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SLING-TYPE PROJECTOR

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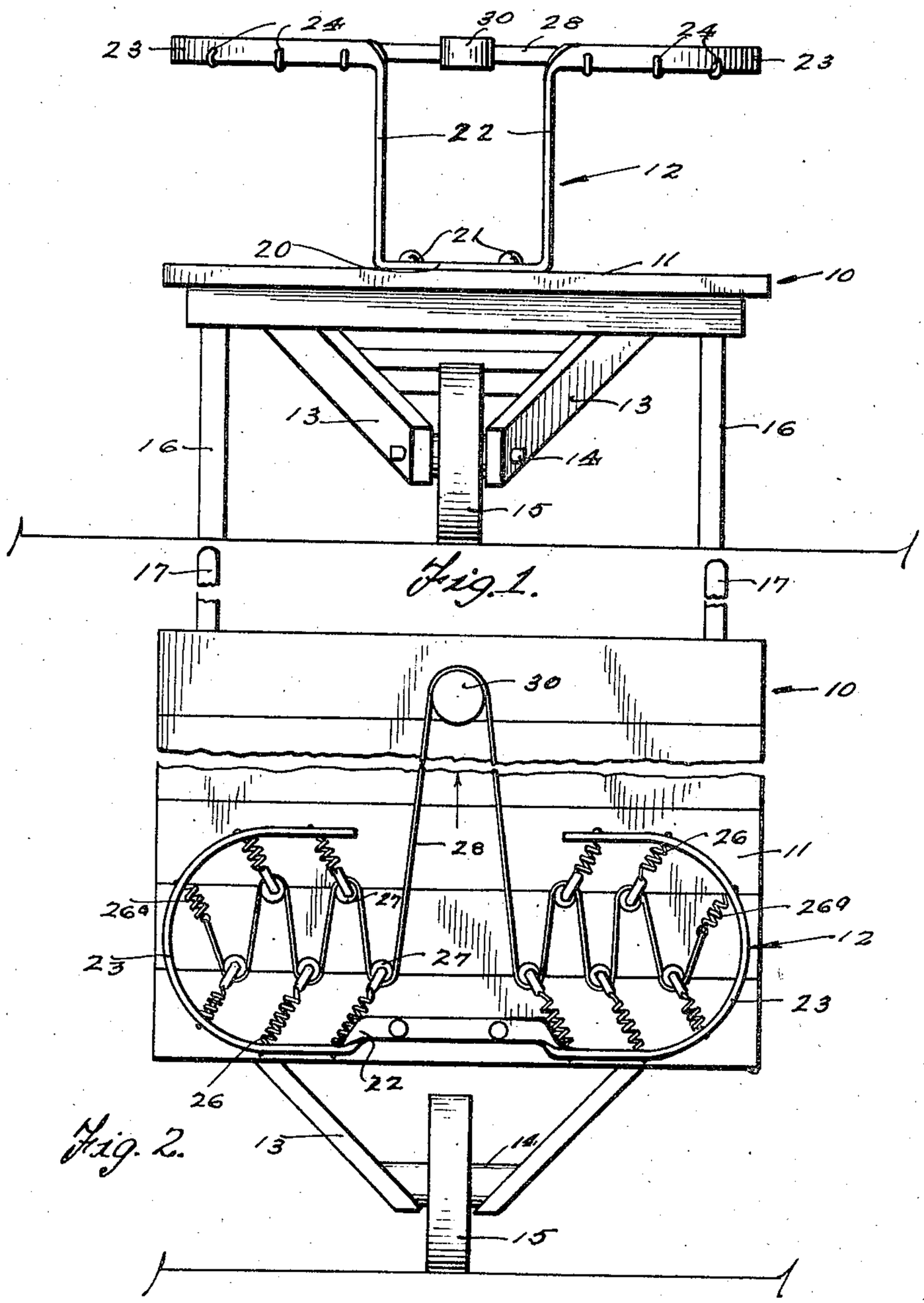

Fig. 1.

Fig. 2.

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SLING-TYPE PROJECTOR

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6 Claims. (Cl. 124—16)

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This invention relates to projectors and more particularly to a sling-type projector adapted for propelling an object through the air by the use of resilient means.

A primary object of this invention is the provision of an improved sling-type projector adapted for the hurling of weights or the like to a relatively great distance.

An additional object of the invention is the provision of such a projector embodying a plurality of resilient means, such as springs, to effect a multiplication of the propulsive force thereof.

A still further object is the provision of such a device so constructed and arranged as to be readily mobile.

A still further object is the provision of a projector adapted for the hurling of weights, grenades, rockets, or the like, as a weapon, which will be comparatively noiseless in operation, and hence difficult of detection.

Still further objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawing, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawing—

Figure 1 is a front elevational view of a sling-type projector constructed in accordance with this invention, and

Figure 2 is a top plan view of the device shown in Figure 1.

Like reference numerals refer to like parts throughout the several views of the drawing.

In the drawing, a supporting base or platform generally indicated at 10, is comprised of a relatively flat surface 11, of considerable cross-sectional area, on which is adapted to be mounted a supporting frame generally indicated at 12, the balance of platform 11 providing a space for the support of projectiles, adapted to be hurled by the device in a manner to be described hereinafter.

From the lower side of platform 11 frame members 13 extend downwardly and inwardly and support at a point adjacent their lower extremities an axle 14 on which is mounted a wheel 15, members 13 and axle 14 being secured in related assembly in any desired manner. Suitable supports 16 are provided adjacent opposite rear corners of platform 11 whereby the same when positioned for operation may be in substantially level alignment with the ground or other supporting surface therefor. Suitable handles 17 extend

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rearwardly from supporting platform 10 whereby the device may be readily moved as desired.

Frame 12 is comprised of a base member 20 secured in any suitable manner as by bolts or rivets 21 adjacent the forward edge of platform 11, vertical portions 22 extending upwardly a substantial distance above base portion 20 and U-shaped portions 23 extending horizontally at substantially right angles to vertical portions 22. Suitable apertures 24 are cut at spaced intervals through U-shaped members 23, and are adapted to have secured therein the ends of tension springs 26, which springs extend inwardly with respect to the U-shaped portions 23. Secured to the free ends of each of springs 26 except those, 26*a*, positioned most nearly adjacent the central portion of U-shaped members 23, is a pulley 27.

Secured to the free end of one of springs 26*a* is an end of a cord, strap, or similar flexible member 28, the intermediate portion of which is passed alternately through pulleys 27 secured to opposite legs of portions 23 of the frame, the opposite end after such passage being secured to the inner end of the other of springs 26*a*.

It may here be pointed out that the legs of U-shaped members 23, which may be constructed of relatively resilient strip metal or the like, terminate at points substantially in alignment with vertical portions 22, thus forming a centrally disposed channel with respect to U-shaped portions 23.

From the foregoing the operation of the device should now be readily understandable. A projectile 30 which may comprise any suitable missile is engaged with cord 28 at a point intermediate thereof between the innermost pulleys 27 in the channel formed between the upright vertical members 22. As the weight 30 and the associated cord 28 are drawn rearwardly in the direction indicated by the arrow in Figure 2, all of springs 26 and 26*a* are tensioned, and simultaneously the relatively resilient legs of portions 23 are drawn inwardly with respect to each other. Obviously, upon release of weight 30 the tension of all the springs as well as that of U-shaped portions 23 will be simultaneously released and the weight hurled forwardly through the channel formed between vertical portions 22, by the action of cord 28 thereupon. It will also be seen that due to the resiliency of springs 26, weight 30 may be positioned at an angle with respect to the horizontal plane of portions 23 and accordingly its direction of flight, in a vertical plane, controlled. Thus, there is herein provided a sling-type projector accomplishing all the object of

this invention and others including many advantages of practical utility.

Obviously, the device may be made in any desired size, adapted to hurl missiles of various weights to various ranges, for any desired purpose.

As many embodiments may be made of this inventive concept and as many modifications may be made in the embodiment hereinbefore described and shown in the accompanying drawing, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a sling-type projector for hurling a projectile, arcuate members forming a frame having end portions and front and rear edges, tension springs attached to said front and rear edges in staggered relation, pulleys secured to the free ends of said springs, a cord having its ends resiliently secured to said frame adjacent the opposite end portions and passed alternately about pulleys secured to said springs on said front and rear edges, said frame having a centrally disposed channel therein, said projectile adapted to be engaged by said cord and drawn rearwardly through said channel, to tension said springs whereby upon release of said cord said projectile is hurled forwardly by the action of said springs thereon.

2. In a sling-type projector for hurling a projectile a supporting platform, arcuate members forming a frame having end portions and front and rear edges, mounted on said platform, said front and rear edges being resilient and compressible toward each other, springs attached to said front and rear edges in staggered relation, pulleys secured to the free ends of said springs, a cord having its ends secured to said frame adjacent its opposite end portions and passed alternately about said pulleys secured to said frames on front and rear edges, said frame having a centrally disposed channel therein, said projectile adapted to be engaged by said cord and drawn rearwardly through said channel to tension said springs, whereby upon release of said cord said projectile is hurled forwardly by the action of said springs and said resilient edges thereon.

3. In a sling-type projector for hurling a projectile, a supporting platform, a frame mounted thereon, said frame comprising a base secured to said platform, a pair of vertical members forming a channel, and U-shaped members extending outwardly in a horizontal plane from said vertical members; springs secured to the inner sides of the legs of said U-shaped members, pulleys secured to the inner ends of said springs, additional springs secured to said U-shaped members adjacent their outermost points, and a cord secured at its ends to said last-mentioned springs and passed alternately through pulleys secured to springs on opposite legs of said U-shaped members, whereby force exerted on a portion of said cord adjacent said channel tensions all of said springs.

4. A sling type projector for hurling a projectile comprising a support, a frame secured thereto, arcuate arms extending from said frame, resilient biasing means removably secured to said arms, pulleys secured to said means, a spring secured to each of said arms, a cord secured at its ends to said springs and intertwined about said pulleys, whereby the force exerted on a selected portion of said cord tensions said springs and said resilient biasing means.

5. The invention recited in claim 4, and said resilient biasing means comprising a plurality of springs.

6. A sling-type projector for hurling a projectile comprising a support, a frame secured thereto, arcuate arms extending from said frame, resilient biasing means removably secured to said arms, pulleys secured to said biasing means, a spring secured to each of said arms, means secured to said springs and intertwined about said pulleys for receiving a projectile.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,072,988	Pratt et al.	Sept. 9, 1913
1,153,415	Beaty	Sept. 14, 1915