

Aug. 1, 1933.

P. MATZOW

1,920,578

DEVICE FOR PRODUCING CAST CHAINS COMPOSED OF SINGLE LINKS

Filed April 2, 1932

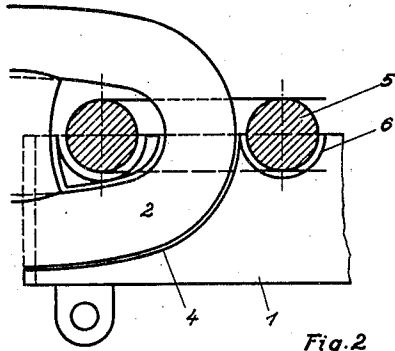


Fig. 2

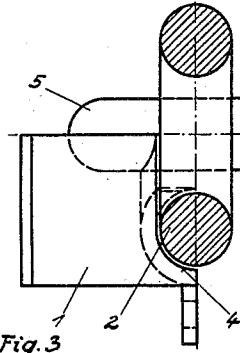


Fig. 3

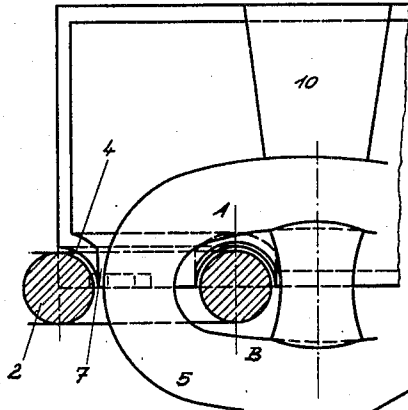


Fig. 4

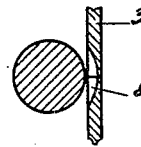


Fig. 5

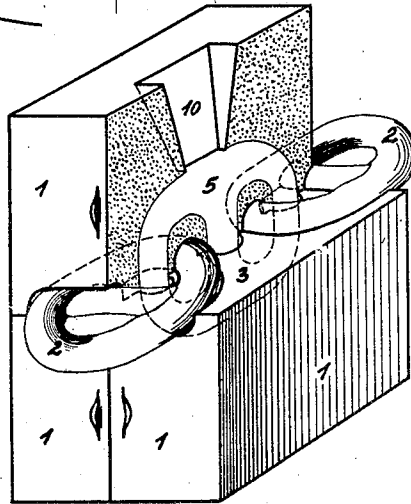


Fig. 1

Inventor:
Paul Matzow
by *[Signature]*
attorney

UNITED STATES PATENT OFFICE

1,920,578

DEVICE FOR PRODUCING CAST CHAINS
COMPOSED OF SINGLE LINKS

Paul Matzow, Magdeburg, Germany

Application April 2, 1932, Serial No. 602,831, and
in Germany April 7, 1931

2 Claims. (Cl. 22—126)

This invention relates to a device for producing cast chains from single links. Hitherto, for the production of the individual cast chain links ordinary model plates for boxless moulds were employed and for the connecting links core boxes, in which the cores for the four-part connecting link were produced. In this method the moulding was carried out entirely in sand, and the multiple part mould boxes were fitted together with their mould surfaces hollowed out in the sand.

Such casting methods for chains composed of single links are mostly open to the objection, that in each core part thin mould walls are present, which can be easily destroyed by the slightest jolt or jar, for example when inserting the individual links. As however, on the other hand, no play must exist between core and individual link, the cover cannot be placed fitting tightly the one on the other in the joint plane which results in thick seams and too great thickness of the connecting links.

These objections are overcome according to the invention. Also the mould is produced of four separate boxes. Contrary to the boxes hitherto known those according to the invention have, however, on their joining sides rigid metal walls which, when the boxes are fitted together, bear tightly against one another. These metal walls have cavities which correspond to the shape of the individual link. Before casting, the finished individual link is placed in these cavities so that the four walls of the box parts surround the half finished link in such a manner that it no longer comes into contact with the moulding sand as heretofore.

In these side walls only cavities are to be provided into which the model of the link to be cast extends which is evidently surrounded by moulding sand also at this point. As the individual link does not come into contact with the material proper of the mould and as its position is accurately determined, the following considerable advantages result during the production of the chain:

1.—It is not necessary to take any notice of thin sand portions.

2.—The moulding work for the cavities for receiving the individual links is saved.

3.—Owing to the resistance of the weak parts it is possible to cast the chain wet, so that the formation of heat cracks is absolutely avoided.

4.—The cast intermediate links are absolutely properly dimensioned and without any burr, as the individual link in this process need not lie

hollow, and consequently the chain parts always close tightly.

5.—Defective castings are absolutely impossible with castable steel, an advantage which makes this method superior to all known methods and which defect was the cause of cast steel chains not having been generally adopted.

6.—The method is cheaper than the known methods, owing to the saving in moulding work for accommodating the individual links, the drying of the moulds and the expensive mould material.

An embodiment of the invention is illustrated by way of example in the accompanying drawing in which:

Fig. 1 is a perspective view of the mould fitted together, the fourth mould box part being omitted.

Figs. 2 to 5 show details of the box on a larger scale.

For constructing the mould for example four mould boxes 1 are employed, which are open only on the side facing the casting plane.

The finished links 2 are placed between these mould box parts. For this purpose the bearing surfaces 3 of these mould boxes have cavities 4, which are so shaped that they accommodate about one half of the finished link, whereas the other half projects from the mould.

Cut out portions 6 are also provided in the wall of the mould box parts for inserting the model 5, these cut out portions being so dimensioned that there is sufficient clearance between the walls and the mould for the moulding sand. The link is cast, placed on edge that is with vertical web in known manner through a funnel 10 without employing cores.

The relative position of the individual links is sufficiently determined by the cavities in the walls 3, so that the moulding, fitting together and casing can be effected very quickly and without loss of time.

The mould boxes can according to the invention be produced in a simple manner, in spite of the somewhat difficult spatial conditions which exist between wall and the chain link.

As can be seen from Fig. 4, a hole 7 is bored in the wall of the box having the recesses 4, said hole being of such size that sufficient space exists for the chain link to be cast and for the moulding sand. Thus, the edges of the hole are sharp. Nevertheless a sufficiently large surface remains for supporting the finished chain link.

Fig. 5 shows how sufficient space can be obtained in the section A—B of Fig. 4 for accom-

modating the moulding sand under the chain link to be cast. It is only necessary, to partly remove the wall 3 at the corresponding point by a milled out portion 8, so that the closed wall still remains and the finished chain link does not come into contact with the moulding sand.

This construction of the mould box presents the advantage, that the moulding can be carried out by unskilled workers on any moulding press.

- 10 The shaped side wall of the mould box part may also be exchangeable, to enable the same box parts to be used for different types of chains. In this instance only the profiled side wall will require changing.

I claim:—

1. A device for casting individual links in chains, comprising in combination a multiple part mould box, and metal walls on the adjacent sides of said mould parts having recesses for accommodating and surrounding the finished links, the space within said box parts adapted to accommodate the sand for forming the complete mould for the link to be cast said sand mould being held by the recessed portions of said metal walls. 80 85

2. A device as specified in claim 1, in which the walls of the mould box parts provided with cavities are exchangeable.

PAUL MATZOW.

15	90
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150