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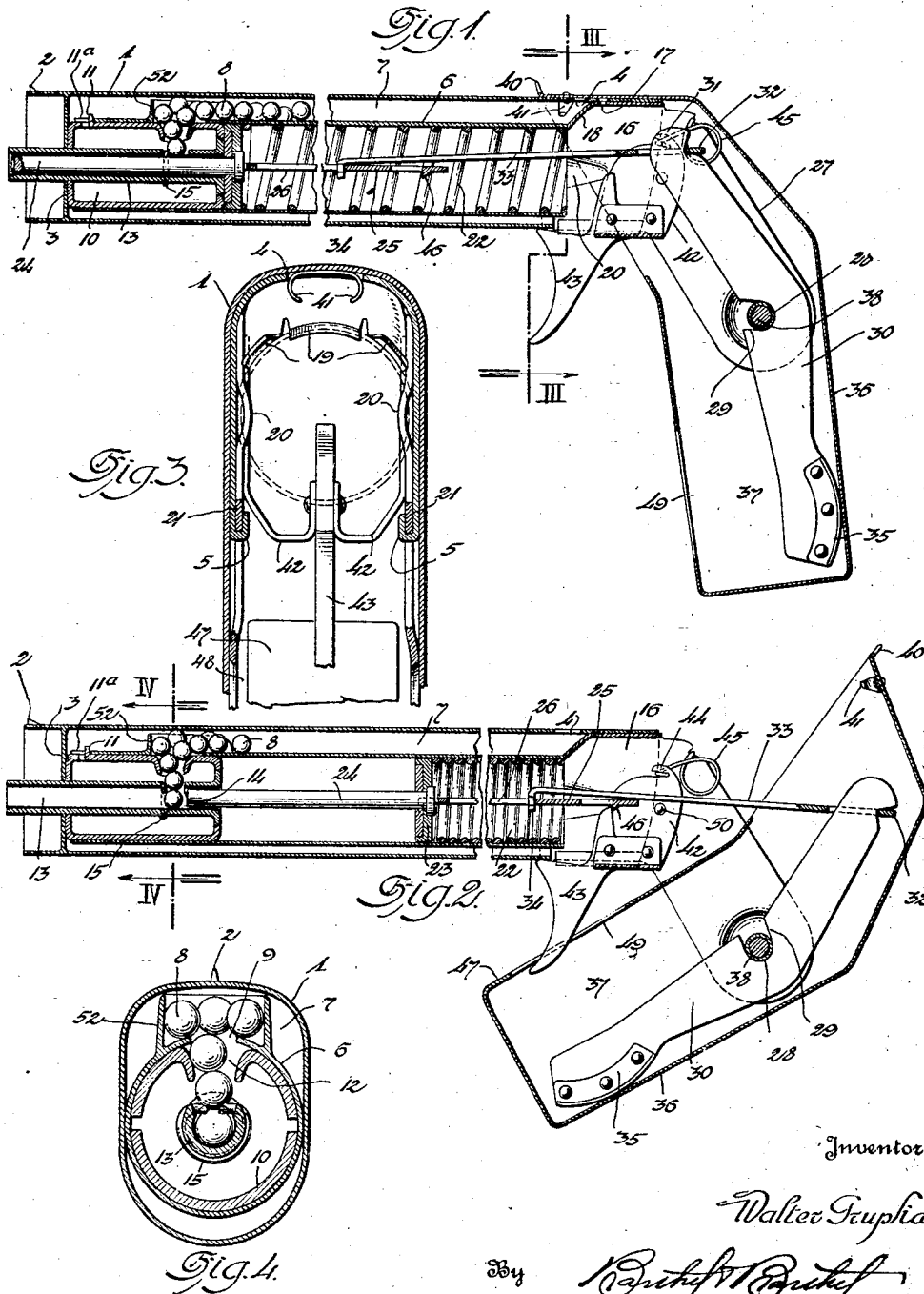
W. GRUPKA

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TOY PISTOL

Filed May 21, 1926

2 Sheets-Sheet 1



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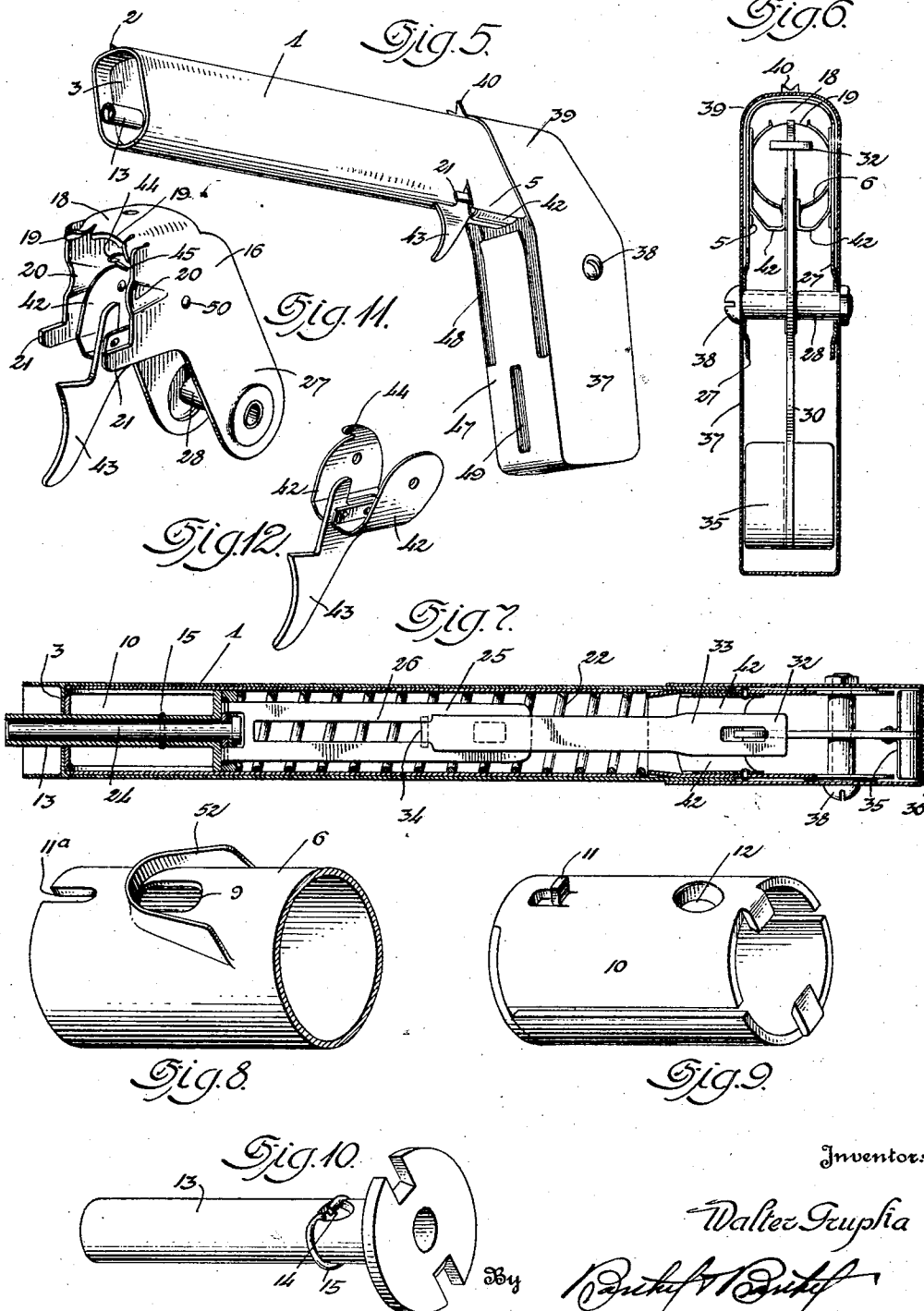
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UNITED STATES PATENT OFFICE.

WALTER GRUPKA, OF DETROIT, MICHIGAN.

TOY PISTOL.

Application filed May 21, 1926. Serial No. 110,720.

In my patent No. 1,482,007, dated Jan. 29, 1924, there is disclosed a sheet metal toy pistol or projecting device of that class adapted to hold a large quantity of pellets or projectiles, which are adapted to be automatically fed into a barrel to be projected therefrom by the expansive force of a spring placed in a retracted position by a pivoted cocking handle.

My invention aims to provide a toy pistol made from stamped or pressed sheet metal of light gauge, and on account of using thin metal various parts of the toy pistol are reinforced so as to provide a rigid and durable structure.

My invention further aims to provide a toy pistol having a pivoted cocking handle which will embrace and inclose the inner end of the pistol barrel, so that dirt and foreign matter cannot easily accumulate within the piston and interfere with mechanism therein.

My invention still further aims to provide a pistol including a novel barrel construction affording a projectile magazine, and within the pistol are compactly assembled a projecting mechanism, actuating mechanism for the projecting mechanism, and a trigger mechanism for temporarily holding the projecting mechanism in a cocked condition. The structural parts of all of these mechanisms are stampings that may be easily produced, and the pistol will now be described by aid of the drawings, wherein

Figure 1 is a longitudinal sectional view of the pistol, partly broken away and in a normal uncocked condition;

Fig. 2 is a similar view showing the pistol cocked, but the handle in a retracted position;

Fig. 3 is an enlarged cross sectional view taken on the line III—III of Fig. 1;

Fig. 4 is a similar view taken on the line IV—IV of Fig. 2;

Fig. 5 is a perspective view of the pistol;

Fig. 6 is a cross sectional view of the pivoted cocking handle of the pistol;

Fig. 7 is a horizontal sectional view of the pistol;

Fig. 8 is a perspective view of a portion of the inner barrel of the pistol;

Fig. 9 is a perspective view of a feeder forming part of the pistol;

Fig. 10 is a perspective view of a projectile receiver;

Fig. 11 is a perspective view of a bearing frame, and

Fig. 12 is a perspective view of a trigger supporting yoke.

In the drawing the reference numeral 1 denotes an outer barrel which is substantially oval in cross section and has its forward end provided with a front sight 2 and an inset apertured partition 3. The inner end of the barrel has its upper surface provided with a clip opening 4 and the lower surface of the barrel is cut away and provided with in-turned channel supports 5.

Mounted in the outer barrel 1 is a cylindrical inner barrel 6 which cooperates with the outer barrel 1 in forming a magazine 7 for projectiles 8, pellets or the like that may be gathered in a guide member 52 adjacent an opening 9 in the forward end of the inner barrel. Mounted in the forward end of the inner barrel 6 is a feeder 10 retained in the inner barrel by a struck-out lug 11 entering a slot 11^a of the barrel. The feeder 10 abuts the partition 3 and is preferably in the form of a split sleeve which may be easily fitted in the inner barrel 6. The feeder 10 has end walls supporting a tubular receiver 13 which extends through the partition 3 and out of the outer barrel, said receiver providing a discharge chamber adapted to receive projectiles, one at a time through an opening 14 in the upper wall of the receiver, said opening being in alignment with the openings 12 and 9. Encircling the receiver 13 is a projectile retaining member 15 which has its ends extending into the openings 14 as best shown in Fig. 4, to retain one of the projectiles 8 in the receiver, so that it cannot accidentally shift outward and fall from the open end of the receiver. As a matter of good construction the receiver 13 may be made separate from the feeder 10 and suitably anchored axially thereof.

Fitted in the inner end of the outer barrel 1 is a bearing frame 16 that may be attached to the barrel, as at 17. The bearing frame 16 adds a two-ply thickness to the top and side walls of the barrel 1 and said bearing frame has its upper portion depressed, as at 18 and formed with projecting flanges 19 to position the inner end of the inner barrel 6, as shown in Figs. 1, 2 and 3. The lower portion of the bearing frame 16 has instruck abutments 20 and side lugs 21 which are adapted to engage in the supports 5, as best shown in Fig. 3. The inwardly projecting side abutments 20 are en-

gaged by the inner convolution of a coiled expansion spring 22 within the inner barrel 6 and the outer convolution of said spring engages a piston 23 slidable within the inner barrel. The piston 23 is preferably composed of two parts so that a projector 24 and piston rod 25 may be connected to the piston. The projector 24 extends into the receiver 13 and may be projected into said receiver by the expansive force of the spring 22. A projectile 8 within the receiver may be struck by the outer end of the projector 24 held by the inwardly projecting ends of the retaining member 15, and discharged from the receiver 13. The piston rod 25 is longitudinally slotted, as at 26 and formed with a depending lug 46 at its inner end for engagement with a trigger as will hereinafter appear.

The bearing frame 16 has opposed angular extensions 27 connected by the sleeve 28 and pivotally mounted on said sleeve, intermediate the ends thereof, is a slotted middle portion 29 of a cocking member 30. The upper end of said cocking member is formed with a hook 31 engaging in the slotted inner end 32 of a connector 33 which has its outer end provided with a T shaped head 34 slidably holding the connector relative to the longitudinal slot 26 of the piston rod 25.

The lower end of the cocking member 30 is provided with an arcuated wide shoe 35 engageable with the back or hand engaging wall 36 of a hollow sheet metal cocking handle 37 pivotally mounted on protruding ends of the sleeve 28 and retained thereon by a nut equipped screw 38 extending through the sleeve 28. The upper end of the pivoted cocking handle 37 has a hood portion 39 adapted to enclose the inner end of the outer barrel 1, as best shown in Fig. 5. The hood portion 39 is formed with a rear sight 40 and is provided with a spring clip 41 engageable in the barrel opening 4, and when the handle is in an open position, as shown in Fig. 2, the opening 4 can be used in placing the projectiles 8 in the magazine 7.

The trigger mechanism includes a yoke 42 preferably made of two pieces with a trigger 43 mounted between the yoke pieces. This trigger is engageable with a lug 46 of the connecting rod 25, and one of the yoke pieces 42 is formed with a hook 44 engaged by a small coiled retractile spring 45 attached to one of the extensions 27 of the bearing frame 16.

The inner wall 47 of the pivoted cocking handle 37 is slotted, as at 48 in order that the extensions 27 of the bearing frame 16 can be placed within the hollow handle, and the wall 47 has another slot 49 providing clearance for the trigger 43 when the handle 37 is swung for cocking purposes.

The trigger yoke 42 is pivotally mounted in the bearing frame 16, as at 50 and the spring 45 is adapted to hold the trigger 43 against the lower wall of the outer barrel 1, yet permit of the yoke 42 swinging so that the lug 46 may ride into engagement with the trigger and be held thereby for cocking purposes.

Considering the operation of the pistol, the normal condition of the pistol is shown in Fig. 1, where the projector 24 prevents a projectile from entering the receiver 13 until the projector is retracted. Retraction of the projector 24 is accomplished by swinging the hand grip of the cocking handle 37 upward under the outer piston barrel, as shown in Fig. 2. During this movement the sheet metal handle is not subjected to distortion or excessive strains incident to placing the spring 22 under compression, because the handle is not directly attached to the connector 33 and is simply used as gripping means for actuating the rigid pivoted cocking member 30. With this member having its wide shoe 35 bearing against the wall 36 of the handle 37 and said wall pressed by the palm of the hand holding the pistol, the sheet metal handle 37 will retain its shape and be protected against excessive wear. As the handle 37 is swung the connector 33 pulls inwardly upon the piston rod 25 and causes the lug 46 to engage the trigger 43, so that the spring 22 will be held under compression with the piston 23 and the projector 24 retracted. The handle 37 can then be swung to a closed position and as this takes place the head 34 of the connector 33 rides forward in the slot 26 of the piston rod 25. With the connector 33 in such position it will not interfere with release of the piston rod 25 by the trigger 43. The expansive force of the spring 22 will push the piston 23 outward along with the projector 24, which as shown in Fig. 7, is backed up by the piston rod 25. As the outer end of the projector 24 engages the projectile 8 within the receiver 13, said projectile is forced past the ends of the retaining member 15 and discharged from the receiver 13, thus leaving the toy pistol in the condition shown in Fig. 1.

From the foregoing it will be observed that many parts of the toy pistol are made of sheet metal with some of the parts a peculiar shape which is necessary in order that all of the parts can be easily and quickly assembled. I have aimed to make a pistol dirt proof, as much as possible, and to this end the inner end of the barrel 1 has been inclosed by the hood portion 39 of the handle 37. Such a toy is often used for hammering purposes and if the barrel 1 is used as a handle the butt or inner end of the barrel is protected should it receive a blow. There are no protuberances, other than the

trigger and sights, and the latter may be dispensed with, so that the trigger, which is somewhat guarded by the barrel and handle, is the only protuberance that might catch on the clothes and tear the same. I have aimed to provide a toy pistol that can be used by children and somewhat roughly handled without being broken.

While in the drawings there is illustrated a preferred embodiment of my invention, it is to be understood that the structural elements are susceptible to such variations and modifications as fall within the scope of the appended claims.

What I claim is:

1. A toy pistol comprising a sheet metal projectile holding barrel, a sheet metal cocking handle pivotally supported from said barrel and inclosing the rear end of said barrel, a receiver in the outer end of said barrel adapted to receive a projectile from said barrel, a spring projecting mechanism stressed by a pivotal movement of said cocking handle, a trigger mechanism adapted for holding said projecting mechanism stressed preparatory to the discharge of a projectile, and a pivoted member in said handle connected to said spring projecting mechanism and movable by said handle, said member bearing on a wall of said handle adapted to be gripped.

2. In a toy pistol wherein a projectile is

adapted to be discharged from a barrel by a spring projecting mechanism adapted to be stressed and held cocked by a trigger mechanism, and wherein the barrel has a projectile receiving opening;—a pivoted cocking handle, a bearing frame supporting said handle relative to the pistol barrel, and a hood portion on said handle inclosing the inner end of said barrel and adapted to close the projectile receiving opening of said barrel.

3. A toy pistol comprising a barrel, a projector spring actuated to discharge projectiles from said barrel, a bearing frame supported from said barrel, a pivoted member supported by said frame and adapted for retracting said projector, trigger means for holding said projector in a retracted position, and a handle supported from said bearing frame and inclosing said pivoted member and the inner end of said barrel.

4. In a toy pistol wherein a projector in a barrel is adapted to be retracted and then spring actuated to discharge a projectile from the pistol, a pivoted hollow handle for retracting the projector, a hood carried by said handle and inclosing the inner end of the pistol barrel, and a cocking member in said handle and actuated thereby and adapted for retracting the projector.

In testimony whereof I affix my signature.

WALTER GRUPKA.