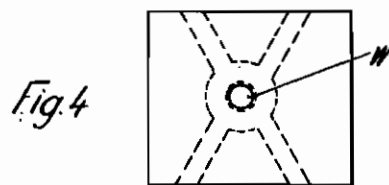
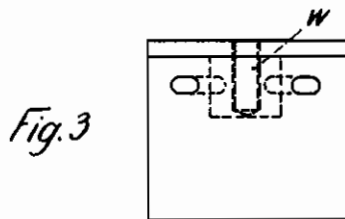
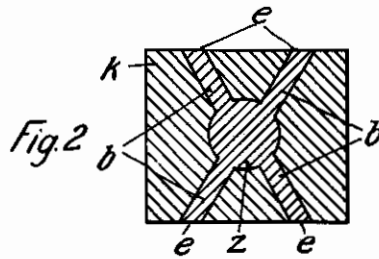
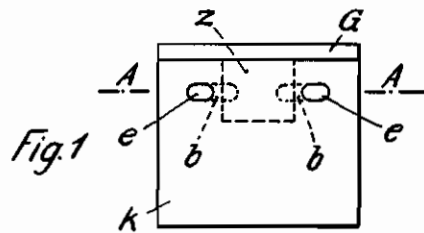


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COMBINED CARBON AND METAL HOLDER BODY
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COMBINED CARBON AND METAL HOLDER BODY

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vested in the Alien Property Custodian

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This invention relates to a combined body of artificial carbon and a cast on or cast in metal holder which may be used, for instance, as a slide contact member, as a brake block, or for any other purposes.

It is an object of the present invention to provide a combined carbon and metal holder body which is so constructed that there are no dangerous mechanical tensions produced in the carbon body by changes of the working temperature within a wide range or by the shrinking of the metal casting as it cools down after the casting operation.

In the copending patent application Ser. No. 319,357, filed February 16, 1940, a combined carbon and metal holder body has been described in which the surface of the carbon body is formed with recesses, such as, bores, grooves and the like which are filled up by the metal casting.

Now, according to the present invention, I provide interior channels within the carbon body which are filled up by the molten metal in the casting operation. Said channels may be arranged in longitudinal, transverse, and/or diagonal or other directions.

The invention will be better understood by reference to the following detailed description in connection with the accompanying drawing showing two embodiments of the invention and in which:

Fig. 1 is a side view of a combined carbon and metal holder body having the invention applied thereto.

Fig. 2 is a section on line A—A of Fig. 1.

Fig. 3 is a side view of a modification and

Fig. 4 is a plan view of the embodiment of Fig. 3.

Referring now to the drawings in greater detail, and first to Figs. 1 and 2, it will be seen that a carbon body *K* has attached to it a cast metal holder *G*. Interior channels *b* in the carbon body *K* extending in substantially parallel directions with respect to the surface of the body

adjacent to the holder *G* communicate with said surface through a wide bore or hole *Z* and the bore *Z* as well as the channels *b* are filled up by the cast metal which flows into the channels *b* through the bore *Z*. Depending on the size and shape of the carbon body, a plurality of similar groups of channels and bores may be provided on various places of the carbon body, in communication with the metal casting.

It will be noted that the solidification of the metal that is poured into the said channels and bores proceeds from the outside to the interior, i. e., the ends *e* of the channels will cool down first and the solidification will proceed towards the "shrinking center" *z*. During this process, the charge in the channels *b* is constantly under the pressure from the metal which is still in molten state. As a result, a dense casting is attained, the channels are tightly filled up and the portions of the holder extending into the carbon body are fixedly secured therein without any dangerous tensions due to shrinking. Since the whole metal casting is produced in one casting operation, the plate-shaped holder portion *G* which serves as a support and fixing means for mounting the carbon body in its use is fixedly anchored in the carbon body and reliably connected therewith.

In order to mount the combined carbon and metal holder body on any other element, by means of a screw connection, interior threads *w* may be cut into the portion *z* of the metal casting, as indicated in Figs. 3 and 4 which for the rest show the same construction as Figs. 1 and 2.

The method and apparatus of the present invention have been described in detail with reference to specific embodiments. It is to be understood, however, that the invention is not limited by such specific reference but is broader in scope and capable of other embodiments than those specifically described and illustrated in the drawing.

HANS ZÖLLNER.