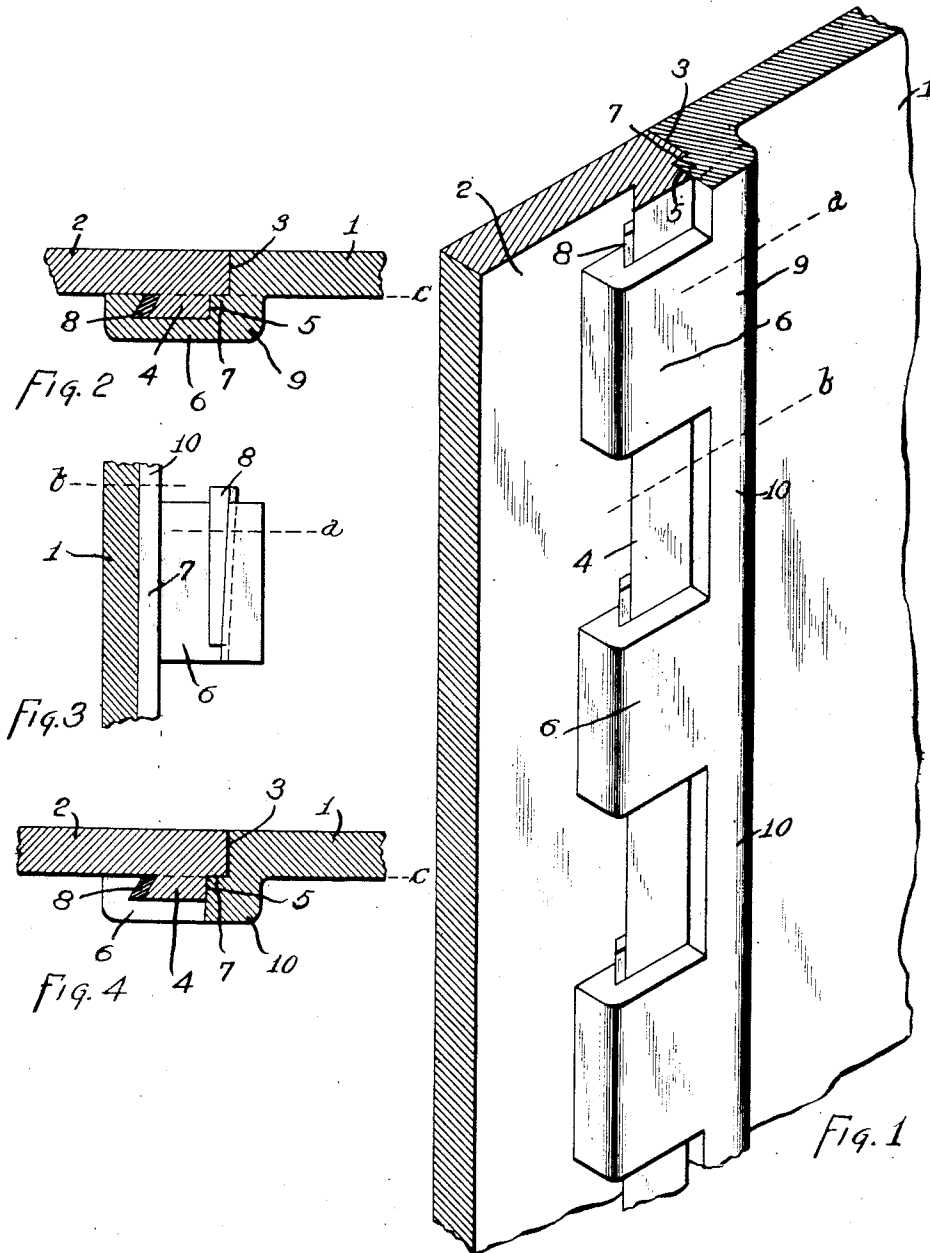


C. BARTELS.
 PLATE EDGE JOINT.
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1,107,477.

Patented Aug. 18, 1914.



Witnesses:

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PLATE-EDGE JOINT.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CARL BARTELS, a citizen of the United States, residing at Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Plate-Edge Joints, of which the following is a specification.

This invention, while useful for other situations, has been contrived with special reference to the forming of the joints between edges of plates of unmachinable metal, manganese steel castings, for instance, employed in the construction of burglarproof safes.

In constructing the walls of safes formed of plates of manganese steel castings joined edgewise to each other, the joints cannot be formed by any of the ordinary methods employed in joining the edges of plates, owing to the fact that the metal is unmachinable, thus prohibiting the use of screws, and any surfacing or dressing that is to be done must be by way of grinding.

My invention will be readily understood from the following description taken in connection with the accompanying drawing in which:—

Figure 1 is a perspective view of a pair of plates having their edge-joint exemplifying my present invention: Fig. 2 a horizontal section of the same in the plane of line *a* of Figs. 1 and 3: Fig. 3 a vertical section in the plane of line *c* of Figs. 2 and 4: and Fig. 4 a horizontal section in the plane of line *b* of Figs. 1 and 3.

In the drawing:—1, indicates one of the plates in connection with which the joint is to be formed: 2, a second plate, whose edge is to be joined to that of the first plate: 3, the joint of separation between the edges of the plates: 4, a rib formed integrally upon the inner surface of one of the plates parallel with the joint, that edge of the rib which is farthest from the joint of separation between the plates being of dovetailed form: 5, the opposite edge of the rib, this edge of the rib being offset from the line of the joint and toward the dovetailed edge of the rib so as to form a rabbet at the side of the dovetailed rib: 6, ears integrally formed upon the inner surface of that plate which does not bear the dovetailed rib, these ears projecting across the dovetailed rib and having their rear faces dovetailed to go over the rib: 7, a portion of each ear, and of the rib 10 con-

necting the ears, projecting over the offset 5: 8, a key driven into the recess of each ear, against the dovetailed edge of the rib: 9, the heels of ears 6 where those ears are integrally united with plate 1: and 10, a vertical rib integrally formed with plate 1 and extending between the ears and forming a continuous prolongation of the heels 9 of the ears, this rib engaging the rabbet 7 at the joint, the same as that rabbet is engaged by the heels of the ribs.

The ears may be spaced apart such distance as is dictated by good judgment, but the distance between them should be sufficient to permit of the insertion and driving of the keys and also permit of the drifting out of the keys. The offset on one of the plates and the projection 7 of the ears to engage this offset is of advantage in positioning the edges of the plates relative to each other flatwise. The relative width of the dovetailed rib and the recess in the ears is to be such that plate 1 with its ears may be presented to plate 2 causing the recess of the ears to pass rearwardly over the rib before the keys are placed and driven. By providing rib 10 forming continuations of the heels in the rabbet, the entire length of joint 3 becomes covered on the inside of the plates. A construction with this character of joint may have its parts assembled and temporarily keyed up, after which the keys may be drifted out and the structure dismantled and the parts shipped for final erection, and in the final erection the keys will be driven with great tightness, and the keys employed in the final erection may be the same keys employed in the temporary erection, or they may be new keys, as desired.

I claim:—

1. A plate-edge joint comprising, a pair of plates joining each other edgewise, a dovetailed rib on the inner surface of one of the plates near the joint, ears disposed on the inner surface of the other plate and extending across the dovetailed rib and recessed to engage over the rib, and keys disposed in the recesses of the ears and between the dovetailed edge of the rib of the contiguous walls of the ears, combined substantially as set forth.

2. A plate-edge joint comprising, a pair of plates joining each other edgewise, a dovetailed rib on the inner surface of one of the plates near the joint and having that one

of its edges which is nearest the joint offset
sidewise from the line of the joint, ears dis-
posed on the inner surface of the other plate
and extending across the dovetailed rib and
5 recessed to engage over the rib and having
projections engaging the inner face of the
fellow plate at the offset, and keys disposed
in the recesses of the ears and between the
dovetailed edge of the rib of the contiguous
10 walls of the ears, combined substantially as
set forth.

3. A plate-edge joint comprising; a pair of
plates joining each other edgewise, a dove-
tailed rib on the inner surface of one of the
15 plates near the joint, ears disposed on the
inner surface of the other plate and extend-
ing across the dovetailed rib and recessed to
engage over the rib, keys disposed in the re-
cesses of the ears and between the dovetailed
20 edge of the rib of the contiguous walls of
the ears, and a rib upon that one of the
plates bearing the ears and forming pro-
longations of the heels of the ears, combined
substantially as set forth.

4. A plate-edge joint comprising, a pair 25
of plates joining each other edgewise, a
dovetailed rib integrally formed on the inner
surface of one of the plates near the joint
and having that one of its edges which is
nearest the joint offset sidewise from the 30
line of the joint, ears integrally formed on
the inner surface of the other plate and ex-
tending across the dovetailed rib and re-
cessed to engage over the rib and having
projections engaging the inner face of the 35
fellow plate at the offset, keys disposed in
the recesses of the ears and between the
dovetailed edge of the rib of the contiguous
walls of the ears, and a rib integrally formed 40
with that one of the plates which bears the
ears and forming prolongations of the heels
of the ears and having projections engaging
the inner face of the fellow plate at the off-
set, combined substantially as set forth.

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Witnesses:

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