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LIGHTWEIGHT CLAMP AND STEADY REST

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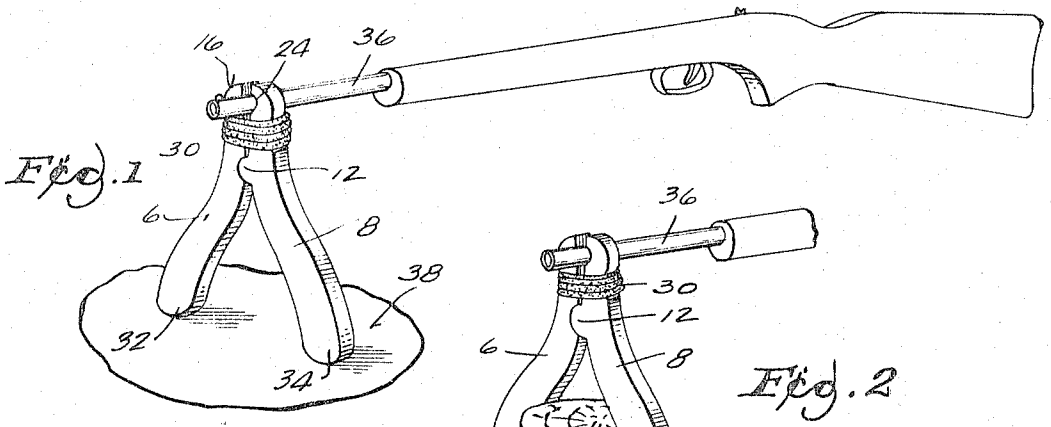


Fig. 1

Fig. 2

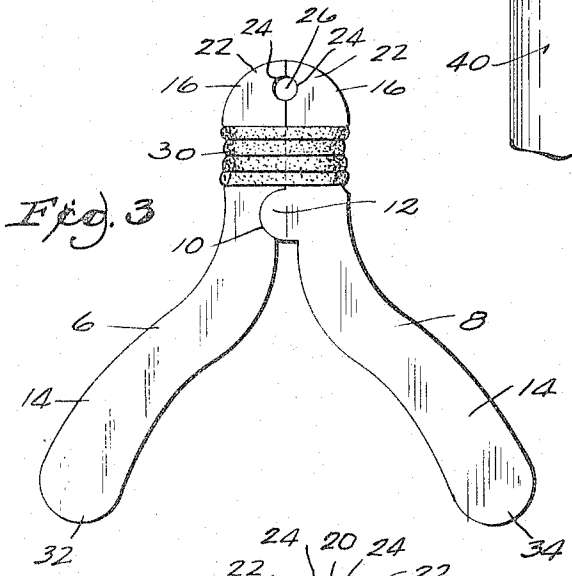


Fig. 3

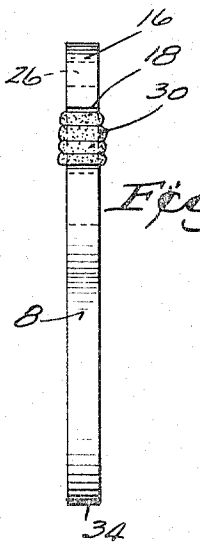


Fig. 4

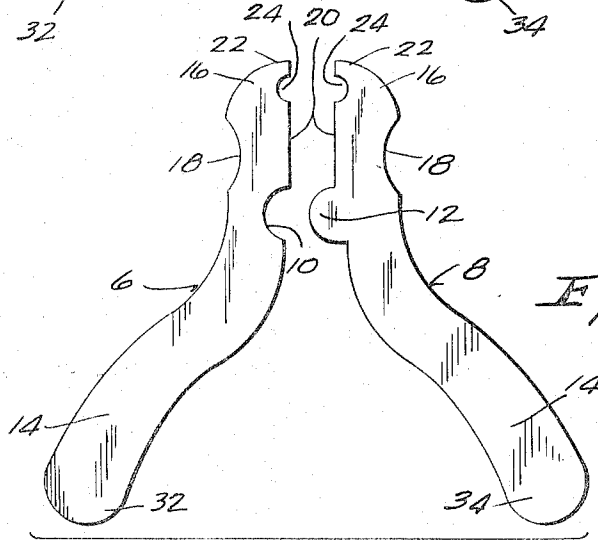


Fig. 5

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LIGHTWEIGHT CLAMP AND STEADY REST

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This invention relates to a lightweight clamp and steady rest.

While a device embodying the invention may be used to hold many different types of work, it has been exemplified by illustrating one of its principal functions, which is to engage the barrel of a gun for facilitating accurate shooting by positioning the barrel from some fixed object with which the device is engaged.

In the preferred embodiment, the device comprises a pair of pivotally movable, non-metallic members made of wood or plastic with complementary convex and concave bearing surfaces accommodating relative pivotal movement without requiring any type of pintle connection. The respective members are grooved to position an encircling elastic means which holds them in assembly and accommodates their pivotal movement and biases them into engagement with the work. Complementary transverse channels fitting the work may be provided in the jaw portions of the respective members.

I am aware that steady-rest clamps of the general form illustrated are known. However, the device herein disclosed has important advantages in that it is light in weight and requires no pintle, the same spring which provides bias into clamping position also serving to retain the parts in assembly. The device may be instantly folded or collapsed for transportation or storage and may be erected with equal facility, due in part to the absence of any pintle requiring manipulation. If the device is made of the preferred materials indicated, there is no problem of rust and little or no clatter or noise when the device is being transported.

In the drawings:

FIG. 1 is a view in perspective showing the device as it appears in use.

FIG. 2 is a similar view fragmentarily illustrating a different mode of use.

FIG. 3 is a view of the device in front elevation.

FIG. 4 is a view showing the device in side elevation.

FIG. 5 is a view showing in front elevation and in mutually separated position the component parts of the spring.

The complementary members **6** and **8** are identical in an allochiral sense except for the fact that in an intermediate fulcrum area the member **6** has an arcuate transverse channel at **10**, whereas the member **8** has a transversely semi-cylindrical boss **12** which fits the channel and is of greater arcuate extent. The members have flat faces and may be superposed in substantial registry. Each member includes integrally a leg portion **14** and a jaw portion **16** and has a shallow transverse groove **18** on its outer surface between the fulcrum arm between the jaw portion and the leg portion.

The respective jaw portions have complementary work-engaging surfaces **20** interrupted near the free ends **22** of the jaw portions by transverse work-positioning grooves **24** which, in the position of the parts shown in FIG. 3, may be associated to provide a transverse bore **26** to receive and clampingly retain a gun barrel or fishing rod or the like.

A spring **30** which desirably takes the form of a rubberband or other elastomeric circlet, encircles the members **6** and **8** and is positioned by being engaged in the shallow groove **18** as clearly appears in FIGS. 1 to 4.

Assuming a rubberband or the like is used to constitute the resilient encircling means **30**, a sufficient number of turns thereof will be used so that the jaw portions **16** will be biased toward the closed position of FIG. 3. When the normally divergent lower free end portions **32, 34** of members **6** and **8** are manually forced toward each other, the members **6** and **8** pivot by relative fulcrumming movement between the boss **12** and the recess **10**, this being accommodated by the fact that the recess **10** is more shallow than boss **12**, being of less arcuate extent, although the bearing surfaces of the boss and recess desirably have the same radius.

The relative pivotal movement of members **6** and **8** against the bias of the elastomeric spring **30** will open the jaw portions **16** to receive work to be held between the clamping surfaces **20** or in the registry channels **24**. Thus the device may be engaged with the gun barrel **36** as shown in FIGS. 1 and 2 (or with a fishing rod or other work). Release of the pressure used to open the jaws will permit the spring **30** to function to clamp the jaws upon the work. The device is sufficiently light so that it may be left clamped to a gun barrel. It does not in any way interfere with manipuation of a gun or the like with which it is clampingly engaged. When it is desired to steady the gun for shooting purposes, the free lower ends **32, 34** of the clamp portions of members **6** and **8** may be made to rest on a flat surface **38** as shown in FIG. 1 or may be engaged with a fence post **40** or the like as shown in FIG. 2. The wide divergence of the leg portions **14** of the members **6** and **8** not only provides a stable support but is advantageous to permit these leg portions to straddle a fence post as in FIG. 2. It will be noted that any thrust in a vertical direction as in FIG. 1 or laterally outwardly as in FIG. 2 will not disengage the members **6** and **8** from the work but, to the extent that the members are separated at all, will increase the bias of the spring **30** to hold the work more tightly.

While the members **6** and **8** may be made of any appropriate materials, it is preferred that they be made either of wood or plastic so that there will be no rusting and no noise in transportation and very little weight.

It is a great convenience to be able to separate or to fold the members **6** and **8** and to restore them to operative position without manipulating a pintle. Removal of, or application of, the elastomeric spring **30** requires but a moment. Thus, the members **6** and **8** may be completely separated as shown at FIG. 5 if desired. However, they may also be folded upon each other into flat superposition without even removing the elastic band **30**. As will be evident, they will register fully when so folded, with the single exception of a slight projection of the boss **12**. By way of example and not by way of limitation, it may be noted that if the members **6** and **8** are proximately three-quarters of an inch in thickness, the bearing provided between boss **12** and the complementary channel **10** will be sufficiently stable for all practical purposes and yet will readily accommodate the transverse relative pivotal movement required to fold members **6** and **8** upon each other.

I claim:

1. A steady-rest clamp comprising a pair of elongated generally flat members each of which has opposing faces and inner and outer margins, said members being disposed in a common plane and having leg portions mutually spaced from each other in said plane, integral means providing pivotal engagement between the inner margins of said members, said means comprising a transverse channel in the inner margin of one of said members and a complementary rib on the inner margin of the other member and pivotally engaged in said chan-

nel, the inner margins of the respective members having transversely channeled jaw portions at the ends thereof remote from said leg portions, and resilient tension means encircling said members between their said jaw portions and the pivotally engaged rib and channel portions, said tension means biasing the jaw portions toward each other and holding the rib engaged in the channel.

2. A steady-rest clamp according to claim 1 in which at least one of said members has means for positioning said resilient means.

3. A steady-rest clamp according to claim 1 in which said members are flat strips of wood having on their outer margins transverse grooves in which said resilient means in engaged.

References Cited by the Examiner

UNITED STATES PATENTS

1,074,648	10/1913	Schwartzberg	248—316.3
2,023,340	12/1935	Peskulich	248—44
2,327,403	8/1943	Coupanger	248—47
2,798,684	7/1957	Walden	248—173 X
2,853,261	9/1958	Loeb	248—47 X
3,082,623	3/1963	Bosland	248—291 X

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