

[54] **GRIPS FOR HANDGUNS**
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 [58] **Field of Search** **42/71 P, 71 R, 7; 89/194-197; D22/1, 3, 6, 7; 124/11 R, 15, 31, 37**

301]
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Attorney—Harvey W. Mortimer et al.

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[57] **ABSTRACT**
 Improved grips for handguns including transparent grip plates to permit viewing of the remaining ammunition in a magazine-fed automatic pistol, a magazine grip extension angled backward from the main grip line and of reduced thickness to provide an efficient grip for the little finger, and a forefinger pocket formed on the front of the trigger guard to provide a secure grip for the forefinger of the free (left) hand thus improving control of recoil when a two-handed hold is used by the shooter for fast firing.

4 Claims, 4 Drawing Figures

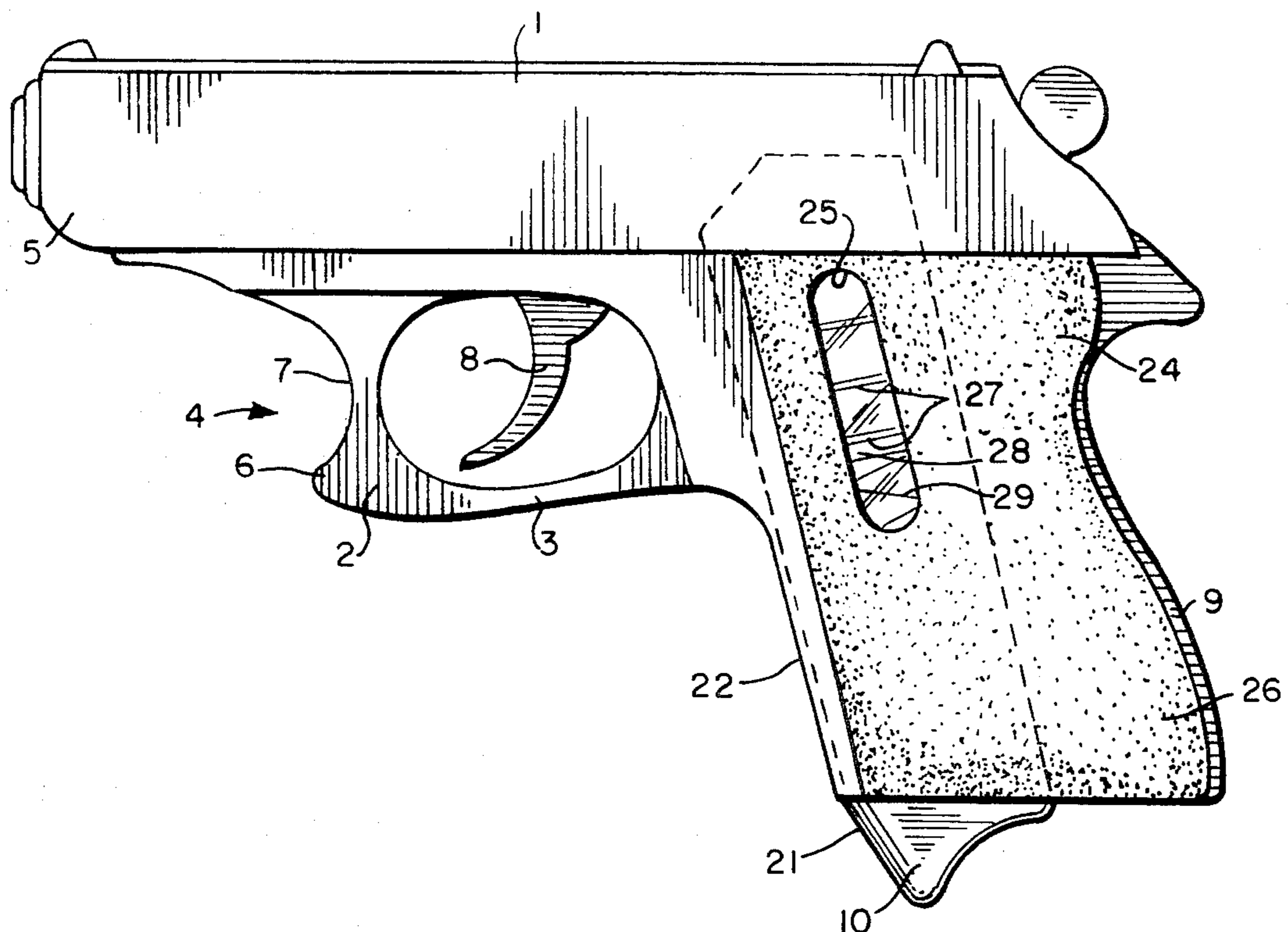


FIG. 1

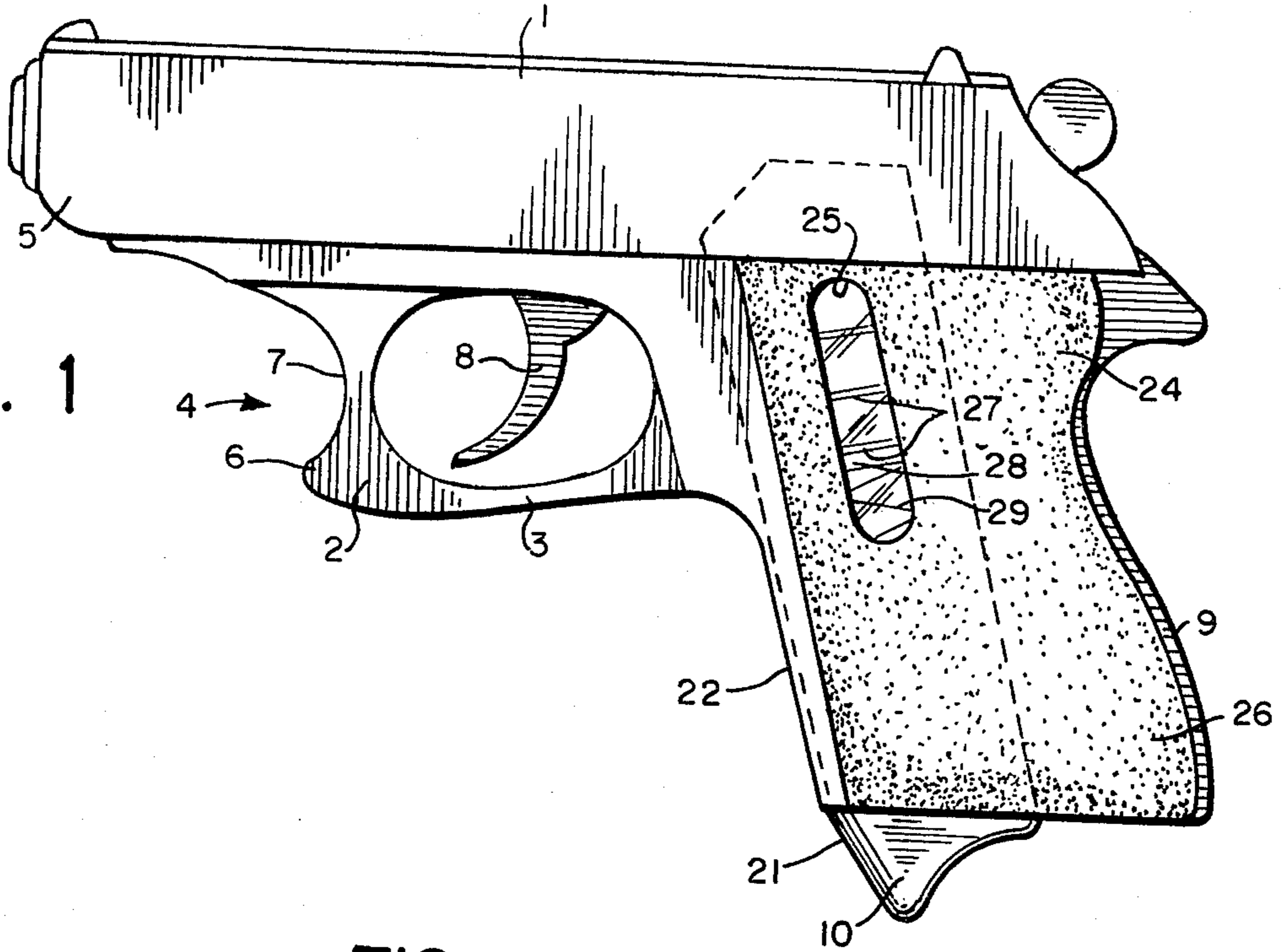


FIG. 2

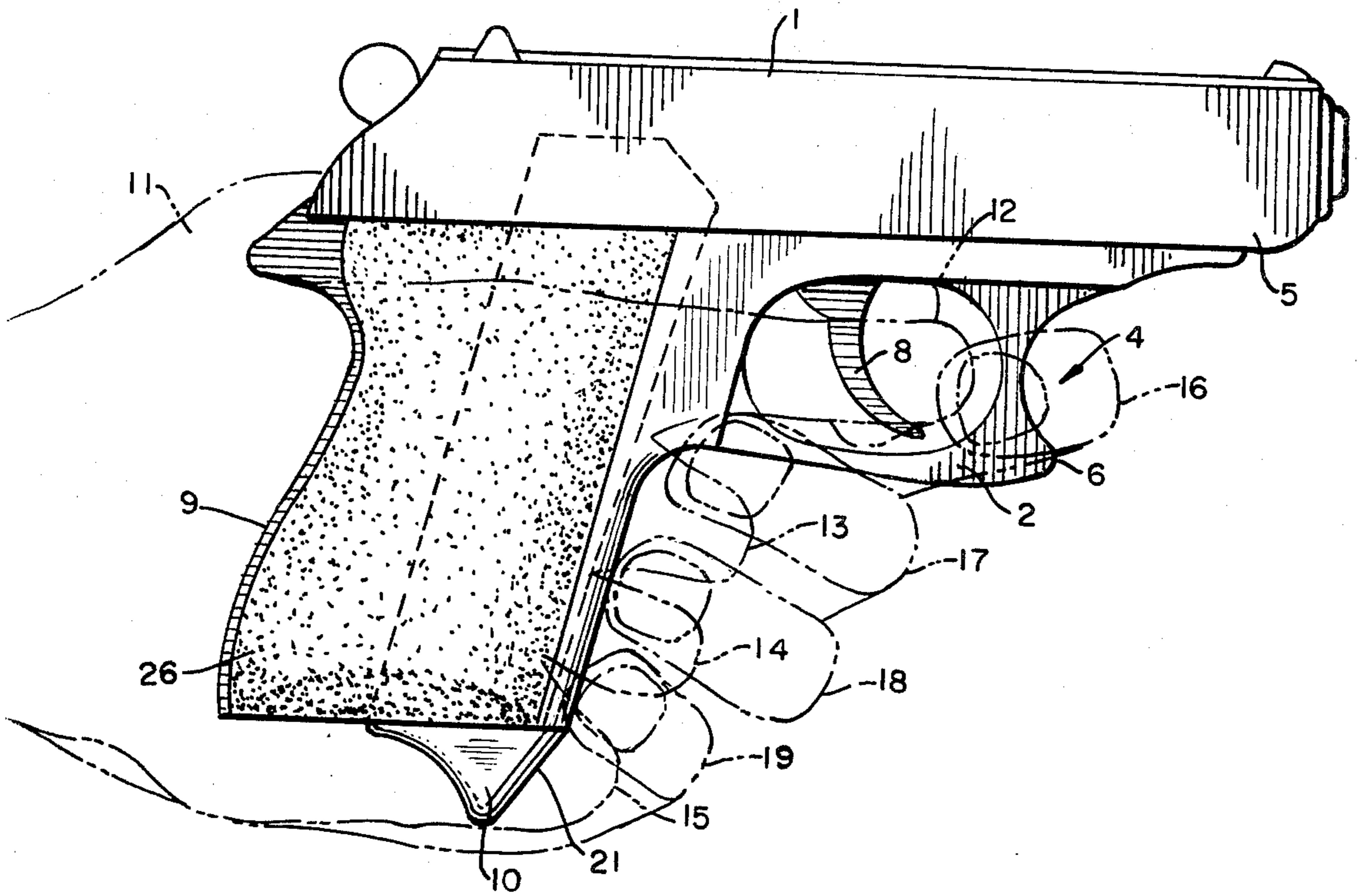


FIG. 3

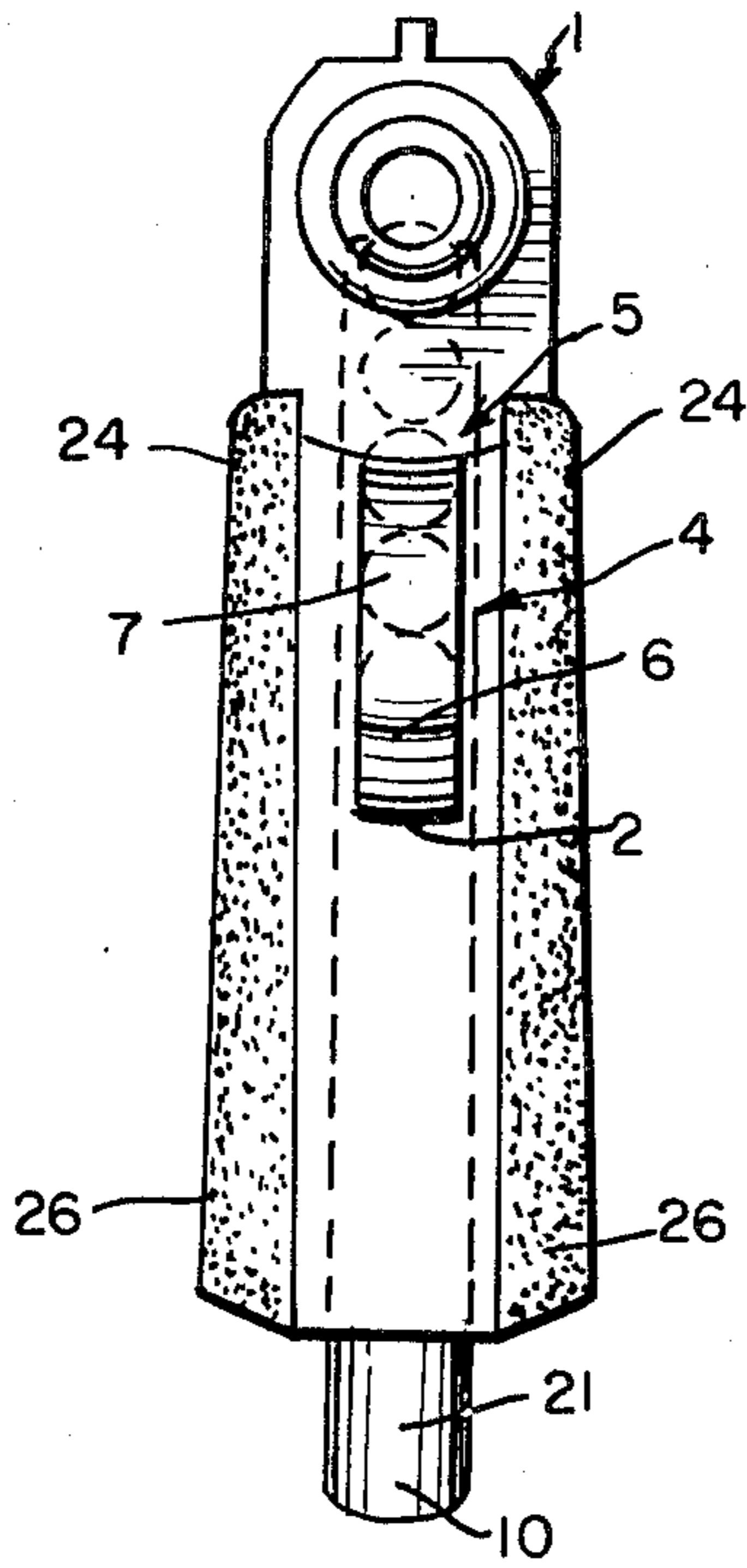
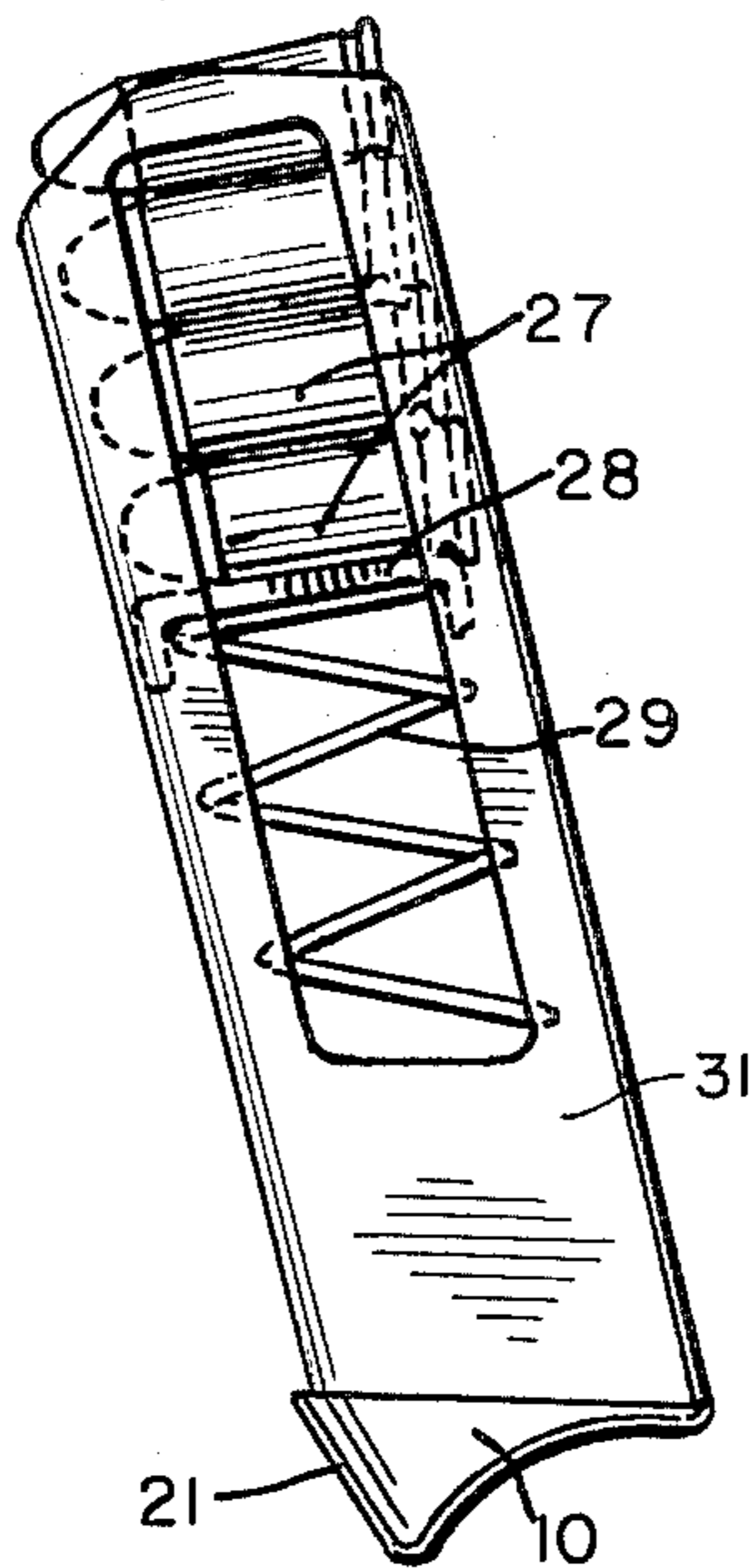


FIG. 4



GRIPS FOR HANDGUNS

The present invention relates to improved grips for handguns, particularly high-powered combat handguns of the type used in military and police work and the like.

One problem of conventional handguns, particularly high-powered semi-automatic pistols, is that they do not provide an efficient, natural grip for the little finger of the shooter's hand. For example, the butt of a semi-automatic pistol is typically rather thick and its front contour is typically a straight line. While this shape provides a good grip for the third and fourth fingers of the shooter's hand, it causes the little finger to be somewhat extended thus preventing it from contributing most efficiently to the holding of the pistol. This problem is often aggravated in automatic pistols which employ magazine grip extensions to provide a grip for the little finger. Such magazine extensions typically curve forward, thus further extending the little finger and disabling it from making its full potential contribution to the steady holding of the handgun and control of recoil.

It is therefore an object of this invention to provide an improved grip for handguns.

More particularly, it is an object of this invention to provide a magazine grip extension for semi-automatic pistols which enables the shooter's little finger to obtain an efficient, natural grip.

Another problem of conventional high-powered handguns is that they are designed primarily for one-hand operation. While a one-handed hold is entirely adequate for target shooting which involves only a single stationary target and allows the shooter plenty of time to align his handgun on the target even in "rapid" fire events, it is becoming generally recognized that the two-handed hold offers substantial advantages for combat shooting. In combat situations, the shooter may be confronted with two or more elusive moving targets. Hence, there is a need for quickly aligning the handgun with the target and holding it on target during fast firing despite the typically heavy recoil of high-powered combat handguns.

Because of these requirements of combat handgun shooting, it has been found that improved performance can be obtained by using a two-handed hold on the handgun. This is normally accomplished by the shooter placing his left (free) hand so that his left forefinger curls around the front of the trigger guard and the remaining fingers of his left hand overlie the fingers of his right hand which grips the handgun itself. However, conventional handguns are designed primarily for a one-handed hold and do not particularly lend themselves to an efficient two-handed hold.

It is therefore an object of this invention to provide an improved handgun which enables an efficient two-handed grip.

Another problem of conventional handguns, particularly automatic pistols, is that it is normally impossible for the shooter to ascertain how many rounds remain in the magazine without removing the magazine from the pistol. This is a substantial disadvantage in combat situations in which the shooter may not remember how many rounds he has expended and may jeopardize his combat readiness if he removes the magazine to look.

It is therefore an object of this invention to provide an improved automatic pistol which enables the user to immediately ascertain the number of rounds remaining

in the magazine without removing the magazine from the pistol.

According to the above and other objects, the present invention provides an improved handgun including a magazine grip extension that is angled back from the front contour of the butt and is of reduced thickness to provide an efficient, natural grip for the shooter's little finger, a forefinger pocket formed on the front of the trigger guard to provide a secure grip for the shooter's left (free hand) forefinger when a two-handed hold is employed, and transparent or translucent grip plates in combination with a magazine having cut-away sides in order to enable the shooter to immediately ascertain, by viewing, the number of rounds remaining in the magazine.

Other objects and advantages of the present invention will be apparent from the following detailed description and accompanying drawings which set forth, by way of example, the principles of the present invention and the best mode contemplated of carrying out those principles.

In the drawings:

FIG. 1 is a side elevation of a handgun incorporating the novel features of the present invention.

FIG. 2 is a side elevation of a handgun incorporating the novel features of the present invention and showing the position of the fingers in a two-handed hold.

FIG. 3 is a front elevation showing the magazine grip extension and a portion of the butt of the handgun.

FIG. 4 is a side elevation of the magazine showing the cut-away sides and grip extension.

Referring in detail to FIG. 1 of the drawings there is shown a handgun 1 incorporating the novel features of the present invention. A projection 2 is securely attached to the lower front portion of trigger guard 3 so as to form a pocket 4 for the forefinger of the left (free) hand of the shooter. The contours of the forefinger pocket 4 preferably conform approximately to the shape of the average forefinger so as to provide a comfortable hold.

In the case of originally manufactured handguns incorporating this feature, projection 2 and trigger guard 3 are preferably of one-piece integral construction. However, in the case of handguns which are modified to incorporate this feature, projection 2 is preferably made of the same metal as trigger guard 3 and securely welded in place, contoured, smoothed and refinished. It will be appreciated, however, that projection 2 may be made of other material such as, for example, plastic and may be secured in position by any appropriate means such as, for example, adhesive cement, screws, rivets or the like.

Projection 2 must be of sufficient size and must be so shaped as to provide a secure grip for the forefinger of the left (free) hand when a two-handed hold is used to steady the handgun and control recoil. More particularly, projection 2 must extend forward a sufficient amount to at least partially capture the underside of the left forefinger and thus prevent the left forefinger from slipping downward out of pocket 4 as a result of the upward recoil of the muzzle portion 5 when handgun 1 is fired. Advantageous results are obtained if the forwardmost point 6 of projection 2 is at least one-tenth of an inch in front of the rearwardmost point 7 of forefinger pocket 4. Better results are obtained if the forwardmost point 6 is at least one-eighth inch in front of the rearwardmost point 7. It will be appreciated, however, that

the forwardmost point 6 may be up to one-fourth inch or more in front of rearwardmost point 7 within the spirit and scope of the present invention.

FIG. 2 is a side elevation of handgun 1 showing the positions of the fingers in a two-handed grip. The right hand 11 grasps the pistol 1 with the forefinger 12 of the right hand on the trigger 8. The third finger 13 and fourth finger 14 grasp the butt 9 of pistol 1. The little finger 15 grasps the magazine grip extension 10 as will be explained in greater detail hereinafter. The forefinger 16 of the left hand lies in forefinger pocket 4 and hooks over projection 2 thus providing good control of recoil action. The remaining fingers 17, 18 and 19 of the left hand preferably overlie the junctions between the fingers 13, 14 and 15 of the right hand. Both thumbs lie along the opposite (left) side of the pistol 1 and are thus not shown.

Although subject forefinger pocket has been illustrated by reference to an automatic pistol 1 shown in FIGS. 1 and 2, it will be appreciated by those skilled in the art that the subject forefinger pocket is equally applicable to other types of handguns such as, for example, revolvers.

Referring again to FIG. 1 of the drawings, a magazine grip extension 10 is provided to afford a natural, comfortable and efficient grip for the shooter's little finger. The front surface contour of grip extension 10 is angled backward from the front surface contour 22 of the butt 9 of pistol 1. In addition, the grip extension 10 is of reduced thickness as compared with the main portion of butt 9 as shown more clearly in FIG. 3.

The shape and size of magazine grip extension 10 enables the shooter's little finger to get a secure grip in which the second joint of the little finger is crooked around the grip extension 10. This is compared with the relatively weaker grip that is obtained by the first joint of the little finger in the case where the straight front contour 22 and full thickness of butt 9 extend down to the gripping area of the little finger. A particular advantage of providing a natural, efficient grip for the little finger is that the little finger, by reason of its position at the end of butt 9, possesses great leverage for the purpose of counteracting the recoil forces which tend to move the muzzle 5 upward when pistol 1 is fired. Thus, the little finger is able to make a substantial contribution to controlling recoil in spite of its relative weakness as compared with the other fingers.

It has been found that advantageous results are obtained when the front surface contour 21 of grip extension 10 is angled backward from the front surface contour 22 at an angle of from 10° to 30°. If the front surface contour 21 is angled backward less than about 10°, the grip of the little finger tends to become less efficient because it is excessively extended. If the front surface contour 21 is angled backward more than about 30° the grip of the little finger becomes less secure because of the tendency to slip.

Advantageous results are obtained if the thickness of grip extension 10 is in the range from about seven-sixteenths inch to about nine-sixteenths inch. If the thickness of grip extension 10 is too great, the grip of the little finger tends to be weakened by being extended. On the other hand, if the thickness of grip extension 10 is too small, there is a loss of comfort because of the greater concentration of gripping pressure on a small area of the little finger.

Referring again to FIG. 1 of the drawings, pistol 1 is provided with grip plates 24 made of transparent material, such as, for example, plexiglass, in order to enable the user to readily ascertain, by viewing, the number of rounds remaining in the magazine. In the preferred form of the present invention, only a relatively narrow elongated portion 25 of grip plate 24 is allowed to remain transparent. The remaining areas 26 of grip plate 24 are processed, by sandblasting, for example, to render them translucent or opaque. The cartridges 27, cartridge follower 28 and spring 29 of the magazine can readily be viewed through transparent area 25, while translucent or opaque areas 26 conceal the frame members and mechanisms contained within butt 9 of pistol 1. It will be appreciated, however, that grip plates 24 may be allowed to remain completely transparent if desired.

The transparent grip plates 24 of the present invention are preferably used in conjunction with a magazine 30 having cut-away sides 31 as shown in FIG. 2 in order to more readily permit viewing of the cartridges 27, cartridge follower 28 and spring 29. However, it will be appreciated that the present invention also contemplates that the transparent grip plates 24 may be used in conjunction with a magazine having only small holes in its sides to permit the user to ascertain the number of rounds remaining therein. It will also be appreciated that the transparent grip plates 24 may be used in connection with firearms other than semiautomatic pistols. For example, the transparent grip plates 24 might be used in conjunction with certain types of magazine-fed sub-machineguns in which the magazine is inserted into operative position through a handgrip.

It will be appreciated that while the principles of the present invention have been illustrated by reference to a preferred embodiment, certain modifications and adaptations can be made without departing from the spirit and scope of the invention as set forth with particularity in the appended claims.

What is claimed is:

1. In a semi-automatic pistol having a trigger guard, a butt and an ammunition magazine releasably retained within said butt, grips comprising:

a grip extension extending from said ammunition magazine, the front contour of said grip extension being angled backward from the front contour of said butt of said pistol at an angle in the range from 10° to 30°, the thickness of said grip extension being in the range from seven-sixteenths to nine-sixteenths of an inch to provide a firm grip for the little finger of a shooter;

transparent grip plates mounted on said butt of said pistol to permit viewing of the contents of said ammunition magazine of said pistol; and

a projection extending forward from the lower front portion of the trigger guard of said pistol so as to form a pocket for the forefinger of the free hand of the shooter, the forwardmost point of said projection being at least one-tenth inch in front of the rearwardmost point of said pocket so as to at least partially capture the underside of said forefinger and thereby enable said forefinger to control the upward recoil action caused by firing said handgun.

2. In a semi-automatic pistol having a butt and an ammunition magazine releasably retained within said butt, a grip extension extending from said ammunition magazine, the front contour of said grip extension being an-

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gled backward at an angle in the range from 10° to 30° from the front contour of the butt of said pistol, the thickness of said grip extension being in the range from seven-sixteenths to nine-sixteenths of an inch to provide a firm grip for the little finger of a shooter.

3. In a firearm of the type in which an ammunition magazine is releasably retained in operative position within a handgrip of said firearm, the combination of a magazine having cut-away sides in order to expose its contents to view, and grip plates made of a transparent material and mounted on said handgrip of said firearm to permit viewing of the contents of said magazine.

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4. In a handgun having a trigger guard, a projection extending forward from the lower front portion of said trigger guard so as to form a pocket on the front portion of said trigger guard for accommodating the forefinger of the free hand of the shooter, the forwardmost point of said projection being at least one-tenth inch in front of the rearwardmost point of said pocket so as to at least partially capture the underside of said forefinger and thereby enable said forefinger to control the upward recoil action caused by firing said handgun.

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REEXAMINATION CERTIFICATE (940th)

United States Patent [19]

Theodore

[11] B1 3,758,978

[45] Certificate Issued Nov. 8, 1988

[54] GRIPS FOR HANDGUNS

[75] Inventor: Paris Theodore, New York, N.Y.

[73] Assignee: W. Simon Katz, Buffalo, N.Y.

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[52] U.S. Cl. 42/71.02; 42/7

[58] Field of Search 42/7, 71.02

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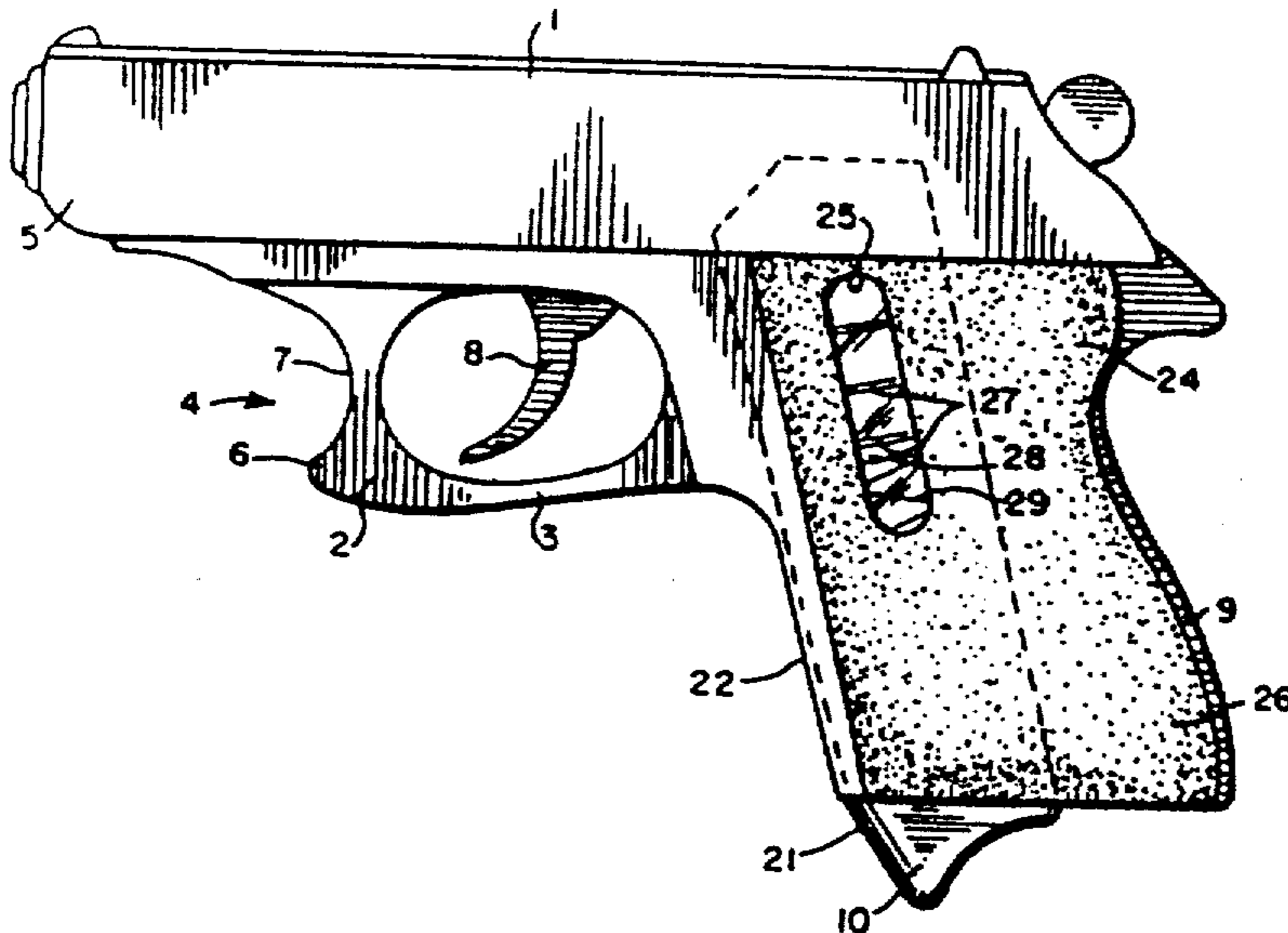
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Primary Examiner—Deborah L. Kyle

[57] — ABSTRACT

Improved grips for handguns including transparent grip plates to permit viewing of the remaining ammunition in a magazine-fed automatic pistol, a magazine grip extension angled backward from the main grip line and of reduced thickness to provide an efficient grip for the little finger, and a forefinger pocket formed on the front of the trigger guard to provide a secure grip for the forefinger of the free (left) hand thus improving control of recoil when a two-handed hold is used by the shooter for fast firing.



REEXAMINATION CERTIFICATE
ISSUED UNDER 35 U.S.C. 307

THE PATENT IS HEREBY AMENDED AS
INDICATED BELOW.

Matter enclosed in heavy brackets [] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.

AS A RESULT OF REEXAMINATION, IT HAS
BEEN DETERMINED THAT:

The patentability of claims 1-4 is confirmed.

New claims 5-7 are added and determined to be patentable.

5. *A handgun according to claim 4, in which the handgun is a high-powered semi-automatic pistol.*

6. *A handgun according to claim 5 wherein said forwardmost point is at least one-eighth inch in front of said rearwardmost point.*

7. *A handgun according to claim 6 wherein said forwardmost point is substantially one-quarter inch in front of said rearwardmost point.*

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