

No. 662,750.

Patented Nov. 27, 1900.

I. S. BAILEY.

DIE FOR SHAPING CARPENTERS' DRAWING KNIVES.

(Application filed July 16, 1900.)

(No Model.)

Fig 1

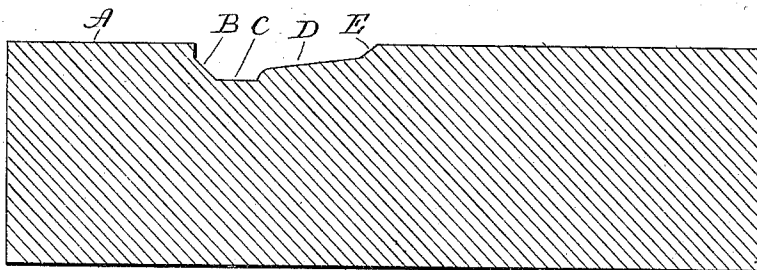


Fig 3

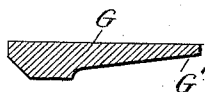
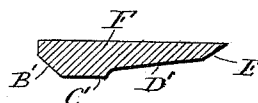


Fig 2



Witnesses
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UNITED STATES PATENT OFFICE.

ISRAEL S. BAILEY, OF SOUTHTON, CONNECTICUT.

DIE FOR SHAPING CARPENTERS' DRAWING-KNIVES.

SPECIFICATION forming part of Letters Patent No. 662,750, dated November 27, 1900.

Application filed July 16, 1900. Serial No. 23,719. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL S. BAILEY, of Southington, in the county of Hartford and State of Connecticut, have invented a new Improvement in Dies for Plating or Shaping Carpenters' Razor-Blade Draw-Knives; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in vertical longitudinal section of a die constructed in accordance with my invention; Figs. 2 and 3, cross-sectional views of knives respectively produced in the ordinary manner and in my improved die.

My invention relates to an improved die for plating or shaping previously-welded blanks for carpenters' razor-blade draw-knives, the object being to produce a die by the use of which the rough knives into which the blanks are transformed in the die will be substantially uniform in width and require the minimum amount of grinding to edge them and by the use of which the percentage of loss resulting from the unwelding and slipping of the iron and steel of the blanks will be reduced to the minimum.

With these ends in view my invention consists in a plating or shaping die for use in the production of draw-knives from previously-welded blanks, the said die having a back-bevel portion, which produces the bevel upon the rib of the knife, a rib portion, which produces the rib of the knife, a blade portion, which produces the blade of the knife, and a blade-bevel portion, which produces the bevel upon the blade of the knife and which has the further function of crowding the blade portion of the blank inward toward the rib portion thereof, so that the knives produced in the die will be substantially uniform in width and miswelding or unwelding will be avoided.

In carrying out my invention I employ a steel shaping-die A, of substantially the form generally employed for the shaping or plating of razor-blade draw-knife blanks, the steel and iron portions of which have been previously welded together by the use of a welding-die constructed in the ordinary manner.

In producing my improved die I cut it away transversely to form a back-bevel portion B, a rib portion C, a blade portion D, and a blade-bevel portion E, these several features of the die being designed to produce the features of the knife indicated by the names which I have applied to them. When a previously-welded knife-blank is placed in this die and subjected, when being moved transversely across it, to hammering, the blank will be forced by the several specified portions of the die to take their form, with the result of producing a rough or rudimentary unsharpened knife F, such as shown in Fig. 2, this knife having a rib-bevel B', a rib C', a blade D', and a blade-bevel E'. The hammering of the blank tends to stretch it in the direction of its blade portion. This tendency is resisted by means of the blade-bevel portion E of the improved die, which not only produces the described bevel E' upon the blade D' of the knife, but also exerts a constant effort to keep the metal of the knife from being too much stretched and flattened out. The said blade-bevel portion E of the die also tends to crowd the steel portion of the blank inward, whereby it is prevented from stretching too much with reference to the iron portion of the blank, so that the disturbance of the previous welding of the steel to the iron is avoided. This welding, as I may here say, is very liable to disturbance in the plating or shaping die, because the hammering of the welded blank therein tends to again separate the steel from the iron, which occurs so frequently that many blanks are spoiled or injured in the shaping or plating die. This is called "miswelding," though "unwelding" expresses the idea more clearly.

In order to better illustrate the result secured by my improved die, I have shown by Fig. 3 of the accompanying drawings a cross-sectional view of a knife-blade G, shaped or plated in one of the dies now in common use, so that it may be readily compared with the knife F, produced with my improved die and shown by Fig. 2 of the drawings. It will be seen that the knife F, which illustrates a knife produced by means of my die, has a bevel E', formed throughout the length of its blade D', while, on the other hand, the knife G, which represents the common process, has

no such bevel, but terminates in a thick clumsy edge, which must be ground away at considerable expense to produce the bevel. It will also be seen by a comparison of the two
5 knives that they are unequal in width, the knife G being a little wider than the knife F, inasmuch as the die in which it was produced was not adapted to prevent the undue stretching of the blank under the action of the hammer.
10 It will thus be understood that by means of my improved plating or shaping die I greatly reduce the labor and expense of producing razor-blade draw-knives, for under my invention the knives require very much
15 less grinding in sharpening and the percentage of knives spoiled or made seconds by unwelding is reduced to the minimum.

Having fully described my invention, what I claim as new, and desire to secure by Letters
20 Patent, is—

A plating or shaping die for use in the pro-

duction of draw-knives from previously-welded blanks, the said die having a back-bevel portion which produces the bevel upon the rib of the knife, a rib portion which produces the rib of the knife, a blade portion which produces the blade of the knife, and a blade-bevel portion which produces the bevel upon the blade of the knife, and which has the further function of crowding the blade
30 portion of the blank inward toward the rib portion thereof, so that the knives produced in the die will be substantially uniform in width, and so that unwelding will be avoided.

In testimony whereof I have signed this
35 specification in the presence of two subscribing witnesses.

ISRAEL S. BAILEY.

Witnesses:

FRED. C. EARLE,
GEORGE D. SEYMOUR.