

[54] OSTEOLGICAL INSTRUMENT

[75] Inventors: Ewa Herbst, Jungfrudansen 24, S 171 56 Solna; Lars Botvidsson, Jaerfaella, both of Sweden

[73] Assignee: Ewa Herbst, Sweden

[\*\*] Term: 14 Years

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[58] Field of Search ..... D24/8, 99, 64, 23, 26, D24/29, 27, 33; 128/303 R, 924 E, 924 F, 924 Z, 92 R, 92 VD, 92 VT, 92 V

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Primary Examiner—Catherine E. Kemper  
Attorney, Agent, or Firm—Hill, Van Santen, Steadman & Simpson

[57] CLAIM

The ornamental design for a osteological instrument, substantially as shown and described.

DESCRIPTION

FIG. 1 is a perspective view of a hollow needle which is ground at its front end (shown to the right in FIG. 1)

to form a conical taper and has an angled grip at its rear end;

FIG. 2 is a perspective view of a mandrel (which is loosely introducible into the hollow needle of FIG. 1 as shown in FIGS. 21-24);

FIG. 3 is a perspective view of a first form of osteological drill bit with an exterior hexagonal configuration at its rear end (shown to the left in FIG. 3 and used for example for attaching a wrench or for connecting a drill) and with a flat cutter blade at its front end;

FIG. 4 is an enlarged fragmentary side elevational view of the osteological drill bit of FIG. 3;

FIG. 5 is a rear end view of the osteological drill bit of FIG. 4 (viewing FIG. 4 from the right);

FIG. 6 is a front end view of the osteological drill bit of FIG. 4 (viewing FIG. 4 from the left);

FIG. 7 is a fragmentary bottom plan view of the osteological drill bit of FIG. 4;

FIG. 8 is a perspective view of a second form of osteological drill bit with an exterior hexagonal configuration at its rear end (shown to the left in FIG. 8 and used for example for attaching a wrench or for connecting a drill) and with a flat cutter blade at its front end;

FIG. 9 is an enlarged fragmentary side elevational view of the osteological drill bit of FIG. 8;

FIG. 10 is a rear end view of the osteological drill bit of FIG. 9 (viewing FIG. 9 from the right);

FIG. 11 is a front end view of the osteological drill bit of FIG. 9 (viewing FIG. 9 from the left);

FIG. 12 is a fragmentary bottom plan view of the osteological drill bit of FIG. 9;

FIG. 13 is a perspective view of a manually operable osteological instrument for emplacing a stimulation electrode having a tip which is screwed into the bone (by manual turning of the knurled disk at the rear end of a small torsion transmitting tube shown in detail in FIG. 14);

FIG. 14 is a fragmentary enlarged side elevational view of the osteological instrument of FIG. 13 (and showing the knurled disk at its rear end, at the right in FIG. 14, and showing an interior hexagon at its front stimulation-electrode-engaging end);

FIG. 15 is an end elevational view of the osteological instrument of FIG. 14, viewed from its front end;

(List continued on next page.)

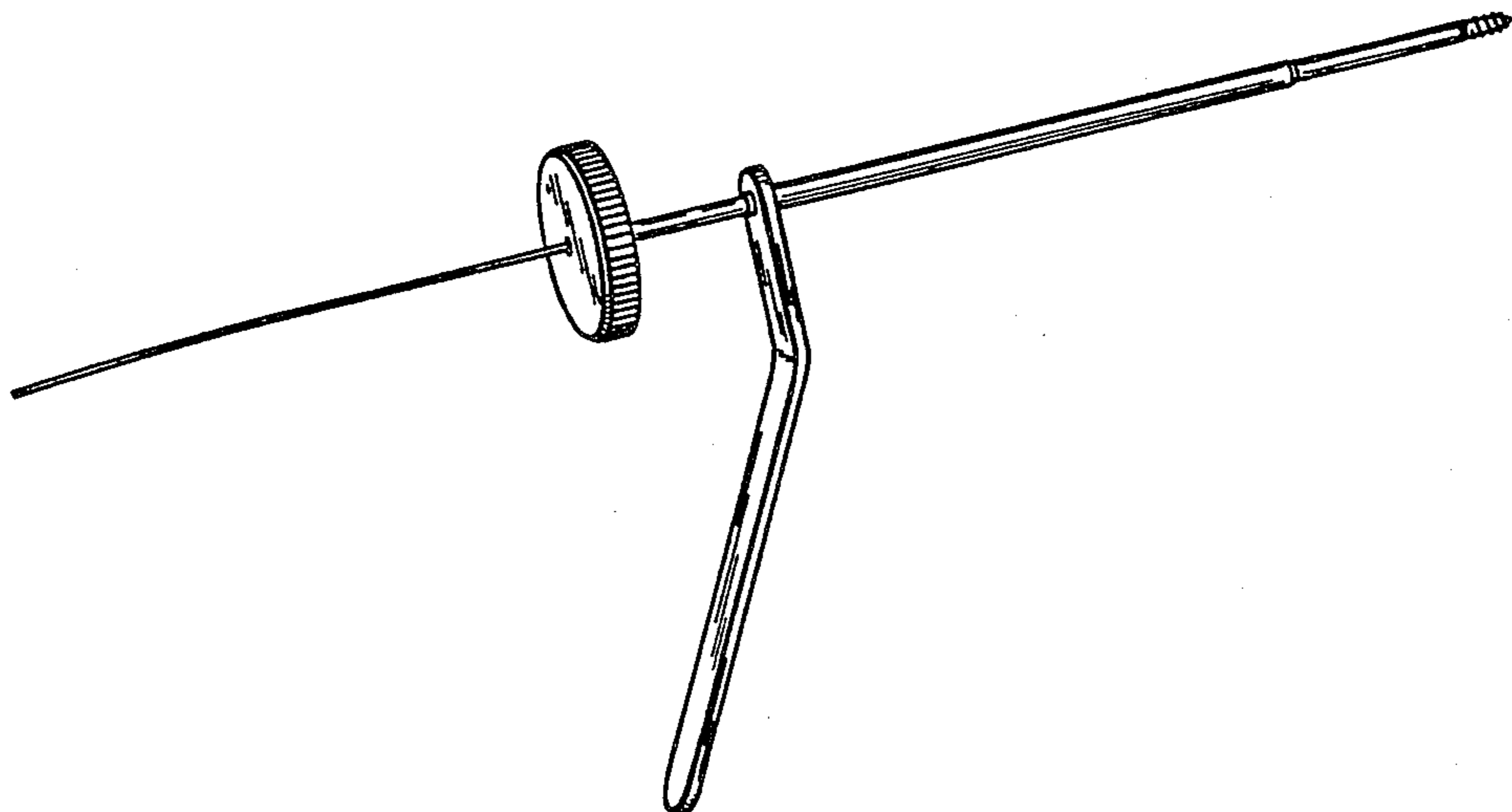


FIG. 16 is an end elevational view of the osteological instrument of FIG. 14, viewed from its rear end;

FIG. 17 is a perspective view of an osteological instrument for forming a site in the bone for receiving a stimulation electrode and comprising the hollow needle implement of FIG. 1 and a drill bit such as that of FIGS. 8-12;

FIG. 18 is a perspective view of an osteological instrument for use in emplacing a stimulation electrode, consisting of the hollow needle implement of FIG. 1 and the electrode driving tool of FIGS. 13-16, operatively associated with a stimulation electrode at the frontal end (to the right in FIG. 18) and showing an insulated electrical conductor (to the left in FIG. 18 and which extends within the electrode driving tool and connects with the stimulation electrode tip as illustrated in FIG. 19);

FIG. 19 is a partial enlarged view showing the frontal end of the electrode driving tool of FIG. 14 being placed over the insulated electrical conductor such that movement of the driving tool toward the tip of the stimulation electrode will result in driving interengagement between an exterior hexagonal nut portion of the stimulation electrode and the interior hexagonal socket portion at the frontal end of the driving tool, (behind the nut portion of the stimulation electrode is a sleeve for fastening to the insulated electrical conductor which is electrically connected with the electrode tip);

FIG. 20 is a frontal end view of the stimulation electrode seen in FIG. 19;

FIG. 21 is a perspective view of an osteological instrument for pressing through the soft tissue up to the bone

(such instrument comprising an assembly of the components of FIGS. 1 and 2);

FIG. 22 is a side elevational view of the osteological instrument of FIG. 21;

FIG. 23 is a top plan view of the osteological instrument of FIG. 21;

FIG. 24 is a front elevational view of the osteological instrument of FIG. 21;

FIG. 25 is a perspective view of a second form of the osteological instrument of the present invention (utilizing the hollow needle implement of FIG. 1 which is also used in the form of osteological instrument shown in FIGS. 21-24, and also utilizing the drill bit of FIGS. 3-7);

FIG. 26 is a side elevational view of the instrument of FIG. 25;

FIG. 27 is a bottom plan view of the instrument of FIG. 25 (but showing a driving means engaged with the rear end of the drill bit);

FIG. 28 is a front elevational view of the instrument of FIG. 25;

FIG. 29 is a perspective view of a third form of the osteological instrument of the present invention (utilizing the hollow needle implement of FIG. 1 which is also used in the forms of osteological instrument shown in FIGS. 21-24 and FIGS. 25-28, and also including the electrode driving tool of FIGS. 14-16);

FIG. 30 is a bottom plan view of the instrument of FIG. 29;

FIG. 31 is a side elevational view of the instrument of FIG. 29; and

FIG. 32 is a front elevational view of the instrument of FIG. 29.

FIG 1

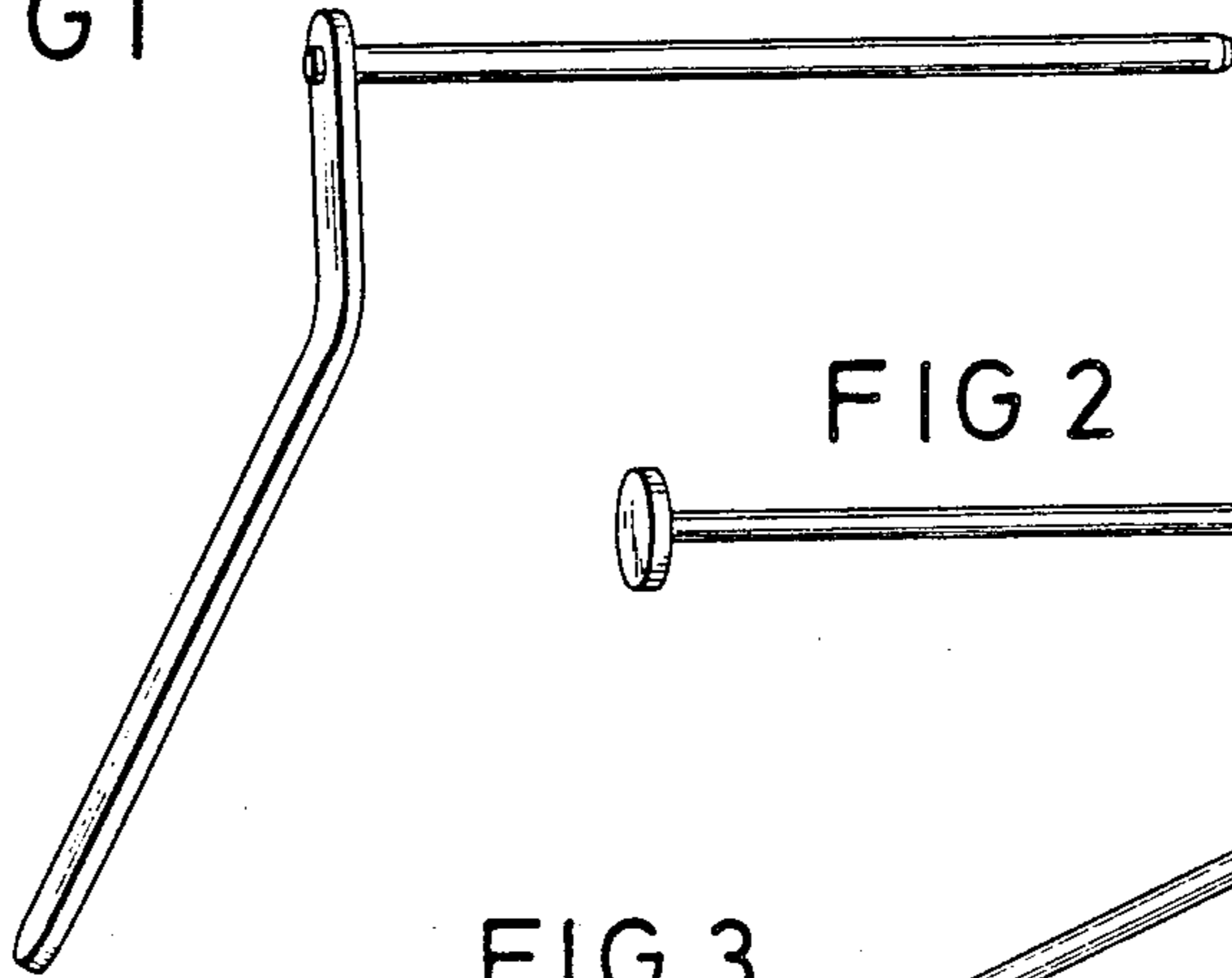


FIG 2

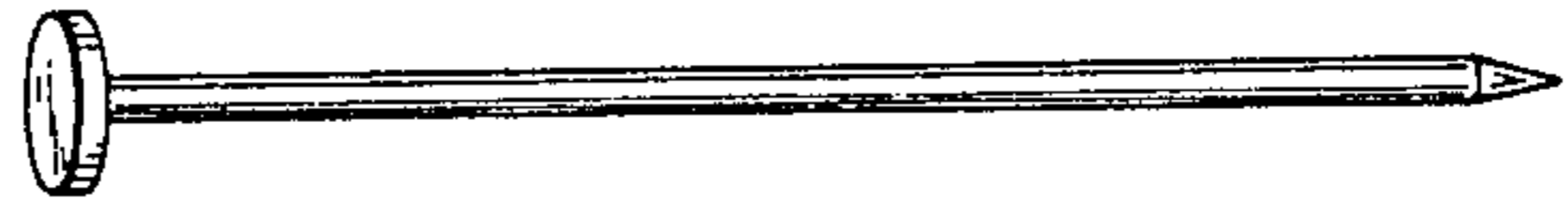


FIG 3

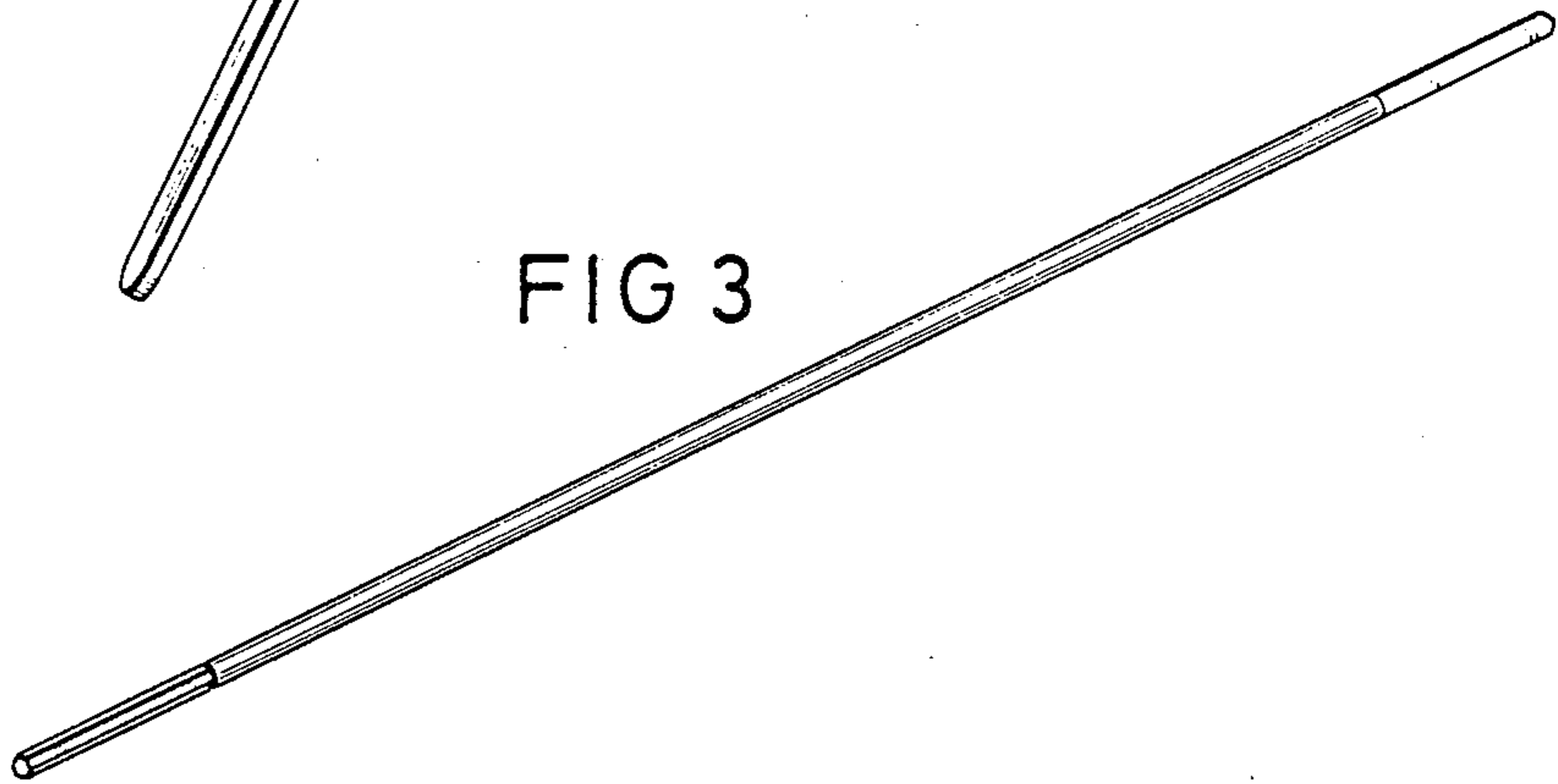


FIG 5

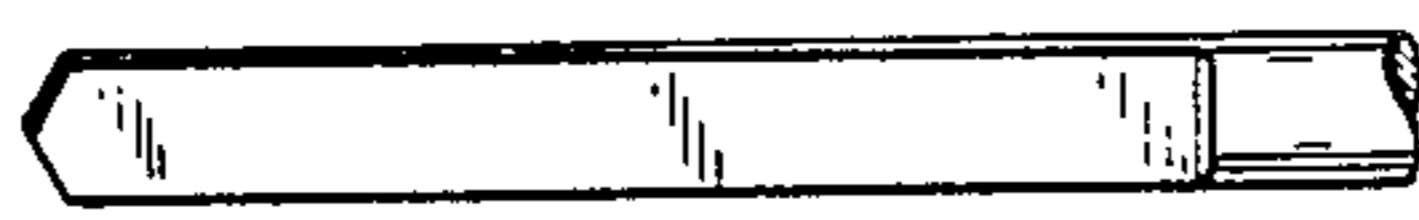


FIG 4

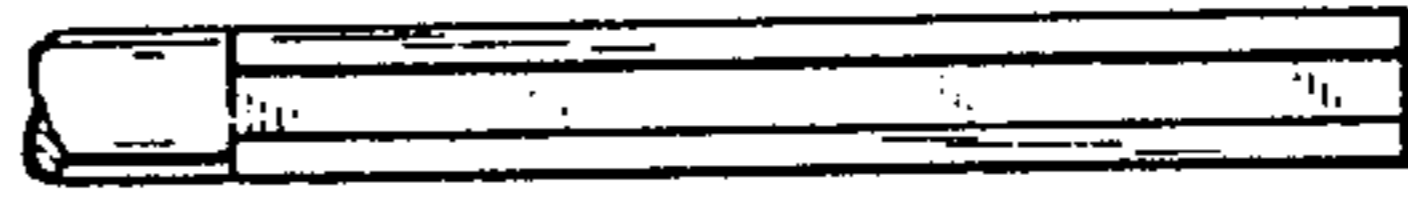


FIG 6



FIG 7



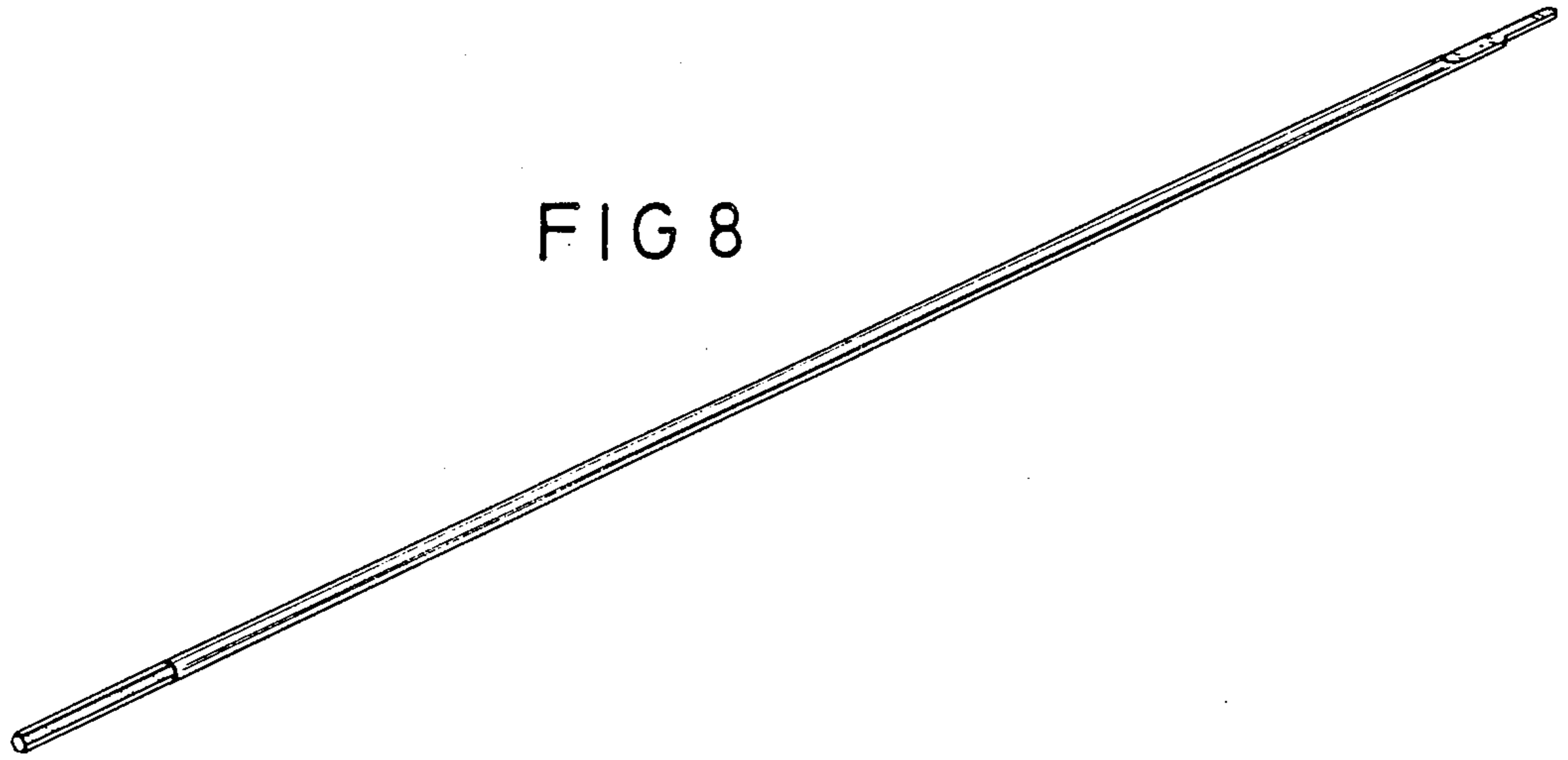


FIG 8

FIG 10



FIG 9

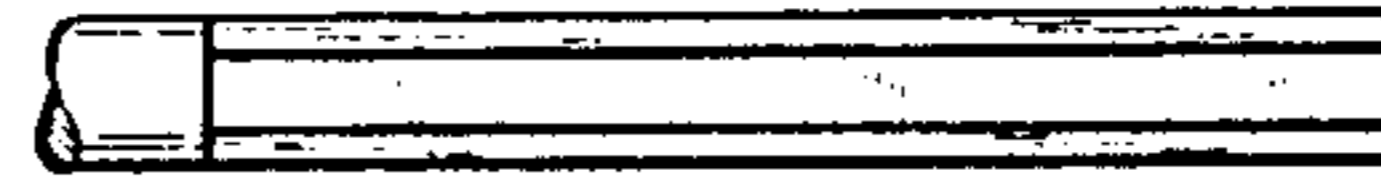
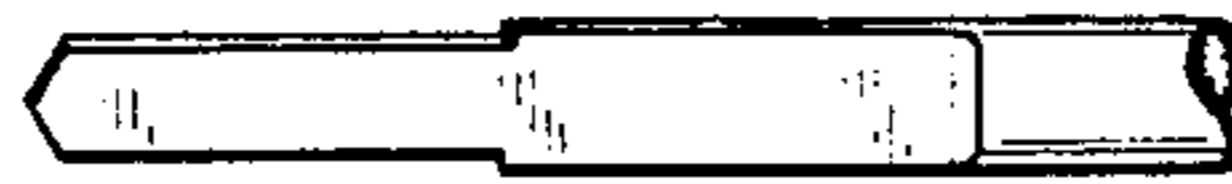
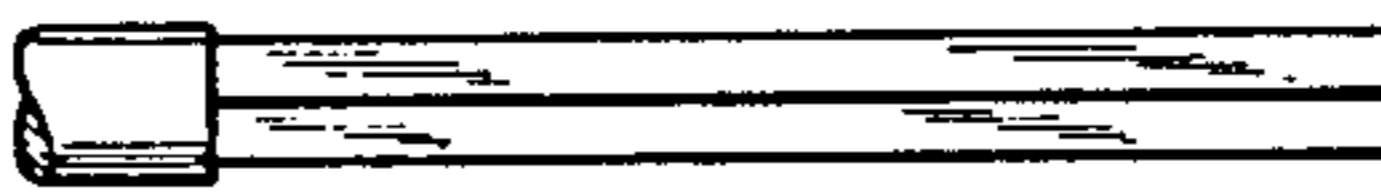
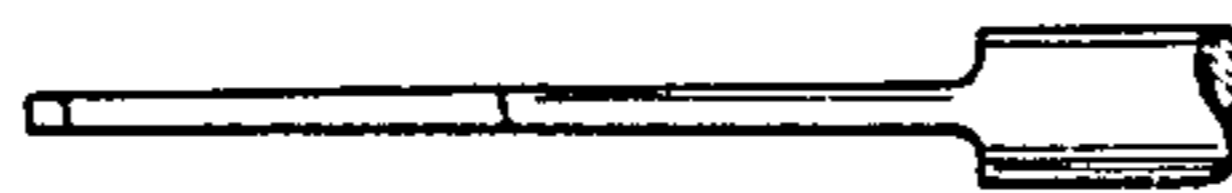


FIG 11



FIG 12



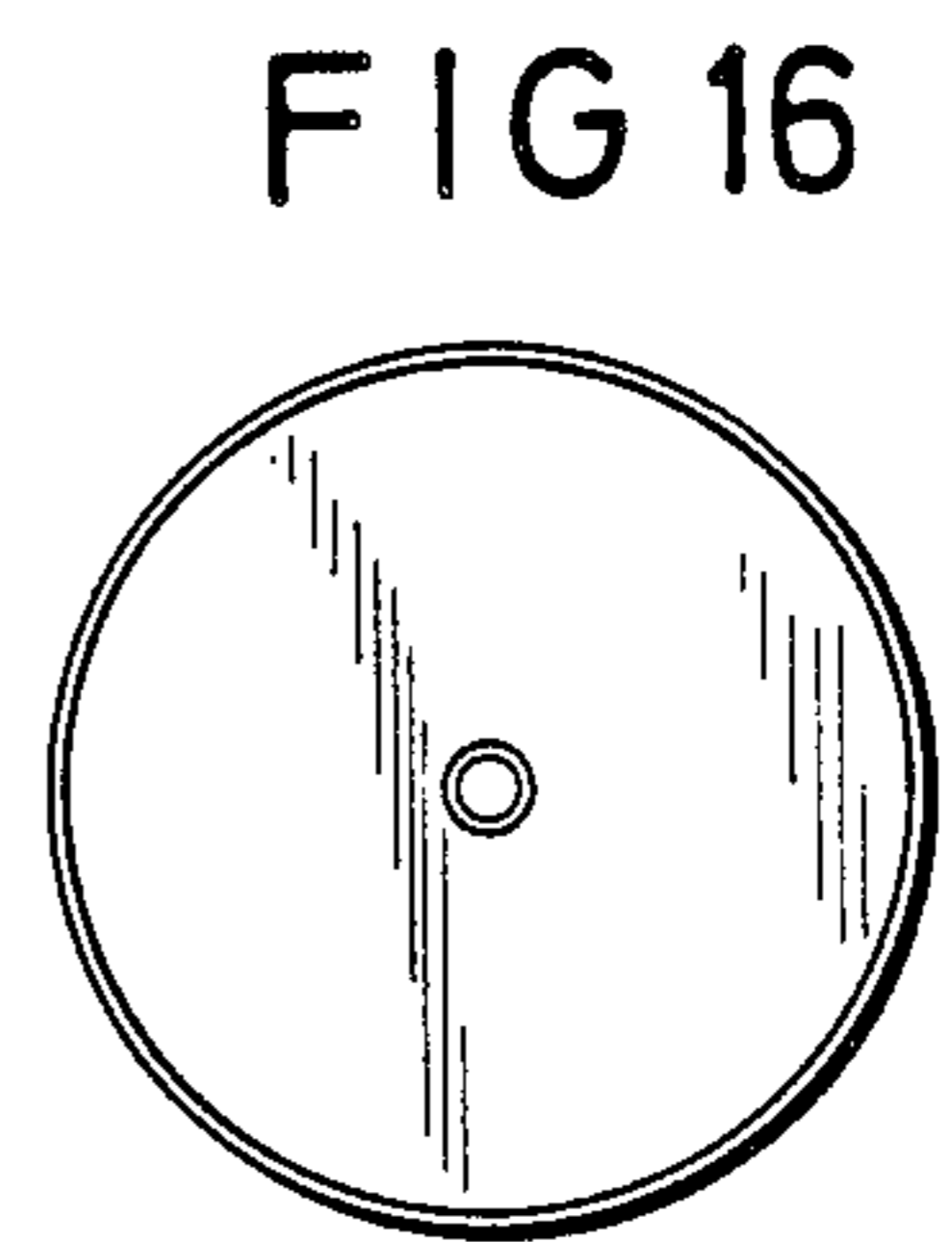
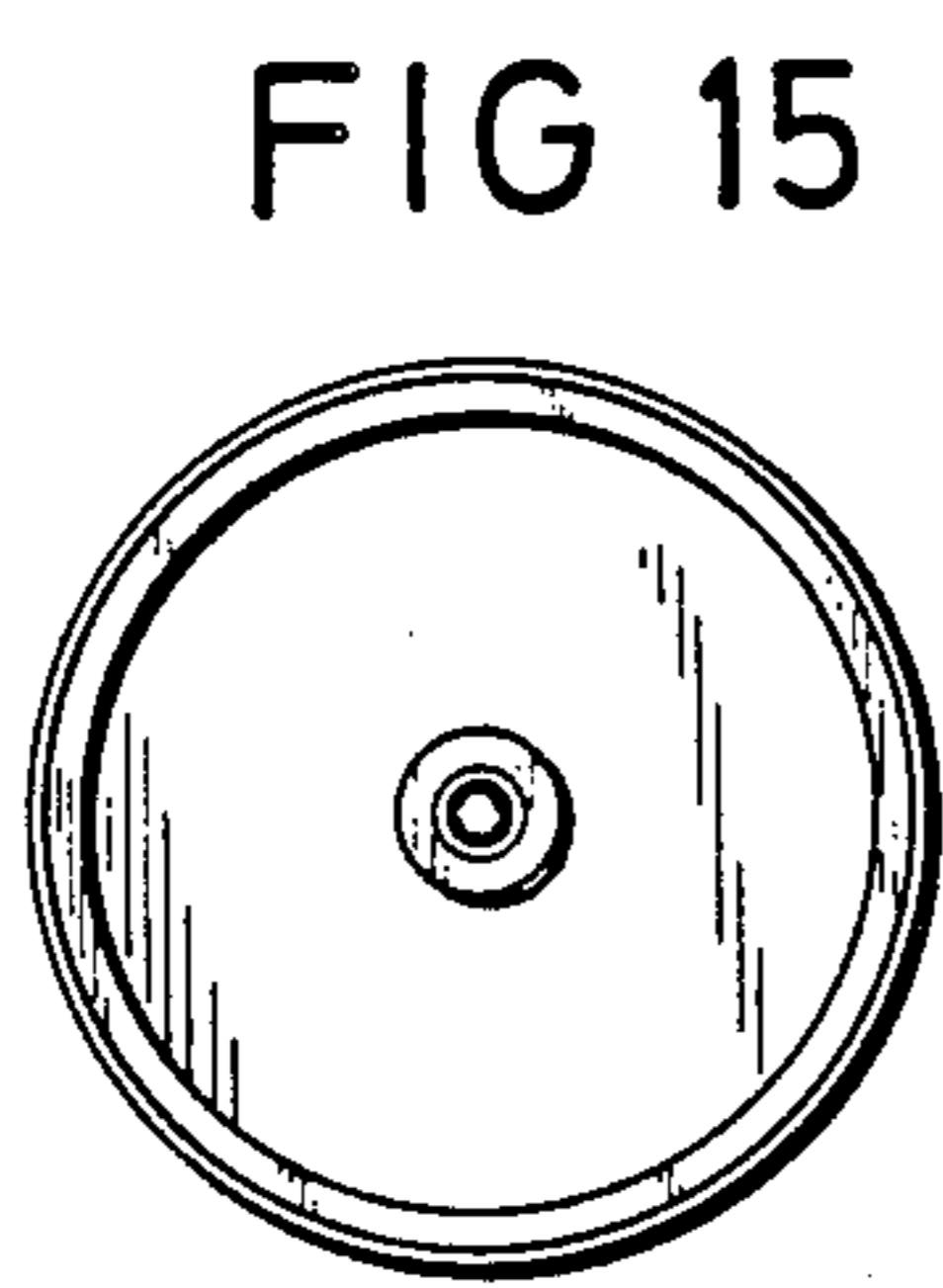
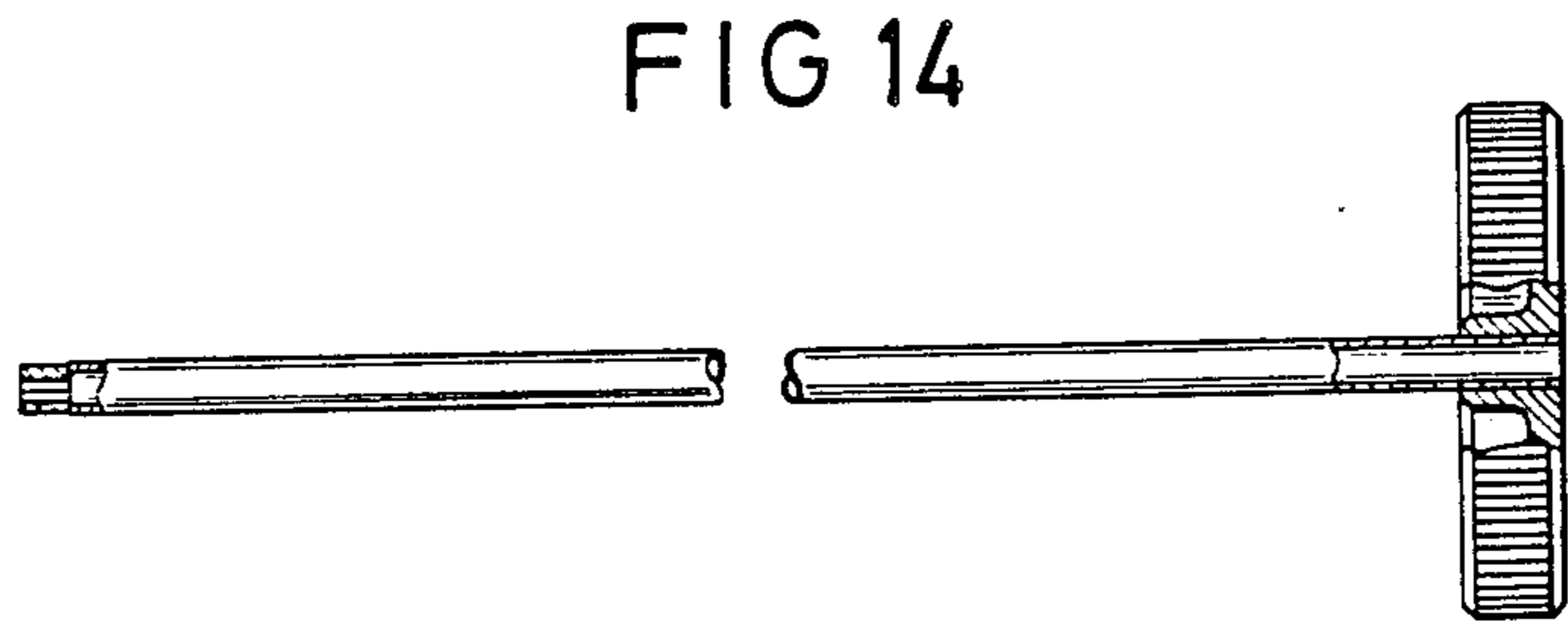
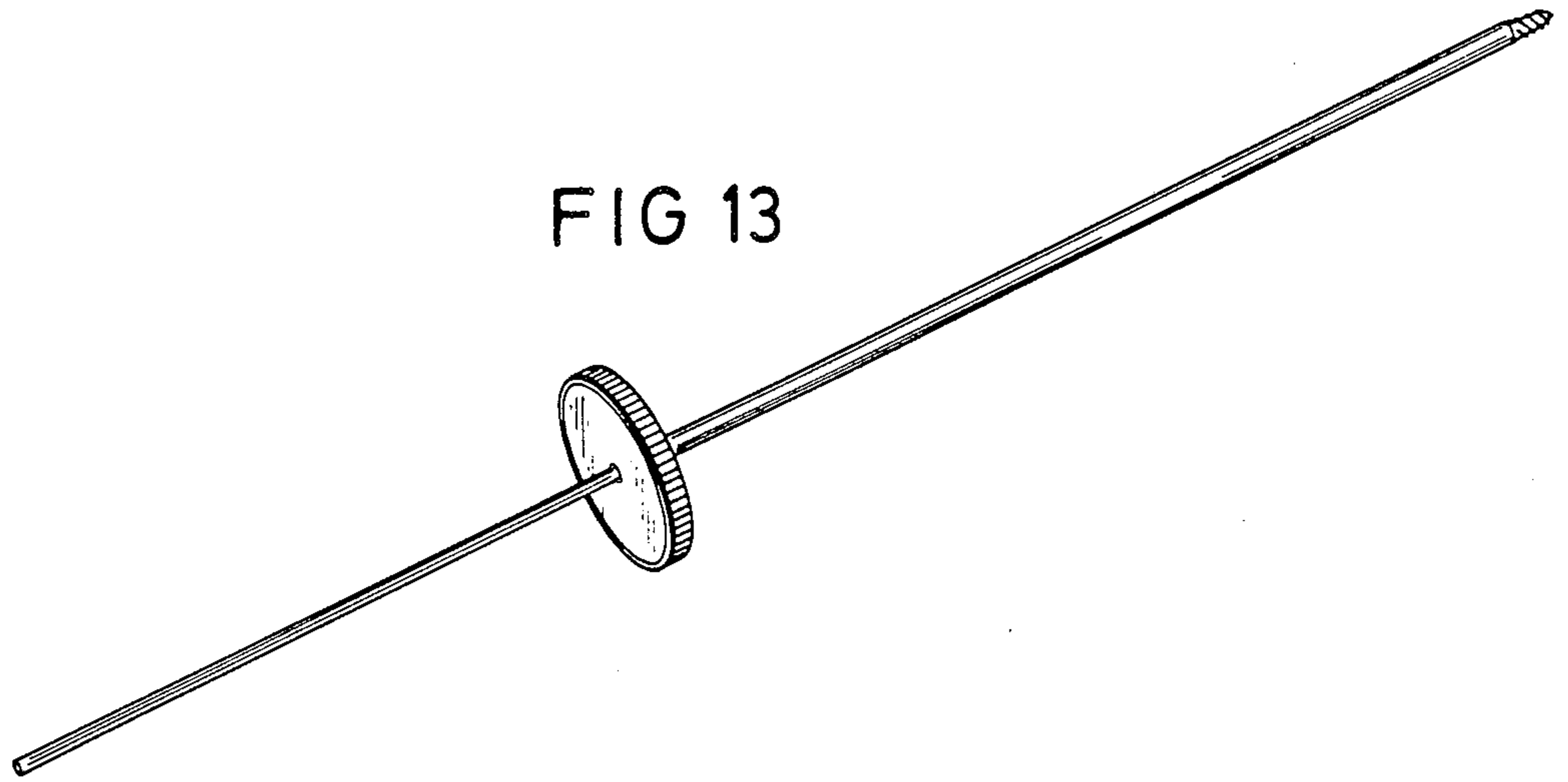


FIG 17

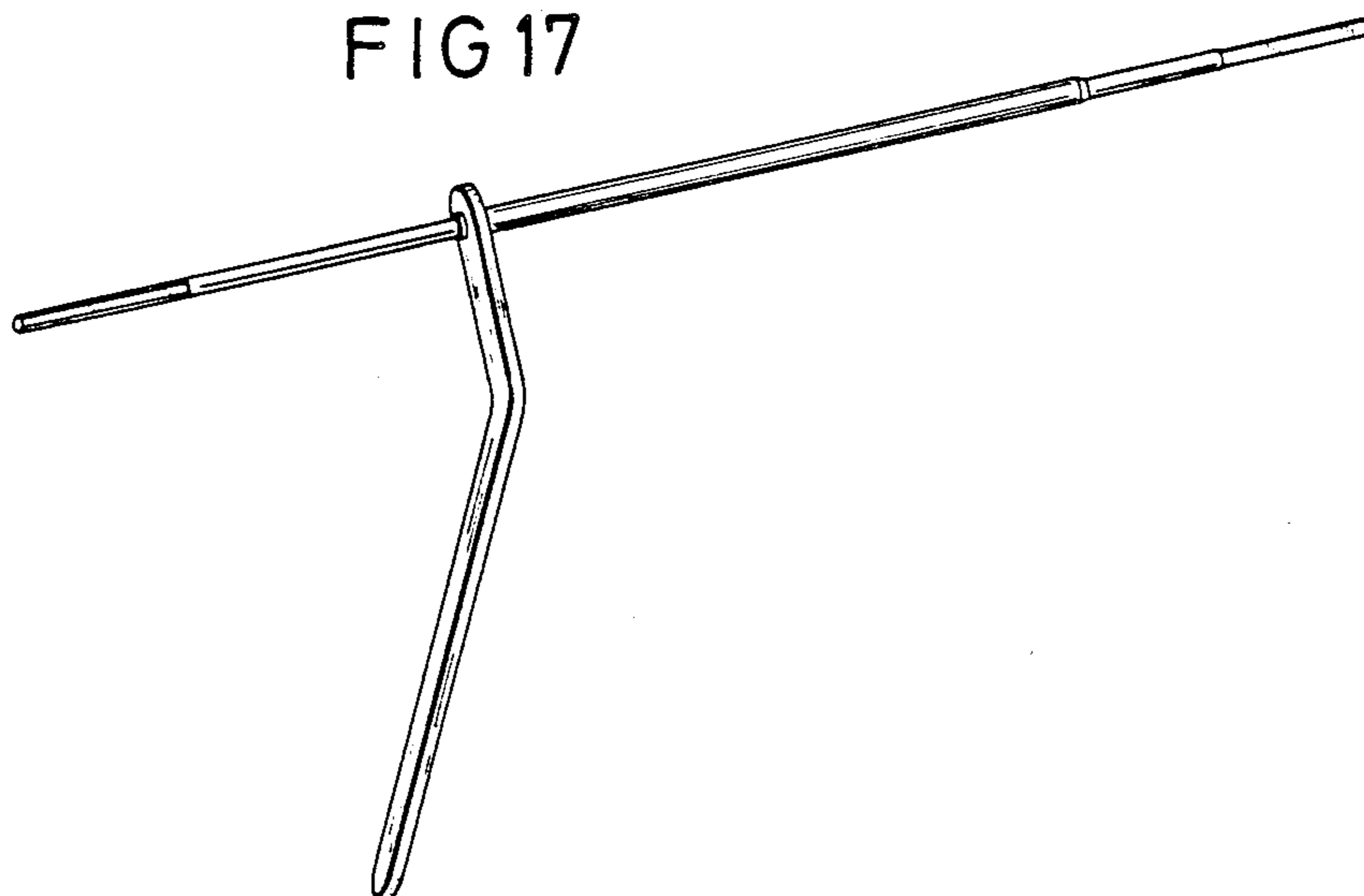


FIG 18

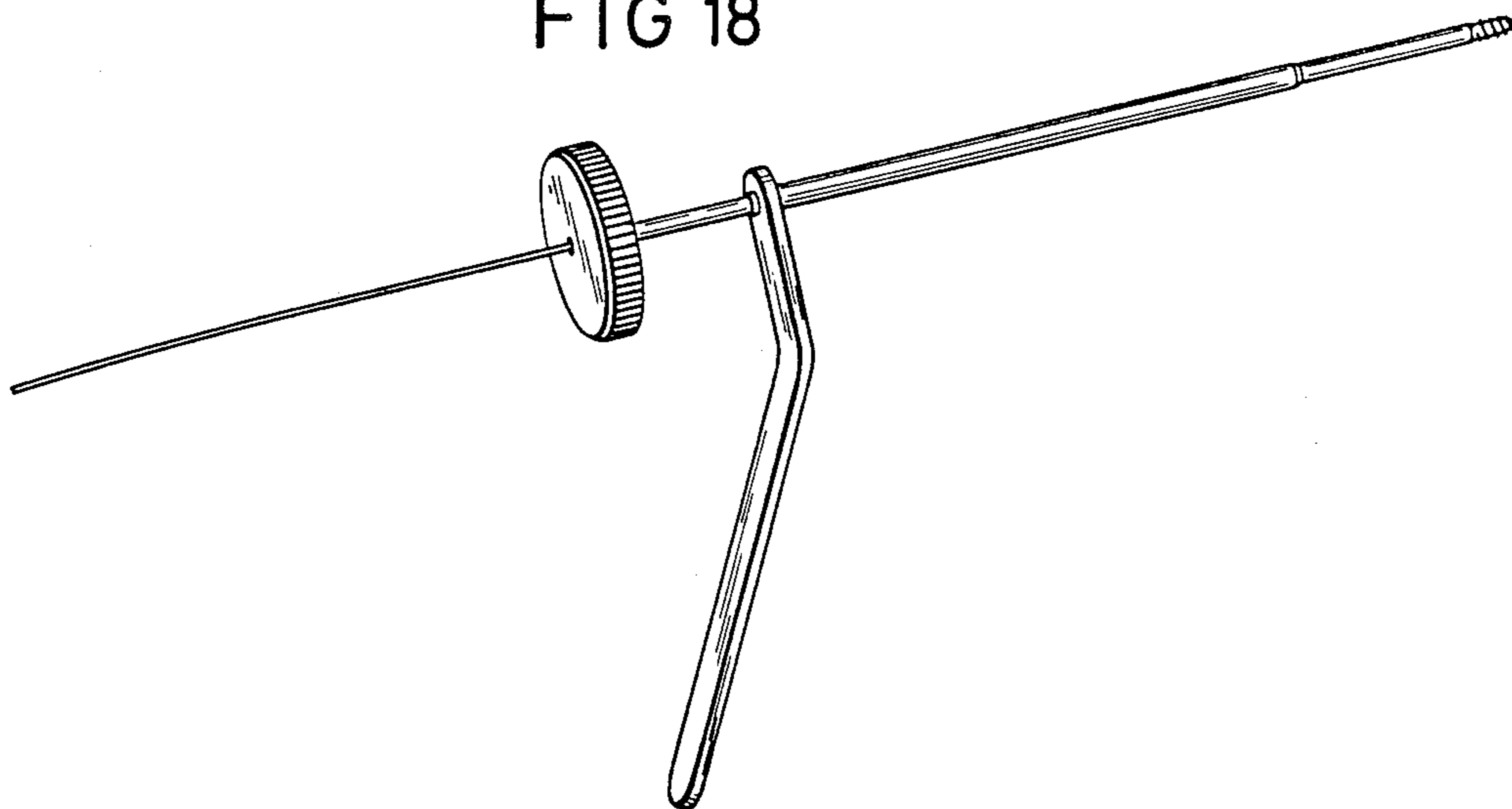


FIG 19

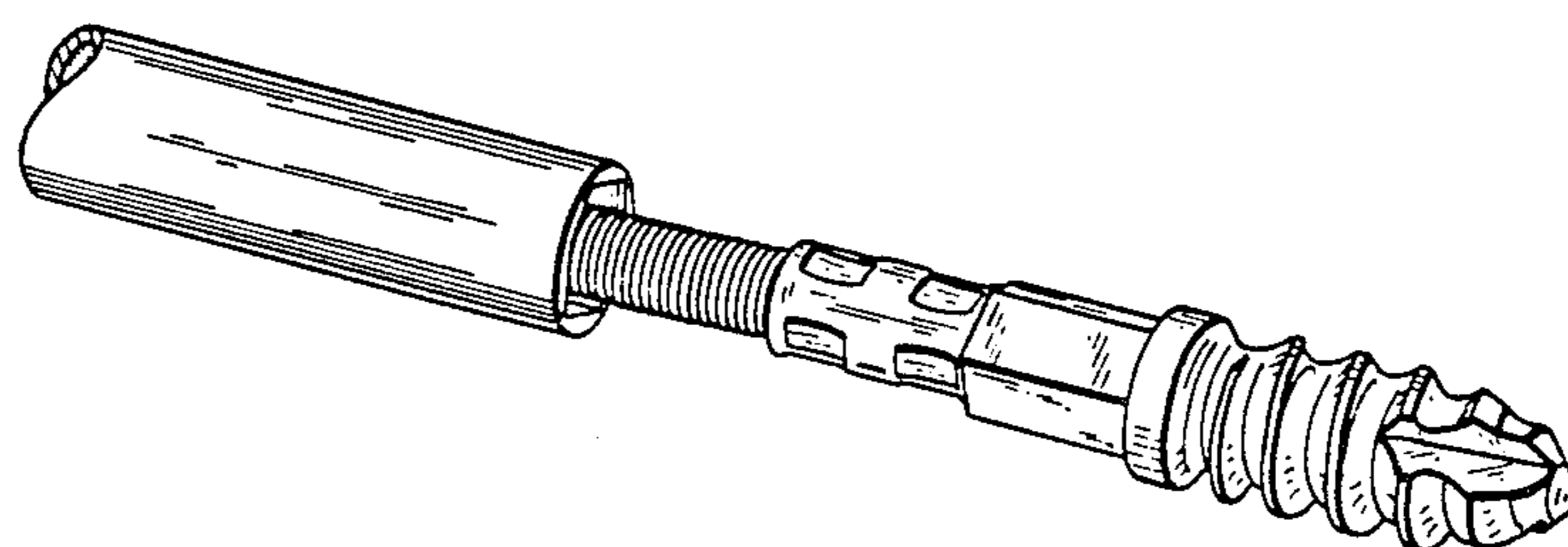


FIG 20

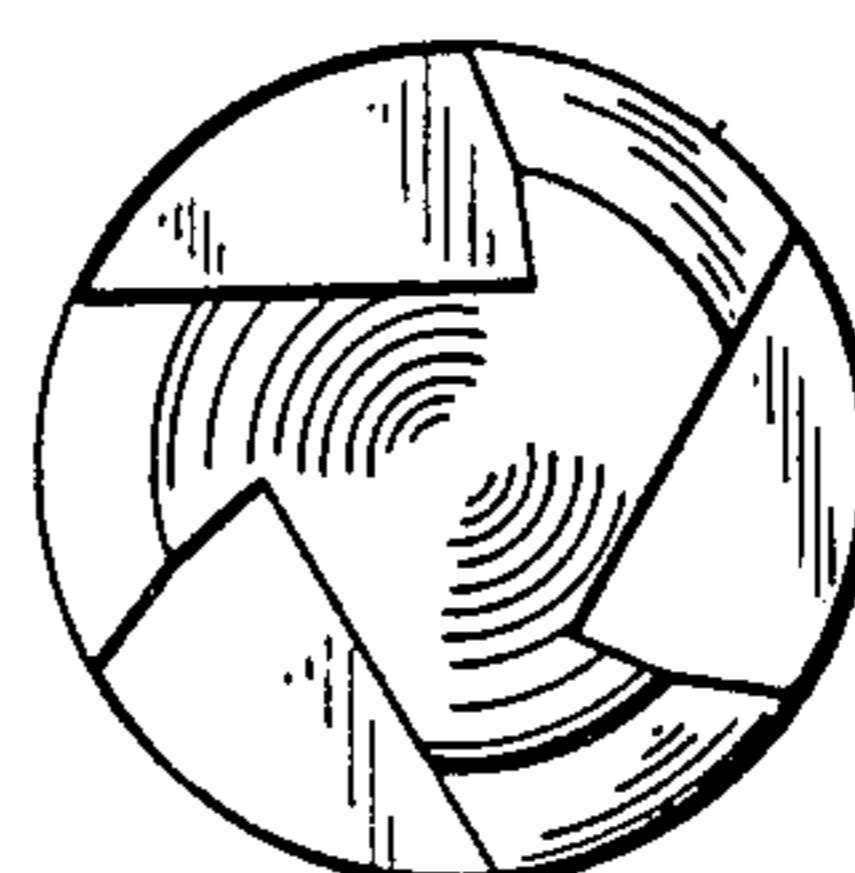


FIG 21

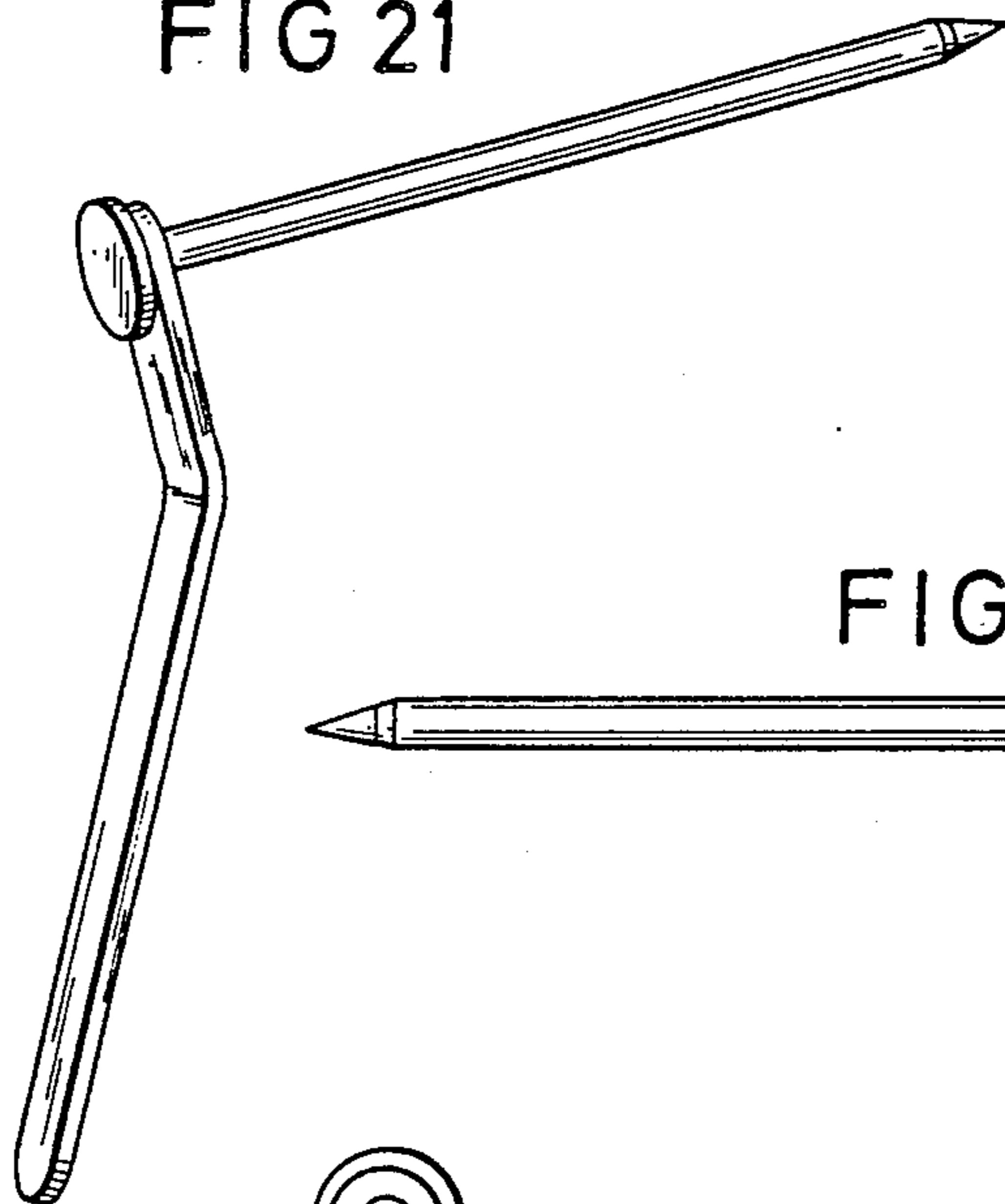


FIG 22

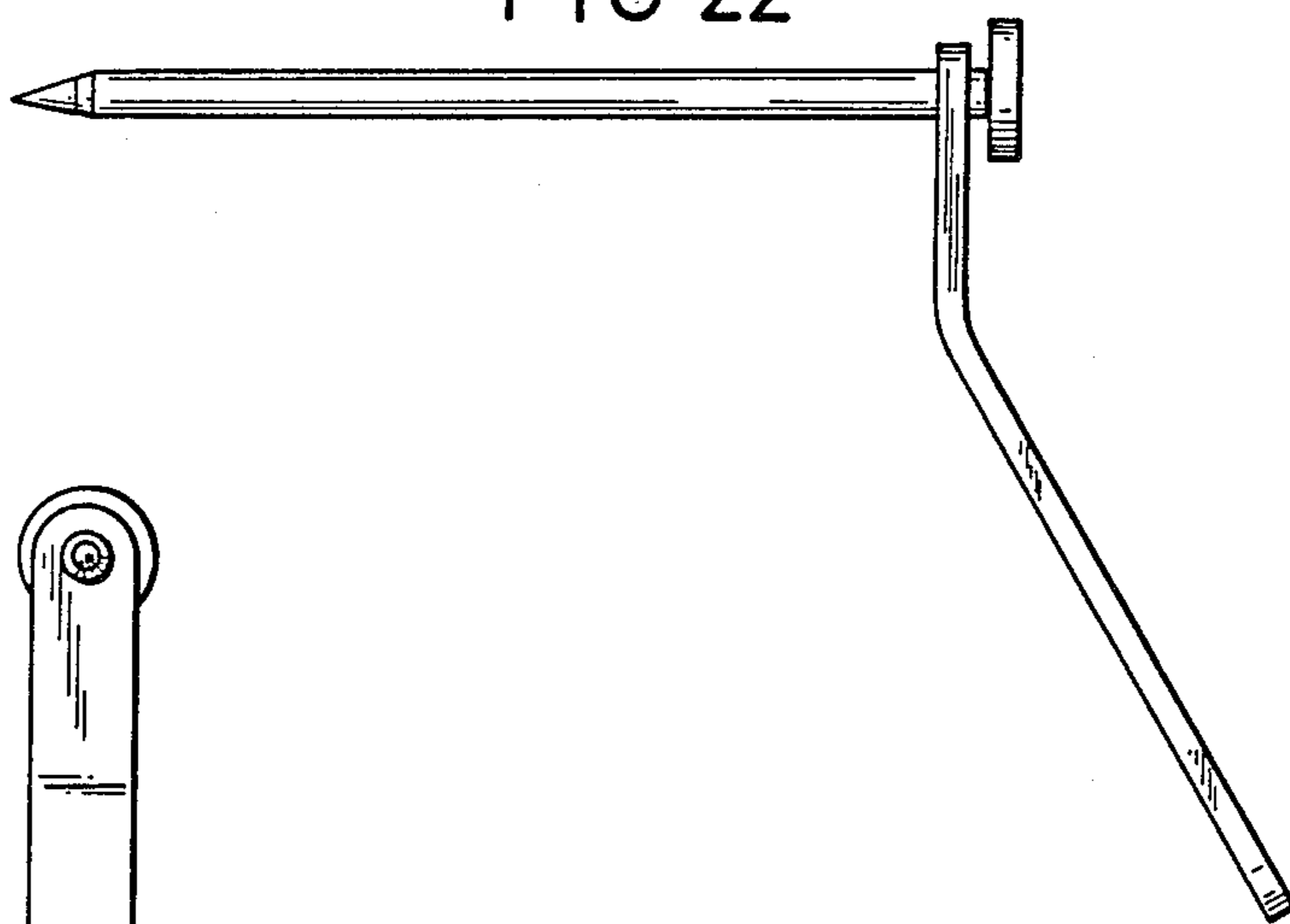
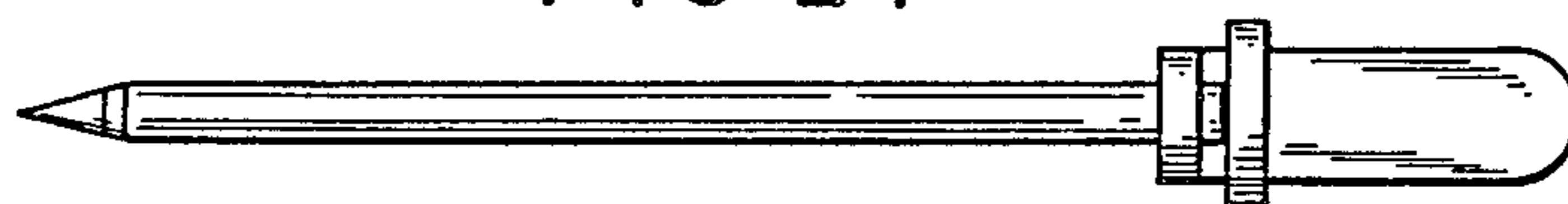


FIG 23



FIG 24





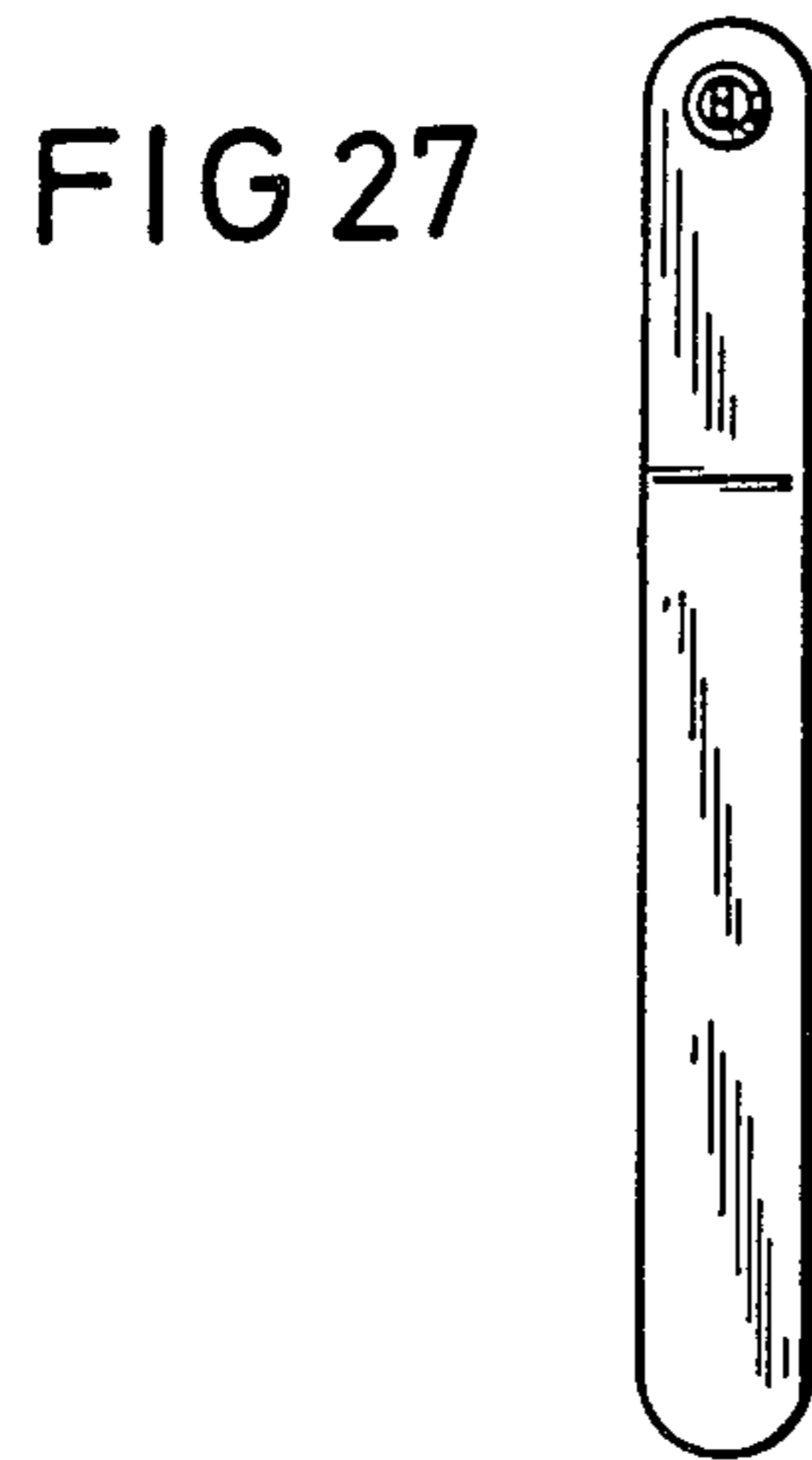
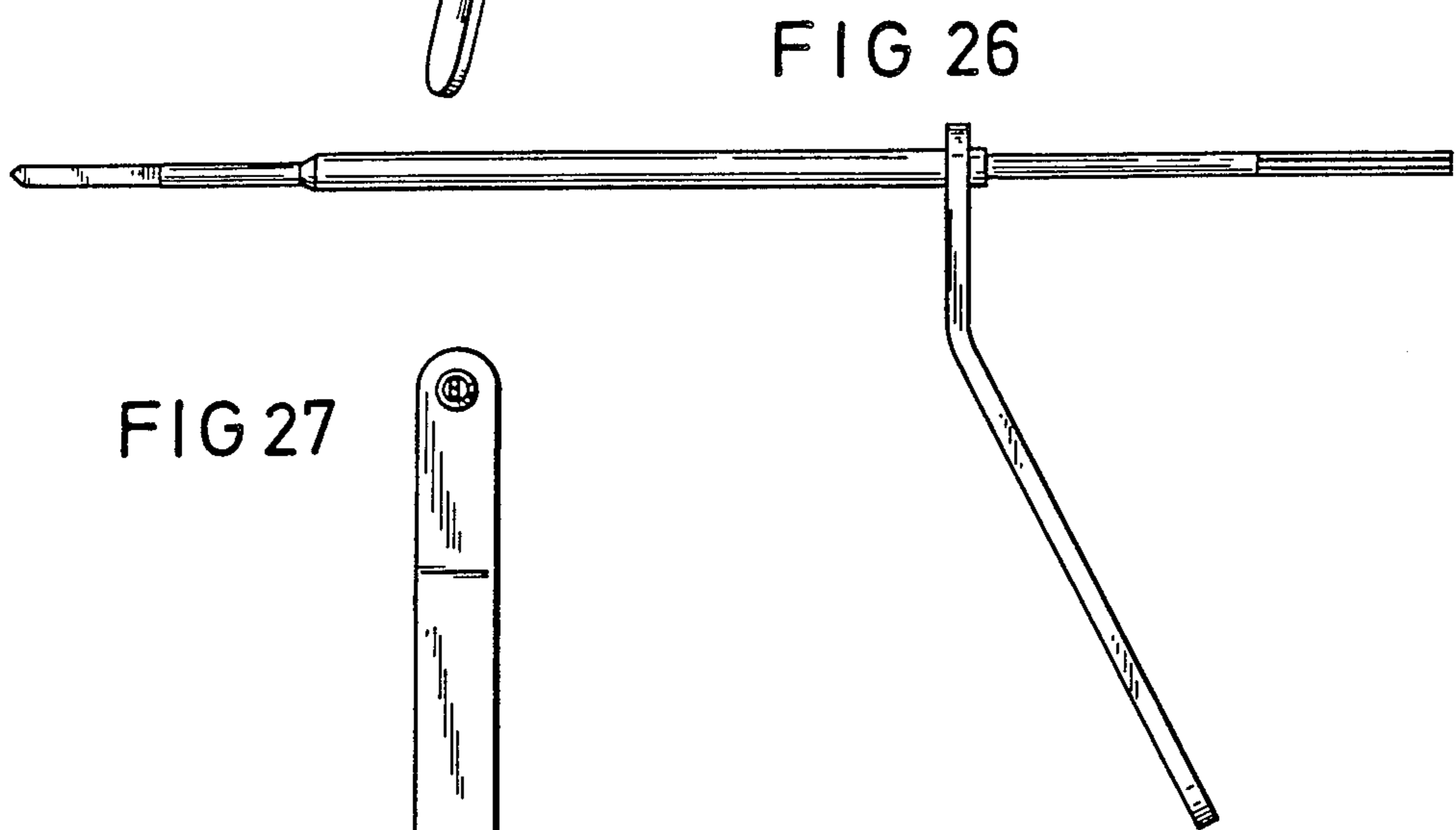
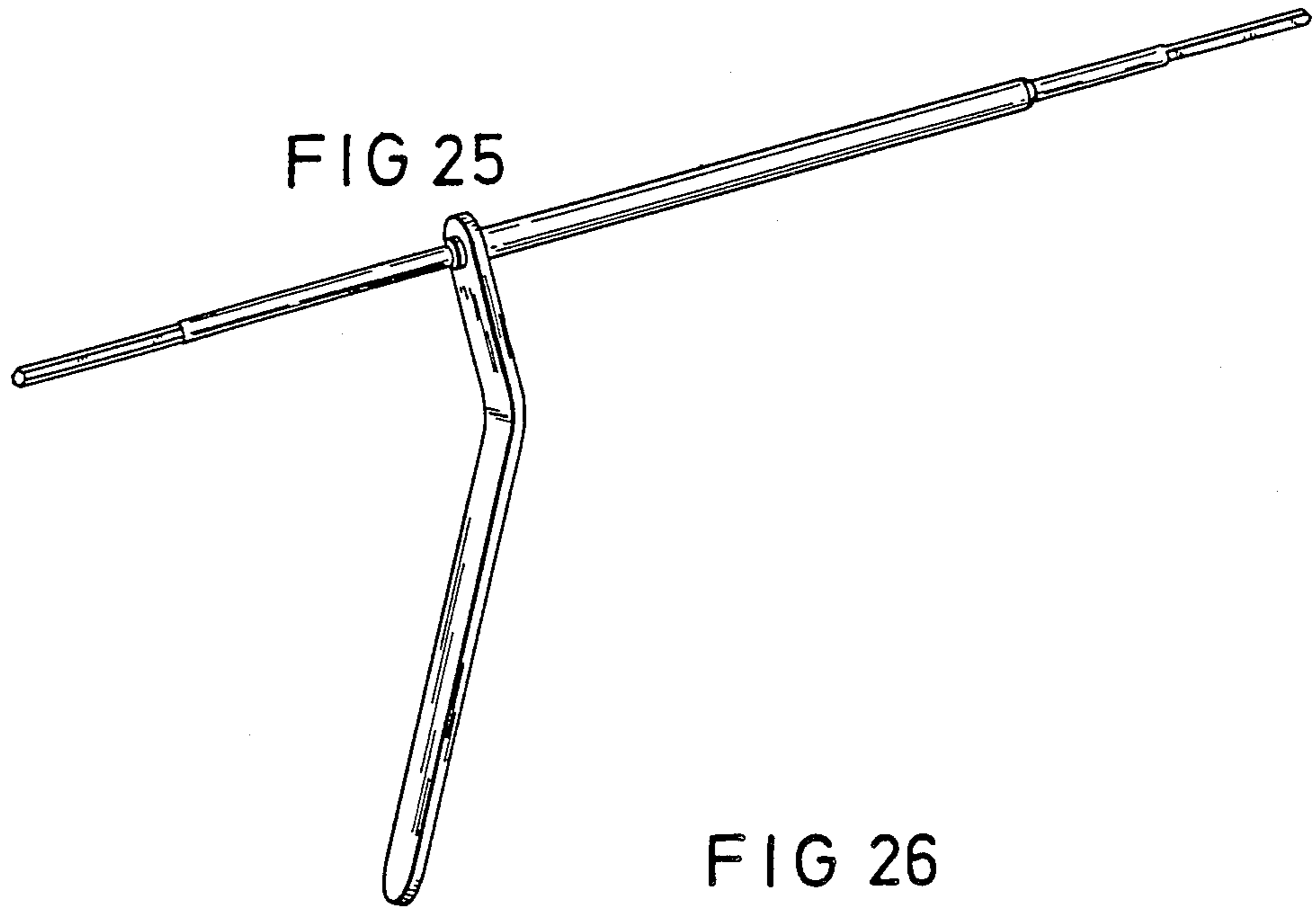


FIG 29

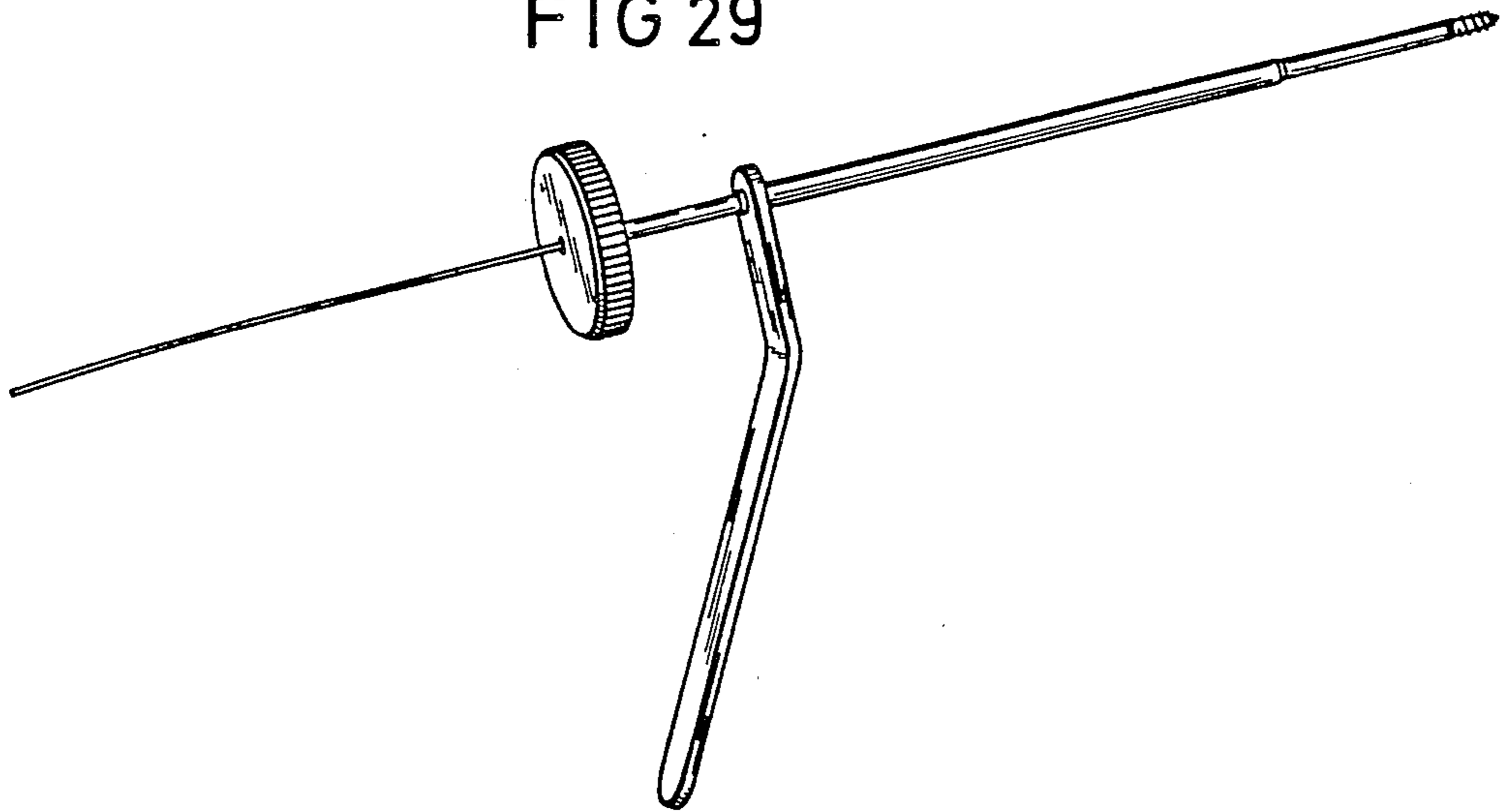


FIG 30

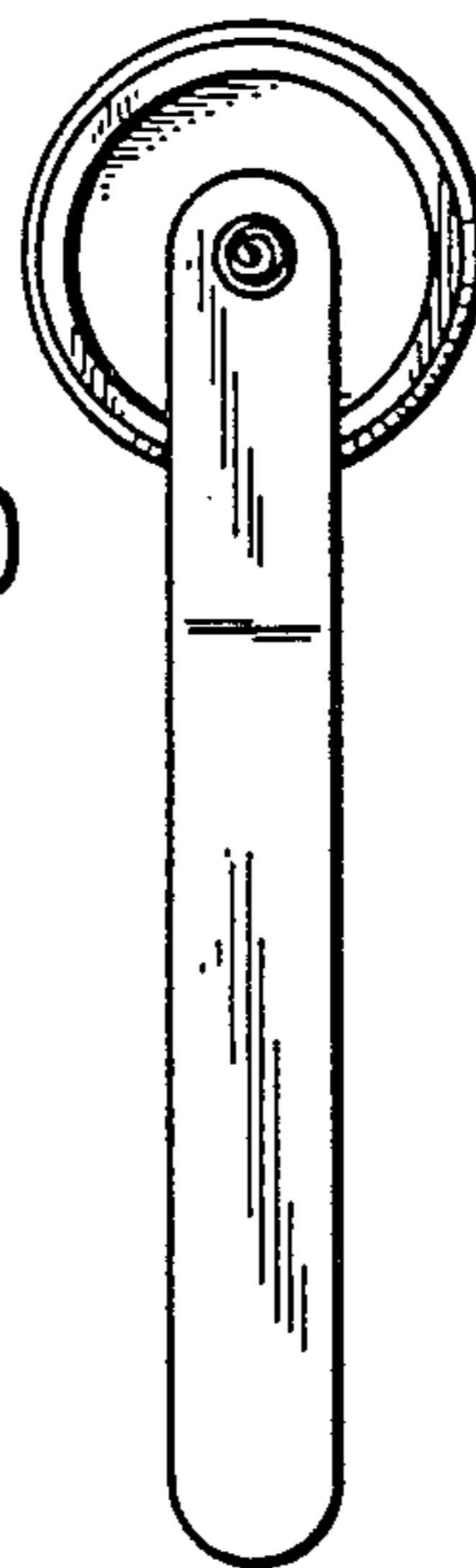


FIG 31

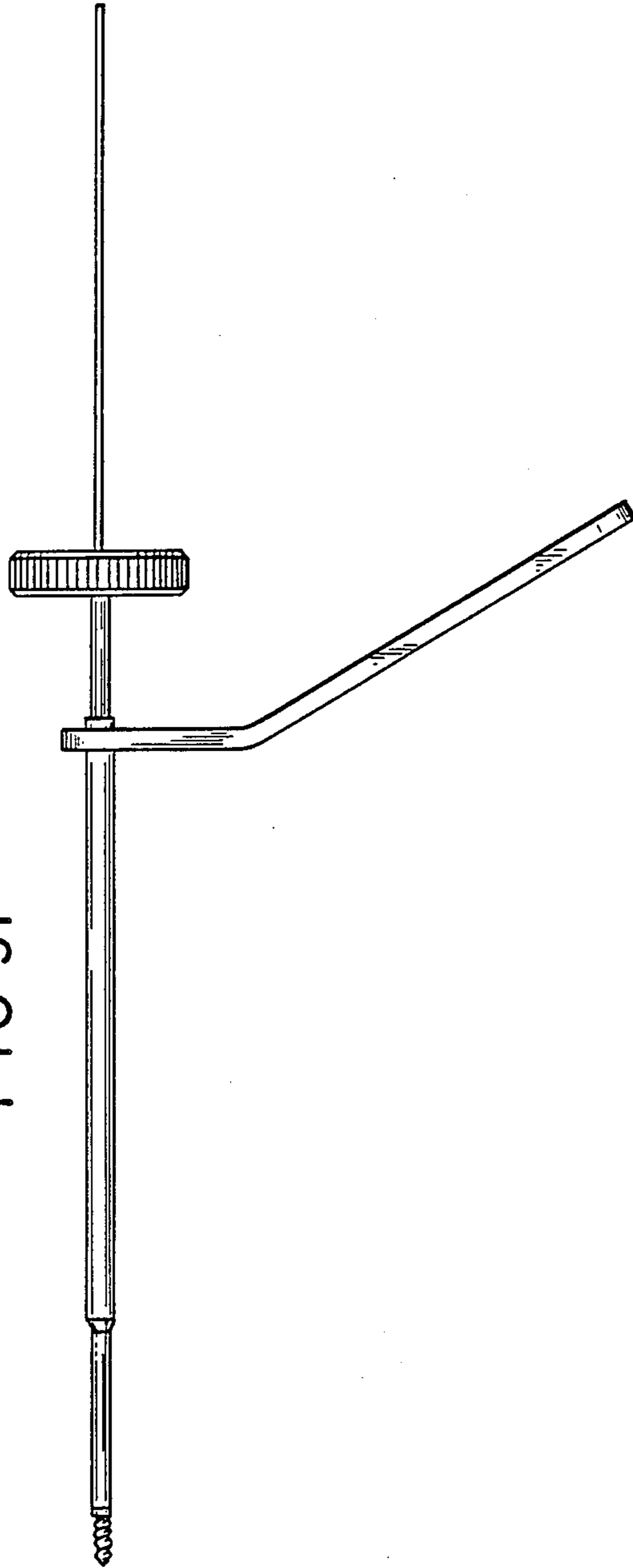


FIG 32

