

No. 691,845.

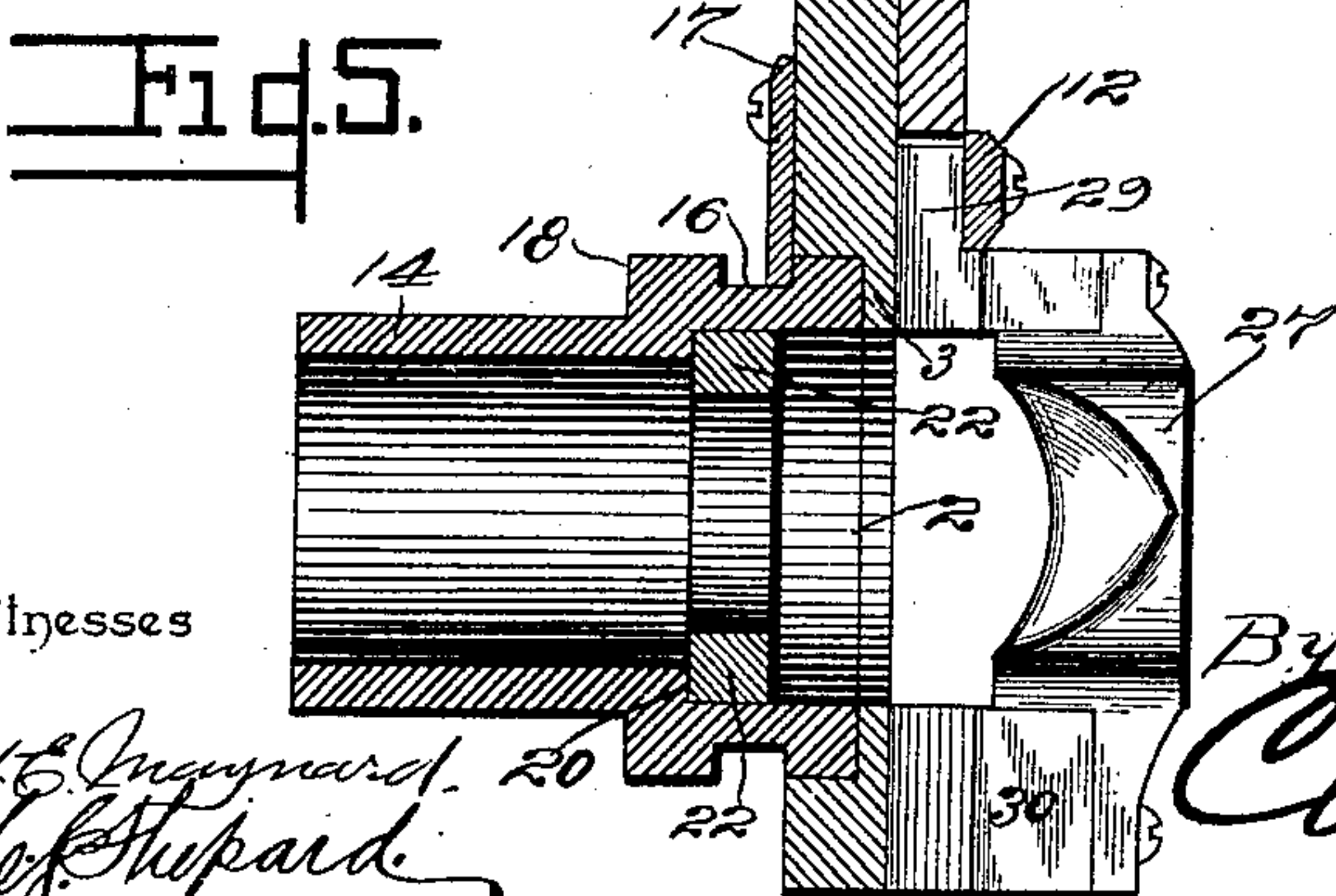
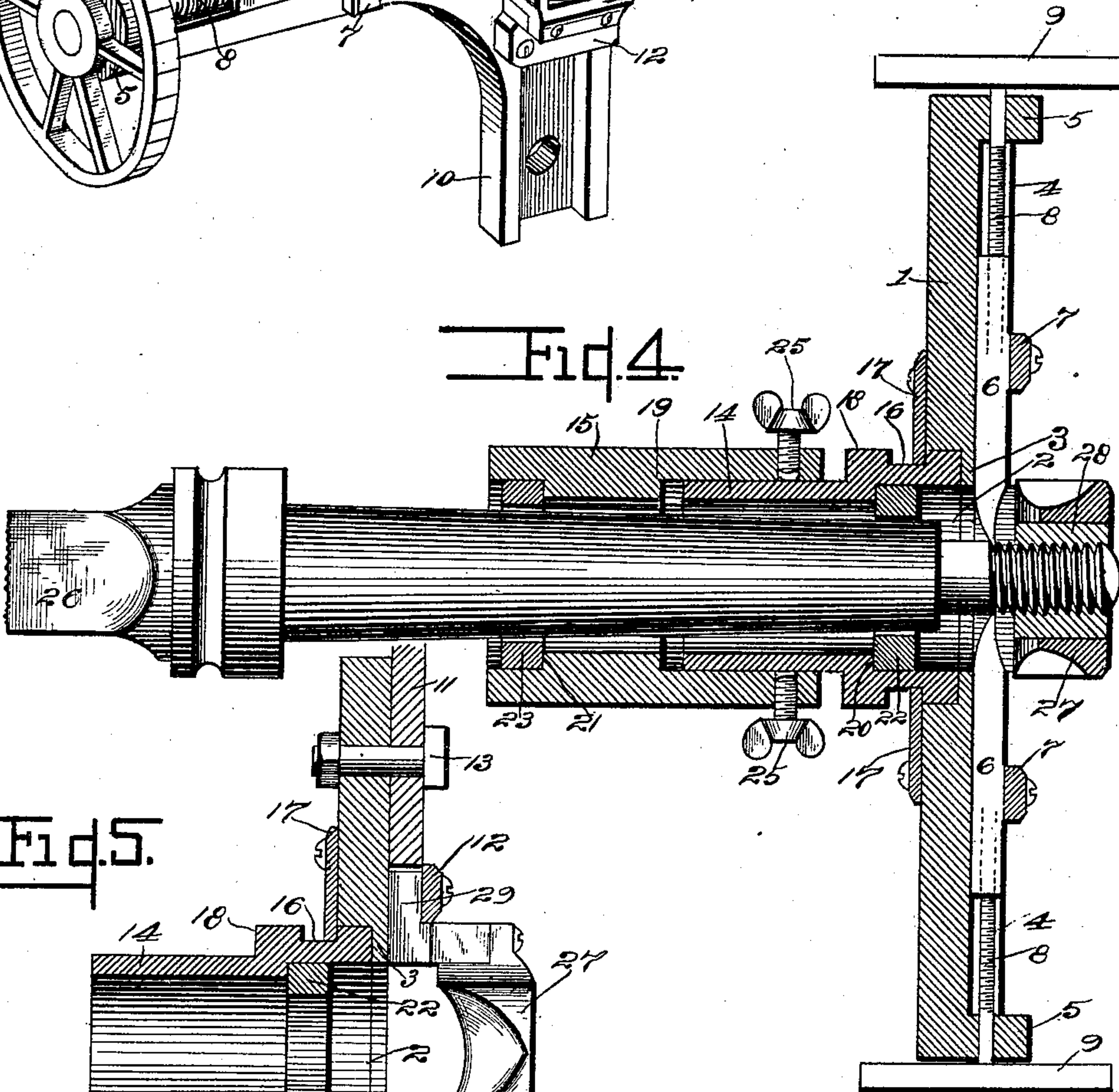
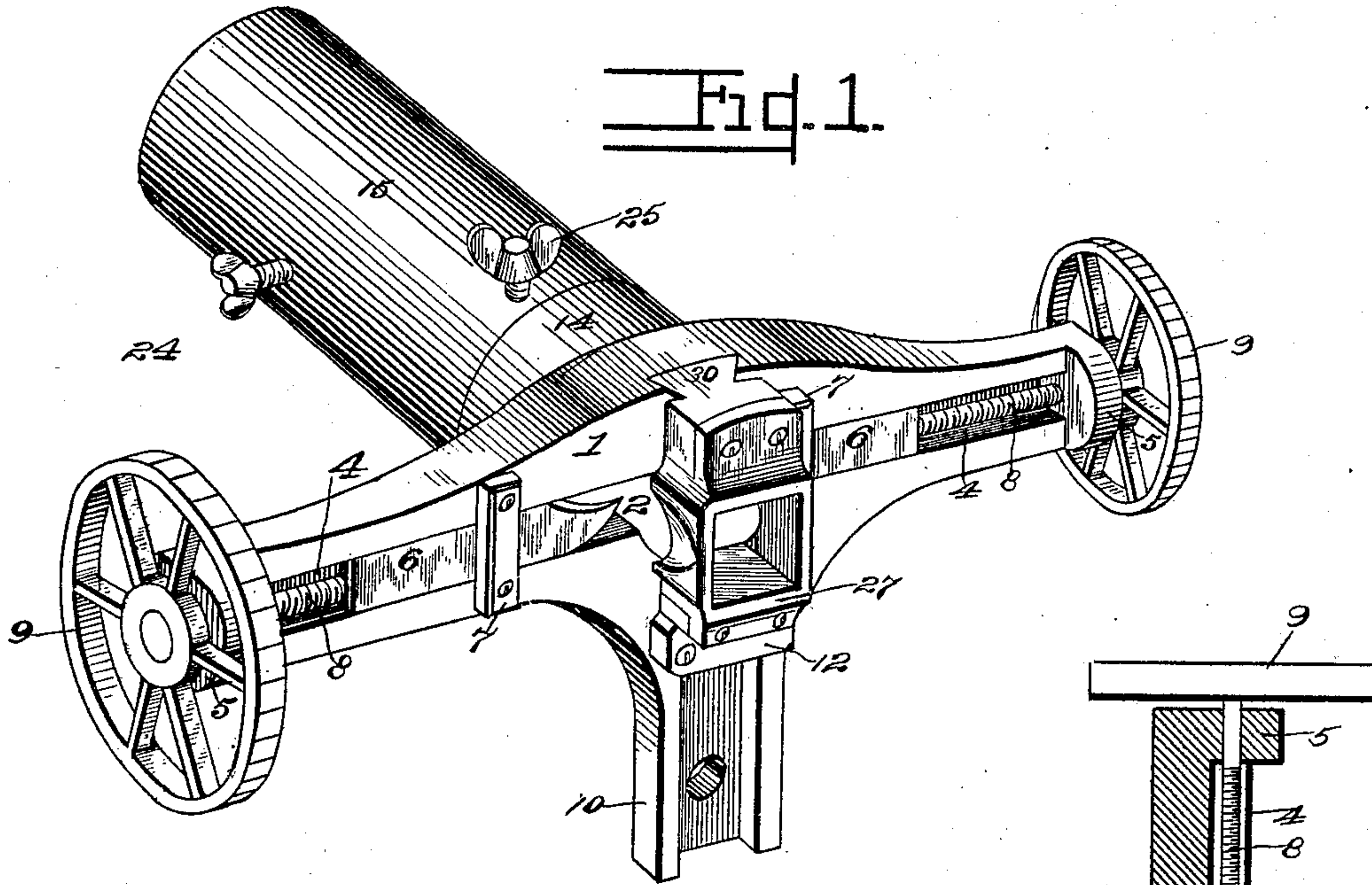
Patented Jan. 28, 1902.

S. DAVIS.  
AXLE SPINDLE CUTTER.

(Application filed Apr. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

Frederick E. Ingemann  
H. J. Shepard

By S. Davis, Inventor.  
C. A. Snow & Co.  
Attorneys



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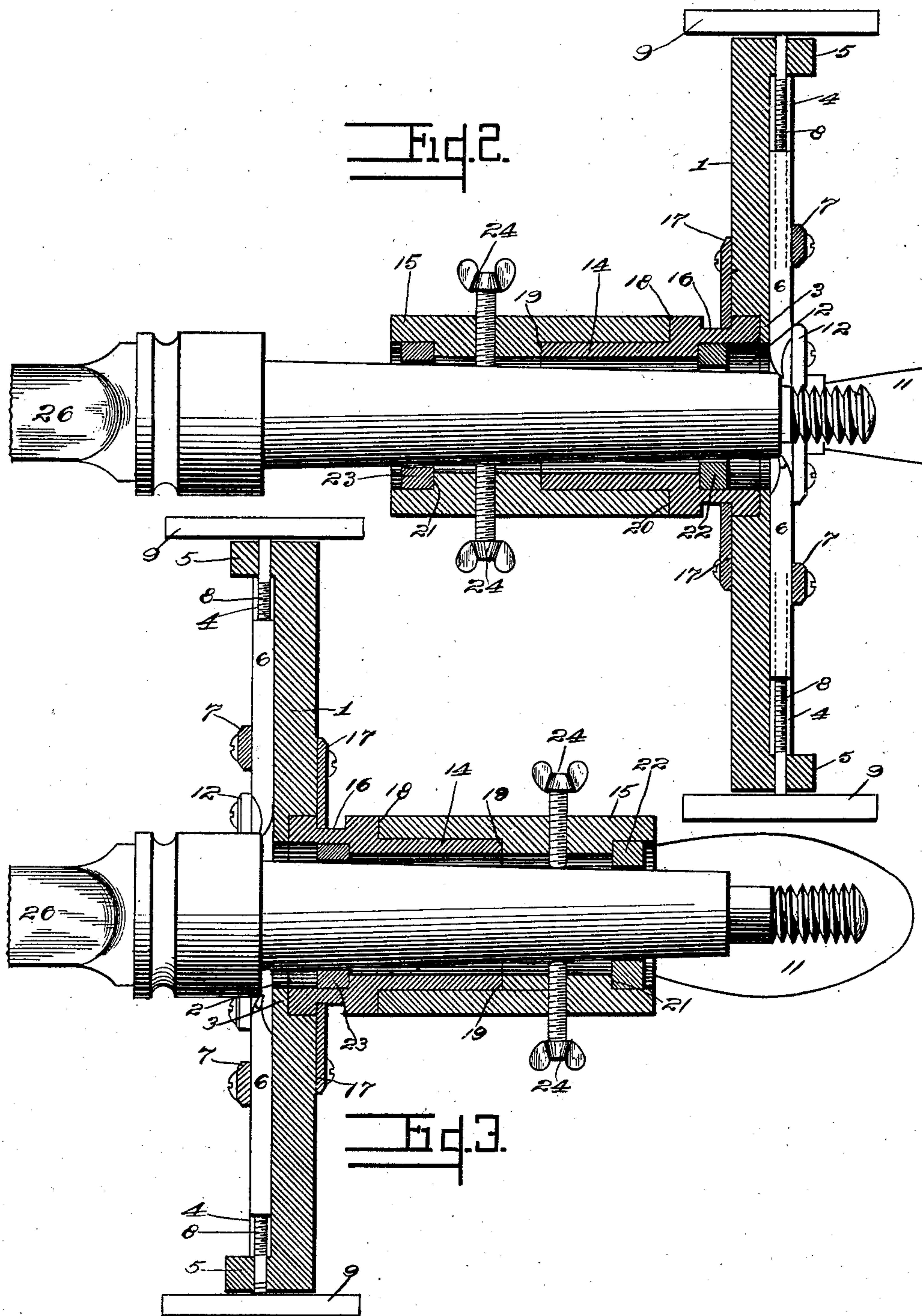
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*Fred C. Hayward*  
*W. F. Shepard*

S. Davis, Inventor.  
By *C. A. Snow & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

SYLVESTER DAVIS, OF HAWARDEN, IOWA.

## AXLE-SPINDLE CUTTER.

SPECIFICATION forming part of Letters Patent No. 691,845, dated January 28, 1902.

Application filed April 2, 1901. Serial No. 54,075. (No model.)

*To all whom it may concern:*

Be it known that I, SYLVESTER DAVIS, a citizen of the United States, residing at Hawarden, in the county of Sioux and State of Iowa, have invented a new and useful Axle-Spindle Cutter, of which the following is a specification.

This invention relates to axle-spindle cutters, and has for its object to provide an improved device of this character which is adjustable to cut and trim the shoulders of a spindle and to cut screw-threads upon the reduced outer terminal of the spindle. It is, furthermore, designed to facilitate the application and removal of the device and to provide for the convenient manipulation thereof when applied to an axle-spindle.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of an axle-spindle cutter constructed in accordance with the present invention. Fig. 2 is a central sectional view thereof, taken in the plane of the cutting-knives and showing the device applied to cut the outer end of a spindle. Fig. 3 is a similar view showing the device applied to trim the inner shoulder of a spindle. Fig. 4 is a similar sectional view showing the device arranged and applied for threading the reduced outer extremity of a spindle. Fig. 5 is a detail sectional view taken at substantially right angles to Fig. 4.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

As best indicated in Fig. 1 of the drawings, the present device has a substantially T-shaped body 1, which is provided at the intersection of the arms thereof with a central circular opening 2, which has an inwardly-directed marginal flange 3 at the outer or front face of the body. In the outer face of the body there is provided a central longitudinal groove

4, which extends into the respective opposite arm portions and terminates short of the outer ends thereof in the respective outwardly-directed shoulders 5. In each end portion of the groove there is slidably mounted a knife 6, which has its cutting terminal next to the central opening of the body, there being a removable cross-bar 7 secured to the outer face of the body and lying transversely across the groove and the knife to prevent accidental displacement thereof. A rotatable adjusting-spindle 8 passes through the adjacent terminal shoulder 5, having its inner end portion screw-threaded and taking into a correspondingly screw-threaded opening in the outer end of the knife, there being a hand-wheel 9 upon the outer end of the spindle for convenience in turning the same to slide the knife endwise in opposite directions for adjusting the inner cutting end to the spindle to be cut.

The intermediate arm portion 10 (best shown in Figs. 1 and 5) is provided in its outer face with a longitudinal groove for the reception of the inner end of a crank-handle 11, the inner extremity of which takes under a cross-bar 12, that extends transversely across the grooved portion of the arm, and there being a removable headed pin 13, that fits in corresponding perforations in the crank-handle and the arm, whereby the handle is held against endwise displacement and also against lateral tilting.

At the back of the body there is provided a spindle-receiving sleeve formed in longitudinally-adjustable sections 14 and 15, of which the inner section has its inner end fitted rotatably within the opening in the body and against the inner marginal flange 3, there being an outer marginal groove 16 for the reception of removable projections or fingers 17, secured to the back of the body, whereby the sleeve or cylindrical tube is held against endwise displacement and is rendered rotatable within the opening in the body. The outer end portion of the part 14 is reduced in thickness, so as to form an intermediate outer marginal flange or shoulder 18, and the reduced end portion is slidably fitted into the adjacent inner end of the outer sleeve section, the latter being internally thickened intermediately to form an inner marginal shoulder 19 to limit



the inward mutual movements of the sections. The inner diameters of both sleeve-sections are the same for the greater lengths thereof, the outer end portions being enlarged or socketed to form the respective inner marginal shoulders 20 and 21 for the support of the respective rings or washers 22 and 23, of which the outer washer 23 has the greater internal diameter, both washers being of the same thickness and the same external diameter, so as to be interchangeable, as will be hereinafter described, so as to form reversely-adjustable bearing portions constructed to snugly embrace the part to be cut. The outer sleeve-section is provided with two sets of set-screws, of which the intermediate set 24 (shown in Figs. 2 and 3) pierce the intermediate thickened portion of the sleeve-section and bear against the axle-spindle, that passes through the sleeve, while the terminal set 25 (best shown in Fig. 4) pierce the outer section and bear against the inner section, so as to interlock the two sections against independent movement and also to afford means for adjusting the sleeve-sections longitudinally.

In using the device to cut or trim the outer end of an axle spindle, as shown in Fig. 2 of the drawings, the spindle-receiving sleeve is slid endwise upon a spindle 26 until the ring or washer 23 binds upon the spindle and stops the inward movement of the device, after which the sectional sleeve is adjusted longitudinally, so that the knives are in position to cut or trim the outer end of the spindle, and then the crank-handle is operated to rotate the body of the device upon the sleeve, which is rigidly secured to the spindle by means of the set-screws 24, whereby the knives are carried around in the path of a circle to cut the spindle. As the spindle is tapered outwardly the sleeve will loosely fit the same, and therefore the washers of different internal diameters have been provided to fit snugly the spindle, and thereby prevent looseness or rocking of the device during the rotation of the body portion thereof. To trim the inner shoulder of the spindle, as shown in Fig. 3, the device is removed and reversed, the spindle being received first through the opening in the body and then through the sleeve, so as to bring the knives up to the inner shoulder, it being understood that the knives are first interchanged, so as to be reversed, the washers also being interchanged and the crank-handle reversed, so that it may now come upon the sleeve side of the device for convenience in operation. For cutting screw-threads upon the reduced outer extremity of the spindle the device is applied as shown in Fig. 4 and in the manner described for the first application, except that the set-screws 25 are loosened to permit of the body and the inner sleeve-section being pushed inwardly to accommodate the body to the inward lead of the threads to be cut. To feed the device inwardly, so as to cause the knives to cut screw-threads, there is provided a nut-holder 27, having a central polygonal

open-ended socket for the reception of a nut 28, (shown in Fig. 4,) and which fits the screw-threads already upon the outer extremity of the spindle. The inner end of the holder is provided with a base projection 29 (shown in Fig. 5) and which is designed to take into the inner end of the groove in the body portion 10 and under the cross-bar 12, the opposite end of the holder being provided with a dovetailed foot 30, that fits into a corresponding dovetailed groove in the middle portion of the outer face of the body, whereby the holder is secured in place with its polygonal socket centered axially with respect to the spindle. As the device is rotated by manipulation of the crank-handle the nut turns therewith upon the screw-threads already upon the spindle, thereby feeding the device inwardly and causing the knives to cut inwardly-leading screw-threads upon the spindle. It will be understood that the nut-holder is used only when screw-threads are being cut upon the spindle.

What is claimed is—

1. A cutting implement of the character described, comprising a rotatable body having an opening for the reception of the part to be cut, one or more knives in operative relation with respect to the outer end of the opening, a guide-sleeve alined with the opening and swiveled to the back of the body, and rings or washers of equal external diameters and unequal internal diameters, said washers being removably seated in the opposite ends of the sleeve.

2. A cutting implement of the character described, having a central opening in the body thereof for the reception of the part to be cut, a guide-sleeve alined with the opening and swiveled to the body, the opposite ends of the sleeve having terminal internal marginal seats of greater diameters than the normal internal diameter of the sleeve, and interchangeable washers removably fitted in the respective seats, said washers being of the same external diameter and of different internal diameters.

3. A cutting implement of the character described, having an opening for the reception of the part to be cut, a guide-sleeve alined with the opening and swiveled to the body of the device, and interchangeable washers of different internal diameters removably fitted in the opposite ends of the guide-sleeve.

4. A screw-threading implement of the character described, having an opening for the reception of the part to be threaded, and a groove in its outer face and diametrically intersecting the opening, and a nut-holding socket having opposite terminal tongues or projections slidably fitted in the groove, the opening of the socket being disposed concentrically with respect to the opening in the body.

5. A screw-threading implement of the character described, having an opening for the reception of the part to be cut, and a dove-



tailed groove formed in the outer face of the body and intersecting diametrically the opening, and a nut-holding socket having a dove-tailed projection removably fitted in the dove-tailed groove.

5 6. A screw-threading implement of the character described, having an opening formed in the body thereof for the reception of the part to be cut, and also provided with a groove intersecting the opening diametrically and projected at opposite sides thereof, a cross-bar extending across the outer side of one end portion of the groove, a nut-holding socket having opposite terminal projections remov-  
15 ably fitted in the groove, the inner projection taking under the cross-bar, and an operating-handle having its stem removably fitted in one end of the groove with its terminal taking under the adjacent portion of the cross-  
20 bar.

7. An implement of the character described, comprising a substantially T-shaped body having an opening at the intersection of the arm portions, the opposite arm portions hav-  
25 ing corresponding grooves intersecting the opening, and there being a groove at substantially right angles to the former grooves and

intersecting the opening and also extending through the third arm portion, opposite end-wise-slidable cutting-knives mounted in the  
30 grooves of the respective opposite arms, screw-threaded adjusting-stems for the respective knives, and having hand-wheels, a removable nut-holding socket having opposite terminal projections fitted in the respective end por-  
35 tions of the groove that extends through the third arm portion, the intermediate portion of the socket spanning the opening in the body, a telescopic guide-sleeve at the back of the body and alined with the opening thereof,  
40 the inner section being swiveled to the body, set-screws for adjustably interlocking the telescopic sections, other set-screws for engagement with the part to be cut, and interchangeable washers removably fitted in the oppo-  
45 site ends of the telescopic sleeve, and of different internal diameters.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SYLVESTER DAVIS.

Witnesses:

CLARENCE A. PLANK,  
J. H. HUTCHISON.