

F. HAMILTON.
MOLD FOR CORES.

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1,054,541.

Patented Feb. 25, 1913.

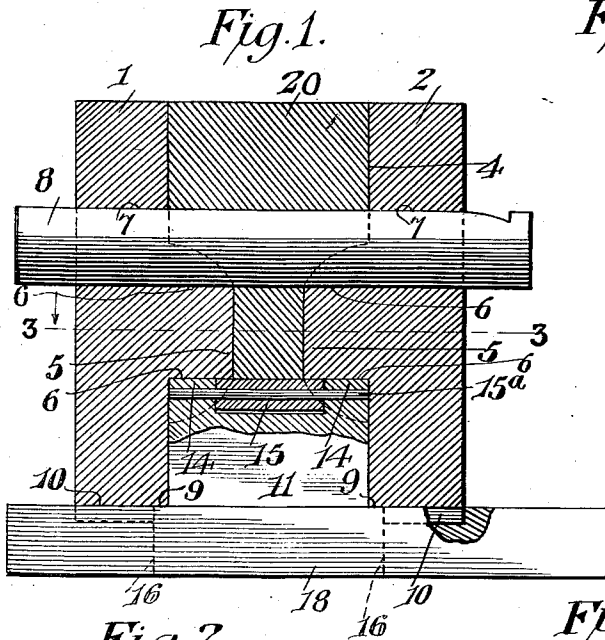


Fig. 2.

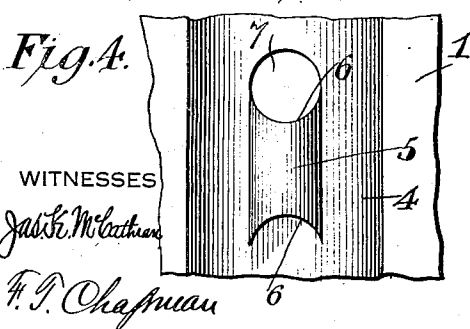
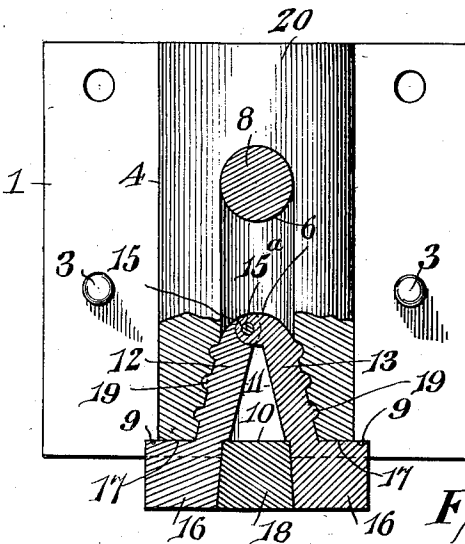


Fig. 5.

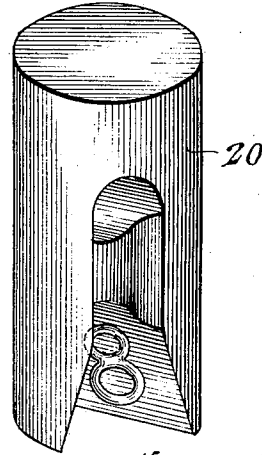


Fig. 6.

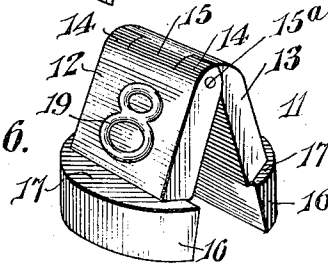


Fig. 3.

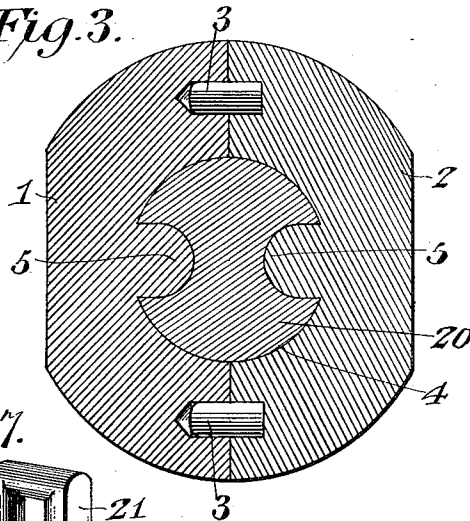
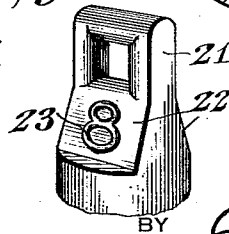


Fig. 7.



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MOLD FOR CORES.

1,054,541.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK HAMILTON, a citizen of the United States, residing at Perth Amboy, in the county of Middlesex and State of New Jersey, have invented a new and useful Mold for Cores, of which the following is a specification.

This invention has reference to improvements in molds for cores, and is designed more especially for the production of cores for the eye ends of sash weights, although applicable to other purposes.

The object of the present invention is to provide a core which may be employed for the production of the eye ends of sash weights without forming fins or burs in such eye and also for the production of a number on the eye end of the sash weight indicative of the amount of material in the sash weight.

The present invention comprises a mold box of appropriate shape with oppositely disposed ribs designed to define the side members of the eye of the finished sash weight, and this mold box has aligned passages for the reception of a rod designed to define the cord holding portion of the eye of the sash weight, while provision is made in the mold box for the reception of an extensible member having patterns thereon agreeable to the digit or digits representing the number of pounds of metal in the sash weight, the arrangement being such that the number producing portion of the mold box may be afterward collapsed in a manner to be withdrawn without interference with the sharpness of the impression.

The invention will be best understood from a consideration of the following detailed description, taken in connection with the accompanying drawings forming a part of this specification, with the further understanding that while the drawings illustrate a practical form of the invention the latter is by no means limited to any exact conformity with the showing of the drawings but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention.

In the drawings:—Figure 1 is a vertical cross section through a mold constructed in accordance with the present invention. Fig. 2 is a view substantially at right angles to the section of Fig. 1 with one-half of the mold removed and parts broken away

and in section. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a fragmentary face view of the interior of one-half of the mold. Fig. 5 is a perspective view of a completed core. Fig. 6 is a perspective view of an extensible and contractible insert for the mold. Fig. 7 is a perspective view of the eye end of a sash weight produced by the use of the core made in the mold of the present invention.

In accordance with the present invention there is a mold box made up of two members 1, 2 after the usual practice in the construction of mold boxes, and these mold box sections are caused to assume the proper relation when brought together by pins 3, as is customary. The interior of each section of the mold box is made hollow, as indicated at 4 in Fig. 4, so that when the two sections of the mold box are brought together there is a passage through the box, which passage may be cylindrical or any other appropriate shape. Each section of the mold box at a point about intermediate of its length has formed on the interior a lug 5 projecting toward the center line or plane of division of the mold box in a direction substantially toward the other lug when the parts of the mold box are assembled. Each end of each lug is concaved, as indicated at 6, and coincident with the concave portion at one end of the lug each section of the mold box is formed with a passage 7 through the corresponding wall, these passages alining in the assembled box and being designed for the reception of a rod 8 of any appropriate shape in cross section, but preferably round, and this rod is of sufficient length to extend entirely across the internal cavity or chamber of the mold box when the parts are assembled, and it may be long enough to extend beyond the sides of the mold box so that the insertion or removal of the rod is thereby facilitated.

One end of the mold is counter-sunk, as indicated at 9, to form a seat, and oppositely arranged grooves 10 are also provided in the two members of the mold at the counter-sunk ends. Adapted to the counter-sunk end of the mold is an insert 11 formed of two members 12, 13, respectively, one of the members, say the member 12, being formed with spaced ears 14 and the other with an intermediate ear 15 adapted to enter between the ears 14 after the manner of a hinge, and these ears are

traversed by a pintle 15^a, so that the two members 12 and 13 may be moved apart or together, as desirable. Those ends of the members 12 and 13 remote from the hinge are enlarged, as indicated at 16, and of segmental shape, the members 12 and 13 being related to the enlargements or base portions 16 to meet them at a slight angle. The segments 16 have flat portions 17 on the faces where the respective members 12 and 13 join them. There is also provided a bar 18 adapted to enter between the chord portions of the segments 16 and also enter the grooves 10, and the bar 18 is so related to the segments 16 as to cause these segments to move apart, and when so moved apart they will lodge in the counter-sunk portion 9 against the shoulder formed thereby with the members 12 and 13 at a considerable angle one to the other, and entering the interior chamber of the mold. The hinged ends of the members 12 and 13 are rounded on an axis parallel with the pintle 15^a and the curvature is such that when the segments 16 are spread apart and the insert is lodged within the mold the curved surfaces of the hinged ends of the members 12 and 13 lodge within the concavities 6 at the corresponding ends of the lugs 5. The outer faces of the members 12 and 13 each having a suitable number 19 produced thereon either in relief or intaglio.

When it is desirable to produce a core, the mold members 1 and 2 are brought together, the rod 8 is inserted through the passages or holes 7 and the terminal member 11 is inserted in the other end of the mold from that to which the passages 7 are adjacent, so that the rounded portion of the hinge connection of the insert engages in the concavities 6 of the lugs 5 at the appropriate ends of the latter, and then the bar 18 is inserted between the chord faces of the segment 16 forcing them apart with the rounded edges of the segments in the recess 9, thus binding the parts firmly together, while the faces 17 constitute a closure for the corresponding end of the mold. Now, a suitable composition is introduced into the mold and tamped or otherwise compressed therein, completely filling the spaces within the interior of the mold and conforming to the shape of these spaces. As soon as the filled in material has hardened sufficiently, the bar 18 is withdrawn allowing the insert to be collapsed, and this will remove the faces of the members 12 and 13 away from those parts of the core with which the filling in material engages, so that the number indications are withdrawn in directions which will prevent any injury to the impressions and consequently the mold members are sharp and clear. The rod 8 may then be withdrawn and the parts of the mold separated when there will be found a core 20 similar to that

illustrated in Fig. 5. This core is employed in one end of the mold used for the production of sash weights and after the sash weight has been cast the core may be easily broken away, leaving the sash weight with a substantially square eye 21, see Fig. 7, with the edges which are designed to be engaged by the sash cord round and smooth, while this eye is connected to the body of the sash weight by expanding faces 22 upon which are produced numbers 23 indicating the weight in pounds of the sash weight. The number is displayed where most readily visible and, moreover, is clear and sharp and not imperfect and obscure as so often occurs in molded sash weights as heretofore produced. The sharpness of the impression by the mold is due to the manner of forming the necessary impression in the core by the insert 11 which after the molding of the core is collapsed and withdrawn, the direction of collapse being approximately perpendicular to the mold surface, so that the mold faces do not distort or otherwise mar the impression.

By the employment of metal in the construction of the rod 8 and a fine grained composition for the core 20 that portion of the eye 21 corresponding to the rod 8 may be extremely smooth and no fins or burs are present anywhere within the eye portion 21 of the finished sash weight, wherefore there is no liability of cutting the cords by roughness in the eyes. Moreover, in the ordinary way of molding sash weights the eyes are often left with fins or burs and many times these parts must be punched out often to the destruction of the sash weights because of the extreme brittleness of the metal employed for the casting of sash weights.

The core may be used for either round or square sash weights and the one mold for the core will answer for any size of sash weight, since it is merely necessary to substitute an insert 11 having the proper number indication 19 thereon. The round rod 8, the rounded lugs 5, and the rounded hinge connection of the two parts of the insert make the eye of the finished weight markedly smooth and free from any protuberances which would be injurious to the sash cord. Moreover, the means for the formation of the number indicating the weight produces a clear, sharp impression, so that despite the character of the metal employed in casting sash weights, the eye portion and the number indicating portions are smooth and free from the objections to these portions of the sash weight as ordinarily formed.

It is to be observed that the device for spreading out and tightening the insert operates in a direction substantially at right angles to the plane of separation of the

mold box, so that this insert may be tightly lodged in place against accidental displacement without liability of separating the two members of the mold box.

5 What is claimed is:—

1. A mold for the production of cores for the eye ends of sash weights comprising a mold box having oppositely directed spaced lugs in facing relation with apertures
10 through the walls of the mold box at one end of the lugs, and an insert for one end of the mold box of a length to engage the other ends of the lugs and provided on opposite faces with molding means for producing indicia.

2. A mold for the production of cores for casting the eye ends of sash weights comprising separable members defining an interior chamber, the inner walls of the members having projecting lugs thereon directed one toward the other and having rounded faces and concave ends, the mold members having produced therethrough coincident with one of the concave ends of each lug a
20 passage for the reception of a rounded rod, and an expansible and contractible insert for one end of the mold having inclined members hinged together and rounded at one end and at the other end adapted to be moved apart or together, and means for
30 expanding the insert and clamping it in the corresponding end of the mold with the rounded hinge portion in engagement relation with the corresponding concave ends of the lugs.

3. A mold for the production of cores for the eye ends of sash weights comprising a core box formed of separable members defining an interior chamber, each core member having an interior lug directed toward the lug of the other member and with an aperture coincident with one end of the lug, the apertures of the assembled box being in
40 alinement and adapted to receive a rod, that end of the mold box remote from the apertured portion being counter-sunk, and an insert for the counter-sunk end of the mold box comprising two members hinged together at one end and at the other end having enlargements adapted to the counter-sunk portion of the mold box with the
50 hinged portion engaging the corresponding ends of the lugs within the mold box.

4. A mold for the production of cores for the eye ends of sash weights comprising a core box formed of separable members defining an interior chamber, each box member having an interior lug directed toward the lug of the other member and with an aperture coincident with one end of the lug, the apertures of the assembled box being in
60 alinement and adapted to receive a rod, that end of the mold box remote from the aperture portion being counter-sunk, and an insert for the counter-sunk end of the mold

box comprising two members hinged together at one end and at the other end having enlargements adapted to the counter-sunk portion of the mold box with the hinged portion engaging the corresponding
70 ends of the lugs within the mold box, the hinged portions of the insert having indicia molding means on the faces presented toward the inner walls of the mold box when the insert is in position.

5. A mold for the production of cores for the eye ends of sash weights comprising a core box formed of separable members defining an interior chamber, each box member having an interior lug directed toward the lug of the other member and with an aperture coincident with one end of the lug, the apertures of the assembled box being in alinement and adapted to receive a rod, that
80 end of the mold box remote from the aperture portion being counter-sunk, and an insert for the counter-sunk end of the mold box comprising two members hinged together at one end and at the other end having enlargements adapted to the counter-sunk portion of the mold box with the hinged portion engaging the corresponding
90 ends of the lugs within the mold box, the hinged portions of the insert having indicia molding means on the faces presented toward the inner walls of the mold box when the insert is in position, there also being provided a bar adapted to be placed between the members of the insert to expand the latter and the mold box having grooves
100 therein for the reception of the bar, said grooves being on a diameter substantially perpendicular to the plane of separation of the members of the mold box.

6. A mold for the production of cores for the eye ends of sash weights comprising a separable mold box defining an interior chamber, means for the production of the eye molding portion of the core, and means for the production of the junction portion
105 of the eye of the weight with the body of the weight comprising an insert for the mold box consisting of members hinged together at one end and at the other end provided with shouldered enlargements.

7. A mold for the production of cores for the eye ends of sash weights comprising a separable mold box defining an interior chamber, means for the production of the eye molding portion of the core, and means
120 for the production of the junction portion of the eye of the weight with the body of the weight comprising an insert for the mold box consisting of members hinged together at one end and at the other end provided with shouldered enlargements, the said hinged members having produced on their outer faces means for molding indicia in the core.

8. In a mold for forming cores for the 130

eye ends of sash weights, means for producing in the core mold surfaces for indicia to be produced upon the sash weight comprising an insert for the mold having surfaces
5 with indicia molding means thereon, said insert consisting of members hinged together at one end and at the other end provided with enlargements to constitute a closure for the corresponding end of the core.
10 9. In a mold for forming cores for the eye ends of sash weights, means for producing in the core mold surfaces for indicia to be produced upon a sash weight comprising an insert for the mold having surfaces
15 with indicia molding means thereon, said

insert consisting of members hinged together at one end and at the other end provided with enlargements to constitute a closure for the corresponding end of the core, the hinged portion of the insert having its edges rounded to form a molding surface on the core corresponding to one portion of the eye of the finished sash weight. 20

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses. 25

FRANK HAMILTON.

Witnesses:

JACOB M. KLEIN,

HYMAN DRIEDMAN.