

(No Model.)

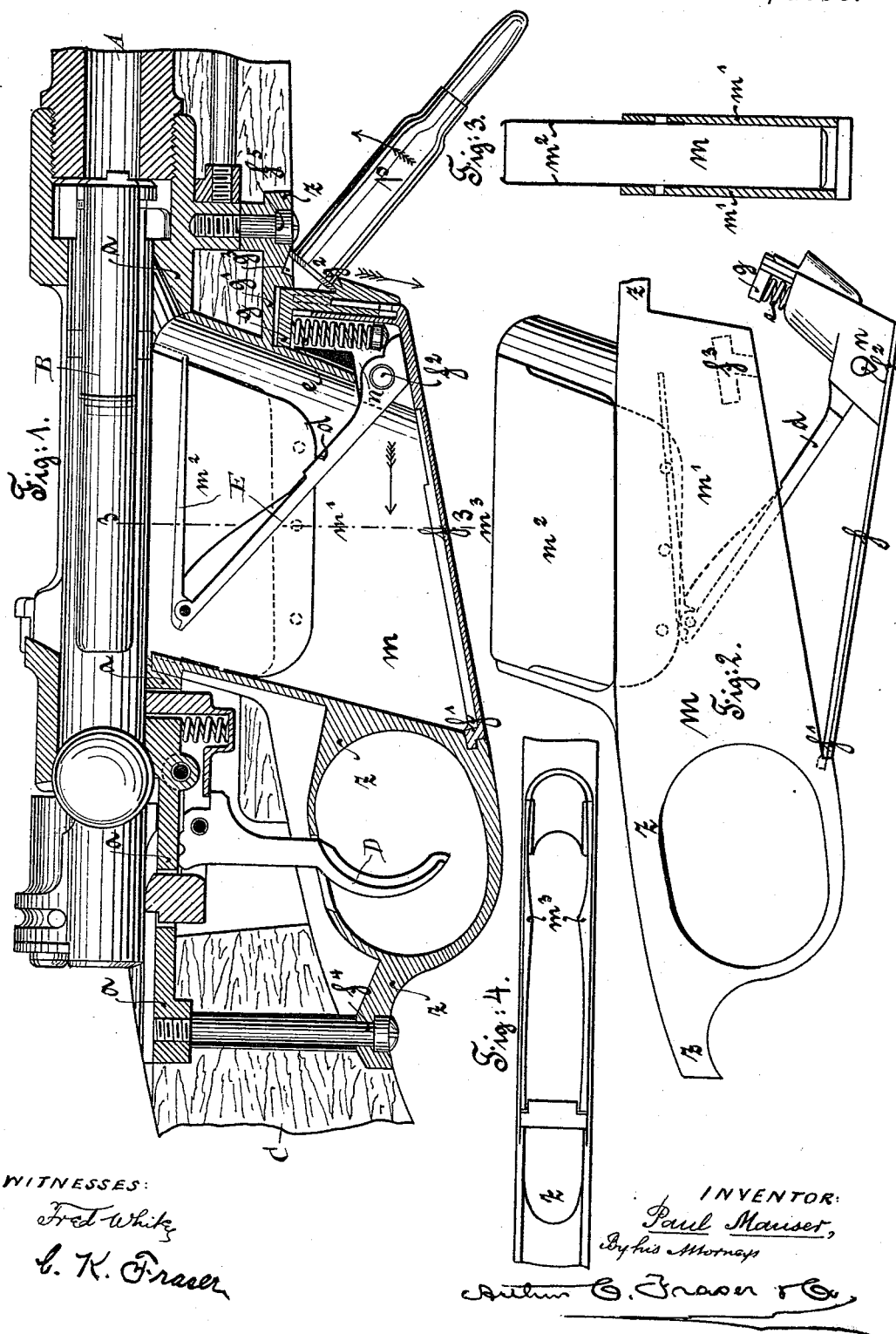
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P. MAUSER.

FIXED MAGAZINE FOR BREECH LOADING BOLT GUNS.

No. 490,029.

Patented Jan. 17, 1893.



WITNESSES:

Fred White

L. K. Fraser

INVENTOR:

Paul Mauser,

By his Attorney

Arthur C. Fraser & Co.

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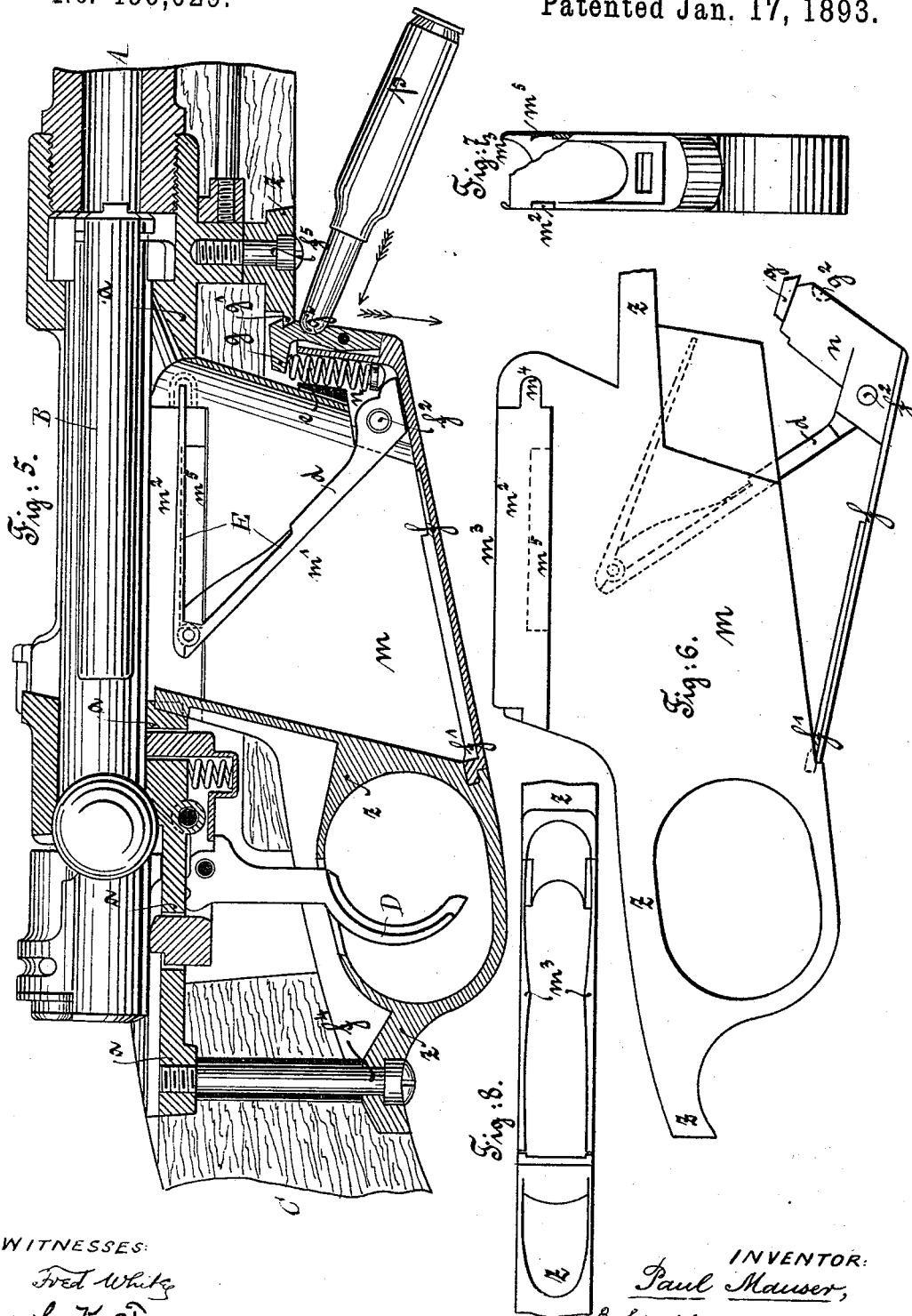
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UNITED STATES PATENT OFFICE.

PAUL MAUSER, OF OBERNDORF, GERMANY, ASSIGNOR TO THE WAFFEN-FABRIK MAUSER, OF SAME PLACE.

FIXED MAGAZINE FOR BREECH-LOADING BOLT-GUNS.

SPECIFICATION forming part of Letters Patent No. 490,029, dated January 17, 1893.

Application filed July 20, 1892. Serial No. 440,589. (No model.)

To all whom it may concern:

Be it known that I, PAUL MAUSER, a subject of the King of Württemberg and Emperor of Germany, residing at Oberndorf am Neckar, Kingdom of Württemberg, German Empire, have invented certain new and useful Improvements in Fixed Magazines for Breech-Loading Bolt-Guns, of which the following is a specification.

This invention relates to breech-loading bolt-guns on which is mounted a cartridge magazine under the cartridge-rest of the breech-case, and its object is to simplify the construction of the magazine, to make it more stable and compact, and to thereby increase the durability of the gun itself.

To this end according to my invention I provide certain structural features of improvement which will be hereinafter fully set forth.

The present invention is applicable to various styles of breech-loading guns having movable bolts, but I will illustrate and describe it as applied to that particular type of gun known as the "Mauser magazine gun."

In the accompanying drawings, which illustrate my invention in its preferred form as applied to a Mauser magazine gun, Figure 1 is a fragmentary vertical axial section of the breech-case, magazine and trigger guard of a gun provided with my improvement, the bolt being shown in elevation and in the firing position; Fig. 2 is a side elevation of the magazine detached, its bottom being represented as open; Fig. 3 is a vertical cross-section of the magazine, cut on the line 3—3 in Fig. 1 and looking in the direction of the arrow; Fig. 4 is a fragmentary plan view of the magazine. Figs. 1 to 4 just described illustrate a gun adapted for cartridges having a projecting flange at bottom. For a gun intended for cartridges with an annular groove at bottom instead of a projecting flange or rim, the general features of construction remain unchanged, but some particular points must be altered. These alterations are represented in Figs. 5 to 8, in which:—Fig. 5 is a fragmentary vertical axial section corresponding to Fig. 1, of a gun adapted for use with cartridges having an annular groove at bottom; Fig. 6 is a side view of the magazine thereof, removed

and with its bottom shown open; Fig. 7 is a rear elevation of this magazine, partly in vertical section, and Fig. 8 is a fragmentary plan view of the magazine.

Referring to the drawings let *m* indicate the magazine of a gun, *z* the trigger guard, *a* the breech-case, *A* the barrel, *B* the bolt, *C* the stock, and *D* the trigger.

As shown, the general features of the breech-case *a*, bolt *B*, and trigger *D* are of well known construction and operation. The bolt shown has the usual oscillatory and longitudinal movement over the magazine for receiving cartridges therefrom and placing them in the barrel *A*.

I will now describe the preferred adaptation of my invention, referring to all the drawings, in which like letters indicate like parts.

The main feature of the invention consists in the employment under the cartridge-rest of a magazine *m*, which is permanently fixed to the gun and is made in one piece with the trigger-guard *z*, and is adapted to be filled with cartridges through its top opening. The trigger-guard *z*, and therefore as said the magazine *m*, is permanently fixed to the breech-case *a* by two screws, one lettered *f*⁵ at the forward end, and one, *f*⁴, at the rearward end of the trigger-guard *z*. The magazine *m* is milled out of the solid material of the trigger-guard to correspond to the size of the cartridges used; in the construction shown in Figs. 1 to 4 for cartridges with projecting rim at base, and in that shown in Figs. 5 to 8 for those with an annular groove at base. The forward and rearward top portions of the magazine *m* fits snugly into the opening in the under side of the breech-case *a*, while its elastic side cheeks, which will be hereinafter particularly described, have some play in this opening to permit yielding when the cartridges are fed into the magazine. The side walls *m'* of the magazine are made as thin as consistent with the proper strength. Between these walls the cartridge lifter *E* works. This consists of two levers joined together, a spring between them, and a spring *e* pressing upon the short arm of the main lever *d* for lifting it. The magazine is closed at bottom by a lid *f*, which may be removed for purposes of cleaning or repairing, and which

bears in a housing n the pin f^2 around which the lever d swings, and also the spiral spring e , acting in the construction shown in Figs. 1 to 4 with its lower end upon the short arm of the lever d and with its upper end against the lower oblique face of a latch g , guided by suitable ways in the housing n . The head of the latch catches into an indentation g' , milled out of the forward end of the trigger-guard, when the lid f is in the closed position. The rear end of the lid has a catch or projection which engages in a recess f' in the trigger-guard. To secure the lid absolutely in its closed position the fulcrum pin f^2 projects externally at both sides of the housing n slightly, say about one millimeter, and rests with these projections in recesses f^3 , see Fig. 2, milled parallel to the lower edge of the magazine in the inner side walls thereof. A vertical cross groove, extending from the lower edge of the magazine to these recesses f^3 , permits the ends of the pin f^2 to enter the grooves f^3 and also to leave them when the lid is opened.

When the lid is to be put on and locked, it is brought into the position shown in Fig. 2, with its tail projection in the indentation f' . Its front end is then raised until the pin f^2 passes through the cross-grooves to the recesses f^3 , when a push upon the housing n partly from below and partly from in front will shift the lid and the pin f^2 rearwardly, whereupon the pin ends will move back along the indentations to the rear of the cross-grooves, and this push will also cause the latch g to catch into the indentation g' , whereupon the lid will be securely locked in the closed position.

For opening the lid, a cartridge, as p , Fig. 1, will be placed with its projecting rim between a hook shaped nose g^2 on the latch g and a groove or recess g^3 milled in the front lower side of the trigger-guard, as shown in Fig. 1, whereupon, as the cartridge is raised at its front end in the direction indicated by the curved arrow, its base will serve as a lever to force the latch g at first downward as indicated by the straight arrow, and then forward after it is free from its indentation g' , so that the pin f^2 moves through the indentations f^3 to the cross-grooves, through which the pin passes until it is free as the lid is swung around outwardly into the position shown in Fig. 2. The lid may now be entirely detached from the magazine, carrying the lifter and catch with it:

The upper portion of the side walls m' is cut away and replaced by cheeks m^2 or elastic steel sheets, which are riveted to the walls, and the upper edges of which are bent inward forming lips m^3 . These lips m^3 may be variously shaped according to the shape of the cartridges to be used in the magazine and the best disposition to retain them in the magazine and release them therefrom as they are to be shoved into the barrel. In Fig. 4 the middle portion of the lips m^3 projects the most, but the lips may be parallel or shaped

in any other suitable manner. In general the spring cheeks should allow the cartridges to be pushed or pressed from above into the magazine, either singly or from a cartridge holder of any well known construction, such for example as that illustrated in my United States Letters Patent No. 402,605, dated May 7, 1889, in which cartridge holders a U-shaped metallic holder open at ends engages a plurality of cartridges at their bases and is adapted to be placed over the cartridge-rest and to discharge the cartridges into the magazine when sufficient pressure is exerted on the uppermost cartridge to force those in the holder therefrom and into the magazine. The cartridges are then retained in place by the lips m^3 until the uppermost one is engaged by the advancing edge of the bolt and shoved from the magazine into the barrel of the gun. The forward and rearward top portions of the magazine are provided with recesses to permit a free outward motion of the spring cheeks m^2 , as required in operation, but are constructed to prevent too great an outward strain of the cheeks.

I will now describe the adaptation of my invention to guns designed for use with cartridges having an annular groove at base, referring to Figs. 5 to 8. For such, the locking device for the lid must be somewhat altered, as otherwise it would be difficult to unlock the lid because of the difference between the construction of the cartridge having the groove at base and that having the projecting rim at base. In the construction shown in these figures, the spring e works with its upper end against the oblique face of the hook-shaped latch g , which in this instance is fulcrumed on and swings around a cross pin carried in the housing n near the lower portion of the latch g . The latter catches in a milled indentation g' in the forward portion of the trigger-guard, and thereby locks the lid f in the closed position. To open the lid the projectile end of a cartridge, as that lettered p in Fig. 5, is inserted into a shallow indentation g^2 in the front face of the latch g and pushed in the direction of the oblique arrow in Fig. 5 until the latch is free from its indentation g' . A further downward push in the direction of the straight arrow in this figure brings the parts in the position shown in Fig. 6. In this construction the pin f^2 for the raiser E does not protrude beyond the sides of the housing n but is flush with these sides, so that it and they fit closely between the smooth sides m' of the magazine m , as the lid f is secured sufficiently by the joint at f' and the latch g catching in the recess at g' . The spring cheeks m^2 may be the same as those shown in Figs. 1 to 4, or they may be constructed as those shown in Figs. 5 to 8, wherein they are much smaller and not riveted to the side walls m' , but are pushed in at their front end m^4 into recesses in the front walls of the magazine, while at their rear ends, they are guided by recesses in the rear

walls of the magazine. The spring cheeks m^2 have lips m^3 , as already described, are furnished in a suitable place with inwardly projecting ribs m^5 , parallel to their lower edges, which serve as guides for the base portions of the cartridges for preventing them from rising with their projectiles too much when pushed forward to enter the barrel.

It will be understood that I do not limit myself to the particular construction and arrangement of the various details hereinbefore set forth, as my invention can be availed of in such modified forms as experience, or the judgment of those skilled in the art may dictate, without departing from its essential features, and any well known mechanical equivalent of the specific details set forth can be employed.

What I claim is, the following defined novel features and combinations, substantially as hereinbefore set forth, namely:

1. In a cartridge magazine m , the cartridge raiser E , the bottom plate f , a latch for locking said plate in position, and a spring e , acting against said cartridge-lifter to operate it and against said latch to operate it.
2. In a cartridge magazine for breech loading bolt guns the magazine m having forwardly sliding bottom consisting of a lid f carrying a projection f' for locking it to the magazine at its rear end, in combination with a spring catch g carried at the forward end of said lid and constructed to lock it to said magazine, said catch constructed with a recess g^2 adapted to receive the end of a cartridge, and constructed when a cartridge is pressed in said recess to free itself and permit the forward movement of said lid.
3. In a cartridge magazine for breech load-

ing bolt guns, the magazine m constructed with a recess at back, and with a locking recess g' at front, and a cartridge recess g^3 in advance thereof, in combination with a movable bottom lid f having a projection at back engaging said recess at back of said magazine, and a catch g carried by said lid at front constructed to engage said recess g' and thereby to lock said lid in position, and having a cartridge recess g^2 adjacent to said recess g^3 in said magazine, and constructed when a cartridge is interposed between said cartridge recess g^2 and said recess g^3 of the magazine to be thereby unlocked.

4. In a cartridge magazine, the magazine m , in combination with a movable lid f having forward end n , the cartridge lifter E carried by said lid, the catch g carried by said lid and engaging the magazine for locking the lid in position, and the spring e carried by the forward end of said lid and acting against said catch.

5. In a cartridge magazine, the magazine m constructed with grooves f^3 on its opposite inner walls, in combination with the movable bottom consisting of a lid f having projection f' at rear for locking it to the magazine, constructed with pins f^2 at front for engagement with said grooves f^3 of the magazine, and a catch g for locking said lid to said magazine.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

PAUL MAUSER.

Witnesses:

THEODOR SCHMID,
EUGEN SCHMÖGER.