Dec. 9, 1958 J. KOUCKÝ ET AL 2,863,249

SAFETY FOR REVOLVERS

Filed Oct. 17, 1956

Fig. 5

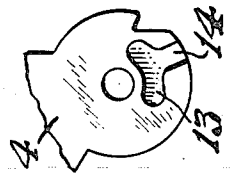


Fig. 4

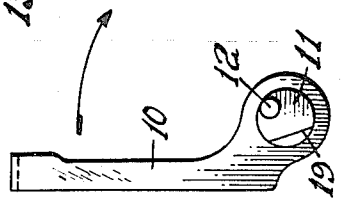


Fig. 2

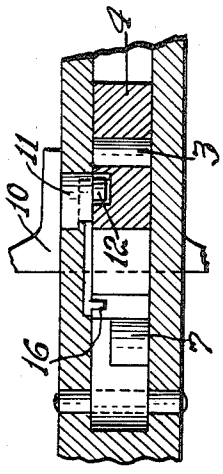


Fig. 3

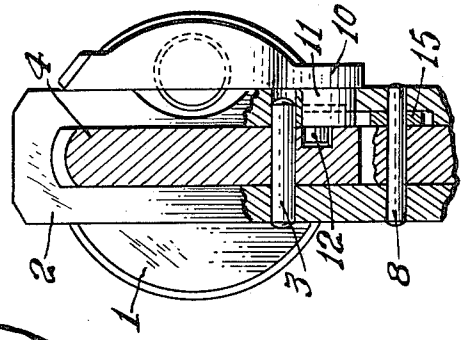
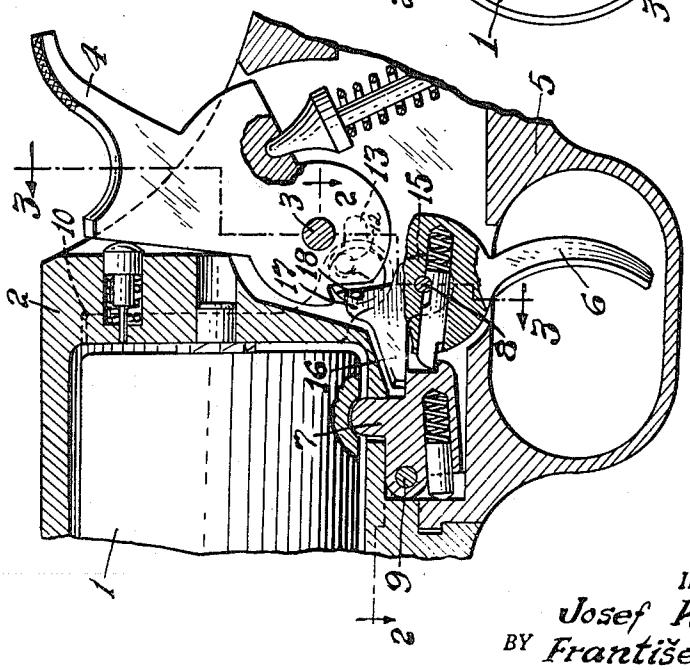


Fig. 1



INVENTORS.
Josef Koucký
BY František Koucký
Richard Lord Atty

United States Patent Office 2,863,249 Patented Dec. 9, 1958

2,863,249

SAFETY FOR REVOLVERS

Josef Koucký and František Koucký, Prague, Czechoslovakia, assignors to Konstrukta Praha, narodni podnik, Prague, Czechoslovakia

Application October 17, 1956, Serial No. 616,411

2 Claims. (Cl. 42—66)

The present invention relates to manually operated cylinder repeating fire-arms, particularly cylinder revolvers.

As is known, it is necessary in revolvers having a cylinder securely mounted in the frame of the weapon to dispose on the frame a breech block which is adapted to hinge over and which prevents the cartridges from falling out of the cylinder when the weapon is fired and carried and which, after hinging over, renders loading and unloading of the cartridges possible. At the same time, however, it is necessary that when the cylinder is secured in its firing positions it should be able to be freely rotated for the purpose of loading all the cartridge chambers.

Known constructions for achieving this object have not proved completely satisfactory, owing to their complicated structure and their general unreliability, and are therefore completely disregarded by present-day practice.

The present invention has as object the provision of a manually operated cylinder fire-arm which does not have the said disadvantages. According to the invention, this is achieved by a construction in which cooperating engagement members are provided on the breech block of the cylinder and on the hammer, said engagement members being so constructed that they permit the activation of the hammer only when the breech block is closed and after opening of the breech block arrest the hammer in the inoperative position, an additional safety member being connected in front of the safety catch of the cylinder, which additional safety member is mounted to be freely rotatable on the supporting pin of the trigger and, by its engagement with the breech block, releases the cylinder for free rotation only when the hammer is arrested.

The new construction is extremely simple but at the same time absolutely reliable and constitutes a substantial improvement in the respect that it renders the safety-release of the cylinders dependent on the simultaneous securing of the hammer, or vice-versa. A considerable simplification of the manipulation in operating the weapon is thereby achieved, since a single operation governs two very important functions, which facilitate use of the weapons and also guarantee its safety.

The accompanying drawing illustrates by way of non-limiting example, a cylinder revolver constructed according to the invention on an enlarged scale. In the drawing,

Figure 1 is a partial longitudinal section of the trigger mechanism of the revolver;

Figure 2 is the corresponding plan view in part section, the section being taken in the plane of the line 2—2 of Fig. 1;

Figure 3 is a view also in part section of the weapon as seen in a direction looking towards the mouth of the barrel, the section being taken in the plane of the line 3—3 of Figure 1; and

Figures 4 and 5 show details of the new construction.

Referring to the drawing, the cylinder 1 of the revolver is mounted in the weapon frame 2, in which the hammer 4 is pivotally mounted on a pin 3. To the lower part of the frame 2 is connected the trigger guard 5, which covers from below the trigger 6 and the safety catch 7 of the cylinder 1, which parts are pivotally mounted on the pins 8 and 9 respectively on the weapon frame 2 (Figure 1). The right-hand side of the cylinder 1 (Figure 3) is rearwardly covered by a breech block 10 which is adapted to hinge over and which is mounted on the frame of the weapon on a pin 11. Figure 3 shows the breech block 10 in position and Figure 4 shows it in elevation. All these parts are constructed substantially in known manner and it is not therefore necessary to describe them in greater detail. The same also applies to the feed mechanism and to the actual trigger mechanism, which, for the sake of clarity, are not shown in the drawing.

According to the new construction, cooperating engagement members are provided on the breech block 10 of the cylinder 1 and on the hammer 4, said engagement members being constructed in such manner that they permit the activation of the hammer only when the breech block 10 is closed and, after the opening of the block, arrest the hammer 10 in the inoperative position. The engagement members are formed on the one hand by an eccentric face projection on the rotatable bearing pin 11 of the breech block 10 of the cylinder 1 and on the other hand by a slot 13 in the hammer 4, in which slot 13 the said projection 12 engages. The slot 13 has the form of an arc of a circle concentric with the mounting axis of the hammer 4 (Figures 1 and 5) and is provided with a substantially radial outlet 14, which fixes the arrested position of the hammer. When therefore the breech block 10 is swung out of the closed position shown in Figure 3 into the opening position (not shown) in the direction of the arrow in Figure 4, the projection 12 on its pin 11 is removed from the circular groove 13, in which it is guided during action or readiness of the weapon, into the recess 14 of the groove 13 and thereby secures the hammer 4 in the inoperative position. The hammer cannot be brought out of this position, either by cocking by hand or by pressing the trigger, so that firing is thereby reliably prevented.

Moreover, the arrangement is made such that the safety catch 7 of the cylinder 1 has connected in front of it an additional safety member which is mounted to be freely pivotable on the supporting pin 8 of the trigger 6 and, by its engagement with the breech block 10, releases the cylinder for free rotation only when the hammer 4 is arrested. The additional safety member is constructed in the embodiment illustrated as an angle lever 15, which is mounted to be freely pivotable on the pin 8 of the trigger 6. One arm 16 of said lever controls the safety catch 7 of the cylinder 1, while the second arm 17 of the lever 15 forms a supporting surface 18 which cooperates with a lateral recess 19 (Figure 4) contrived in the bearing pin 11 of the breech block 10 of the cylinder 1. The supporting surface 18 and the recess 19 are so disposed that by the opening of the breech block 10 of the cylinder 1, simultaneously with the arresting of the hammer 4, the releasing of the safety of the cylinder by means of the safety catch 7 is effected. This is achieved by the fact that, when the breech block 10 is swung down in the direction of the arrows shown in Figure 4, the recess 19 of the pin 11 displaces the left-hand arm 16 of the lever 15 downwardly, whereby the safety catch 7 passes out of engagement with the notch of the cylinder 1 and releases the cylinder for rotation.

If the weapon is to be brought into readiness for firing, the breech block 10 is swung up into the closed

position shown in Figure 3, whereby on the one hand the safety catch **7** is released to jump into the cylinder **1** and on the other hand the projection **12** on the breech block **10** is introduced into the groove **13** of the hammer. The hammer is thereby released to perform its functional movements, which then proceed independently of the arrangement described.

The arrangment described and illustrated represents only one exemplified embodiment of the principle of the invention and can therefore be modified in various ways without thereby departing from the scope of the invention.

We claim:

1. In a revolver having a rotatable cartridge cylinder, a pivoted latch normally engaged with the cylinder to prevent rotation of the latter and movable to a released position for permitting rotation of the cylinder, a trigger and a pin pivotally supporting the trigger; the combination of a breech block having a rotatable bearing pin by which the block is pivotally mounted for swinging between opened and closed positions, a pivotally mounted hammer having an arcuate slot therein concentric with the axis of pivoting of the hammer and a radially directed entry opening into said arcuate slot, a projection on said bearing pin disposed eccentrically with respect to the pivoting axis of said breech block, said projection being received in said arcuate slot to permit pivoting of said hammer when said block is in said closed position thereof, and said projection moving into said radially directed entry to arrest pivoting of the hammer when said block is in said opened position, an independent control element rockably mounted on the pin supporting the trigger and engageable with the latch for movement of the latter toward its released position, and means on said breech block actuating said control element to release the latch in response to movement of the breech block to said opened position of the latter.

2. In a revolver having a rotatable cartridge cylinder, a pivoted latch normally engaged with the cylinder to prevent rotation of the latter and movable to a released position for permitting rotation of the cylinder, a trigger and a pin pivotally supporting the trigger; the combination of a breech block having a rotatable bearing pin by which the block is pivotally mounted for swinging between opened and closed positions, a pivotally mounted hammer having an arcuate slot therein concentric with the axis of pivoting of the hammer and a radially directed entry opening into said arcuate slot, a projection on said bearing pin disposed eccentrically with respect to the pivoting axis of said breech block, said projection being received in said arcuate slot to permit pivoting of said hammer when said block is in said closed postion thereof, and said projection moving into said radially directed entry to arrest pivoting of the hammer when said block is in said opened position, a lever rockably mounted on the pin supporting the trigger and including first and second angularly related arms, said first arm being engageable with the latch for movement of the latter toward its released position, and a cam surface on said bearing pin of the breech block and engaging said second arm of the rockable lever to rock the latter in the direction for moving the latch to its released position in response to movement of said breech block to said opened position of the latter.

References Cited in the file of this patent

UNITED STATES PATENTS

336,894	Cilley	Mar. 2, 1886
565,692	Richardson	Aug. 11, 1896
769,277	Ringqvist	Sept. 6, 1904

FOREIGN PATENTS

62,657	Germany	1852