

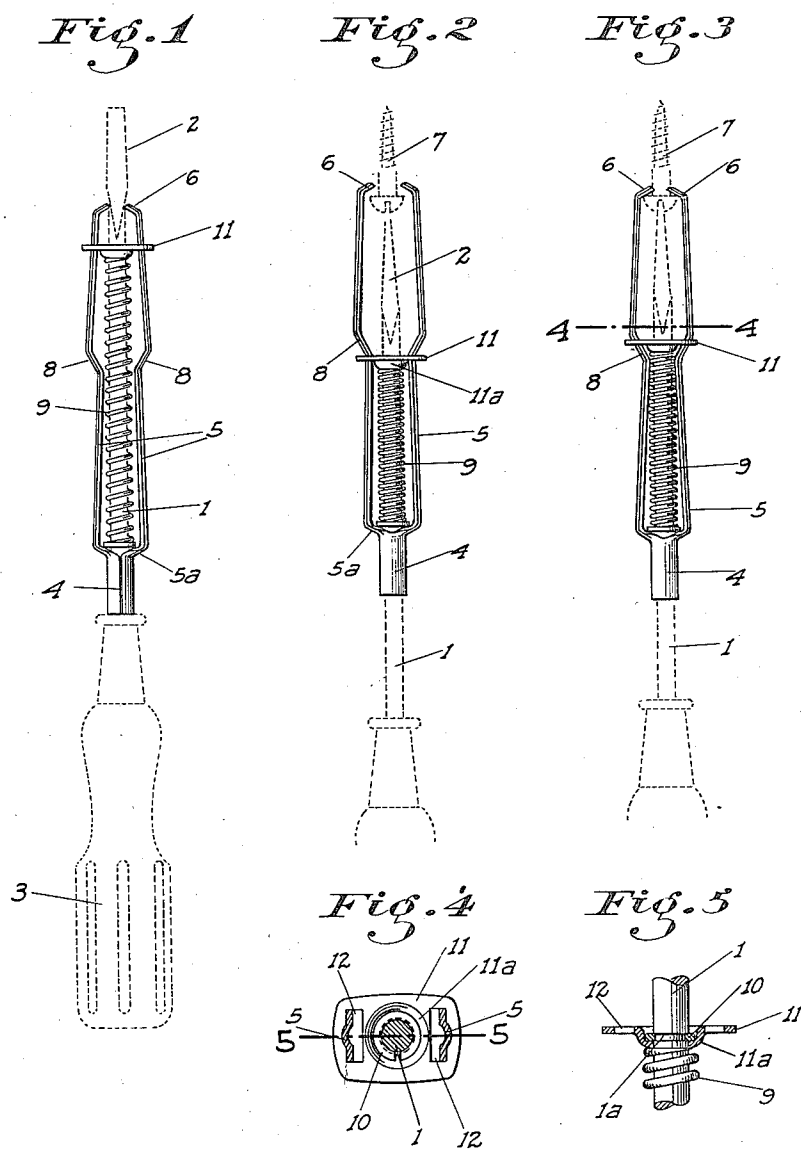
Jan. 13, 1925.

1,522,927

F. J. WICKSTROM ET AL

SCREW DRIVER ATTACHMENT

Filed Nov. 12, 1923



INVENTORS

*Fred J. Wickstrom, Max Paul,  
and James F. Davis*

BY *Benj. Webster* ATTORNEY

# UNITED STATES PATENT OFFICE.

FRED J. WICKSTROM, MAX PAUL, AND JAMES F. DAVIS, OF STOCKTON, CALIFORNIA.

## SCREW-DRIVER ATTACHMENT.

Application filed November 12, 1923. Serial No. 674,182.

*To all whom it may concern:*

Be it known that we, FRED J. WICKSTROM, MAX PAUL, and JAMES F. DAVIS, citizens of the United States, residing at Stockton, county of San Joaquin, State of California, have invented certain new and useful Improvements in Screw-Driver Attachments; and we do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in attachments for screw drivers whereby screws to be driven or removed may be positively held in contact with the blade or head of the screw driver while being screwed into or out of place.

The attachment forming the subject of this invention is particularly an improvement over the device shown in the copending application for a patent on a screw driver filed by James F. Davis, Serial No. 651,457, filed July 14th, 1923, our main object in this present invention being to provide means whereby the screw-gripping jaws will automatically spread apart to receive the shank of a screw therebetween when said jaws are moved outwardly of the head of the screw driver by suitably exerted hand pressure, and will then automatically close against the screw when this pressure is removed.

This feature enables a screw to be grasped, or released, without the necessity of having to take hold of the screw by hand at any time.

It also enables the jaws to positively and frictionally grip very small as well as large screws, within reasonable limits, with equal facility.

This attachment is also constructed so as to enable it to be very easily manipulated by the thumb of the same hand which holds the screw-driver itself.

The above objects we accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a view of the attachment as

applied to a screw driver, in its normal or relaxed position.

Fig. 2 is a similar view, showing the jaws as expanded and in position to engage a screw.

Fig. 3 is a similar view showing the jaws closed about the screw.

Fig. 4 is a cross section on the line 4—4 of Fig. 3.

Fig. 5 is a section on line 5—5 of Fig. 4.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the shank of an ordinary screw driver, having a head or blade 2 and a handle 3.

The attachment comprises a short sleeve 4 slidable and turnable on the shank above the handle; one end of the sleeve normally resting against the adjacent end of the handle.

From the opposite end of the sleeve a pair of opposed spring arms 5 extend toward the blade 2, terminating in a pair of opposed and co-operating jaw members 6 sloping outwardly toward each other and adapted to surround and engage the shank of a screw 7; said jaws, when the sleeve is abutted against the handle, lying inwardly of the outer end of the blade 2.

The spring arms 5 tend to move away from each other. From the sleeve end outwardly for a certain distance the arms are substantially parallel to each other, and then flare outwardly with a more or less abrupt slant as shown at 8, the arms then converging slightly toward each other to the jaw ends thereof.

A split washer 10 is permanently sprung into a shallow groove 1<sup>a</sup> formed in the shank 1 just under the head, as particularly set forth in the above mentioned copending application, this construction having been found to be very practical from the standpoint of commercial manufacture.

Turnably mounted on the shank just under the washer 10 is a jaw-controlling collar 11 preferably rectangular, having slots or orifices 12 through which the arms 5 project, and a cup 11<sup>a</sup> which snugly receives the washer 10. This prevents the latter from any tendency to spread with the pressure of a spring 9 theretoward, this spring being mounted on the shank 1, bearing at one end against the sleeve 4 and at the other

end against the collar. The spring thus acts to hold the collar-cup against the washer and the sleeve against the handle, in which position, as previously stated, the blade 2 will project beyond the jaws 6.

The slots 12 are so arranged or disposed that when pressure is exerted on the sleeve 4 to move the same away from the handle and the jaws beyond the blade 2 the arms will be compressed so that the jaws will be closed when the collar, which is immovable longitudinally on the shank, reaches the widest portion of the flares 8 of the arms, while the latter are permitted to automatically expand when the collar relatively moves inwardly of the flared portions with a further outward movement of the arms on the shank.

The position of the flares 8 of the arms relative to that of the collar 11 on the shank is such that when said flared portions are moved outwardly of the collar 11 the jaws 6 are then a certain distance outwardly of the end of the blade 2, as shown in Fig. 2, and are spread apart so as to pass freely about the shank of the screw to be handled.

When a screw-shank has been thus surrounded, and the outward pressure on the sleeve is released, the slots 12 will engage the flares 8 and the jaws will be forced together, still outwardly of or beyond the end of the blade 2, and any screw, no matter how small, within reasonable limits, will be positively and frictionally gripped between the jaws.

The bigger the diameter of the screw, the tighter of course will the screw be gripped, since the jaws are forced to expand somewhat against the pressure of the collar tending to hold them closed.

With this setting or positioning of the arms, the blade 2 is engaged with the head of the screw, by reason of the spring pressure drawing the jaws and blade together, which pressure also acts to force the collar further up on the flares and maintains the pressure or grip of the jaws on the screw.

To release the screw, it is of course only necessary to again press the sleeve 4 outwardly until the flares 8 are moved outwardly of the collar 11, when the jaws will automatically expand and move away from the screw.

The same result is obtained, if the screw is partly inserted in its place, by merely pulling the handle 4 away from the screw, when the jaws, the arms thereof being flexible, will pass over and disengage the head of the screw, this operation being aided by the slope of the jaws.

It will be noted that besides acting as a jaw controller member, the collar 11 serves to prevent transverse twisting or misalignment of the arms and jaws. It further serves as a means to support the outer end of the attachment when any surface against which said collar may rest is conveniently located to the operation being performed.

As in the previous attachment, the arms 5 at their junction with sleeve 4 have shoulders 5<sup>a</sup> forming abutments against which the thumb is pressed to slide the attachment outwardly on the shank.

From the foregoing description it will be readily seen that we have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described our invention what we claim as new and useful and desire to secure by Letters Patent is:

A screw holding attachment for screw drivers including jaw-carrying arms connected at one end and slidable on the shank of the screw driver, a split washer permanently seated in a groove provided in the shank, an arm-engaging collar turnably mounted on the shank under the washer and having a cup in which the washer snugly fits, whereby to prevent any possible spreading movement of the washer, and a spring about the shank between and bearing against the connected ends of the arms and the collar and holding the washer in the cup of the collar.

In testimony whereof we affix our signatures.

FRED. J. WICKSTROM.  
MAX PAUL.  
JAMES F. DAVIS.