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SLINGSHOT

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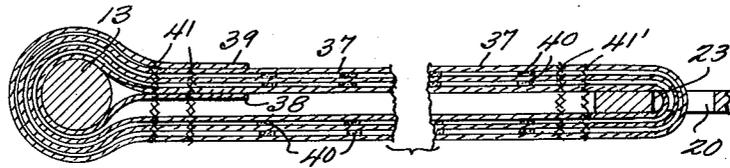
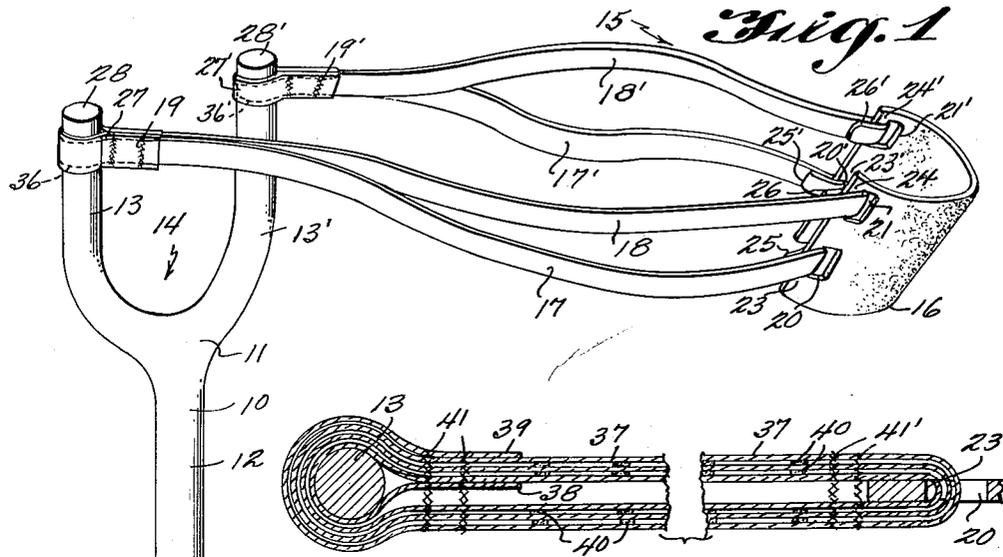


Fig. 3

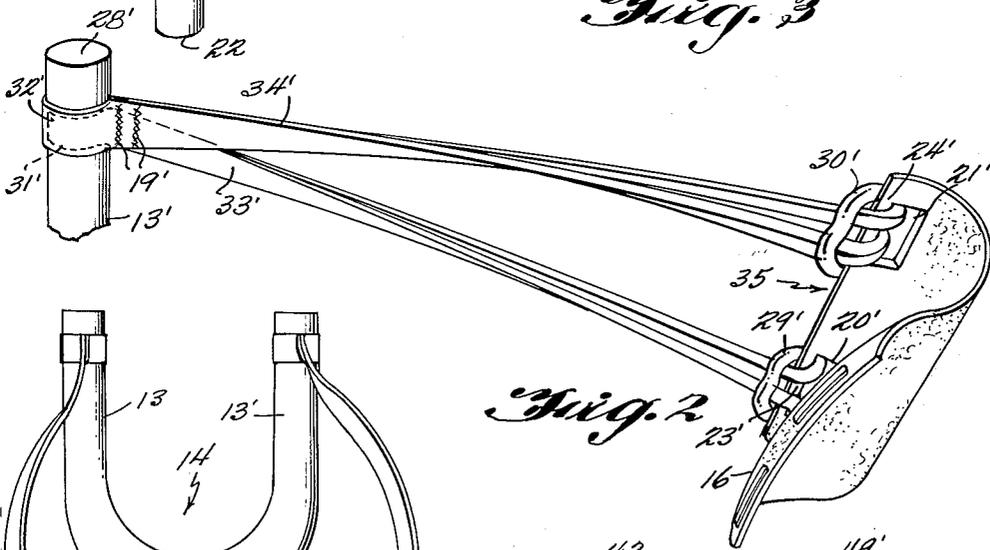


Fig. 2

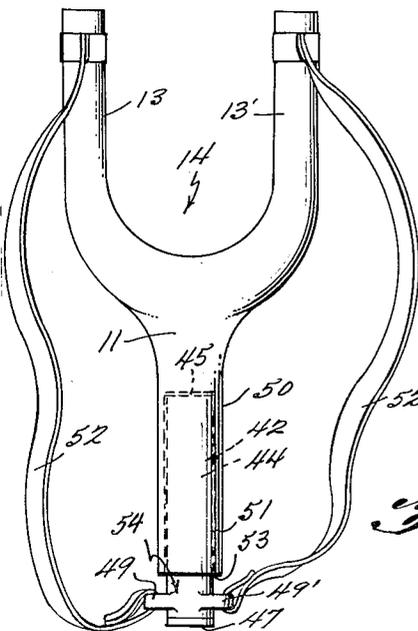
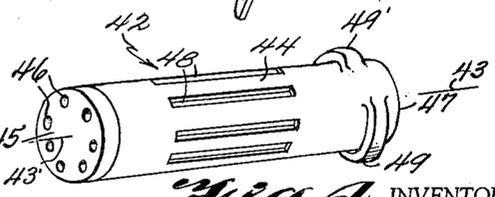


Fig. 5



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SLINGSHOT

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This invention relates to new and useful improvements in slingshots of the Y-shaped or common crotch type, comprising a rigid frame with handle and bifurcated ends or prongs, a missile engager or pouch, and energy storing means in the form of a pair of elastic strips or endless bands as elastic members, said members being connected at one end thereof to the pouch and at the opposite end thereof to the ends of the respective bifurcated ends. Slingshots of this type are commonly used for ejecting or throwing a pellet, a missile, a stone or other object. In the operation of such slingshots, the handle of the slingshot is held firmly in one hand forward from the body, the missile pouch with missile therein is gripped by the other hand and forcibly pulled rearwardly creating tension in the elastic members and the pouch with the missile therein is suddenly released to cause the advance of the missile through the space between the bifurcated ends in the usual manner.

One primary object of my invention is to provide an improved slingshot with a desired plurality of pairs of elastic members in the form of either strip or endless members as desired, that can be actuated simultaneously in ejecting a missile, thereby increasing manifold, as desired, the missile-ejecting power over that which could be supplied by a single pair of identical elastic members.

Another primary object of my invention is to provide a new and novel structural feature in a slingshot that provides for the utilization of a desired plurality of pairs of elastic members, strip or endless members, namely, a missile pouch with a plurality of pairs of arms for securing thereto the desired plurality of pairs of elastic members.

Another primary object of my invention is to provide in a new and improved slingshot a combination of a desired plurality of pairs of elastic members in the form of either strip or endless members, as desired, that can be actuated simultaneously in ejecting a missile, with a new and novel structural feature that provides for utilization of a desired plurality of pairs of elastic members, namely a missile pouch with a plurality of pairs of arms for securing thereto the desired plurality of pairs of elastic members.

Another important object is to provide methods of assembly, simple and inexpensive, of a plurality of pairs of elastic members, both endless and strip members, in the manufacture of the slingshot.

Another important object is to provide in a slingshot a new and novel feature, namely, an elastic member, one of a pair of elastic members, made from a strip of elastic material of uniform cross-section and comprised of a plurality of pairs of layers of said elastic strip to operate as a single elastic member and to provide greater missile-ejecting power than could be provided by an elastic member comprised of only a single identical layer or an endless band.

Another important object is to provide a method of assembling an elastic strip in a slingshot assemblage to form an elastic member comprised of a plurality of pairs of layers of said elastic strip, said layers being bound together at spaced intervals to cause the composite elastic member to operate and to be manageable and controllable as a single elastic member.

Another object is to provide in the slingshot assemblage a cylinder-type or tubular-type pouch closed at one end, having pouch arms near the opposite or open end, and having air-escape slots in the wall and having air-escape holes in the closed end of the pouch through

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which air may pass to reduce the resistance of the air to the flight of the pouch when the pouch with missile therein is suddenly released in ejecting the missile in the usual manner, thereby to provide for the application of a greater percentage of the missile-ejecting power of the elastic members to the actual ejecting of the missile.

Another object is to provide in the slingshot assemblage a cylinder-type or tubular-type pouch closed at one end and having pouch arms near the opposite or open end in combination with a tubular-type handle in the slingshot frame, in which handle the cylinder-type or tubular-type pouch could be inserted and retained while not in use as means for protection from damage and for compactness and convenience in storage and transportation.

The chief factor that heretofore restricted the utilization of the Y-shaped slingshot using elastic members for power to eject or propel the missile or other object has been the use of only one pair of elastic members and the structural provision in the slingshot assemblage for the use of only one pair. The missile projecting power was limited to the power that could be obtained from one pair of elastic members, thereby restricting the use to juvenile toys, games, target practice, short-range small-game hunting, etc. Although there have been many improvements in Y-shaped slingshots, to the best of my knowledge, none had ever been devised to overcome this primary deficiency, namely, the insufficiency of or limitation of missile-ejecting power.

Another factor that restricted the utilization of the Y-shaped slingshot was that, if one of the elastic members broke, the slingshot was useless until the elastic member was replaced or repaired. The provision in the present invention for a plurality of pairs of elastic members makes possible the continued, but impaired, use of the slingshot even though one elastic member is broken.

In contrast with the primary deficiency of what is old in slingshots, the present invention provides for missile-ejecting power not possible heretofore in the traditional Y-shaped slingshot. The conventional slingshot has always found favor with children, but certain inherent disadvantages and inefficiencies practically restricted its use to and among juveniles. The present invention has new and novel provisions in the structure of the slingshot frame and missile pouch for the utilization of a plurality of pairs of elastic members, both strip and endless, and actually provides the plurality of pairs of such members that can be actuated simultaneously, thus multiplying many times, as directed by the user, the missile-ejecting power of the Y-shaped slingshot. For example, the present invention when supplied with two or three pairs of endless elastic members, may, when said members are brought under tension preparatory to releasing the missile, be subjected to a pull in pounds of approximately four or six times, respectively, as compared with the pounds of pull that may be applied to a pair of single strip elastic members, each such member having energy-storing capacity equivalent to one-half of that of an endless member having the same uniform cross-section and specification. This manifold potential increase in the pounds of pull against the energy-storing elastic members makes possible a manifold potential increase in the pounds of thrust for ejecting the missile or missiles.

This manifold potential increase in the missile-ejecting power is not only a new and novel development and an improvement in slingshots for juveniles, their toys, games, target practice and short-range small-game hunting as known heretofore, but it makes possible the use of slingshots in a wider range of games and sports for adults with greater pleasure, satisfaction and amusement to the user. The increase in the missile-ejecting power and resultant missile velocity as directed by the user requires proportionately more strength in the operator. The in-

crease in the missile-ejecting power makes practical the use of a plurality of missiles or pellets in new types of games, hunting, etc., and even in close-up military combat in silencing sentries, etc., by employing the use of several buck shot, darts or special weapons. These additional features and advantages are made possible without substantial sacrifice in lightness of weight, simplicity, and compactness, without sacrificing the common characteristics of the slingshot such as silence in operation, freedom from flash or odor from explosive material, and without materially increasing the cost of manufacture.

In brief, the new and novel features in this invention provide in effect a new device structurally, provide a device that requires a different class of users, namely, adults with greater strength than that of most juveniles, and provides a device for new uses as different from what is old as juvenile toys and amusements are different from military weapons for combat.

With the foregoing and other purposes in view, my invention consists in novel features of construction, and in the combination, arrangement and proportions of parts as will hereinafter be described more fully and will be illustrated in the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a slingshot showing in accordance with my invention, one embodiment of a combination of a plurality of, namely two in this instance, pairs of strip elastic members and a like plurality of pairs of arms in the slingshot pouch, the respective members of each pair of said plurality of pairs of elastic members being secured at one end thereof to the ends of the respective bifurcated ends and at the opposite ends thereof to the arms of the pouch, the members of each pair of elastic members being assembled on opposite sides of the sling.

FIGURE 2 is a perspective view illustrating the assembly on one side of a slingshot assemblage of two endless elastic members and shows said elastic members secured at one loop-end thereof to the end of one bifurcated end of a slingshot frame and at the opposite loop-end thereof to the respective arms of the slingshot pouch, which alternate type elastic members may be employed in the apparatus illustrated in FIGURE 1.

FIGURE 3 is a plan partly sectional view of an alternate type of elastic member which may be used as one of a pair of identical elastic members, which pair may be used in the sling employed in the apparatus in FIGURE 1, the elastic member being loosely reposed around one bifurcated end or prong of the slingshot frame and around one arm of the missile pouch, both illustrated in FIGURE 1, and portions of said elastic member being broken away.

FIGURE 4 is a perspective view of an alternate slingshot pouch, tubular or cylindrical type with air-escape holes and slots and with one pair of arms for securing thereto elastic members (not shown), which alternate pouch may be employed in the apparatus illustrated in FIGURE 5, and which pouch provided with additional pairs of arms (not shown) may be employed in the apparatus illustrated in FIGURE 1.

FIGURE 5 is a perspective view, partly in section, of a slingshot illustrating an alternate form of slingshot frame and handle that may be employed in the apparatus illustrated in FIGURE 1, said handle being a tubular-type handle open at the bottom end thereof and having inserted therein an alternate form of a slingshot pouch illustrated in more detail in FIGURE 4.

In the descriptions which follow, it will be understood that the term "slingshot" refers to a complete assemblage of a rigid Y-shaped frame with body section, handle and bifurcated ends or prongs, with a missile pouch and with elastic members, each member secured at one end thereof to the end of the respective bifurcated ends or prongs and at the opposite end thereof to the missile pouch, the mates of each pair of elastic members being assembled on opposite sides of the slingshot assemblage.

The term "frame" refers to the rigid Y-shaped structure comprising a body section extended in one direction to form a handle and extended in the opposite direction to form the bifurcated ends or prongs in spaced relation to one another.

The term "bifurcated ends" refers to the two prongs extended from the body section of the slingshot frame in the opposite direction from the handle, said bifurcated ends being extended in spaced relation to one another and forming a crotch between them.

The term "crotch" refers to the space between the bifurcated ends or prongs.

The term "sling" refers to that portion of the sling-shot assembly comprising the pouch and elastic members.

The term "pouch" refers to the missile-engaging container from which the missile is ejected with force supplied by the elastic members when the elastic members are extended in the usual manner and suddenly released in the operation of the slingshot, which pouch may be in the form of a cup, a folded piece of pliable material such as leather, or in the form of a cylinder or tube closed at one end.

The term "elastic member" refers to one of a pair of identical energy storing strips, endless bands or multiple-layer bands made of rubber or of other elastic material of uniform cross-section and of sufficient width, thickness and length to provide power to eject a missile from the pouch in the operation of the slingshot in the usual manner.

The term "missile" refers to a stone, pellet, weight, dart or other object.

Referring now more particularly to the drawings, FIGURE 1 illustrates a slingshot assemblage showing in accordance with my invention, one embodiment of a slingshot having a combination of a plurality of pairs of elastic members, namely two pairs of strip elastic members in FIGURE 1, a like plurality of pairs of arms in the missile engager or pouch, and bifurcated ends or prongs of the slingshot frame for securing to the ends of the bifurcated ends the desired plurality of pairs of elastic members, the elastic members being secured at one end thereof to the ends of the respective bifurcated ends and at the other end thereof to the arms of the slingshot pouch, the members of each pair being assembled on opposite sides of the sling, the first pair assembled in the assemblage being secured to the bottom arms of the pouch and at the ends of the respective bifurcated ends and each succeeding pair installed in the assemblage in like manner, being secured or installed on the bifurcated ends over the next preceding installed elastic member and to arms of the pouch that are next upward from those to and at which the next preceding installed pair had been installed.

Frame 10 in FIGURE 1 comprises a body section 11, a handle 12 and two prongs or bifurcated ends 13 and 13'. Body section 11 is extended at the lower portion thereof to form handle 12 of sufficient length to the end of the handle 22 to permit said handle to be gripped and held fast by the operator of the slingshot. Body section 11 is also extended at the upper portion thereof in a direction opposite from handle 12 to form bifurcated ends 13 and 13' in spaced relation to one another, thus causing formation of crotch 14 between them. Bifurcated ends 13 and 13' terminate respectively at ends 23 and 23'. Frame 10 is a strong, rigid structure, inexpensive to manufacture, and may be made of wood, metal, plastic or other suitable materials.

Sling 15 in FIGURE 1 comprises the missile engager or pouch 16 and a plurality of pairs of identical energy-storing elastic members, two pairs of such members in FIGURE 1, namely the bottom pair 17 and 17' in the assemblage and pair 18 and 18'. The elastic members are strips, terminating in opposite ends and may be made of rubber or other suitable elastic material of uniform cross-section and of sufficient width, thickness and length to provide power to eject a missile from the pouch in the

operation of the slingshot when the elastic members are forcibly extended lengthwise and suddenly released in the usual manner. Pouch 16 may be made of a flat, oblong piece of pliable leather, plastic or other suitable material, folded in the middle portion of its length so that one end may repose over the other, the fold thus formed being sufficient for engaging a missile therein when said pouch 16 is held by the operator preparatory to using the slingshot in the usual manner. Said pouch 16 has a plurality of pairs of identical apertures, two pairs in FIGURE 1, namely the bottom pair 20 and 20', and pair 21 and 21', the respective members of each pair being in the opposite end portions of pouch 16 in spaced relation to one another, also being on opposite sides of sling 15, and being oblong in shape to cause the formation with the ends of said pouch of a plurality of pairs of identical arms, two pairs in FIGURE 1, namely the bottom pair 23 and 23', and pair 24 and 24', respectively, said arms being made of the same material as that used in making pouch 16.

The respective members of each pair of the plurality of pairs of elastic members are assembled on opposite sides of the slingshot assemblage in FIGURE 1. Elastic members 17 and 17' are secured to the bottom arms 23 and 23', respectively, on opposite sides of pouch 16 by pulling ends 25 and 25' through apertures 20 and 20', respectively, and by wrapping or folding a portion of each of said elastic members around the respective arms sufficiently to cause ends 25 and 25' to overlap the respective elastic members 17 and 17', and by cementing or otherwise securing said end portions to the respective standing members. Ends 36 and 36' (shown in dotted outline) of elastic members 17 and 17' are secured respectively at the ends 28 and 28' of and to bifurcated ends 13 and 13' on the respective sides of frame 10, corresponding to the sides of the pouch 16 to which each of the respective elastic members had been secured. Said elastic members 17 and 17' are secured to bifurcated ends 13 and 13' by wrapping or folding ends 36 and 36' of said elastic members around the respective bifurcated ends sufficiently to cause said end portions to overlap the respective elastic members 17 and 17' and securing said end portions to the respective standing members by means of whipping cord 19 and 19' or by use of cement or otherwise.

The top pair of strip elastic members shown in FIGURE 1, namely one pair 18 and 18', terminating in end portions 26 and 26' and end portions 27 and 27' are installed in the assemblage in like manner except that they are secured or installed on said bifurcated ends immediately over and around the preceding installed elastic members 17 and 17' and to arms 24 and 24' of pouch 16, which arms are next upward from those to and at which the next preceding installed pair had been installed. Any additional pairs of any desired plurality of pairs of elastic members (not shown in FIGURE 1) may be installed in the slingshot assemblage in accordance with my invention in the manner hereinbefore described by the provision of the desired additional plurality of pairs of arms (not shown) in pouch 16. Furthermore, any elastic member installed in the assemblage by means of whipping cord 19 and 19' at bifurcated ends 13 and 13', respectively may be easily and quickly removed from the assemblage and another elastic member may be installed therein. The elastic members have the additional feature of being inexpensive.

Slingshots of the Y-shaped frame or common crotch type as illustrated in FIGURE 1 with a plurality of pairs of elastic members and with an identical plurality of pairs of arms in the pouch for securing thereto said plurality of pairs of elastic members as hereinbefore described may be operated in the usual manner as hereinbefore described and may be employed for ejecting or throwing a missile or a plurality of missiles. Both elastic members in each pair of the plurality of pairs of elastic members may be actuated simultaneously and conveniently by the operator in

forcibly creating tension in the elastic members and in suddenly releasing that tension in the operation of the slingshot in the usual manner. The plurality of pairs of elastic members in the slingshot as illustrated in FIGURE 1 and as hereinbefore described or any desired additional plurality of pairs provides greater missile-ejecting power than could be supplied by a single pair of elastic members having the same specifications. Furthermore, such a slingshot with a plurality of pairs of elastic members would retain some usefulness for its intended purpose without repair even through one of its elastic members on one side or two of its elastic members, one on each side of the sling, were broken, whereas a slingshot employing only one pair of elastic members would be useless for its intended purpose until repaired.

FIGURE 2 illustrated, partly in section in a portion of a slingshot assemblage, namely one side of a slingshot assemblage, an installation of two endless or band-like elastic members 33' and 34'. In FIGURE 2, bifurcated end 13' is identical to bifurcated end 13' in FIGURE 1 and is broken away from slingshot frame 10 as illustrated in FIGURE 1 and as hereinbefore described. Pouch 16

FIGURE 2 illustrates, partly in section in a portion of The portion sling 35 illustrated in FIGURE 2 comprises pouch 16 and two elastic members 33' and 34', each elastic member being one of a pair of two pairs of identical elastic members, but for the sake of clarity in illustration, the mates to elastic members 33' and 34' are not shown. Said elastic members 33' and 34' together with said identical mates could be used as alternate elastic members in the apparatus in FIGURE 1, the respective members of the two pairs being installed on opposite sides of sling 35. Elastic members 33' and 34' are endless, band-like pieces of rubber or other suitable elastic material of uniform cross-section and of sufficient width, thickness and length to provide power to eject a missile from pouch 16 in the operation of the slingshot in the usual manner.

In FIGURE 2, elastic member 33' is secured to arm 23', the bottom arm on one side of pouch 16, by passing loop-end 29' through aperture 20', by then pulling the opposite loop-end 31' (shown in dotted outline) through loop-end 29' and then by pulling on loop-end 31' to draw elastic member 33' sufficiently tight on arm 23'. Free or open loop-end 31', shown in section, is then secured to bifurcated end 13' at end 28' by fitting or passing free loop-end 31' over end 28', around and onto the upper end of bifurcated end 13'. The overlapping portions of standing elastic member 33' immediately adjacent to said bifurcated end 13' are bound together by cementing or otherwise made sufficiently tight on said end portion of said bifurcated end to cause said loop-end to retain its position thereon.

In FIGURE 2, elastic member 34' is assembled or installed on the same side of the slingshot assemblage as that on which elastic member 33' had been installed. Elastic member 34' is installed in like manner except that loop-end 30' is secured to arm 24' of pouch 16 and that the opposite loop-end 32' is secured to bifurcated end 13' at end 28' by fitting or passing said loop-end 32' over end 28', around and over loop-end 31' which had been previously secured to bifurcated end 13'. The overlapping portions of standing elastic members 33' and 34' immediately adjacent to said bifurcated end 13' are bound together preferably by whipping cord 19' or by cementing or otherwise sufficiently tight at end 28' to cause said loop-ends to retain their position thereon. It is understood that the mates (not shown) to elastic members 33' and 34' may be installed in like manner on the opposite side of the slingshot assemblage. Likewise, the bottom pair in the assemblage could be installed first and subsequently installed pairs could be installed at arms in the pouch that are next upward from those to which the next preceding installed pair had been installed and to the

bifurcated ends over the next precedingly installed elastic members. It is understood also that any additional pairs of any desired plurality of pairs of elastic members may be provided and installed in the slingshot assemblage in accordance with my invention in the manner hereinbefore described by the provision of the desired additional plurality of pairs of arms in pouch 16. Furthermore, any elastic member installed in the assemblage by said whipping cord at said bifurcated ends may be easily and quickly removed from the assemblage and another elastic member may be installed therein. These elastic members have the additional feature of being inexpensive.

Sling 35 as hereinbefore described may be employed in the apparatus illustrated in FIGURE 1. Such a Y-shaped or common crotch-type slingshot with a plurality of pairs of elastic members may be operated as hereinbefore described for ejecting or throwing therefrom a missile or a plurality of missiles in the usual manner. Both elastic members in each pair of the desired plurality of pairs of elastic members may be actuated simultaneously and conveniently by the operator in creating tension in the elastic members by extending them forcibly and suddenly releasing that tension in the operation of the slingshot in the usual manner.

The plurality of pairs of elastic members in sling 35 illustrated partially in FIGURE 2 employed in the apparatus illustrated in FIGURE 1 and as hereinbefore described provide greater missile-ejecting power than could be supplied by a single pair of identical elastic members. Furthermore, a slingshot with said plurality of pairs of elastic members retains some usefulness for its intended purpose without repair even though one of its elastic members on one side or two of its elastic members, one on each side of the sling, were broken, whereas a slingshot employing only one pair of elastic members would be useless if one of the elastic members were broken.

FIGURE 3 illustrates a new and improved type of elastic member 37, the structure of said member and the method of assembling said member to provide the desired plurality of pairs of layers or strata thereof, said elastic member 37 being one of a pair of identical members, and which pair may be one pair of a plurality of pairs, that may be used as alternate elastic members in the sling employed in the apparatus in FIGURE 1, the other elastic member of the pair not being shown and a part of elastic member 37 being broken away. FIGURE 3 also shows in a plan view one bifurcated end 13 and one pouch arm 23, each being one of a pair of identical bifurcated ends and identical pouch arms, respectively, employed in the apparatus in FIGURE 1 and hereinbefore described, the other members of said pairs not being shown in FIGURE 3.

In FIGURE 3, elastic member 37 is a long, flat strip of rubber or of other suitable elastic material of uniform cross-section and terminates in end portions 38 and 39. Said elastic member 37 is of sufficient width, thickness and length to provide missile-ejecting power for the intended purpose when assembled with its identical mate and each having a sufficient number of pairs of layers or strata as hereinafter described and when used in the usual manner.

In the slingshot assemblage illustrated in detail in FIGURE 1 and only a portion of which is illustrated in FIGURE 3 with an alternate type elastic member, the elastic member 37 is secured to bifurcated end 13 by folding end portion 38 sufficiently tight around bifurcated end 13 by causing said end portion 38 to overlap said standing elastic member 37 and by cementing or otherwise securing said end portion 38 to the standing elastic member 37. Said elastic member 37 to its opposite or free end portion 39, reposed, untwisted and laid flat is looped around pouch arm 23 at a distance of about nine inches from bifurcated end 13 to provide sufficient length for elastic member 37 assembled in final form. Free end portion 39 together with a portion of elastic member 37 is pulled flat back over the standing portion of said elastic member 37 to form

without slack or tension therein a return portion to and outwardly around bifurcated end 13, thus completing two layers or one pair of the desired plurality of pairs of layers in elastic member 37.

The desired additional pairs of layers or strata of elastic member 37 are assembled on bifurcated end 13 and pouch arm 23 in like manner and end portion 39 is looped around bifurcated end 13, caused to overlap the immediately adjacent layer and other layers of elastic member 37 and is bound together with them by whipping 41 or otherwise. Whipping cords 41 and 41' are placed sufficiently adjacent to bifurcated end 13 and arm 23, respectively, to secure said elastic member 37 to said bifurcated end and said arm and to bind together the layers or strata of said elastic member. The layers of the desired plurality of layers of elastic member 37 are secured together by cement 40 or otherwise at spaced intervals in the length thereof between bifurcated end 13 and arm 23, thus causing formation of a composite or laminated-type elastic member 37.

Elastic member 37 and its identical mate, the latter not being shown in FIGURE 3, each consisting of a plurality of pairs of layers of an elastic strip, provide greater missile-ejecting power than could be supplied by a pair of elastic members comprising single strip-type or endless-type elastic members having the same length, width, thickness and other specifications. Furthermore, a slingshot employing elastic member 37 and its identical mate, the latter not shown in FIGURE 3, each constructed and assembled as hereinbefore described, retains some usefulness for its intended purpose without repair even though one of the layers in either or both of said elastic members were broken, whereas a slingshot employing a pair of single-layer elastic members would be useless until repaired. Elastic members comprising a plurality of pairs of said layers are inexpensive and are manageable by the operator as single-layer elastic members. All layers in elastic member 37 and its mate, the latter not shown in FIGURE 3, may be actuated simultaneously by the operator in forcibly extending said elastic members in creating tension therein and in suddenly releasing said elastic members in the operation of the slingshot in the usual manner.

FIGURE 4 illustrates an alternate slingshot pouch 42, a tubular or cylindrical type, closed at one end 45 and having a pair of arms 49 and 49' as means for securing to said pouch a pair of elastic members (not shown). Pouch 42 may be employed in the apparatus illustrated in FIGURE 5 hereinafter described. Furthermore, an alternative pouch, provided with additional pairs of identical arms (not shown) may be employed in the apparatus illustrated in FIGURE 1. Said pouch may be made of metal, plastic or other suitable material.

Pouch 42 in FIGURE 4 comprises tube 44 of uniform cross-section around axis 43—43', closed at rearward end 45, said end having cut therein a plurality of air-escape holes 46 and comprises a pair of arms 49 and 49' molded, welded or otherwise secured to said tube on the forward portion of the periphery or outer surface of said tube and near the forward or open end 47 of said tube, said tube also having a plurality of longitudinal air-escape slots 48 cut through the wall thereof, said slots being parallel to axis 43—43' of said tube.

Air-escape holes 46 and slots 48 are of sufficient number and size to permit the passage of air through them when pouch 42 with missile therein (missile not shown) is released in the usual manner of operating the Y-shaped slingshot as hereinbefore described. This reduction in the resistance of the air to the flight of said missile pouch with missile therein, when released, causes a greater percentage of the missile-ejecting power of the elastic members (not shown) to be applied to the ejecting of the missile and results in greater missile speed than is possible with an identical missile pouch having no air-escape holes and slots.

Missile pouch 42 in FIGURE 4 has sufficient length

and inside diameter to permit and make practical placing therein and ejecting therefrom a dart, a plurality of pellets such as buckshot, etc. (none of which missiles are shown). The length of pouch 42 causes said buckshot to retain a concentrated pattern in their flight toward the target as compared with the spread in the pattern of identical buckshot ejected from a Y-shaped slingshot employing the traditional or conventional types of pouches. Furthermore, said darts, buckshot and other missiles may be ejected from missile pouch 42 with safety to the operator as tube 44 of said pouch directs said missiles through crotch 14 (FIGURES 1 and 5) of the slingshot in their flight toward the target. The latter advantage is made possible by means of the length of tube 44 as additional facility for aiming the firing of the missile from the rearward or closed end 45 and along axis 43—43' of tube 44.

Tube 44 of missile pouch 42 in FIGURE 4 has a sufficiently small outside diameter that permits said pouch to be inserted in part into tubular handle 51 employed in the apparatus illustrated in FIGURE 5 and hereinafter described. The provision of means for inserting pouch 42 partly inside of said handle illustrated in FIGURE 5 provides for convenience and compactness in storing and in transporting said pouch and provides for protection of said pouch while being stored or transported in said handle.

FIGURE 5 illustrates partly in section another embodiment of my invention, namely, an alternative slingshot frame 50 with tubular-type handle 51 in combination with an alternative tubular-type slingshot pouch 42 that fits partly into said handle. Frame 50 in FIGURE 5 comprises body section 11, cylindrical or tubular-type handle 51 and two bifurcated ends 13 and 13'. Body section 11 is extended at the lower portion thereof to form tubular-type handle 51 of sufficient length to open end 53 to permit said handle to be gripped and held fast by the operator of the slingshot in the operation of same as hereinbefore described. Handle 51 is in the form of a tube of uniform cross-section closed at the junction with body section 11 and open at opposite or lower end 53. Said tubular handle has sufficient wall thickness and outside diameter to provide sufficient rigidity and strength for its intended purpose. Body section 11 is also extended at the upper portion thereof in a direction opposite from handle 51 to form bifurcated ends 13 and 13' in spaced relation to one another, thus causing formation of crotch 14 between them. Frame 50 is a strong, rigid structure, and may be made of metal, plastic or other suitable materials.

Sling 54 in FIGURE 5 comprises cylindrical or tubular-type pouch 42 and one pair of identical elastic members 52 and 52'. Said elastic members are strips, terminating in opposite ends, and may be made of rubber or of other suitable elastic material of uniform cross-section and of sufficient width, thickness and length to provide power to eject a missile or missiles from pouch 42 in the operation of the slingshot in the usual manner. Said elastic members are secured at one end thereof to bifurcated ends 13 and 13', respectively, and at the opposite ends thereof to pouch arms 49 and 49', respectively, by wrapping or folding one end and a portion of the respective elastic members around the respective arms and bifurcated ends and by cementing, vulcanizing or otherwise securing the respective ends of the elastic members to the standing portions thereof.

FIGURE 5 shows tubular-type pouch 42 partly in dotted outline and partly inserted into tubular-type handle 51. Said pouch is the identical pouch 42 illustrated in detail in FIGURE 4 and hereinbefore described, but air-escape holes 46 and air-escape slots 48, both shown in FIGURE 4, are for the sake of convenience not shown in FIGURE 5. Tube 44 of pouch 42 has a sufficiently small outside diameter and handle 51 of frame 50 has a sufficiently large inside diameter as to permit in part

the insertion of said pouch inside of said handle. Closed end 45 of tube 44 and a substantial portion of said tube may be inserted into tubular handle 51 at the open end 53 of said handle. This combination of a tubular-type handle 51 and tubular-type pouch 42 provides means for convenience in the storage and transportation of and protection for said pouch. It is understood that said pouch may be provided with additional pairs of arms, identical to arms 49 and 49', as means for securing to each of said arms and bifurcated ends 13 and 13', respectively, one end of one member of each pair of a desired plurality of pairs of elastic members, hereinbefore described, and that either strip-type, endless band-type or multiple-layer elastic members may be employed.

While I have shown only the preferred forms of my invention, I wish to have it understood that various changes and modifications may be made within the scope of the claims attached hereto without departing from the spirit of the invention.

What is claimed is:

1. In a slingshot of the Y-shaped or common crotch type, a sling comprising a missile pouch and energy storing elastic members secured at one end thereof to said pouch and at the opposite end thereof adapted to be secured to the ends of the slingshot frame, said missile pouch comprising a rigid tube of uniform cross-section and a pair of arms, said pair of arms being secured to said tube on the forward portion of and on the periphery of said tube for securing to each arm respectively one end of said elastic members, said tube being open at the forward end thereof and being closed at the rearward end thereof, and said tube having cut through the rearward end thereof a plurality of holes, said holes being substantially round, said tube having a plurality of slots cut longitudinally through the walls thereof, the length of said slots being substantially one-half the length of said tube and said slots being substantially parallel to the axis of said tube, said holes through the closed end of the tube and said slots through the wall of the tube permitting passage of air through the pouch in the usual operation of the slingshot thus reducing the resistance of the air to the flight of said missile pouch with missile therein and thereby increasing the missile-ejecting power of the elastic member to be applied to the ejecting of the missile, and said pouch being of sufficient length and inside diameter to receive therein a suitable missile and said pouch being of sufficient length to direct said missile through the crotch when the slingshot is operated in the usual manner.

2. The sling of claim 1 in combination with a rigid frame comprising a body section extended at the lower portion thereof to form a hollow handle and extended at the upper portion thereof in a direction opposite from said handle to form bifurcated ends in spaced relation to one another causing formation of a crotch between the bifurcated ends, said handle being closed at the junction with the upper portion and open at the opposite or lower end thereof, said handle having sufficient wall thickness and outside diameter to provide sufficient rigidity and strength for its intended use and having sufficient length for being gripped by the operator in the usual manner, said handle having sufficient inside diameter to permit in part the insertion therein by means of the open end thereof of said missile pouch, said combination of said missile pouch and said hollow handle providing means for convenience in the storage and transportation of and the protection for said missile pouch.

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