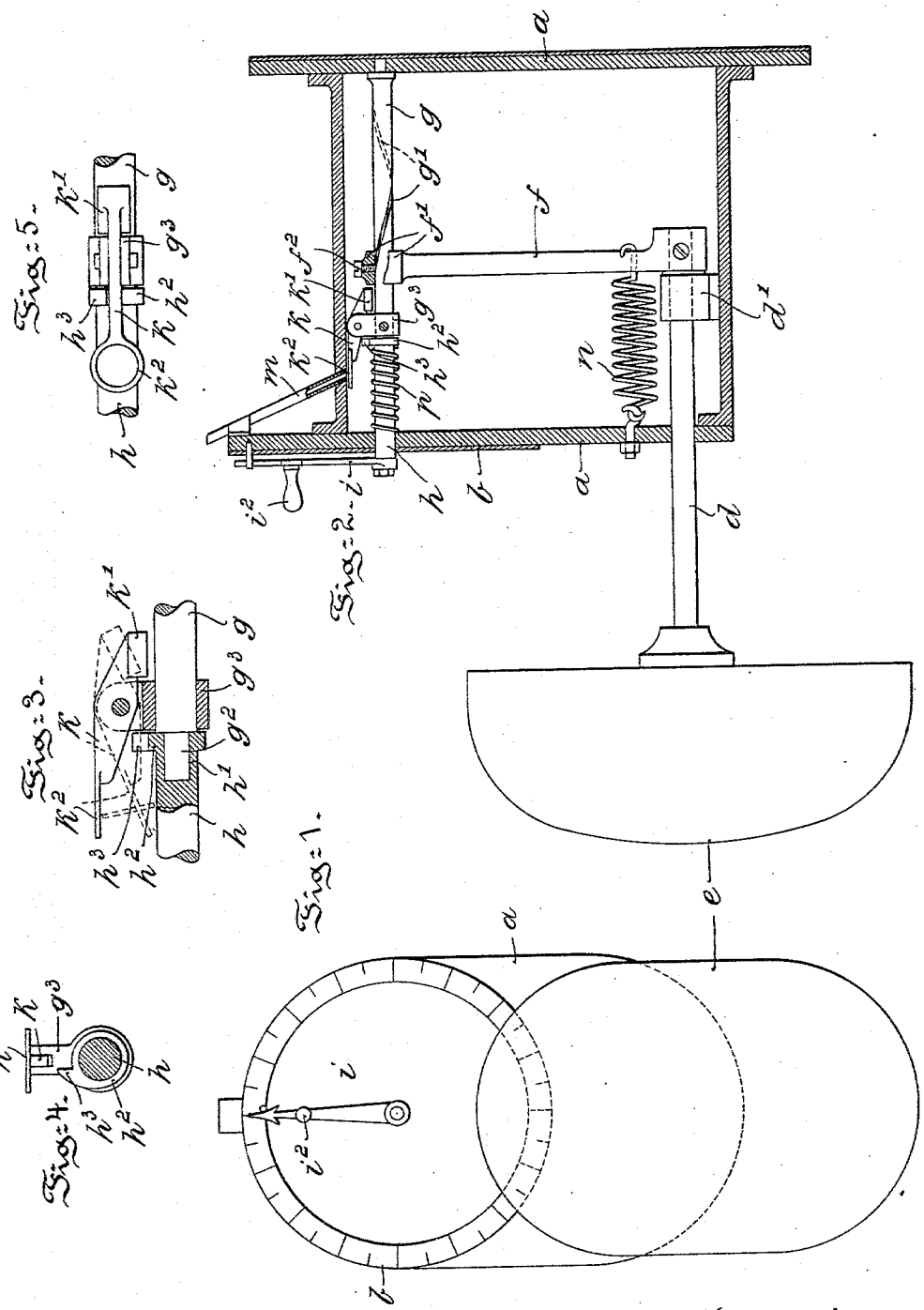
(No Model.)

W. S. M. FIELD & A. R. WARNER.

COIN CONTROLLED BLOW TESTING APPARATUS.

No. 563,919. Patented July 14, 1896.



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COIN-CONTROLLED BLOW-TESTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 563,919, dated July 14, 1896.

Application filed April 28, 1896. Serial No. 589,372. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM S. M. FIELD and ALBERT R. WARNER, citizens of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have jointly invented certain new and useful Improvements in Coin-Controlled Blow-Testing Apparatus, of which the following is a specification.

Our invention has relation to an apparatus designed to indicate and register the force of a blow upon what is generally known as a "striking" or "punching" bag, and in such connection it relates particularly to the construction and arrangement of such an apparatus.

The principal objects of our invention are, first, to provide a coin-controlled apparatus of simple and durable construction adapted to indicate and register the force or blow of a striking bag or cushion; second, to provide in such an apparatus a dial having a pointer adapted to travel around the dial on a shaft, a spirally-grooved shaft operated by the force or blow of the bag or cushion, and a latch adapted, when depressed by a coin, to couple the pointer-shaft and grooved shaft together, and, third, to provide in such an apparatus having a dial, a pointer adapted to be moved in one direction over the dial by mechanism connected with the bag when actuated, and to be moved in the opposite direction only by hand.

Our invention, stated in general terms, consists of a coin-controlled apparatus for indicating and registering the force or blow of a punching bag or cushion constructed and arranged as hereinafter described and claimed.

The nature and scope of our invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a front elevational view of an apparatus embodying the main features of our invention. Fig. 2 is a longitudinal section of the same and in side elevation of the bag or cushion in mounted position. Fig. 3 is a side elevation, enlarged, of a latch adapted to be operated by a coin to lock the pointer-shaft and grooved shaft together. Fig. 4 is an end elevation of Fig. 3, and Fig. 5 is a top or plan view thereof.

Referring to the drawings, a represents a suitable casing or housing, at the front of which is secured a dial b. Extending through the front of the casing is an arm d, sliding in a support d' on the base of the casing a and carrying at the end outside the casing a punching bag or cushion e, formed of yielding materials. The other end of the arm d is rigidly secured to one end of a vertically-arranged bar f, the other end of which bar is formed into an eye or sleeve f', encircling a horizontally-arranged shaft g. This shaft g has a bearing at one end in the rear wall of the casing, so that it is free to turn or rotate within the casing.

The shaft g is spirally grooved, as at g', along its length, and the eye f' of the bar f is provided with a screw or pin f^2, the end of which is adapted to enter the groove g' to feather the bar f to the shaft g. Projecting through the front of the casing a, at the center of the dial b, is a shaft h, carrying a pointer i. This pointer-shaft h is in alinement with the shaft g, and is connected thereto preferably in the manner illustrated in Figs. 3, 4, and 5. The adjacent ends of the shafts g and h are respectively provided with a pin g^2 and socket h', the pin of the shaft g entering the socket h' of the shaft h.

Upon the end of the shaft h next the end of the shaft g is formed a collar h^2, having a cam-shaped projection or abutting face h^3. Adjacent to the projection h^3 and upon the shaft g is keyed a bracket g^3, in which is pivoted a latch k, weighted at one end, as at k', and provided at its opposite end with a ring-shaped extension k^2. This extension k^2 rests directly under the delivery end of a chute m, onto which the coin required to operate the apparatus is deposited, and when the extension k^2 receives the coin its weighted end k' is elevated and its ring-shaped end k^2 depressed. The collar h^2 and projection h^3 are so arranged with respect to the pointer-shaft h that when the pointer rests at zero on the dial the projection h^3 occupies the position illustrated in Figs. 3, 4, and 5—that is, di-

rectly under the normally-elevated end k^2 of the latch k when the shaft g is in its normal position. It follows, therefore, that when the parts assume these positions and a coin is placed in the chute m the chute will deliver the coin to the ring k^2 and by its weight will depress the latch into engagement with the cam projection h^3 of the shaft h, as indicated by the dotted lines in Fig. 3, and the shafts g and h will be coupled together, so that they may both rotate in one direction only. The bar f is kept constantly under the influence of a coiled spring n, so that when the force of a blow is exerted against the bag or cushion e its arm d is forced inward against the tension of said spring. Upon the pointer-shaft h may also be coiled a spring p, adapted to prevent the withdrawal of the shaft h from the shaft g.

In operation a blow delivered upon the bag or cushion e forces the arm d inward, the bar f moving with the said arm. The pin of the bar f, riding in the spiral groove of the shaft g, rotates said shaft in one direction, and if the shaft g is coupled, as before explained, to the shaft h by the latch k, which can only happen when a coin is deposited upon said latch, the pointer-shaft h and pointer will also be rotated. When the force of the blow has expended itself, the coiled spring n returns the bar, arm, and bag or cushion to their respective normal positions and the bar rotates the shaft g in a reverse direction to its original position. By reason of the construction above described, and for the further reason that the coin has during the revolution of the latch dropped therefrom, the shaft h is uncoupled from the shaft g and remains stationary with the pointer forming a permanent record upon the dial of the force of the blow. The pointer must thereafter be moved backward by the hand of the operator, and for this reason is provided with a knob i^2.

Having thus described the nature and objects of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus for indicating the force of a blow, the combination of the movable bag or cushion, a spirally-grooved shaft operated by the movement of said bag or cushion, a dial, a pointer adapted to travel around said dial, a shaft carrying said pointer and a latch adapted when depressed by a coin to couple the grooved and pointer shafts together, substantially as and for the purposes described.

2. In an apparatus for indicating the force of a blow, the combination of a bag, a dial, a pointer movable thereover, mechanism for operating said pointer in one direction over the dial, a shaft adapted to be operated by the bag and a latch adapted when depressed by a coin to couple the shaft and pointer-operating mechanism together, substantially as and for the purposes described.

In testimony whereof we have hereunto set our signatures in the presence of two subscribing witnesses.

WM. S. M. FIELD.
ALBERT R. WARNER.

Witnesses:
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THOMAS M. SMITH.