(No Model.) 2 Sheets—Sheet 1.

G. WAGNER.

DIE STOCK.

No. 576,924. Patented Feb. 9, 1897.

Fig. 1

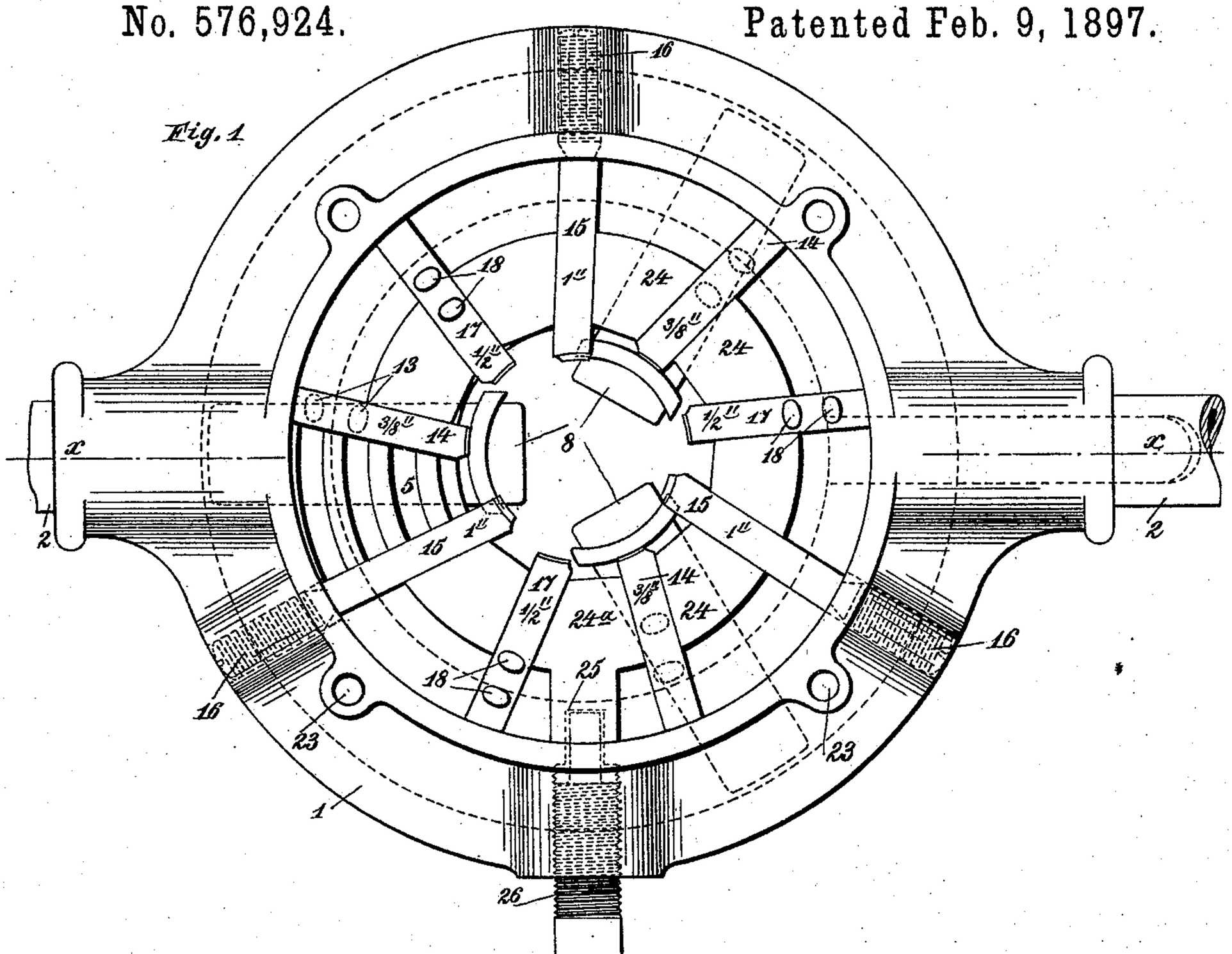
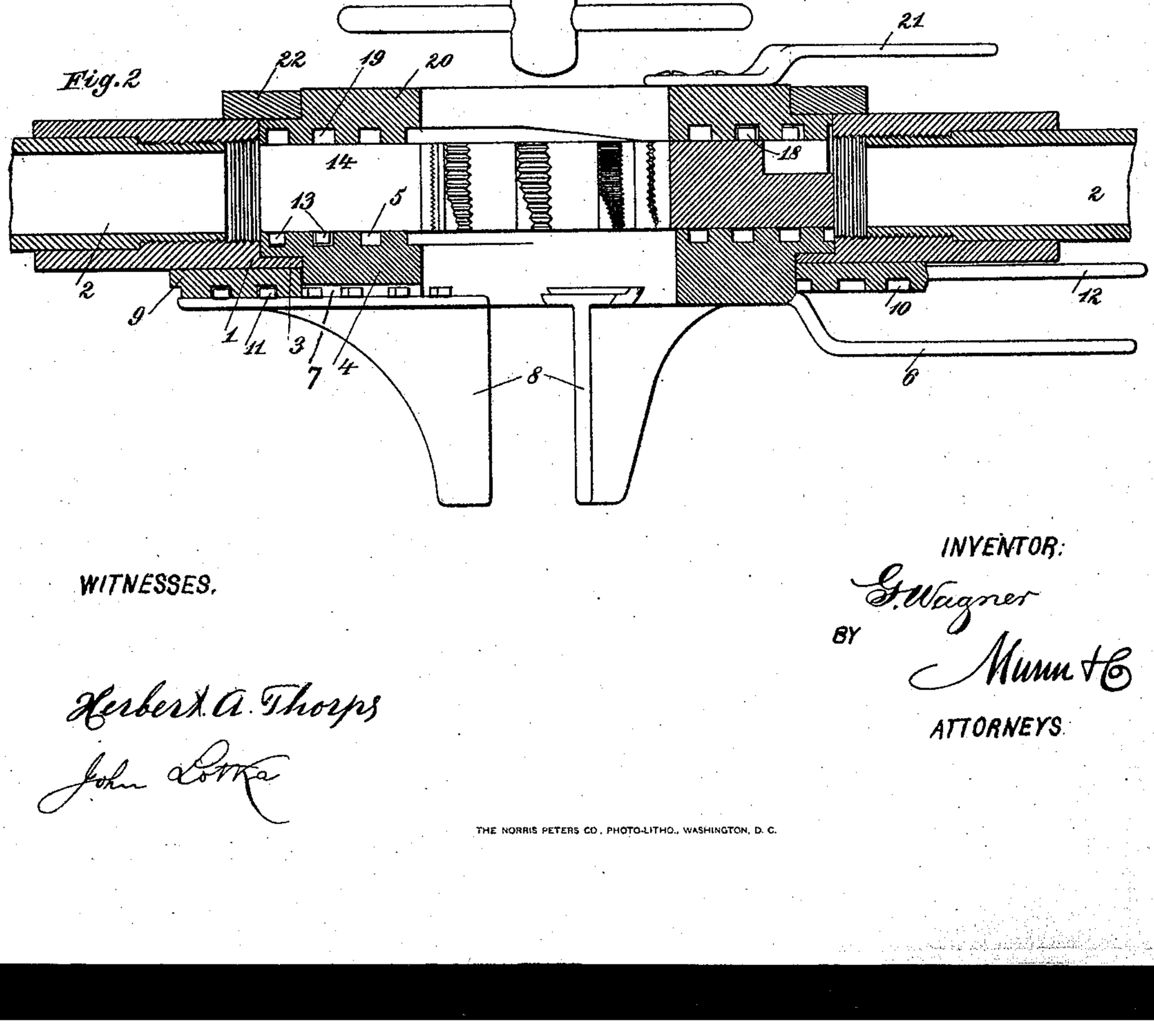


Fig. 2



WITNESSES.

Herbert A. Thorpe

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ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2

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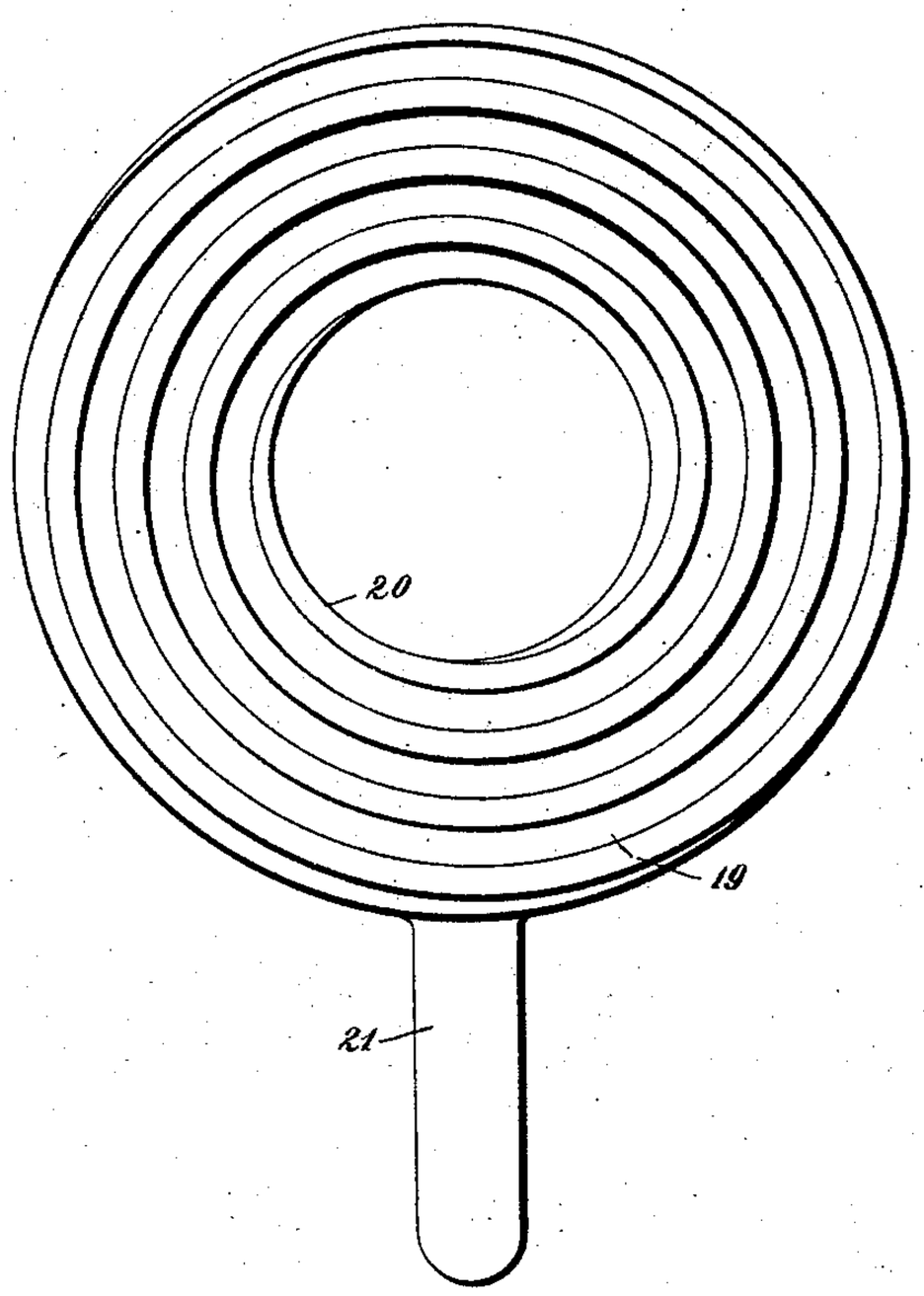
Fig. 3



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ATTORNEYS

UNITED STATES PATENT OFFICE.

GUSTAV WAGNER, OF REUTLINGEN, GERMANY.

DIE-STOCK.

SPECIFICATION forming part of Letters Patent No. 576,924, dated February 9, 1897.

Application filed September 11, 1895. Serial No. 562,139. (No model.)

To all whom it may concern:

Be it known that I, GUSTAV WAGNER, of Reutlingen, Würtemberg, Germany, have invented a new and Improved Die-Stock, of which the following is a full, clear, and exact description.

The invention relates to screw-cutting dies, and has for its object to provide an improved die of the above-indicated class provided with several sets of differently-arranged screw-cutting jaws, so that threads of different pitches may be cut with the same die without removing the jaws or cutting-tools therefrom.

The advantages which I seek to attain by the improved construction are, first, to avoid inexactness of cutting which may arise from an inaccurate adjustment or insertion of the cutting tools or jaws or from a soiled condition of the die; second, to avoid the loss of individual tools, and, third, to simplify the manipulation of the die. The die is also constructed in such a manner that the cutting edges may be readily adjusted to any desired diameter and that they may be securely held after adjustment, so as to prevent a displacement of the tools during the cutting operation.

The accompanying drawings illustrate one form of construction of my improved screw-cutting die, similar numerals of reference indicating corresponding parts in all the figures.

Figure 1 is a plan view thereof with the cover and some other parts removed. Fig. 2 is a longitudinal sectional elevation on the line *x x* of Fig. 1, and Fig. 3 is an inverted plan view of the cover.

The body 1 of the die is made in the shape of a hollow cylinder, into which are screwed handles 2, and which is also provided with an inwardly-projecting flange 3. On this flange is supported an annular disk 4, provided on its upper face with a spiral groove 5 and carrying on its under side a handle 6, whereby it may be turned. The disk 4 likewise has on its lower side three radial dovetailed grooves 7, in which are adapted to slide guides 8, supporting a plate 9, provided on its under side with a spiral groove 10. The guides 8 are formed with lugs or projections 11, engaging the said spiral groove 10, so that by turning the plate 9, by means of the handle 12, the guides 8 may be moved toward or from each other. These guides are arranged to engage the blank in advance of the cutters.

In the groove 5 of the disk 4 are adapted to slide lugs 13, projecting from three cutting tools or jaws 14, said jaws being provided at their inner or operative ends with partial screw-threads of even pitch, for instance, three-eighths of an inch. It will be understood that these cutting-tools are simultaneously adjusted by turning the handle 6.

On the disk 4 are further supported three cutting-tools 15, also having screw-threads at their inner ends, but different in pitch from the screw-threads on the cutting-tools 14; for instance, having a pitch of one inch. This second set of cutting-tools 15 can be adjusted by means of set-screws 16.

I also have provided a third set of cutting-tools 17, having, for instance, screw-threads of a pitch of one-half inch and provided on their upper sides with projections 18, engaging a spiral groove 19 in the cover 20. The latter may be turned by means of the handle 21, thus adjusting the jaws 17 inwardly or outwardly. The cover 20 is partly overlapped by a ring or flange 22, which is secured to the body 1 of the die by means of small screws 23. It will be understood that this construction prevents the cutting tools or jaws from moving up or down.

The spaces between the several individual cutting-tools are filled by means of segmental pieces 24, which serve to guide the jaws in a radial direction. One of these segments 24^a is provided in its outer or peripheral face with a recess engaged by the end 25 of a set-screw 26, this set-screw serving to prevent the rotation of the segments 24 24^a and of the cutting-tools relatively to the body 1 of the die. It will be understood that the set-screw 26 is loosened when it is desired to adjust any one of the sets of cutting-tools.

The purpose of the guides 8 is to secure an accurate cut. If the blank, however, is very short, the plate 9 is turned until the guides 8 are disengaged from the dovetailed grooves 7.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A die, comprising a suitable body having radial guideways, two sets of cutters arranged to move radially in said guideways,

the cutters of each set being alined in the same transverse plane of the die-body, said cutters being provided with projections extending on opposite sides of the body and independently-rotatable plates arranged on each side of the body so as to form a cover and a bottom therefor, said plates being provided in their opposing or inner faces with spiral grooves engaging the projections of the cutters, substantially as shown and described.

2. A die, comprising a hollow body provided with radial guideways, tools held to slide in said guideways and provided with projections extending on opposite sides of the body, annular disks rotatably mounted on the body at each side thereof, and provided with spiral grooves in their opposing faces to engage the projections of the said tools, and intermediate tools independently adjustable in relation to the body, said intermediate tools being alined in the same transverse plane of the die-body, and the other tools being similarly alined at each side of the intermediate tools, substantially as shown and described.

3. A die, comprising a hollow body, radially-movable tools on said body, a disk rotatably mounted on the body and constructed to move the tools, said rotatable disk having radial guideways, guides mounted to slide in said guideways and arranged in a transverse plane of the die-body different from the transverse plane in which the tools are arranged, and another rotatable disk engaging the said guides and constructed to adjust the same, substantially as shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

GUSTAV WAGNER.

Witnesses:
THEODOR MÜLLER,
GUSTAV SCHÄFER.