

C. E. L. JELLIFFE.

Chisels.

No. 143,413.

Patented Oct. 7, 1873.

Fig 1

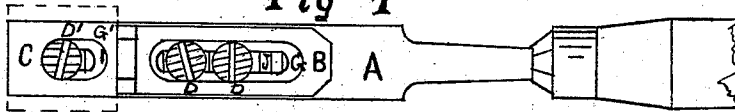


Fig 4

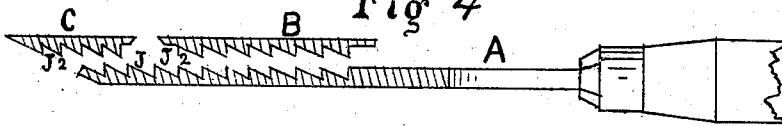


Fig 2

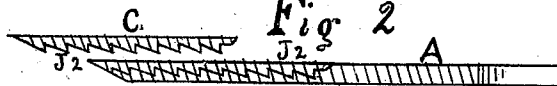


Fig 3

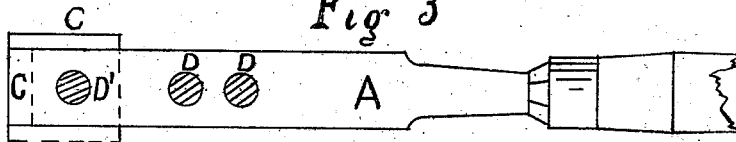
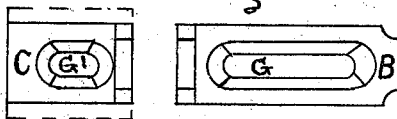


Fig 5



Witnesses

John H. Wilson
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UNITED STATES PATENT OFFICE.

CHARLES E. L. JELLIFFE, OF BAYONNE, NEW JERSEY.

IMPROVEMENT IN CHISELS.

Specification forming part of Letters Patent No. **143,413**, dated October 7, 1873; application filed August 8, 1873.

To all whom it may concern:

Be it known that I, CHARLES E. L. JELLIFFE, of the city of Bayonne, county of Hudson and State of New Jersey, have invented a new and useful Improvement in Chisels or Chisel-Blades; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings making a part thereof, in which—

Figures 1 and 2 represent a top and side view of a chisel containing my said improvements; Fig. 3, a bottom view thereof; Fig. 4, a side view thereof; and Fig. 5, the cutting-bit C and adjustable cap-piece B.

Like letters in all the figures refer to the same parts.

The nature of my improvements consists in so constructing the chisel-blade of chisels that different sizes and forms of chisel-points or cutting-edges (herein termed cutting-bits) may be readily and securely attached to, held and adjusted upon, and detached from, the chisel-blade, so as to be adapted to cut different widths and forms of cut, as required.

Heretofore, in the manufacture of chisels, the blades and shanks thereof have been forged or otherwise made in one piece and attached to a handle or holder for use, and, as the chisel-blade was of a width and form adapted to cut only one width and form of cut, as many sizes and forms of chisel had to be used as widths and forms of cut were required. Consequently a large number of chisels of different widths and forms, corresponding with the varying widths and forms of cut required, was necessary to meet the demands of workmen for different kinds of work. This, of course, necessitates the purchase of numerous chisels of different forms and widths to suit the different work required, greatly increasing not only the cost of purchase, but the inconvenience of carrying about a large number of chisels of different forms and sizes; whereas by my plan of arrangement only one chisel-blade, having a shank and handle or holder, is required, as the various widths and forms of cutting-bit necessary to be used may be readily attached to and detached from the chisel-blade as often as desired, which, of course, necessitates the use of only a single chisel-blade, with shank and handle or holder, and as many forms and

sizes of cutting-bit as widths and forms of cut required.

The manner of constructing and operating said improvements is as follows: I take a chisel-blade or strip of suitable metal, having a shank and handle or holder similar to an ordinary chisel, (see Figs. 1, 3, and 4, A,) and on one side thereof, which I herein designate the top side, form one or more teeth or serrations, J, and on one side of another piece or pieces of suitable metal form one or more teeth or serrations, J¹ J², so that the teeth or serrations on the one will fit into the space or spaces adjacent to the teeth or serrations on the other, and brace or hold against pressure applied at the end of the instrument.

In the drawings, Fig. 1 represents an adjustable cap-piece, B, and cutting-bit, C', formed in two pieces, having beveled longitudinal slots G G' through them, with set-screws D D D' in place, ready for use. Fig. 2 represents the side of a chisel, having a shoulder or detent and recess in the blade thereof, so formed as to receive the tongue or projection on the upper end of the cutting-bit. In this latter form of arrangement the adjustable cap-piece is dispensed with, and a fixed shoulder or detent used in place thereof.

I prefer making the upper end of the cutting-bit and the lower end of the adjustable cap-piece or shoulder, where the two abut together, beveled in form, so that they will accurately fit together and aid in holding the cutting-bit in place. Both forms of arrangement (with and without the adjustable cap-piece) have their advantages, the latter being more simple and cheap where cutting-bits of uniform or nearly uniform lengths are used, and the former being more convenient where it is desirable to adjust the cap-piece to suit varying lengths of cutting-bit, or as they become worn or ground off from time to time.

In the drawings the cavities for the set-screws are shown as being in the adjustable cap-piece and cutting-bit; but these pieces may be held in place and adjusted on the chisel-blade by having the cavity or cavities on the opposite side of the chisel-blade, and the set screw or screws inserted from that side and passed through into the cutting-bit and adjustable cap-piece, or either of them; and I

consider this arrangement equivalent to the one first described, the object in both cases being to firmly hold the cap-piece and cutting-bit in place and allow them to be suitably adjusted relatively to each other lengthwise on the chisel-blade, as required. In each case the cavity or cavities for the set screw or screws should be so beveled as to allow the screw-head to fit even with the surface, so as not to interfere with the convenient use of the tool, and at the same time aid in holding the cutting-bit and adjustable cap-piece (when one is used) firmly in place.

It will be obvious that this arrangement will admit of the easy application and use of as many forms and sizes of cutting-bit as widths and forms of cut are required to be made; and that a change from one form or size of cutting-bit to another may be readily made by merely removing the set-screw from one and applying it to another cutting-bit. In such case the position of the adjustable cap-piece (when one is used) need not be changed, unless the length of the cutting-bit newly applied requires it for abutment, when the cap-piece is to be moved lengthwise on the chisel-blade, as required, by loosening the set screw or screws therein sufficiently for that purpose and bringing the lower end of the cap-piece in close contact with the upper end of the cutting-bit, as before. When the adjustable cap-piece is not used, but, instead thereof, the upper end of the cutting-bit abuts against a shoulder or detent, of course the cutting-bit should be of sufficient length to form a close connection between the two and project sufficiently beyond the outer end of the chisel-blade to form a cutting-edge for the chisel; and this must also be the case when the adjustable cap-piece is used.

I prefer having the outer end of the chisel-blade upon which the cutting-bit rests come within a short distance of the cutting-edge of the bit, and to have the same chamfered off so as to form a part of the chisel-point, as by this means a firmer support is afforded to the cutting-bit, and it is less liable to become

displaced or out of true, and also to have a slight shoulder formed on the under side of the cutting-bit, against which the outer point of the chisel-blade abuts and aids in holding the cutting-bit in place; but these last two arrangements are not indispensable to the use of my invention, but, in my judgment, a more advantageous way of constructing it.

In the drawings the projection or tongue-piece is represented as being on the upper end of the cutting-bit, and the recess for it on the lower end of the adjustable cap-piece or shoulder; but this arrangement of parts, it is obvious, may be reversed without material disadvantage, and the recess placed in the cutting-bit, and the tongue or projection on the moveable cap-piece or fixed shoulder. In either case the result is the same, when my invention is used. The inner edges of the longitudinal slots for the set-screws should be made beveling, so as to coincide with the beveled form of the under side of the screw-heads, and allow them to fit down closely and hold the cutting-bit and adjustable cap-piece securely in place, and at the same time present a smooth, even surface on top. The cutting-bit, as above described and represented, is made adjustable lengthwise on the chisel-blade; but this is not indispensable to the use of my invention, though I prefer to make it adjustable, as also to use an adjustable cap-piece, as by this means the cutting-edge of the bit may be advanced more or less beyond the outer end of the chisel-blade as the cutting-bit becomes dulled or worn off or flawed by use, and requires to be ground down from time to time.

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

The chisel, as a new article of manufacture, constructed substantially as shown and described.

CHAS. E. L. JELLIFFE.

Witnesses:

JOHN MCMAHON,
JOHN H. WILSON.