

(No Model.)

M. J. HUGHES.
SECTIONAL CORE FOR CASTING.

No. 460,473.

Patented Sept. 29, 1891.

Fig 1.

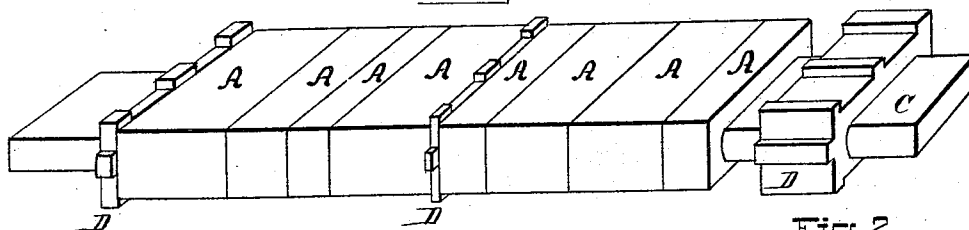
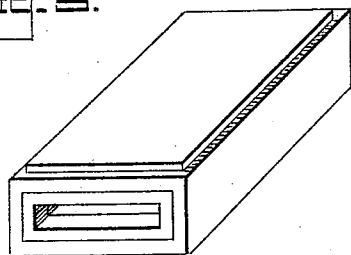
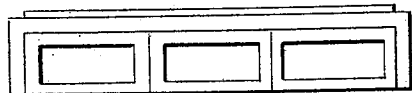
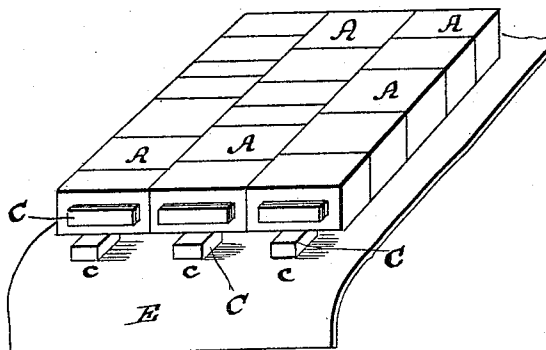


Fig. 2.

Fig. 3.



Tip 4.



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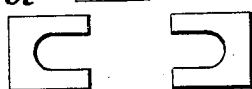
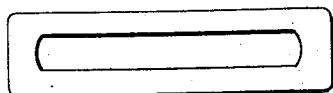
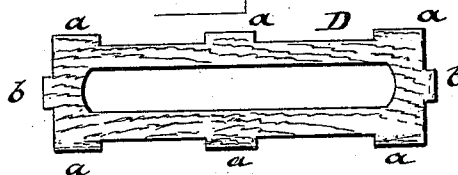


Fig. 7.



Index.



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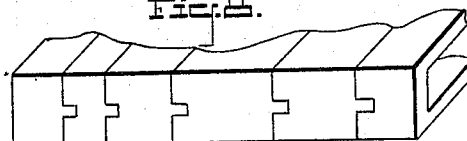
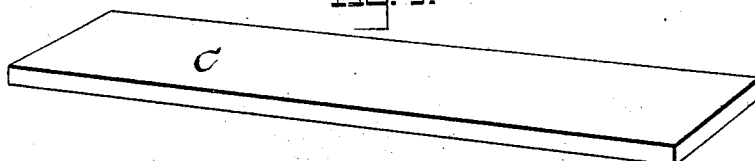


Fig. 9.



WITNESSES:

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MARSHALL J. HUGHES, OF NEW YORK, N. Y.

SECTIONAL CORE FOR CASTING.

SPECIFICATION forming part of Letters Patent No. 460,473, dated September 29, 1891.

Application filed September 18, 1889. Serial No. 324,290. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL J. HUGHES, of the city, county, and State of New York, have invented new and useful Improvements in Sectional Cores for Casting Purposes, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a perspective view of a sectional core mounted upon a core-support. Fig. 2 is a perspective view showing the position of the sectional cores relative to the mold. Fig. 3 is a perspective view of a cast made on and around a sectional core. Fig. 4 is a perspective view of a plate cast upon the top and around the sides of a sectional core. Fig. 5 represents a core-section furnished with projections upon the top, bottom, and ends. Fig. 6 represents a sectional core divided transversely. Fig. 7 is a side elevation of one of the core-sections shown in Fig. 1. Fig. 8 represents a series of core-sections tongued and grooved together, and Fig. 9 is a perspective view of the core-support.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to provide a sectional core for the foundation of stereotypes, electrotypes, printers' furniture, plate-block, and similar casts, the said core being formed of sections of varying width, the purpose being to replace a portion of the expensive type-metal with cast-iron or other cheap material, which will support the cast of the stereotype or electrotype metal and give it the required rigidity and strength.

My invention consists in providing a series of plain core-sections of varying width, in combination with a series of core-sections provided with a series of projections for reducing the area of the cast metal at the points of separation of the sections of the cast electrotype or stereotype.

It further consists in the combination, with a series of cores of metal or other hard material, of core-sections of soft material, such as wood pulp, &c., to permit of sawing the stereotype or electrotype into several sections at the points occupied by the soft-core sections.

In carrying out my invention I provide core-sections A of a suitable length and thickness and of varying widths, the several widths

being capable of combining to form a core of any desired length. The core-sections A are each provided with a transverse oblong aperture B, which loosely fits upon the core-support C. The core-sections A are made of iron, wood, or any other suitable material that will withstand the heat of the melted stereotype-metal.

When it is desired to cause the stereotype-metal to flow freely, so as to form a thin coating over the core, I apply to the core-sections a coating of asbestos paint or other paint that will leave a film of material on the core that is a non-conductor of heat, thus preventing the type-metal from becoming chilled by contact with the cold surfaces of the cores.

If it is desired to cast a number of small stereotypes simultaneously, I place upon the core-support C, along with the core-sections A, one or more wooden sections D of sufficient width to permit of sawing the stereotype at the point occupied by the wood. The wooden core-sections D may have either the form of the iron sections shown in Figs. 1 and 7 or they may be provided with side projections *a* or end projections *b*, or both, as circumstances may require. These side and end projections *a b* serve to center the iron core-sections in the mold, so that the melted metal divides itself equally on all sides of the core, also to diminish the amount of metal at the point of separation of the head or bottom of the cast, and to afford passages for the melted metal to flow past the wooden sections and around the iron core-sections.

By employing the wooden core-sections less sawing is required to separate the cast at any desired point, either between the spaced cores or at their ends.

The core-sections A' (shown in Fig. 6) are to be strung on opposite edges of the core-support C, so that they will be arranged relative to each other as shown in Fig. 1, and to make said cores self-supporting, when so desired, I provide each core with a tongue on one side and a groove on its opposite side, so that the entire series may be placed together, as shown in Fig. 8. Such tongued cores may be used with or without a core-support.

My improved core-sections are used by placing them on the core-support C, as shown in Fig. 1, and arranging the cores in the cast-

ing-box above the mold E, the said cores being supported by distance-pieces c, as shown in Fig. 2.

When it is desired to cast the stereotype-metal upon the top and edges only of the cores, the distance-pieces c are of sufficient thickness to support the cores A, so that the back of the casting-box will bear directly upon the surface of the cores; but when it is desired to cast the metal around the cores the distance-pieces c are thinner, and space is left between the cores A and the top of the casting-box for the metal to flow in.

When it is desired to use only a thin body of stereotype-metal around the cores A, the said cores are coated with a paint, such as asbestos paint, which leaves a film of non-conducting material upon the cores, so that the hot metal will readily flow around the surfaces of the cores and fill all the interstices of the mold.

It is obvious that by the employment of sectional iron cores a large portion of the type or stereotype-metal commonly used in stereotyping is replaced by iron, which is a cheaper material. It is also obvious that by making my improved core in sections a core of any desired length may be quickly set up.

After casting the core-support C is withdrawn from the cores A, and the said cores are allowed to remain in. When it is desired to remelt the type or stereotype metal, the cast with its cores is thrown into the melting-pot, and as soon as the core-sections are liberated they rise to the surface of the metal and may be removed, leaving the metal clear and ready for use.

When it is desired to form a large stereotype-plate, a number of cores made up of the sections A may be placed parallel with each other, leaving spaces for the metal to flow

between and around them, thus connecting the upper portion of the plate with the lower portion.

By the employment of my improved sectional core I am enabled to dispense with troublesome and expensive machinery for sawing into sections casts having iron cores, and I separate the cast at the joints of the core with very little cutting and without expense, at the same time effecting a great saving in time.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An improved core for forming a portion of the body of stereotypes and analogous printing-blocks, the same consisting of apertured rectangular contiguous core-sections A of smaller dimensions than the finished printing-block, the said core-sections being constructed for permanent inclosure in the material of the cast forming the exterior portion of the printing-block, and a removable core-support fitted to the apertures of the core-sections, substantially as specified.

2. The combination, with a series of plain core-sections of varying width, of wooden core-sections provided with projections on the edges thereof, substantially as specified.

3. The combination, with a series of plain apertured core-sections of hard metal and one or more apertured sections of soft material disposed intermediate of said hard sections, of the core-support adapted to enter said apertured sections, substantially as shown and described.

MARSHALL J. HUGHES.

Witnesses:

GEO. M. HOPKINS,
C. SEDGWICK.