Ilion, New York, August 3, 1948

TO: John H. Lewis, Jr.

FROM: H. W. Young

SUBJECT: INVENTIONS REPORT - IT-74
MODEL 721 - SAFETY

Inventor: (Ball Connector Block)
H. W. Young

DESCRIPTION:

The accompanying drawing, L-615, shows a Safety in which a floating ball is employed to block the Model 721 Connector in Sear engagement.

In detail, the Sear, similar to the former one-piece M/721 Sear, has a downwardly projecting lobe (1) with a rearwardly facing ground surface (2) inclined rearwardly at about 5° from perpendicular; the connector has a forwardly facing ground surface (3) which is parallel to the surface (2) on the sear when the connector is in engagement with the sear at (4). The safety (5) has an inwardly turned slotted end (6) which is adapted to swing within the arcuate opening (7) in the side of the housing (8). The slotted end of the safety is adapted to engage a ball (9) and move it upwardly between the sear face (2) and the connector face (3), the ball being of such size that when interposed between the sear and the connector, the edge (10) of the connector will have a minimum engagement with the sear at (4) to provide requisite safety. Rotating the safety forward brings the ball to the position shown by dotted lines at (11) at which point sufficient space is provided between the turned-in tab (12) and the connector to prevent interference.

A spring (13) is provided to urge the sear upward.

Other parts of the mechanism are similar to the current Model 721 Fire Control. One difference being the location of the trigger stop screw (14) which currently is located at a higher point. Another change is involved in the front and top profile of the trigger to provide clearance between it and the connector, except at the contact points A, B and C, and in the provision of a rearward projection at the bottom of the connector to prevent excessive upward movement of that member. Currently, the trigger stop pin serves this purpose in conjunction with a through hole in the connector.

A model now being made up deviates from the accompanying drawing in that the safety member has a "U" shaped loop at the rear which provides a double bearing surface for the safety, practically as now provided in the M/721.

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The present proposal provides retention of a connector similar to the present M/721 structure and utilizes a means of blocking this member in safe position.

Inasmuch as all of the parts directly involved (Sear, Connector, and Ball) are hardened parts and as the surfaces involved can be finished by grinding, very close tolerances can be held and since the only two part tolerance combination includes the ball, which can be purchased with negligible tolerance, interchangeability should be expected with a total tolerance of about ±.002".

We would like a report as soon as possible covering the infringement aspects of this mechanism.

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HWY:LJ