

Aug. 10, 1937.

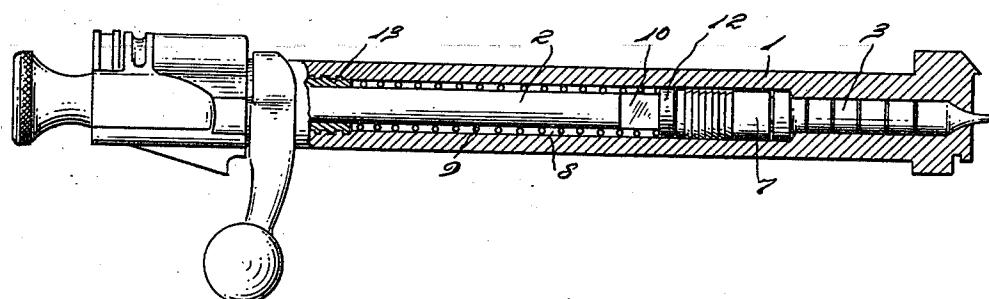
R. F. SEDGLEY

2,089,581

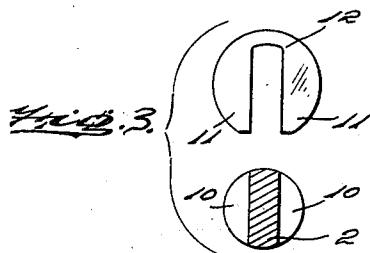
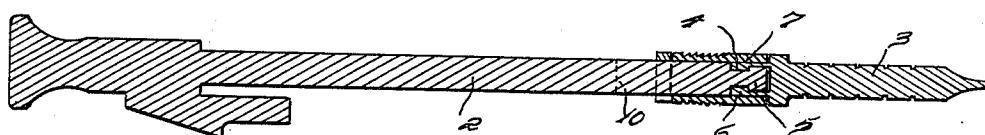
SAFETY FIRING PIN FOR GUNS

Filed Jan. 14, 1936

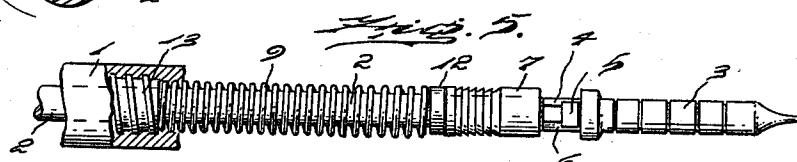
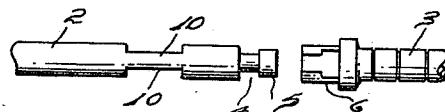
*Figs. 1.*



*Figs. 2.*



*Figs. 4.*



*Figs. 6.*



*Figs. 7.*



INVENTOR

Reginald F. Sedgley

BY

Herbert S. Fairbanks

ATTORNEY

## UNITED STATES PATENT OFFICE

2,089,581

## SAFETY FIRING PIN FOR GUNS

Reginald F. Sedgley, Philadelphia, Pa.

Application January 14, 1936, Serial No. 58,999

## 2 Claims. (Cl. 42—16)

In the manufacture of certain types of firearms, the firing pin for economy in manufacture and ease of assembly and repair is made in sections, consisting of a firing pin and a firing pin rod with the juxtaposed ends of the sections coupled together.

If, as sometimes occurs, the front end of the firing pin rod or the rear end of the firing pin breaks, there is nothing to prevent the broken 10 firing pin rod from being driven rearwardly by the pressure of the gases from a punctured primer of the shell or cartridge. The result of this is, that the gunner is injured by being struck by the broken firing pin rod being ejected from its 15 bolt.

The object of this invention is to devise a safety firing pin for a bolt action which will overcome the liability of the gunner being injured by a broken firing pin.

With the above and other objects in view as 20 will hereinafter clearly appear, my invention comprehends a novel construction and arrangement of a safety firing pin which will not, if broken, be driven rearwardly from the bolt by the gases.

Other novel features of construction and advantage will hereinafter more clearly appear in the detailed description and the appended claims.

For the purpose of illustrating the invention, I 30 have shown in the accompanying drawing a typical embodiment of it, which, in practice, will give reliable and satisfactory results. It is, however, to be understood that this embodiment is typical only and that the various instrumentalities of which my invention consists can be variously arranged and organized, and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein set forth.

Figure 1 is a side elevation partly in section 40 of a bolt action for fire arms, in conjunction with which a safety firing pin embodying my invention is employed.

Figure 2 is a sectional elevation of the firing 45 pin and certain of its adjuncts.

Figure 3 is an exploded view of a key and firing pin, the firing pin being in section.

Figure 4 is a top plan view of portions of the 50 firing pin, with the sections in detached positions.

Figure 5 is a side elevation partly in section showing the spring compressed for detaching the 55 firing pin sections.

Figure 6 is a view of the rear section showing the manner in which it breaks.

Figure 7 is a view of the front section of the

firing pin showing the manner in which it breaks.

Similar numerals of reference indicate corresponding parts.

Referring to the drawing:

1 designates a conventional bolt within which 5 is mounted a safety firing pin, embodying my invention. The firing pin consists of a rear section 2 formed by the firing pin rod and a front section 3 formed by the firing pin. The rear section at its forward end has an annular groove 10 4 forming a shoulder 5, which is received in the slotted annular sleeve 6 at the rear end of the front section 3. A coupling sleeve 7, which fits the bore 8 of the bolt 1, retains the parts in assembled position. 9 is a spring. 15

The foregoing detailed construction is conventional.

The rear section in accordance with this invention is slotted or cut away at opposite sides near its forward end portion to form slots 10 to receive 20 the legs 11 of a slotted abutment forming key 12, against which the forward end of the spring 9 bears. The key fits the bore of the bolt. This spring 9 in the conventional construction bears against the coupling sleeve 7 which abuts against 25 a shoulder on the front section of the firing pin. The spring 9 at its rear end in both cases bears against the part 13 which is in threaded engagement with the bore of the bolt.

Assuming now that the safety firing pin of my 30 present invention is assembled in the bolt and that the gunner pulls the trigger of the fire arm in the usual manner to release the firing pin, it will be apparent that if the shoulder 5 of the firing pin rod 2 or the sleeve 6 of the firing pin 35 3 should break so that the firing pin sections are not connected, the firing pin rod cannot be ejected rearwardly from the bolt because the spring 9 is bearing against the key 12 which is interlocked with the firing pin rod. The rear- 40 ward movement of the firing pin rod under such conditions is limited to the extent of compression of the spring 9. The slots in the firing pin rod are preferably longer than the width of the key. This makes it easier to assemble the front 45 section with or to remove it from the rear section since the coupling sleeve 7 can be moved rearwardly moving with it the key and compressing the spring.

The spring when the firing pin is in its forward 50 position retains the coupling sleeve 7 against the shoulder on the front firing pin section.

It will be apparent from the foregoing that in my present invention, I have devised a safety fir- 55 ing pin wherein in case of puncture of the primer,

and breakage of the firing pin rod or firing pin due to the force of the gases, the firing pin rod cannot be driven rearwardly clear of the bolt.

It will now be apparent that I have devised a new and useful safety firing pin for guns which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that this embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a fire arm, a bolt, a firing pin therein comprising a front and a rear section and having

the juxtaposed ends of the sections detachably connected, said rear section being slotted near its forward end, a key engaging the walls of the slotted portion, and a spring bearing against said key tending to move said firing pin forwardly and restricting and limiting the extent of rearward movement of the firing pin. 5

2. In a fire arm, a bolt, a firing pin rod and a firing pin insertable through the rear end of the bolt, means detachably connecting the juxtaposed ends of the firing pin rod and the firing pin, and auxiliary safety means, independent of said detachable connecting means, and removably connected with the firing pin rod to prevent the ejection of the firing pin rod through the rear 10 end of the bolt and a spring having its rear end abutting a portion of the bolt and its front end abutting said auxiliary safety means. 15

REGINALD F. SEDGLEY. 20