

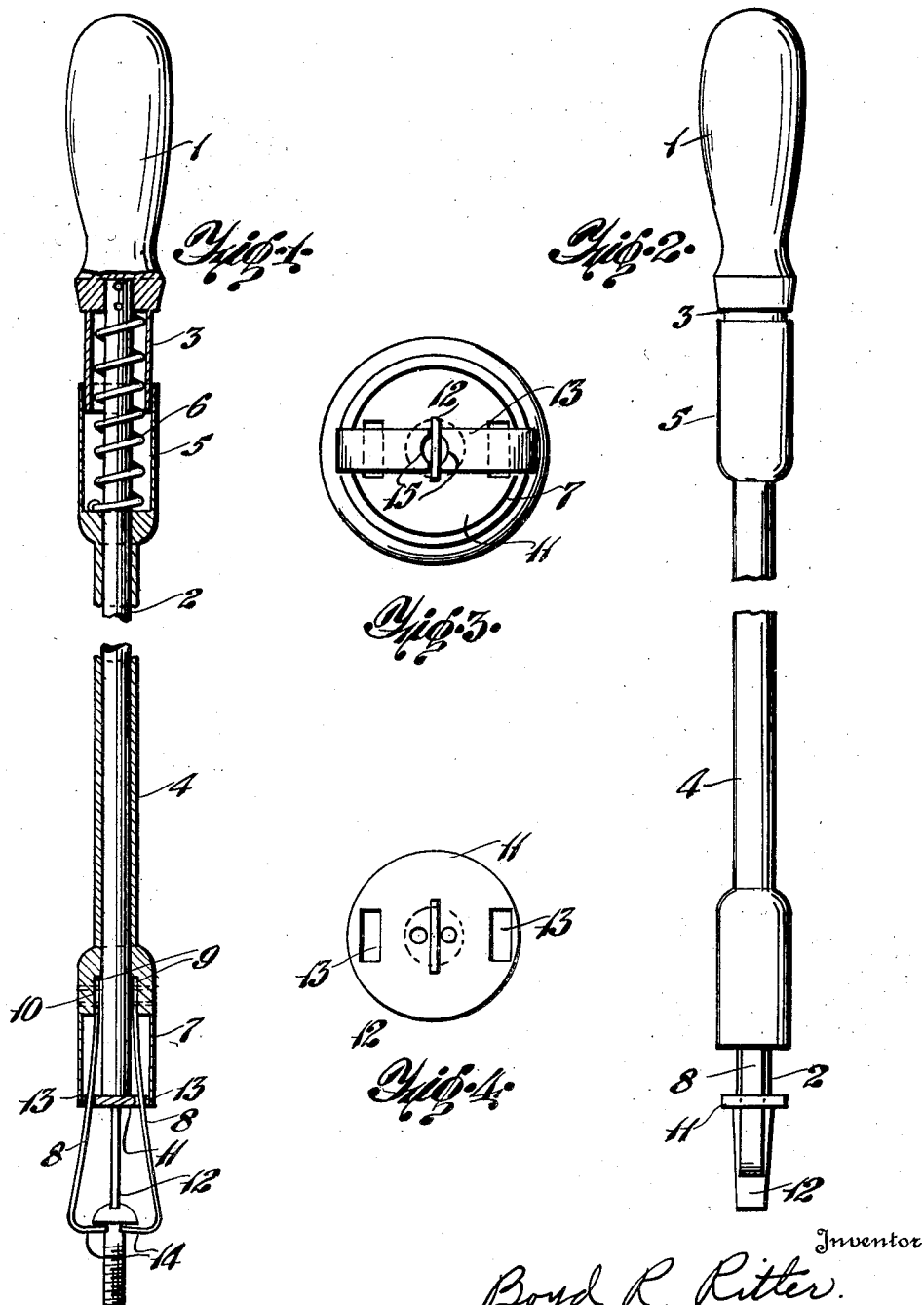
July 8, 1930.

B. R. RITTER

1,770,182

COMBINATION TOOL

Filed April 10, 1929



Inventor

Boyd R. Ritter.

By Adam E. Fisher.

Attorney

UNITED STATES PATENT OFFICE

BOYD RINEHART RITTER, OF LEWISTOWN, PENNSYLVANIA

COMBINATION TOOL

Application filed April 10, 1929. Serial No. 353,925.

This invention relates to combination tools and the main object is to provide a tool which may be used as a screw driver for setting screws or nails in positions not readily reached with an ordinary screw driver or with the hands and for picking up relatively small articles such as bolts, nuts or screws from inaccessible positions around machinery and the like.

Another object is to provide such a tool which will hold the object gripped firmly and which may be used with equal facility on either large or small objects within the range of its size.

A further object is to provide a tool of this kind of simple and durable construction which will be efficient in fulfilling its functions.

The foregoing and other objects together with means for carrying the same into effect will best be understood from the following description of a preferred embodiment of the invention taken in connection with the accompanying drawing wherein:

Figure 1 is a longitudinal section of the tool showing the same gripping a screw.

Figure 2 is a side view of the tool with the jaws closed or in their inoperative position.

Figure 3 is an enlarged end view of the tool showing the jaws closed; and

Figure 4 is a detail view of the jaw operating plate.

Referring now more particularly to the drawing the numeral 1 denotes a handle from which is rigidly extended the elongated plunger 2 and the relatively short sleeve-like ferrule 3 which is of greater diameter than the said plunger and surrounds the same in spaced relationship. A sleeve or barrel 4 is slidably mounted over the plunger 2 and is somewhat shorter than the same and has an inwardly extended and diametrically enlarged socket or mouth 5 at one end adapted to freely receive the ferrule 3 as shown. A retractile coil spring 6 is stretched between the handle 1 and barrel 4, the same being mounted over the plunger 2 within the ferrule 3 and mouth 5 and adapted to normally draw the said barrel 4 towards the handle. The free extended end of the barrel 4 also

has a mouth or socket 7 similar to the aforesaid mouth 5. Gripping jaws 8 are secured by their inner ends at 9 in recesses 10 cut in the bore of the said barrel, and the said jaws are formed of relatively heavy spring material and are normally divergent toward their free ends. A jaw operating plate 11 is secured to the free end of the plunger 2 and a screw engaging blade or bit plate 12 is suitably secured to the end of the plunger or to the plate 11 and extends therefrom. The said jaw operating plate 11 is of proper diameter so that it may freely enter the mouth 7 and slots 13 are provided laterally of the plunger 2 through which the jaws 8 are slidably passed. It will be readily understood that the jaws when drawn toward the handle 1 by the spring 6 pulling upon the barrel 4 as hereinbefore pointed out will be constricted or forced together by the plate 11 and so will normally rest upon the blade 12 at some distance from its end permitting the use of the tool as an ordinary screw driver when desired. The free ends of the jaws 8 have inwardly turned teeth 14 with concavities in their gripping edges 15 as shown in Figure 3.

In the use of the device the barrel 4 is slipped outwardly from the handle which causes the jaws 8 to spread apart and the teeth 14 thereof pass beyond the blade 12. A screw as shown in Figure 1 may then be placed between the said teeth 14 with its slot or kerf engaging the blade 12 and upon releasing the barrel 4 the screw will be tightly gripped. The concavities 15 aid in the gripping of such objects as screws as will be understood. The tool may also be used to pick up various small objects as will be apparent and for this purpose the plunger and barrel may be made in any length.

While I have herein set forth a certain preferred embodiment of my invention it is understood that I may vary from the same in minor structural details, not departing from the spirit of the invention and within the scope of the appended claim.

I claim:

In a device of the kind described, a handle, a rod-like plunger rigidly extended from the

handle, a disc-like jaw operating plate rigidly mounted at the end of the plunger oppositely to the handle, the said jaw operating plate being provided with oppositely disposed marginal jaw engaging slots, a screw
5 blade rigidly extended from the end of the plunger upon which is mounted the said jaw operating plate, a sleeve-like ferrule extended from the said handle over the end of the
10 said plunger and standing in spaced relation thereto, a plunger sleeve snugly and slidably mounted over the said plunger, the same being somewhat shorter than the plunger and having at the handle end a diametrically enlarged socket slidably engaging
15 the said sleeve-like ferrule of the handle, and having at its opposite working end a similar jaw socket adapted to slidably receive the said jaw operating plate, a retractile coil
20 spring mounted over the end of the plunger within the said ferrule of the handle and the cooperating socket of the plunger sleeve, the said spring being stretched at its ends between the said handle and the inner end of the said socket, flat, resilient gripping jaws
25 passed through the slots of the said jaw operating plate and oppositely secured at their inner ends to the inner walls of the said jaw socket, the said jaws being set normally
30 divergent at their outer ends and having these ends bent inwardly to engage a screw head.

In testimony whereof I affix my signature.
BOYD RINEHART RITTER.

35

40

45

50

55

60

65