Oct. 5, 1965 R. E. KING 3,209,415

ADJUSTABLE MULTIPLE BULLET CORE MOLD

Filed Aug. 23, 1963

FIG. 1

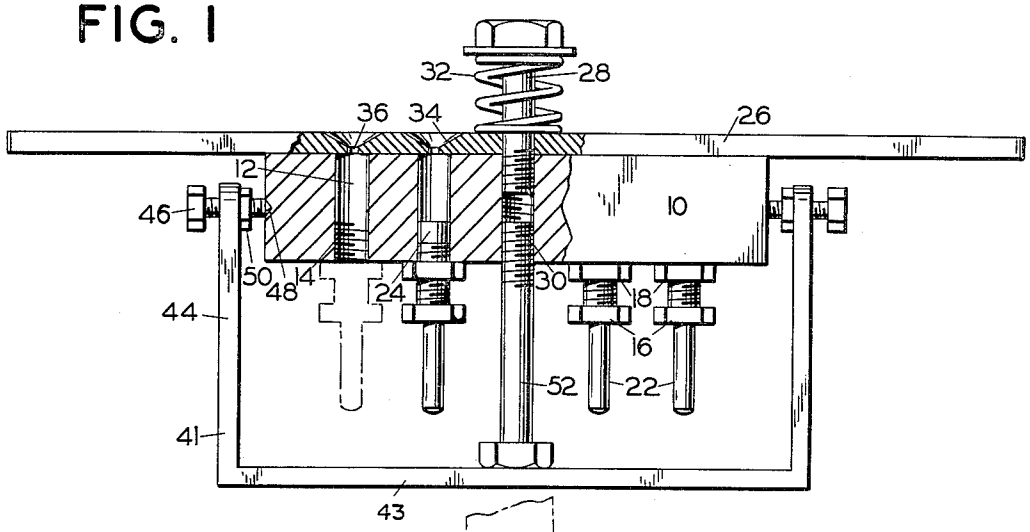


FIG. 2

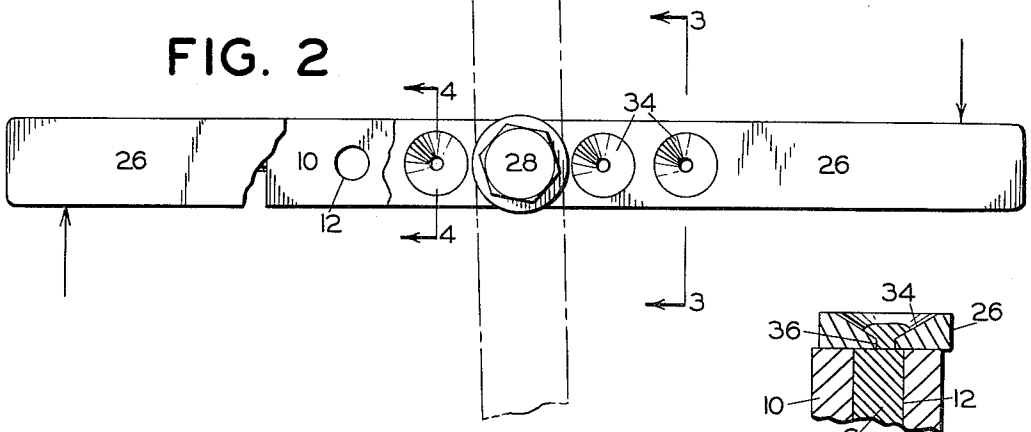
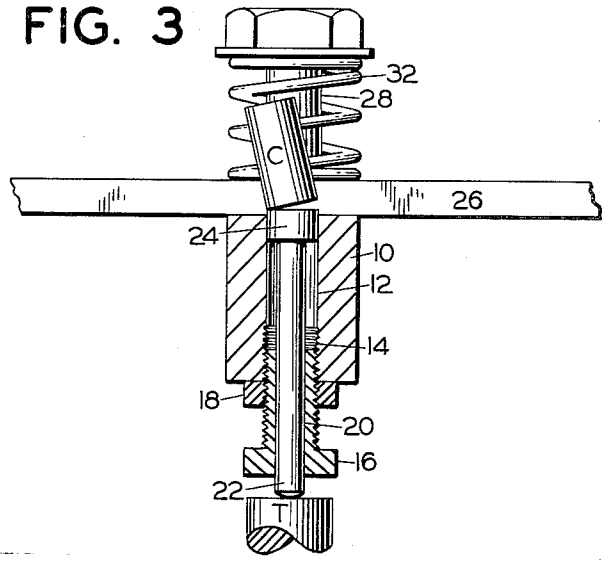


FIG. 4

FIG. 3



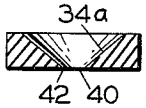


FIG. 5

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ADJUSTABLE MULTIPLE BULLET CORE MOLD

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The present invention relates to mold structures and more particularly is concerned with a mold for the formation of lead bullet cores.

A primary objective of the present invention is to provide a novel bullet core mold constructed and arranged for use by sportsmen in the production of their own bullet cores.

Another object is to provide a mold of the type described wherein bullet forming cavities therein are associated with adjustment means for varying the depth of the cavities.

Another object is to provide a bullet core mold having improved means for depositing molten lead into the cavities and for shearing off excess lead simultaneously with opening of the mold.

It is still another object of the present invention to provide a bullet core mold designed for the formation of bullet cores by individuals in their home workshop and which facilitates formation of such cores more rapidly and conveniently than similar core molds heretofore provided.

Another object is to provide a novel holder associated with the mold facilitating convenient use of the latter.

Briefly stated, the invention comprises a mold body having a plurality of cavities for the formation of bullet cores. The mold body is provided with a rotatable top plate adapted to overlie the upper end of the cavities and employing inlets communicating with the mold cavities. The lower end of the cavities threadedly receive hollow adjustment screws in which are slidably mounted ejecting pins having ejecting heads disposed in the cavities. Associated with the mold is a holder facilitating anchoring the mold in a vise or the like when in use.

The invention will be better understood and additional objects will become more apparent from the following specification and claims, considered together with the accompanying drawings, wherein the numerals of reference indicate like parts and wherein:

FIGURE 1 is a side elevational view of the present mold, with parts thereof being broken away for clarity;

FIGURE 2 is a top plan view of the present mold, also with parts broken away;

FIGURE 3 is an enlarged sectional view taken on the line 3—3 of FIGURE 2;

FIGURE 4 is an enlarged sectional view taken on the line 4—4 of FIGURE 2; and

FIGURE 5 is an enlarged sectional view similar to FIGURE 4 but showing a modification of top plate structure.

Referring in particular to the drawings, the present bullet core mold comprises a body portion **10** which as best apparent in FIGURE 3 is rectangular in cross section. Projecting vertically through the body portion **10** are cavities **12**. Any number of such cavities may be employed, although four of them, as illustrated, facilitate rapid output of the bullet cores but nevertheless are within the scope of production by the sportsman in his home workshop. The walls of the cavities adjacent their lower end are threaded at **14**. Engageable with such threaded portions **14** are headed screws **16**, and as will be apparent hereinafter the threads **14** extend through a length of the cavities sufficient to provide for an adjusted threaded positioning of the screws **16** in the cavities capable of adjusting the depth of the latter. Screws **16** carry lock nuts **18** thereon for locking such screws in adjusted threaded engagement in bore **12**.

Screws **16** have a central bore **20** receiving slidably ejecting pins **22** having head portions **24** contained in the cavities and forming the bottom thereof. The pins **22** are arranged to eject bullet cores from the cavities when tapped lightly on their lower end by a suitable tool.

A top plate **26** is pivotally mounted on the body **10** by pivot means in the form of a stud bolt **28** having threaded engagement with a tapped bore **30** in the body **10**. Mounted on the bolt **28** between the head thereof and the plate **26** is a compression spring **32** arranged to firmly compress the top plate against the body portion. The force with which the top plate is compressed against the body portion can be varied by preselecting the strength of the spring or more conveniently by adjusting the depth of penetration of bolt **28** in the body portion.

Plate **26** has tapered or funnel shaped recesses **34** leading downwardly into a bore **36** adapted for communication with cavities **12** upon longitudinal alignment of the top plate **26** with the body portion **10**, as viewed in FIGURE **1**. Molten lead for the formation of the bullet cores is poured into the recesses **34** to fill the cavities.

In the use of the present mold, the screws **16** are first adjusted to obtain the desired depth of the cavities, this being accomplished by loosening the lock nuts **18** and turning the screws **16** in the desired direction wherein the top of head portions **24** of the ejecting pins are spaced the desired distance from the top opening of the cavities. The lock nut **18** is then retightened.

With the top plate **26** in longitudinal alignment with the body portion **10**, molten lead is poured into the recesses **34** to fill the cavities.

When the lead has hardened, the top plate **26** is rotated to an angular position with relation to the body portion **10**, such as to the approximate right angle position shown in phantom lines in FIGURE 2. This rotation of the top plate shears excess lead which may project up into the bore **36** and thus a precisely flat ended bullet core is formed. FIGURE 4 illustrates the shearing action of the plate **10** on lead projecting up into the bore **36** wherein the said top plate has been rotated slightly and the bore **36** is offset from the center of the cavity in a shearing function.

After the top plate **26** has been rotated to the phantom line position of FIGURE 2, the bullet cores C are ejected merely by tapping lightly on the bottom end of ejecting pins **22** with any suitable tool T, such process being shown in FIGURE 3 wherein a bullet core C is in the process of being ejected.

FIGURE 5 illustrates a modified form of lead pouring recess in the top plate, this recess being designated by the numeral **34***a*. The side walls of this recess, instead of terminating in a bore **36**, continue fully to the bottom of top plate **26** and form an outlet opening **40** terminating in bottom, sharpened, knife edges **42**. Such knife edges serve better to sever the excess lead projecting upwardly through the opening **40**.

With reference to FIGURE 1, the present invention has within its concept the provision of a holder **41** for the mold body to make the mold more convenient in its use. This holder has a base portion **43** and upstanding bracket arms **44**. Threadedly mounted in the bracket arms are screws **46** engageable in recesses **48** in the end walls of the body portion **10** of the mold for supporting the latter. Lock nuts **50** are threadedly mounted on the screws **46** for engagement with the bracket arms **44** in a locking function. Engageable in the lower end of tapped bore **30** is an anchor screw **52** adapted at its head end to engage base portion **43** of the holder.

To secure the mold body in a fixed position wherein to prevent rotation of the latter on screws **46**, the screw **52** is backed off into firm engagement with base portion **43**. The device then may be inserted in a vise or other holder if desired. If the base plate **43** is in the way as when it is desired to adjust the screws **36** or when it is desired to have pounding access to the bottom of ejecting pins **22**, the screw **52** is threaded inwardly sufficient to allow rotation of the mold body on the screws **46**.

In accordance with the present invention there is provided a hand operated bullet core mold which in addition to providing a structure by means of which an individual who home loads his bullets can produce a plurality of cores with each loading of the mold and also he can readily adjust the length of the mold by adjusting screws **16**. The present invention is designed particularly for convenience of use by sportsmen in the formation of their own bullet cores and also for producing a quality of core commensurate with mass production methods.

It is to be understood that the form of my invention herein shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A bullet core mold comprising a body portion having at least two vertical bores projecting therethrough, a top plate on said body portion, means pivotally mounting said top plate on said body portion for rotation into a first position longitudinally aligned with the body portion to overlie the upper open ends of said bores and a second position in angular relation to said body portion to uncover upper open ends of said bores, means in said top plate defining tapered recesses communicating with each of said bores for admitting lead thereto when the top plate is in its first position, a screw threadedly mounted in the lower end of each of said bores for adjustment longitudinally of the latter to vary the length of mold cavity formed by the bores, an ejecting pin slidably mounted in each of said screws, one end of said ejecting pins projecting through the lower end of said screws and the other end of said pins projecting through the upper end of said screw, and a head on each of the said other ends of said pins forming bottoms for the bores and adapted to eject cores from said bores by upward blows on the lower ends of said ejecting pins.

2. The bullet core mold of claim **1** wherein the means pivotally mounting said top plate on said body portion includes a headed pivot pin secured to said body portion and resilient means interposed between the head of said pin and said plate to press the latter forcefully against the body portion in rotative engagement.

3. The bullet core mold of claim **1** including a holder for said body portion, said holder comprising a base portion, a pair of bracket arms pivotally supporting said body portion therebetween, and an anchor screw adjustably engaged between said body portion and said base portion for locking said body portion against pivotal movement or for permitting said pivotal movement.

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