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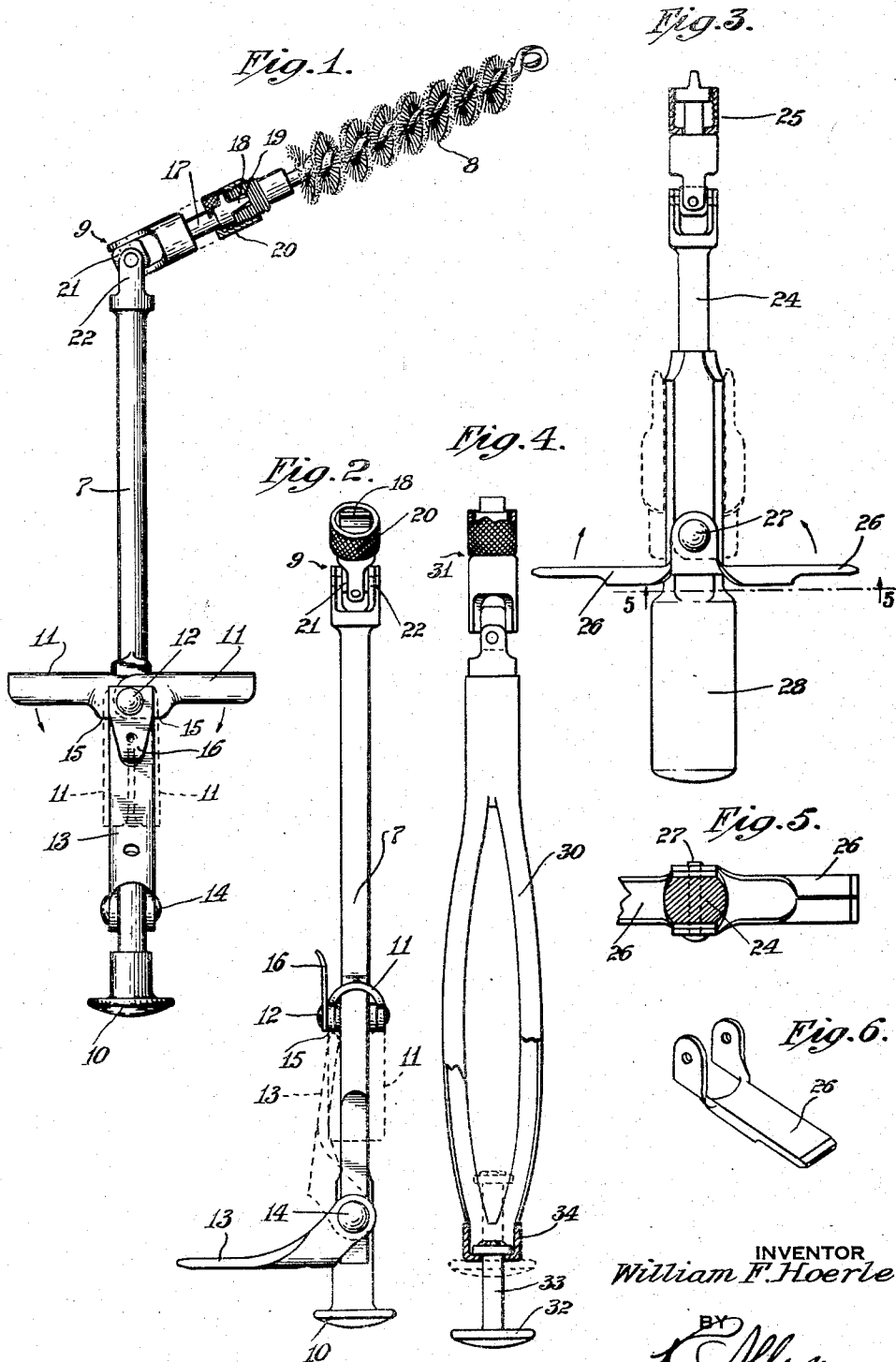
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2,379,962

CLEANING TOOL

Filed Dec. 10, 1941

2 Sheets-Sheet 1



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*Fig. 7.*



*Fig. 8.*

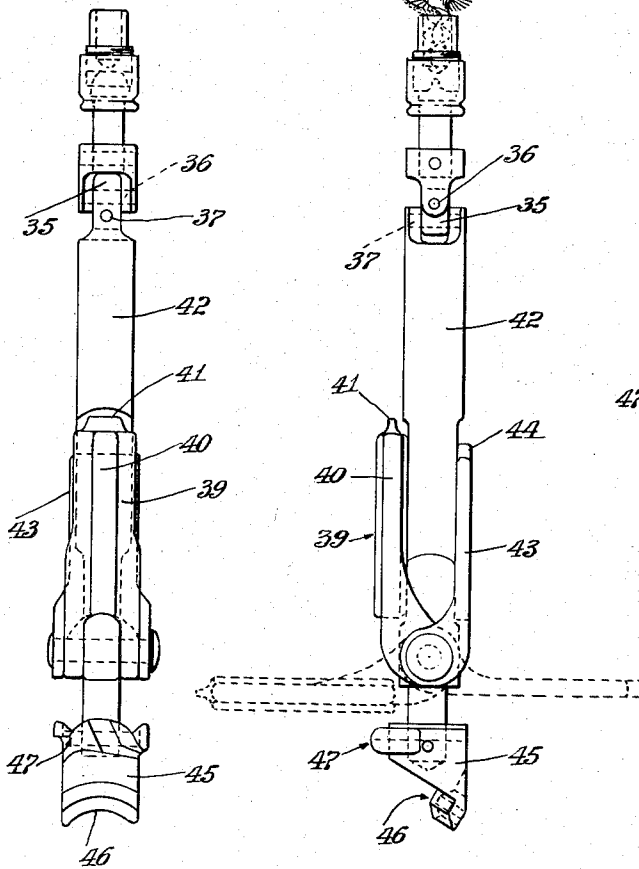
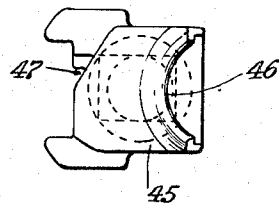


*Fig. 9.*



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## UNITED STATES PATENT OFFICE

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## CLEANING TOOL

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Application December 10, 1941, Serial No. 422,383

6 Claims. (Cl. 15—104.20)

My invention relates to hand tools and particularly tools for use in the care of firearms.

One object is to provide a cleaning brush that can be conveniently used in various positions.

Another object is to provide a brush with a handle by which great rotatable force can be applied.

Another object is to provide a brush that can be taken apart and packed in a small space.

Another object is to provide a brush with a screw driver attachment.

Another object is to provide a combination tool that can be folded compactly.

Another object is to provide means for the removal of pins on gun parts.

Another object is to provide means for extracting jammed shells in guns.

Another object is to provide means for assembling and disassembling the firing-pin block of a gun.

Fig. 1 is a front view of one form of tool of my invention.

Fig. 2 is a side view of the same, the brush being removed.

Fig. 3 is a front view showing a modification.

Fig. 4 is a side view of another form of handle.

Fig. 5 is a fragmentary cross sectional view of the plane of the line 5—5 of Fig. 3 looking upwardly.

Fig. 6 is a perspective view of one of the arms of Fig. 3.

Fig. 7 is a side view of another modification.

Fig. 8 is a plan view thereof with the brush removed.

Fig. 9 is an enlarged end view thereof looking upwardly.

The shaft 7 carries a brush 8 which is detachably connected by a universal joint 9. At the other end is a knob 10 by which the brush can be pulled or pushed as required. To provide a greater leverage for rotating the brush and for pulling it, a handle is formed by two arms 11, 11 hinged at 12 to the shaft. These may be folded down against the shaft for compactness. To hold the arms spread out for use, I may provide an arm or latch member 13 hinged to the shaft at 14 and having one end adapted to be folded against the shaft and serving as an abutment for the shoulders 15 on the arms. The outer end of the arm 13 may constitute a screw driver for use when the arm is extended from the shaft. A catch 16 may be provided to hold the arm 13 folded against the shaft.

One member 17 of the universal joint has a blade 18 to fit the slot 19 in the end of the brush

rod. The sleeve 20 is swiveled on the member 17 and adapted to be screwed onto the adjacent end of the member 8 to draw them together and secure the brush on the main shaft through the medium of the joint parts 21 and 22. The blade 18 may serve as a screw driver when the sleeve 20 is retracted.

In the form shown in Fig. 3 the shaft 24 has means 25 for universal attachment of a brush as in Fig. 1. The cross arms 26, 26 are hinged at 27 and adapted to be folded up against the shaft for compactness when not in use. These arms may be formed of sheet metal folded for reinforcement and having ears which embrace the shaft. These are so formed that they strike against the shaft when spread out. No other stop is therefore required. A handle 28 affords the necessary grip. The edges of the arms are preferably drawn over or rounded so as to provide a smooth surface for the fingers.

In the form of Fig. 4 the handle 30 is spread or expanded to provide a better grip. A universal terminal 31 is provided at one end and a button or knob 32 at the other end. A pin 33 secured to the knob 32 slides in the end 34, so that the knob can be pulled out to facilitate gripping it, or telescoped so as to make it more compact. A similar slidable knob can be used with the handle of Figs. 1 and 2.

In the form shown on sheet 2, the universal joint includes a joint member or block 35 which is longer than the joint block in the forms of Figs. 1 and 3. This permits the pivot pins 36 and 37 to be separated and placed on different planes.

In this form, the arm 39 is provided with a double rib 40 having a screw driver blade 41 at its free end. The rib is made to fit the slot in the gas chamber plug of a gun and serves to strengthen and reinforce the arm.

The other arm 43 is formed with a drift pin 44 for removing pins on gun parts.

On one end of the shaft 42 is mounted an extractor block 45. The outer edge 46 of this block is curved to pull out shells in the breech of the gun. The other side of the block is provided with an edge 47 for aiding in assembling and disassembling the firing pin block of the gun. The corners of this block 45 are rounded to prevent injury to the hand when being used for hand pressure. The extractor block 45 may thus be utilized by the operator for the same purposes as the handle 10 of Fig. 1.

It will thus be seen that I have provided a cleaning tool having a wide adaptation to use. The brush can be readily inserted into the breech

of a rifle where the side opening is small and yet the brush can be pushed and pulled and rotated effectively and with ease.

The brush can be readily adjusted at various angles and can be readily detached for packing or replacement. The gripping arms constitute finger grips while the knob is held in the palm of the hand so that a maximum power can be applied.

These arms being hinged to the main shaft or rod, the tool may be folded into a minimum space which is of great importance. Such a tool also provides a screw driver integral therewith for convenience in assembling and disassembling the rifle. The main shaft constitutes a handle for applying power to the screw driver.

I claim:

1. A cleaning tool having a main shaft with a knob on one end, a brush connected to the other end by a universal joint and a folding member connected to the shaft between the ends thereof and serving as a grip when in unfolded and folded position.

2. A cleaning tool having a shaft with a brush at one end and a knob on the other end and a pair of grip arms hinged to the shaft and foldable against opposite sides thereof and serving as a grip for the tool when in folded and unfolded position.

3. A cleaning tool having a shaft with a brush at one end and a knob on the other end, a pair of grip arms hinged to the shaft and foldable against opposite sides thereof and a latch member pivoted to the shaft and coacting with the arms to hold them in position.

4. A cleansing tool comprising a main shaft, a knob having a shank telescoping into one end of the shaft, means on the shank within the shaft cooperating with means also within the shaft to limit the movement of the knob with respect to said shaft, a member swivelled to the other end of the shaft, a brush attached to said swivelled member, and a blade-like projection on said swivelled member cooperating with said brush in the attached position thereof to prevent relative rotation of said brush with respect to said swivelled member.

5. A cleansing tool comprising a main shaft, a member swivelled to one end of the shaft and having a shank formed with a head having a transverse projecting blade on its outer face, an externally threaded removable brush member having a slot to receive said blade to prevent rotary movement between the swivelled member and the brush member, and an internally threaded sleeve carried by said head and coacting with the threads on the brush member for attaching the brush to the swivelled member.

6. A cleansing tool comprising a main shaft, a member swivelled to one end of the shaft, a brush removably mounted to said swivelled member, means on the swivelled member and means on the brush coacting to attach the brush to the swivelled member, and a blade-like projection on said swivelled member cooperating with said brush in the attached position thereof to prevent relative rotation of said brush with respect to said swivelled member.

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