

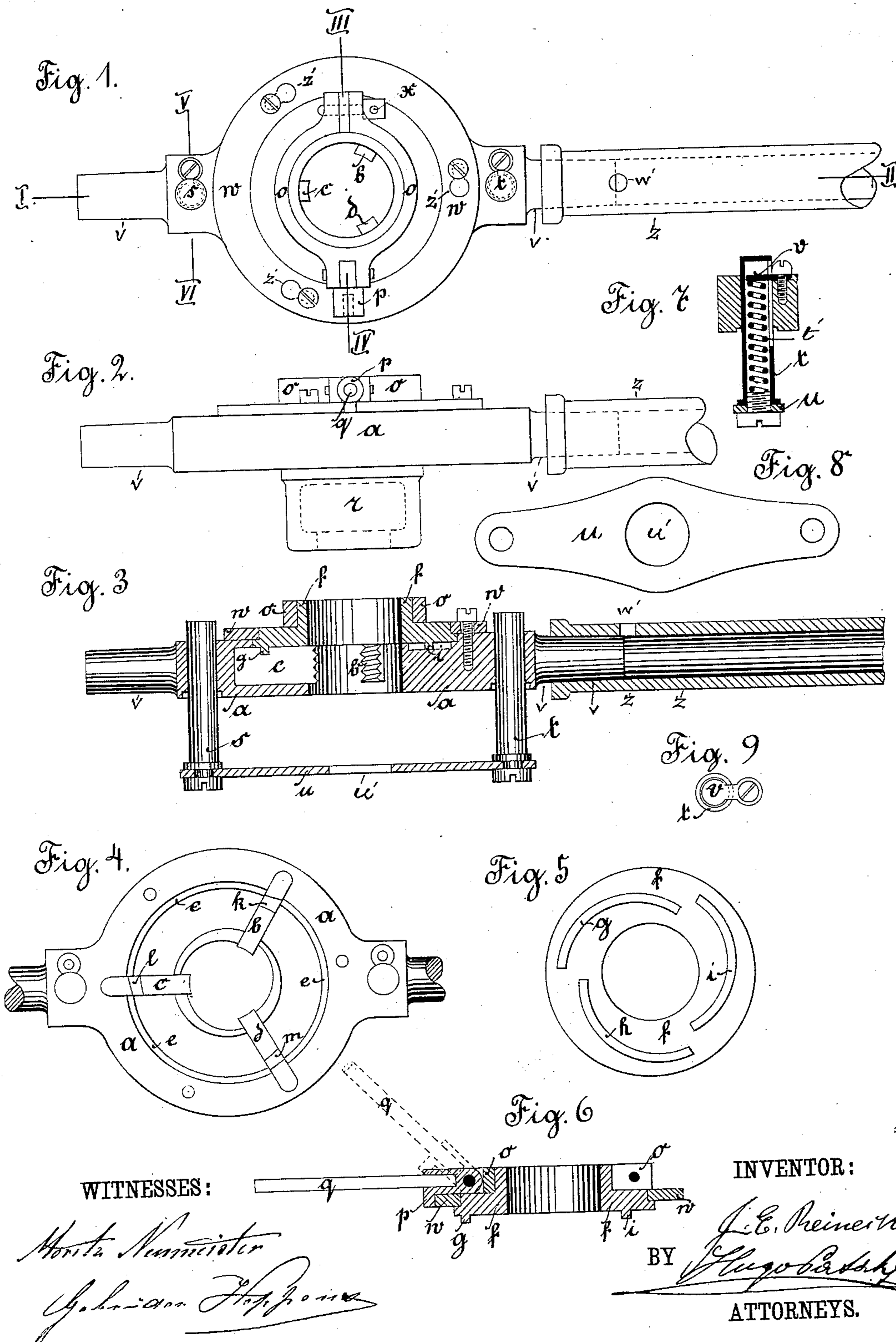
(No Model.)

J. E. REINECKER.

SCREW PLATE.

Patented May 19, 1885.

No. 318,136.



UNITED STATES PATENT OFFICE.

JULIUS EDUARD REINECKER, OF CHEMNITZ, SAXONY, GERMANY.

SCREW-PLATE.

SPECIFICATION forming part of Letters Patent No. 318,136, dated May 19, 1885.

Application filed June 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, JULIUS EDUARD REINECKER, of Chemnitz, in the Kingdom of Saxony, German Empire, have invented a new and useful Improvement in Screw-Plates, of which the following is a specification.

This invention relates to devices for cutting screw-threads in pipes and rods.

The said invention consists, partly, in the combination of a die-stock and radial inwardly-facing dies having transverse grooves with an adjusting-disk having on its under face eccentric ribs or flanges which turn in said grooves as said disk is rotated, thus moving said dies inward or outward as desired, a clamping-ring whereby said disk is held to said stock, and a catch which moves with said disk and is adapted to drop into one of several holes in said clamping-plate to hold the dies in the position of adjustment desired.

It also consists in the combination of a die-stock and dies with a guide-plate having an opening for the tube to be operated on and guide-rods attached to said guide-plate and movable through or in said die-stock.

It also consists in the combination of spiral replacing-springs with tubular guide-rods, a die-stock in or through which said guide-rods move, and a guide-plate attached to said rods and provided with an opening for the tube that is to be operated on, said springs being inclosed within said tubular guide-rods and bearing at one end against said guide-plate and at the other against plates attached to said die-stock.

It also consists in certain other improvements in the construction and combination of the divers parts of my implement for cutting screw-threads, as hereinafter more particularly set forth and claimed.

In the accompanying drawings, Figure 1 represents a plan view of a die-stock and attached devices embodying my invention. Fig. 2 represents a side view of the same, showing a modified form of the guide for the tube or the rod which is to be screw-threaded. Fig. 3 represents a vertical longitudinal section through the stock, handle, and guiding and screw-cutting devices, the guide-rods not being in section. Fig. 4 represents a plan view of the die-stock with the adjusting-disk re-

moved. Fig. 5 represents a detail bottom view of the adjusting-disk and its eccentric ribs or flanges. Fig. 6 represents a vertical section through said disk and the devices for locking and turning the same, the handle being shown unsectioned. Fig. 7 represents in detail a vertical section through one of the tubular guide-rods and the contiguous parts of the die-stock and guide-plate. Fig. 8 represents a detail plan view of the guide-plate; and Fig. 9 is a detail plan view of one of the small plates which afford stationary bearings for the upper ends of the springs within said tubular guide-rods.

In said drawings, the die-stock is indicated by *a*. Its form is annular, as usual, and it is provided at opposite points of its periphery with outwardly-extending, slightly-tapering studs or bosses *v*, each of which is adapted to have a tubular handle, *z*, forced upon it, this handle being removable by forcing a wedge or rod through an opening, *w'*, in said handle and causing said wedge or rod to bear against the outer end of said stud *v*, so as to effect the end desired. This construction facilitates the packing of the implement into small compass, and its transportation from point to point as needed in fitting gas-pipes and other fixtures. A piece of ordinary gas-pipe with a hole, *w'*, cut in it, as stated, will answer for one of these handles.

The screw-cutting dies *b c d* are set in recesses of said stock and face inward, as usual. In their upper edges they are provided with transverse grooves *k l m*, one groove to each die. A rotary adjusting-disk, *f*, is provided on its under face with eccentric ribs or flanges *g h i*, which turn in said grooves *k l m* as said disk is turned, thereby moving said dies inward or outward sufficiently to adjust them to the diameter of the screw-thread desired. A tube, rod, or bolt having such diameter may be introduced between the dies and used as a gage.

The disk *f* is held to said die-stock *a* by a clamping-ring, *n*, which is secured to said die-stock, overlapping at its inner edge a flange on said disk. In this clamping-plate holes or recesses *z'* are made at suitable intervals, each of these holes being adapted to receive a nose of a catch, *p*, which is pivoted, for vertical

movement, to a sectional band, *o*, which is clamped by bolt *k* on a raised hub of said disk, the latter turning with said band and being locked when said band is locked. A detach-
 5 able handle, *q*, fits into a recess of said catch *p*, and is used both to raise said catch out of engagement with said perforated or recessed ring *n* and to turn the disk *f* into proper position for adjusting the screw-cutting dies *b c d*,
 10 as desired. When this position is reached, the catch *p* is dropped into engagement with clamping-plate *n*, its nose entering one of the holes *w'* of said plate. Only three of these holes are shown; but they may of course be
 15 numerous enough to provide for more delicate adjustment. In Fig. 1 they are shown as holes arranged midway between the inner edge and outer edge of clamping-plate *n*; but they may instead be mere notches or recesses in the outer
 20 periphery of said plate. One such recess or notch (not lettered, to avoid confusion) is indicated in Fig. 6 by the position of the nose of catch *p*.

To insure the presentation of the tube or
 25 rod to be screw-threaded at right angles to the die-head, I employ a guide-plate, *u*, having a central aperture, *u'*. This plate is attached, as shown in Fig. 3, to two tubular guide-rods *s t*, which move through openings in said
 30 die-head. As shown in Fig. 7, each of these tubular guide-rods incloses a helical spring, *t'*, which bears at its upper end against a detachable plate, *v*, Figs. 7 and 9, which is fastened to said screw-head and extends within
 35 said tubular guide-rod. The lower end of said spring bears against guide-plate *u*. The end of the tube or rod to be screw-threaded is inserted in plate *u* and moved toward and into the central opening of the die-head, said
 40 guide-plate moving with said tube, and the guide-rods *t* keeping said tube in line with said central opening. When the tube or rod is withdrawn, the springs *t'* replace the tubular rods *s t* and plate *u* in their normal position.

45 In Fig. 2 I have shown as a substitute for said guide-plate and its tubular rods a stationary guide-block, *r*, which is secured to the bottom of the die-stock *a*, and provided with a central opening corresponding to *u'* in Fig. 3. I am aware, however, that a stationary
 50 guide with a central opening for directing the tube into the central opening of a screw-cutting die-head is not new, and therefore I do not claim this construction and combination, broadly. Hitherto, however, these guides
 55 have not (so far as I know) been attached to the die-head so as to be removable therewith. The guiding devices shown in Figs. 3 and 7 are, I believe, wholly new.

I am also aware that it is not new to com- 60
 bine an adjusting-disk having axial motion and eccentric ribs or flanges with a die-head and screw-cutting dies, said dies having trans-
 verse grooves or slots which receive said ribs or flanges in order that said dies may be moved 65
 in or out, as required by the turning of said disk. Therefore I do not broadly claim such a combination of devices; but,

Having thus described my invention, what I do claim, and desire to secure by Letters 70
 Patent, is—

1. A die-head and screw-cutting dies transversely grooved, as described, in combination with an adjusting-disk having axial motion and provided with eccentric ribs or flanges 75
 which turn in said grooves to adjust said dies, a perforated or recessed clamping-ring which holds said disk in its place, and a pivoted catch which moves with said disk and locks the latter, when desired, by engaging with 80
 said perforated or recessed plate, substantially as set forth.

2. The band *o*, in combination with the adjusting-disk *f*, to which it is clamped, the dies *b c d*, adjusted by the turning of said disk, the 85
 pivoted catch *p*, and handle *q*, whereby said disk is turned, and a fixed plate which is perforated or recessed for the engagement of said catch, substantially as set forth.

3. A die-stock provided with a guide having a central opening for directing the tube to be screw-threaded into said die-head, said guide being attached to said stock and removable therewith, substantially as set forth. 90

4. The combination of a guide-plate having 95
 a central opening and guide-rods with a die-head through which said rods move, for the purpose set forth.

5. The combination of guide-plate *u*, having central opening, *u'*, with tubular guide- 100
 rods *s t*, die-head *a*, through which said guide-rods move, and replacing-springs *t'*, substantially as set forth.

6. The detachable plates *v*, in combination with the die-head to which they are fastened, 105
 the guide-plate *u*, the tubular guide-rods *t*, and the helical springs *t'*, inclosed, respectively, within said guide-rods, each of said springs bearing at one end against one of said plates *v* and at the other end against said 110
 guide-plate *u*, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JULIUS EDUARD REINECKER.

Witnesses:

GUSTAV RUDOLPH IGEL,
 BERNH. JUL. REYMAN.