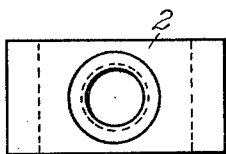
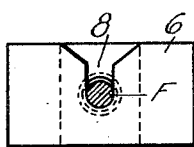
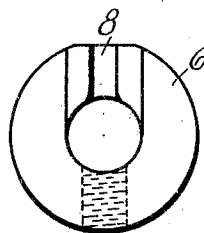


1,341,431.

A detailed technical cross-sectional drawing of a mechanical assembly, likely a press or a testing machine. The central component is a vertical rod (2) passing through a series of components: a top nut (4'), a top washer (4), a top flange (6), a central nut (8), a central washer (9), a bottom flange (7), a bottom washer (5), and a bottom nut (5'). The assembly is mounted on a base (C) and is supported by two vertical columns (E). The top of the assembly is labeled A, and the bottom is labeled B. The central rod is labeled 2, and the various components are labeled with numbers 4, 4', 5, 5', 6, 7, 8, 9, and letters A, B, C, D, E, F.



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UNITED STATES PATENT OFFICE.

JAMES G. MORROW, OF HAMILTON, ONTARIO, CANADA.

GRIP FOR TEST-PIECES.

1,341,431.

Specification of Letters Patent.

Patented May 25, 1920.

Application filed November 4, 1919. Serial No. 335,700.

To all whom it may concern:

Be it known that I, JAMES G. MORROW, a subject of the King of Great Britain, residing at Hamilton, in the county of Wentworth and Province of Ontario, Canada, have invented certain new and useful Improvements in Grips for Test-Pieces, of which the following is a specification.

My invention relates to improvements in grips for test pieces to be used in connection with machines for ascertaining the physical characteristics of metal, and consists essentially of a pair of circular grips for engaging the collar portions of the test piece and having threaded connections with pins which are connected by ball socket joints to parts rigid with the respective cross heads of the testing machine.

The invention has for its object to provide an improved device for gripping the test piece which is to be tested for its elasticity and tensile strength, in such manner as to eliminate possible lateral stress or tension upon same while under test.

A further object is to provide a device of the class described which will be simple, durable, efficient in operation, and inexpensive to manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of the parts as will be hereinafter more fully described, illustrated in the accompanying drawing and pointed out in the claims hereunto appended.

Reference being had to the drawing, Figure 1 is an assembly elevation of the gripping device in connection with the respective cross heads of a testing machine; Fig. 2 is a top or bottom view, as the case may be, of one of the wedges; Fig. 3 is a top or bottom view, as the case may be, of one of the grips; and Fig. 4 is an enlarged detailed elevation of the lower grip.

Similar reference characters refer to similar parts throughout the several views.

A indicates the stationary or upper cross head of any testing machine, the type of which is well known in the art, supported by standards B imposed upon base C. D indicates the traveling cross head rigid with columns E extending into the base of the machine, and threaded for actuation purposes.

The cross heads A and D are centrally slotted to receive opposed wedges 2 and 3,

respectively. These wedges are taper cored and provided in their broad sides with ball sockets concentric with said cores. Pins 4 and 5 respectively, are passed through the cores in the said wedges, and provided each at one end with an integral ball 4', 5', occupying the respective ball socket in the wedge, constituting ball socket joints between the respective wedge and pin, the shank portion of the pin having free lateral play within the taper bore.

The opposite ends of the pins 4 and 5 are threaded to receive ring grips 6 and 7, respectively.

The test piece is indicated by F in Fig. 1, and is composed of a metal bar turned down in the center forming shoulders at each end.

The test piece is inserted in grooves 8 and 9 in and extending to the perpendicular center of the ring grips 6 and 7, respectively, the shoulders of said test piece occupying the core of the ring grips and engaging the interior surface thereof adjacent to said grooves. The mouths of the grooves 8 and 9, are flared or tapered, as clearly shown in Figs. 3 and 4, in order to afford easy access for the test piece.

Having now fully described my invention, what I claim and desire to secure by Letters Patent of the United States, is:—

1. In a device of the class described, the combination with a stationary cross head and a movable cross head, taper cored wedges occupying corresponding slots in said cross heads, pins extending through the taper cores of the wedges and provided at one end with a ball occupying sockets therein concentric with the taper cores, ring grips tapped through from their circumferential surfaces and threaded on the free ends of said pins, said ring grips having grooves extending from their flat surfaces for the reception of the shank portion of a test piece, substantially as described.

2. In a device of the class described, the combination with a stationary cross head and a movable cross head, cored wedges occupying corresponding slots in said cross heads, pins extending through the cores of the wedges and provided at one end with a ball occupying sockets therein concentric with the cores, ring grips tapped through from their circumferential surfaces and threaded on the free ends of said pins, said ring grips having grooves extending from

their flat surfaces for the reception of the shank portion of a test piece, substantially as described.

3. In a device of the class described, the
5 combination with a stationary cross head and a movable cross head, of opposed ring grips substantially rectangular in cross section and having grooves extending from
10 their flat surfaces for the reception of the shank portion of a test piece, the cores of

said ring grips being adapted to retain each an end shoulder of the test piece, universal means for connecting said ring grips to the respective cross heads, for the purpose set forth.

In testimony whereof I have affixed my
signature. 15

JAMES G. MORROW.

Witness:

H. G. HENDRY.