

(No Model.)

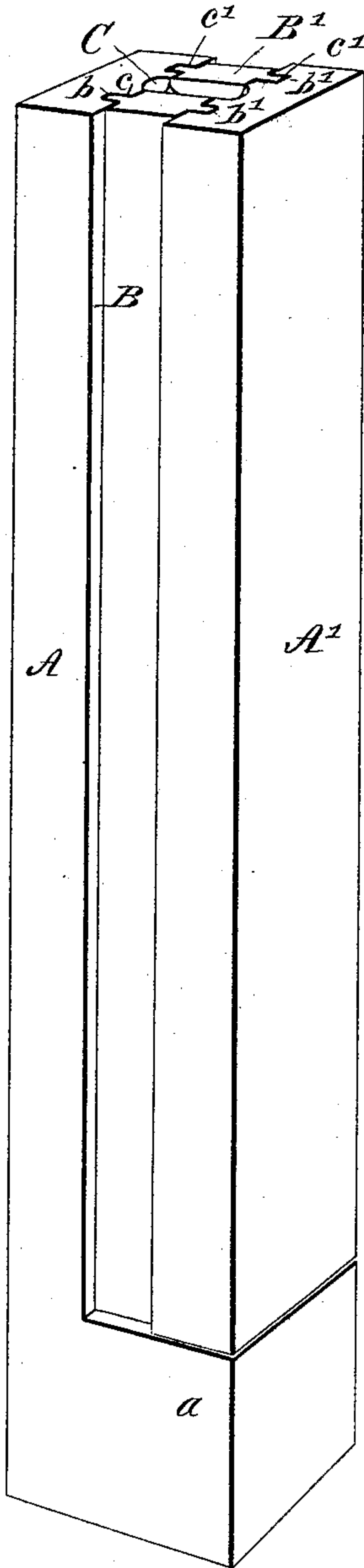
G. F. KIMBALL.

MOLD FOR CASTING PRINTERS' LEADS AND SMALL FURNITURE.

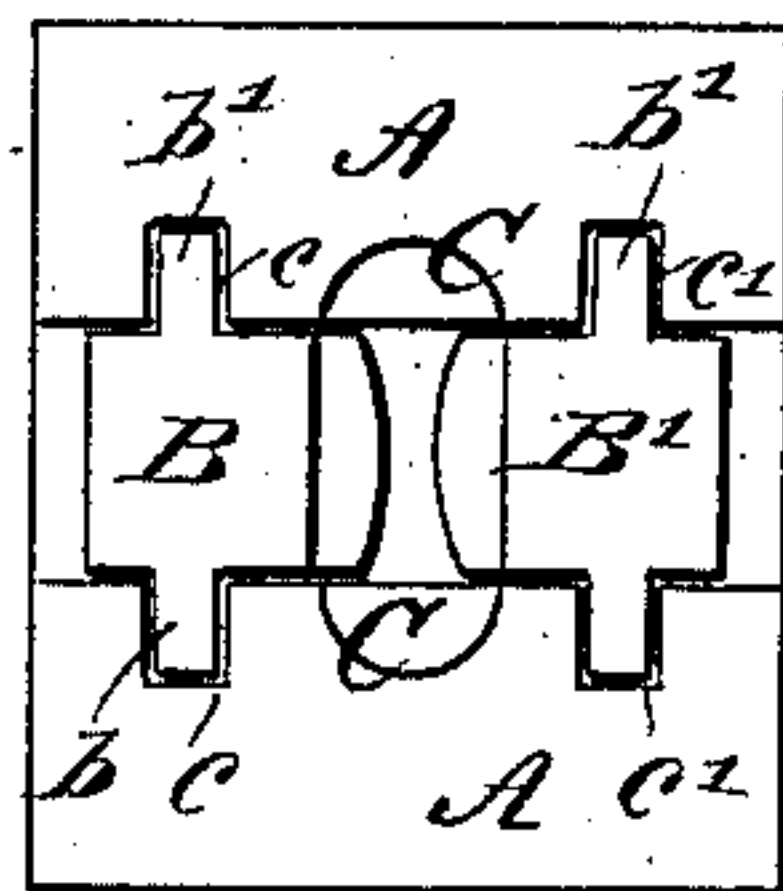
No. 359,021.

Patented Mar. 8, 1887.

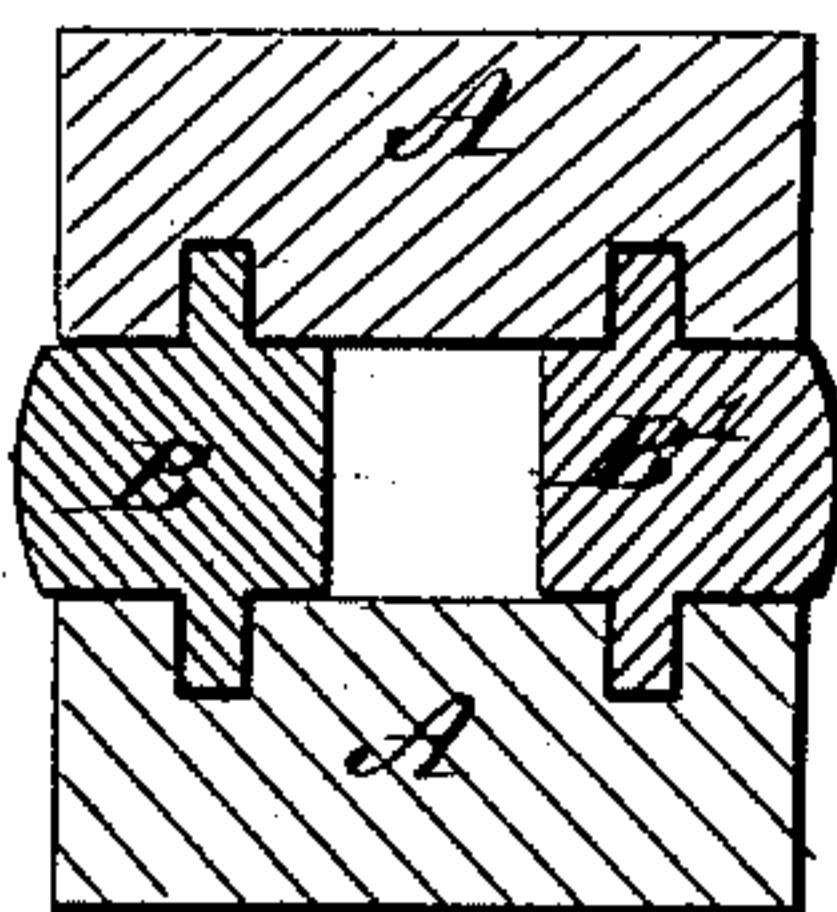
*Fig. 1.*



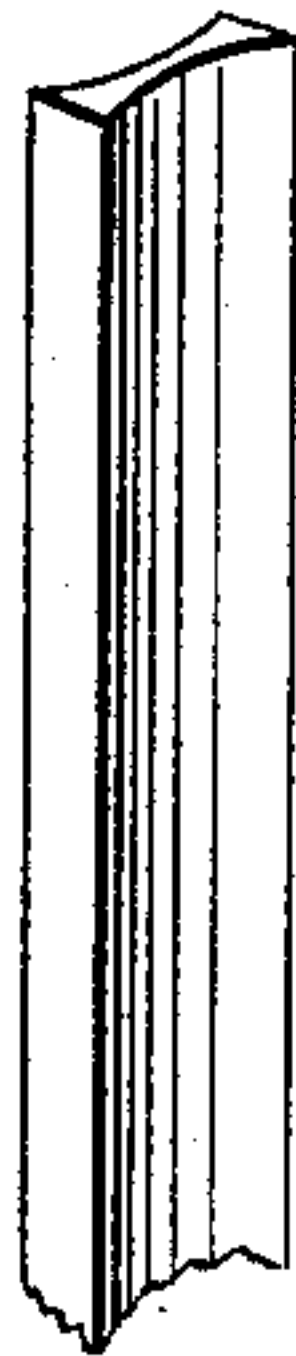
*Fig. 2.*



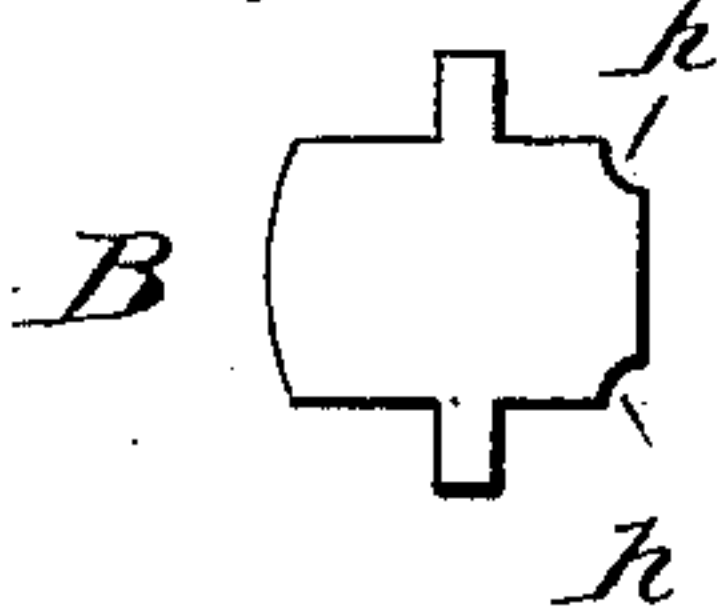
*Fig. 3.*



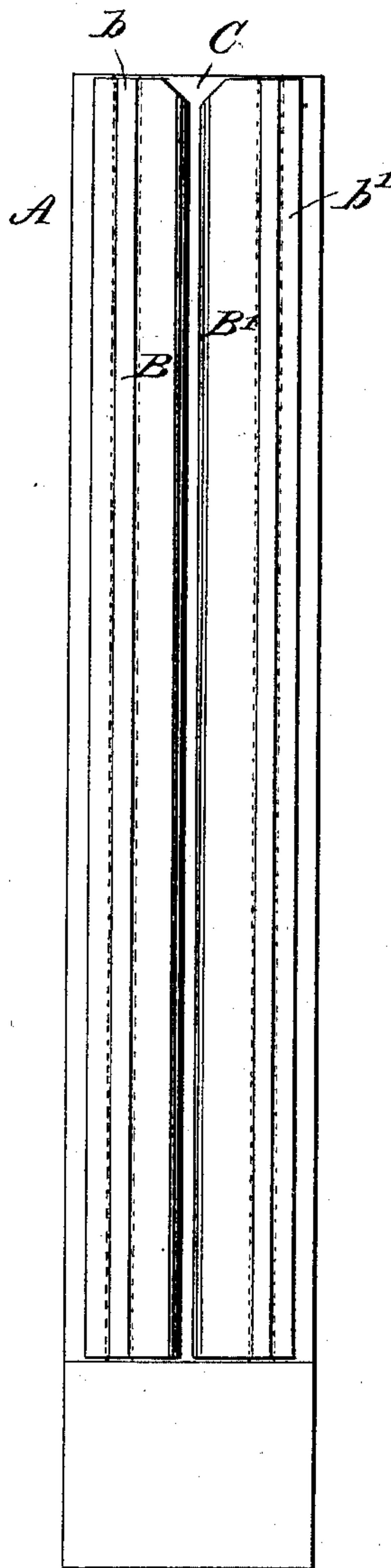
*Fig. 5.*



*Fig. 6.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

GUSTAVUS F. KIMBALL, OF TOPEKA, KANSAS.

MOLD FOR CASTING PRINTERS' LEADS AND SMALL FURNITURE.

SPECIFICATION forming part of Letters Patent No. 359,021, dated March 8, 1887.

Application filed June 3, 1886. Serial No. 204,020. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAVUS F. KIMBALL, of Topeka, in the county of Shawnee and State of Kansas, have invented a new and Improved  
5 Mold for Casting Printers' Leads and Small Furniture, of which the following is a full, clear, and exact description.

My invention relates to molds for casting furniture for printers' use, and has for its object the production of a cheap, durable, and efficient device whereby printers are enabled to convert their old material into leads, slugs, and small furniture.

To this end my invention consists in a mold  
15 wherein the side bars or formers are interchangeable and adjustable at pleasure, as will be hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my device, showing the  
20 convex surfaces of the side bars or formers turned inwardly to cast concave leads and slugs, and their plain surfaces outwardly. Fig. 2 is a plan view of my device as shown in Fig. 1; Fig. 3, a horizontal section through  
25 the mold, showing the plain surfaces of side bars or formers turned inside and convex surfaces outside to cast solid slugs. Fig. 4 is a side elevation showing one clamp removed, with the side bars or formers in the same position as shown in Fig. 1. Fig. 5 is a perspective view of a slug in part with concave  
30 sides, as cast in the mold arranged as in Fig. 2. Fig. 6 is an end view of one of the side pieces or formers, showing a modification.

A represents a clamp, forming one side of  
35 my device, extending its entire length, and offset at its lower end to the full size of the mold, as shown at *a*, thereby forming a shoulder or abutment for the opposite shorter clamp, *A'*, and the movable side bars or formers,  
40 *B B'*.

The clamps *A A'* are each provided with two parallel grooved ways, *cc'*, of equal length, into which the tongues *bb'* of the movable side  
45 bars or formers, *B B'*, are made to slide. These four pieces form the mold. The mold is cut away at *C*, to form the gate through which the metal is poured. The bars or formers *B B'* are reversible and detachable, having two dis-

ting surfaces for casting different styles of  
50 furniture.

In general, the face of the mold is intended to be made entirely of wood, thereby admitting of an easy flow of metal and also of a variety of forms in the construction of the movable side bars or formers, *B B'*, at a minimum  
55 cost. These side bars or formers, as can readily be seen from the drawings, are adjustable, either side being placed in position to cast at option, and as the entire mold is simply tongued  
60 and grooved together, it is interchangeable, in that any number of side bars or formers of different bevel or general contour can be used in the one pair of clamps. In the drawings I show in Fig. 1 the movable side bars  
65 or formers, *B B'*, with their convex surfaces turned in, used in casting leads or slugs with concave sides, as shown in Fig. 5. By dressing down these casts, which are thick only in the edges, I can produce very thin leads. In  
70 Fig. 3 is shown the same set of movable side bars or formers, with their flat surfaces turned in, casting thereby solid slugs.

Again, by having, for instance, the side bar or former, *B*, plain, as shown in position in  
75 Fig. 3, and the inner side of the side bar or former, *B'*, beveled, I get what is known as "beveled foot-slugs."

By making slots across the convex edges of the movable side bars or formers, *B B'*, I produce  
80 barred furniture.

In casting very thin leads the faces of the side bars or formers, as shown in Fig. 6, can be made with their edges cut away, as at *h*.

In the process of casting, the faces of the  
85 formers can be brought so close together that there will be but little space between them, and as the cut-away edges give ample space for the flow of metal along said edges the rapid cooling of the metal which occurs in ordinary  
90 molds for casting thin leads is overcome to such a degree that I am enabled to make six or ten to pica leads three or more feet long, whereas heretofore they have seldom exceeded fifteen inches. The surplus metal along the  
95 edges of the cast is readily dressed down after it is taken from the mold to produce a lead of the required thickness. I do not limit myself



to a former having a true curve on its convex side, as the same effect can otherwise be produced. For instance, in Fig. 6 the corners are cut away to permit a free flow of the melted

5 metal.

Thus it can be seen that through the use of my device any form of leads, slugs, or small furniture for printers' use can be cast expeditiously and at a comparatively small outlay.

10 When my improved mold is made of wood, it requires less heat to be imparted to the metal, so that there is little danger of burning or even charring the wood; but this possible danger can be prevented by covering the sur-

15 face of the mold with a preparation of soap and plumbago, or oil and plumbago, or a paint of barytes or fine Spanish whiting.

In operation my mold is very simple. Into the grooves of the long clamp A is slid a set of  
20 tongued side bars or formers with edges of such contour as is necessary to produce the particular article to be cast, and over these side bars is slid the second or shorter clamp, A', and the mold is formed. The metal is poured  
25 into the opening between the side bars or formers at the top. To reverse the side bars already in, or change for another pair of different design, the clamp A' is slid off and the

bars drawn out and reversed, or the new set slid in, as above described.

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I do not claim the lead and slug in this application, but reserve the right to make a separate application therefor.

What I claim as new, and desire to secure by Letters Patent, is—

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1. A mold for casting printers' slugs and small furniture, wherein the side bars or formers are reversible and detachable and united to clamps upon either side by tongues and grooves, substantially as set forth and de-  
40 scribed.

2. The combination of the long clamp A, provided with shoulder *a*, reversible and detachable side bars or formers, B B', and short clamp A', substantially as shown and de-  
45 scribed.

3. A mold for casting printers' leads, slugs, and small furniture, constructed with side bars or formers having their faces cut away toward the edges, substantially as set forth,  
50 whereby the mold is adapted to cast thin leads.

GUSTAVUS F. KIMBALL.

Witnesses:

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I. B. WARD.