May 4, 1926. 1,583,453

A. C. GERMAIN

APPARATUS FOR BREAKING STEEL TESTS

Filed April 12, 1924

Fig. 1.

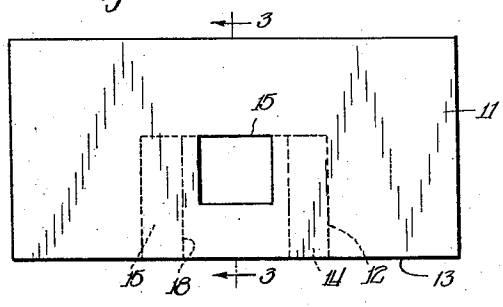


Fig. 2

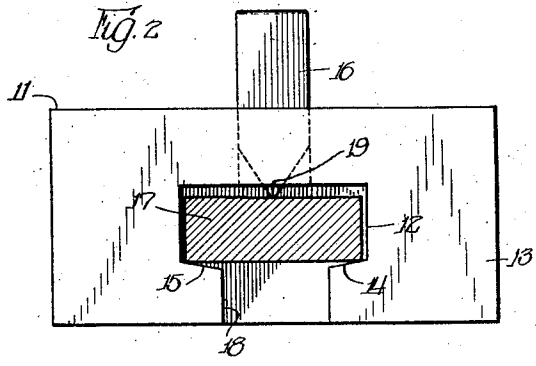


Fig. 3.

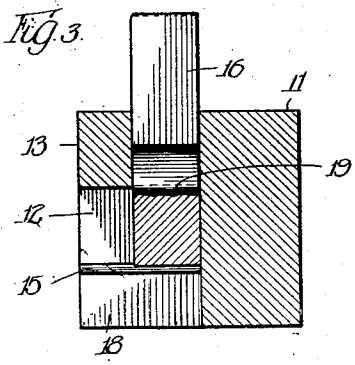
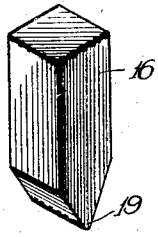


Fig 4



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UNITED STATES PATENT OFFICE.

AMZA C. GERMAIN, OF DULUTH, MINNESOTA.

APPARATUS FOR BREAKING STEEL TESTS.

Application filed April 12, 1924. Serial No. 706,027.

To all whom it may concern:

Be it known that I, AMZA C. GERMAIN, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Apparatus for Breaking Steel Tests, of which the following is a specification.

This invention relates to new and improved apparatus for breaking of steel tests and more particularly to an apparatus of this character adapted to support and hold the test during breaking and to eliminate danger from flying fragments.

As is well known in the art, in certain tests of steel, small test blocks are fractured in order to furnish a fractured surface for inspection and examination. This breaking of the test blocks is attended by some danger, since fragments of the block tend to break off. This danger from fragmentation is particularly present when breaking a high carbon steel test block.

It is an object of the present invention to provide a new and improved apparatus for breaking steel test blocks adapted to prevent the flying of steel fragments broken from the block.

It is a further object to provide apparatus of this character adapted to furnish a line support for the ends of test blocks and to properly guide a drift against the test block for breaking purposes.

Other and further objects will appear as the description proceeds.

I have illustrated a preferred embodiment of my invention in the accompanying drawings, in which—

Figure 1 is a plan view of the die member;

Figure 2 is a front view showing the die and drift with a test block in place therein,

Figure 3 is a vertical section on line 3—3 of Figure 1; and

Figure 4 is a perspective view of the drift.

The die member 11 is provided with the recess 12 which opens out laterally to the face 13 of the die. The under side of the recess is provided with the spaced shoulders 14 and 15 which slope downwardly towards each other. The opening 12′ extends through the upper surface of the die and serves to guide the drift 16 against a test block 17 placed in the recess. The recess extends through the lower surface of the die at 18. As shown in Figure 4, the drift 16 is chamfered at its lower end to provide the breaking edge 19.

In the use of the apparatus the test block 17 is inserted in the recess through the lateral face 13 of the die. It is placed in the back portion of the recess under the vertical opening 12′. As shown in Figure 2, the sloping seats afford line support for the ends of the test block. Breaking of the block is thus facilitated by providing supports separated the maximum possible distance. The drift 16 is then placed in opening 12′ and by power applied in any suitable manner is forced down against the test block to rupture it. The broken block is then removed for examination.

The drift or cutting tool 16 will be made with different degrees of sharpness of its cutting edge depending upon the material to be broken. If the edge is sharp it will have a cutting action and if made more blunt it will have a breaking action which latter is more suitable for low carbon steel tests.

I have shown one preferred form of my invention by way of example but it is to be understood that I contemplate such changes and modifications as come within the spirit and scope of the appended claims.

I claim:

1. Apparatus for breaking steel tests comprising a die member, a lateral recess formed therein adapted to receive a test block, spaced shoulders upon the lower side of the recess adapted to act as a bearing to support the ends of the test block and an opening through the upper face of the die adapted to guide a drift against a test block in the recess.

2. Apparatus for breaking steel tests comprising a die member, a recess formed therein adapted to receive a test block, spaced shoulders upon the lower side of the recess adapted to act as a bearing to support the ends of the test block, the shoulders sloping downwardly toward each other whereby line contact with the ends of the test block is secured.

3. Apparatus for breaking steel tests com-

prising a die member, a recess formed therein adapted to receive a test block, spaced shoulders upon the lower side of the recess adapted to act as a bearing to support the ends of the test block, the shoulders sloping downwardly toward each other whereby line contact with the ends of the test block is secured, and an opening through the upper face of the die adapted to guide a drift against a test block in the recess.

Signed at Duluth, Minnesota, this 31 day of March, 1924.

AMZA C. GERMAIN.