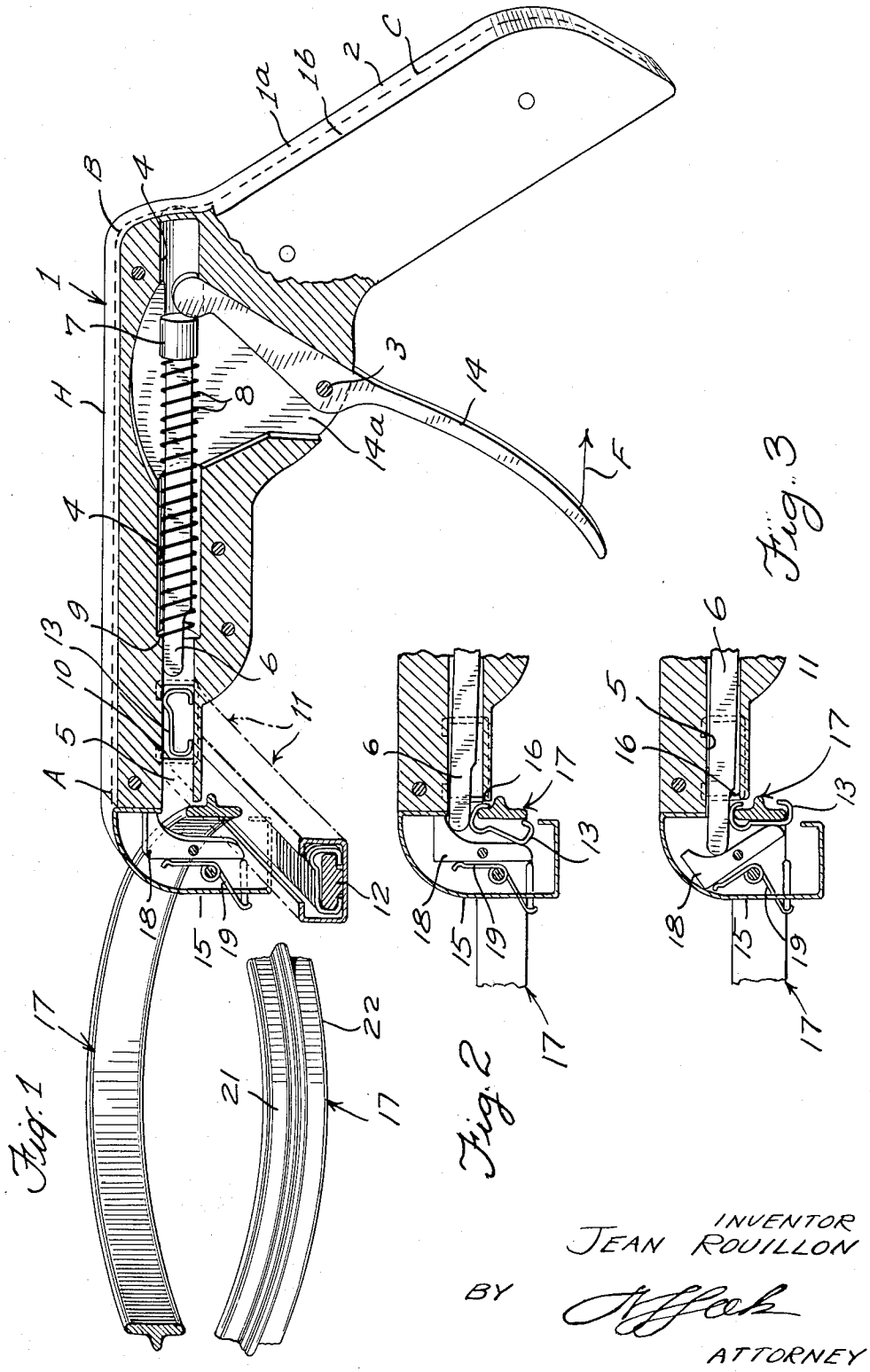
June 12, 1956 J. ROUILLON 2,749,601

APPARATUS FOR MOUNTING TRAVELERS ON RING TWISTERS

Filed June 14, 1954



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United States Patent Office 2,749,601
Patented June 12, 1956

2,749,601

APPARATUS FOR MOUNTING TRAVELERS ON RING TWISTERS

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Application June 14, 1954, Serial No. 436,635

Claims priority, application France June 19, 1953

2 Claims. (Cl. 29—207)

This invention relates to apparatus for mounting travelers on ring twisters and has for an object to provide a simple, efficient and improved mechanism for mounting travelers with a minimum of manual effort.

This operation has usually been performed up to now by hand. The worker was obliged to pick up a traveler in a box containing a mass of travelers, then to orient this traveler, insert it on the ring in the proper position, and finally mount it by pressure.

According to this invention, a series of travelers is held in a magazine connected to the apparatus which is placed on the ring after which the traveler is picked up, pushed toward the ring, put in position and pressed onto the ring in a simple operation. The apparatus may have the general form of a clip or pistol with a trigger release which serves to pick up and mount the traveler.

In a particular embodiment the apparatus, according to the invention, is adapted for mounting vertical travelers and the invention will be described in connection with an example of this embodiment, it being understood that this example is illustrative only and that various modifications may be made therein as will be apparent to a person skilled in the art.

In the drawing:

Fig. 1 is a perspective view of the device, showing the magazine connected to the ring of a ring twister frame;

Fig. 2 is a detail view showing a step in the operation of setting a traveler in place; and

Fig. 3 is a similar detail view showing the end of the operation, the traveler being mounted on the ring.

In Fig. 1 the ring is indicated as detached and partly in section for facilitating the following description. In practice, the ring is set in its place on the spindle bearing plate of the frame and the travelers are mounted on the ring while the ring is in place.

According to the invention, the apparatus is shown as having the general shape of a pistol **1** with a handle **2**. In the embodiment shown the device is made in two symmetrical halves **1***a* and **1***b* which are joined along the dotted line ABC of Fig. 1.

Both halves may be made of molded plastic material and may be connected by rivets or the like. In each half a shaped groove is formed in the horizontal part H which forms a cylindrical barrel, the two grooves forming together a cylindrical passage **4**, terminating in a flat and narrow groove **5** in the front. A tongue **6** is shaped to slide in the groove **5**. This tongue is attached in back to a small piston **7** having the shape of the passage **4**. A helical spring **8** surrounds the tongue **6** and is supported against a shoulder **9** between passage **4** and groove **5** and against the piston **7**.

In one of the halves of the barrel **1**, an opening **10** is formed and into this opening an elongated magazine **11** is introduced laterally. The magazine carries a T-shaped inner frame **12** and resembles in general a standard clip type magazine. The travelers **13** are placed side by side on the frame **12** in the magazine **11** in a manner

similar to the clips in a clip magazine, the forward traveler being pressed into the inside groove **5** of the pistol **1**.

All of the travelers on the frame **12** are advanced in order by a spring (not shown). The travelers are preferably slightly held together, for example, by a wax which is inert to twisted yarn. On the other hand, the frame **12** must be slightly shorter on the bottom than the magazine **11** so as to allow a traveler to pass, which thus remains suspended in the groove **5**. Moreover, the magazine must be oriented to allow the tongue **6** to pass and also the traveler after disengagement.

The disengagement is effected by the trigger **14** which pivots on a rivet **3** of the pistol into a hollow **14***a* formed for this purpose in the pistol **1**. The trigger **14**, when pulled in the direction of the arrow F, pivots and pushes the piston **7** which, by compressing the spring **8**, advances the tongue **6** and pushes the forward traveler **13** into the groove **5**.

The pistol also carries a downward projection **15** at forward end of the barrel behind which a transverse groove **16** is formed. This groove **16** communicates with the slot **5** and its shape conforms to that of the upper rim **22** of the ring **17** to which a traveler **13** is to be applied. The slot **5** extends to the projection and at that place a small pivotable feed head **18** is attached to extend downwardly inside of the ring **17** and in back of the traveler **13**. A retention spring **19** resists the pivoting of the feed head.

When the tongue **6** advances under the trigger action, the groove **16** of the pistol **1** being set in place on the ring **17**, the tongue disengages the traveler **13** appearing in the slot **5** and pushes it forward in the slot **5**. The traveler strides the top rim **22** of the ring and swings down along the feed head **18** into the slot of the projection **15**, behind the ring with its top hook hanging on the top rim **22**, as is shown in Fig. 2. At that moment, the end of the tongue **6** strikes the feed head **18** and causes it to swing against the action of the spring **19**. The heel **20** of the feed head then presses the bottom hook of the traveler **13** against the inner surface of the ring and forces it over the lower rim **21** of the ring, the upper hock of the traveler **13** remaining on the upper rim **22** (see Fig. 3).

By releasing the trigger **14**, the spring **8** retracts the tongue **6** which disengages the feed head **18** and returns to its position of rest, as shown in Fig. 1, under the influence of the spring **19**. When the tongue returns to the position shown in Fig. 1, it uncovers the opening **10** and permits a new advance of the stack of travelers **13**, for resetting a traveler in place for the following mounting operation. At the same time, the device can be withdrawn from the ring and the operations repeated.

What is claimed is:

1. Apparatus for mounting travelers having upper and lower hooks on the upper and lower rims of ring twister frames, comprising a barrel having a downward projection at its end having a groove therein to receive the upper rim of said ring, said barrel having a bore terminating in an elongated slot adapted to pass a traveler and communicating with said groove, a plunger slidable in said bore and adapted to eject said traveler through said slot and groove and over said upper rim to hang inside of said ring with its upper hook on said upper rim, and a magazine adapted to carry a stack of aligned travelers, means for mounting said magazine on said barrel with the stack of travelers extending transversely and with the forward traveler in said stack registering with said slot in advance of said plunger, and an arm in said downward projection to project downwardly on the inside of said ring in back of the hanging traveler, said arm being pivoted to said downward projection with its upper end being positioned to be actuated by said plunger

and with its lower end positioned to press the lower hook of said traveler onto the lower rim of said ring, and a handle carried by said barrel to actuate said plunger.

2. In an apparatus as set forth in claim 1, a spring normally holding said plunger retracted.

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