

No. 706,514.

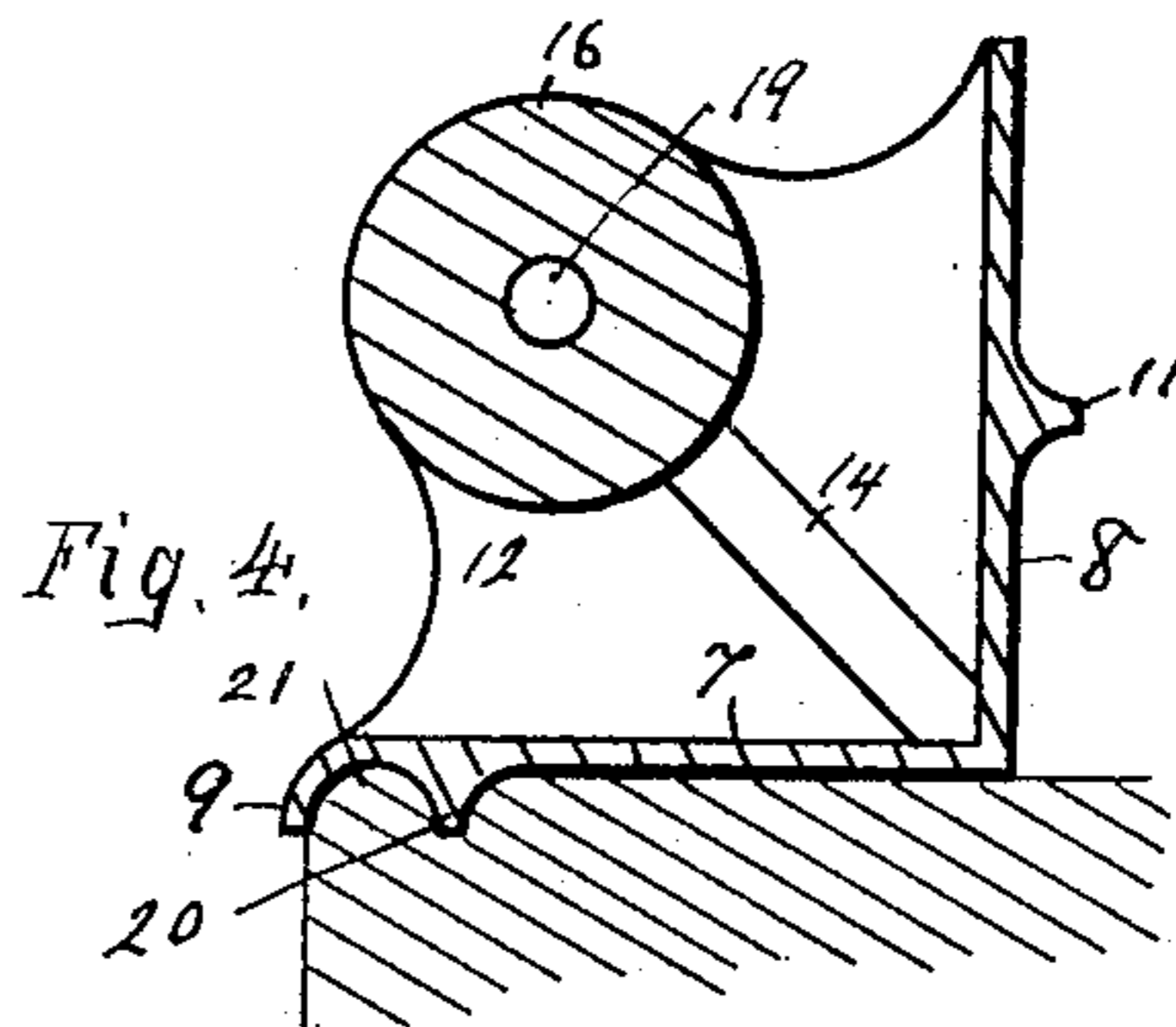
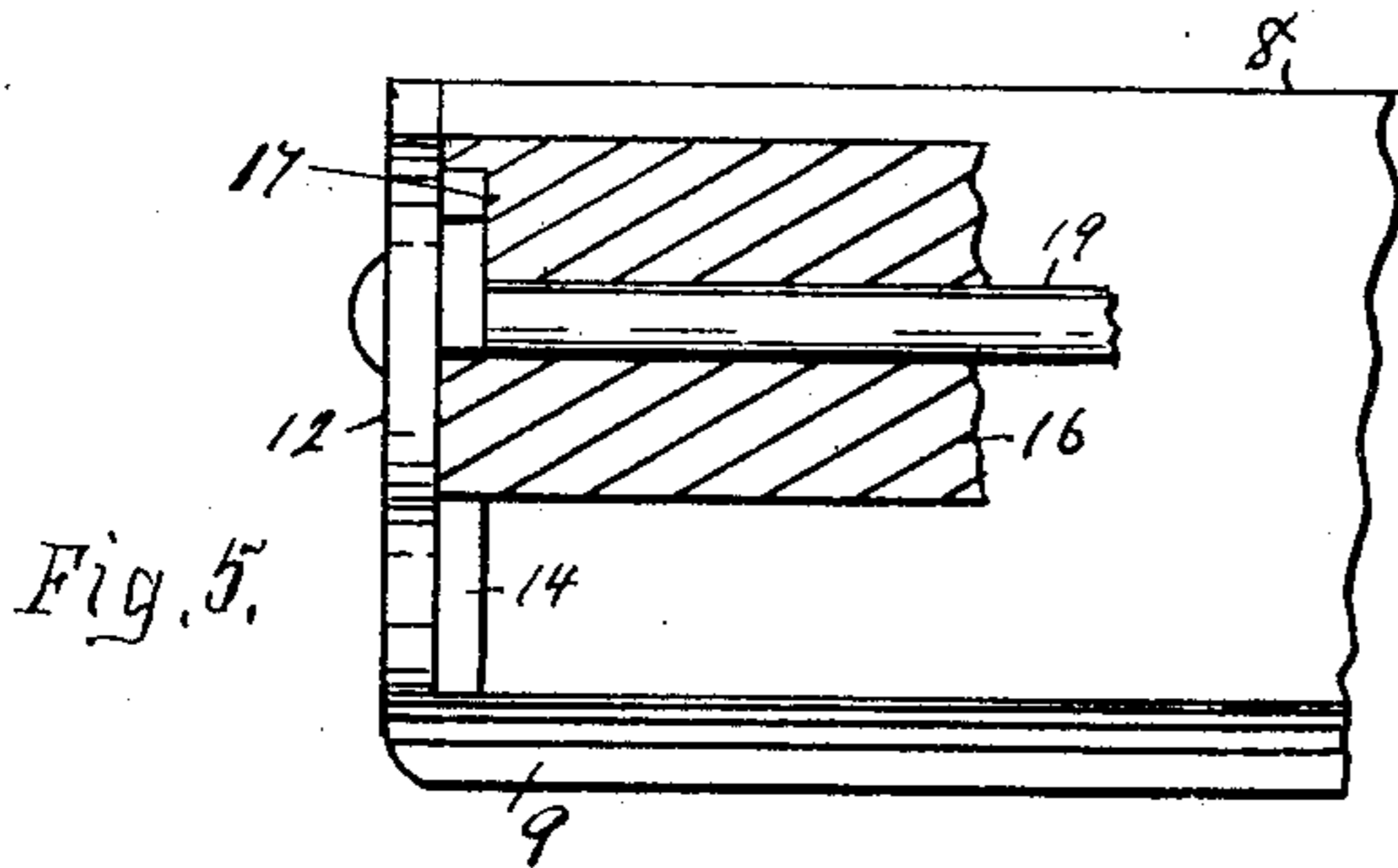
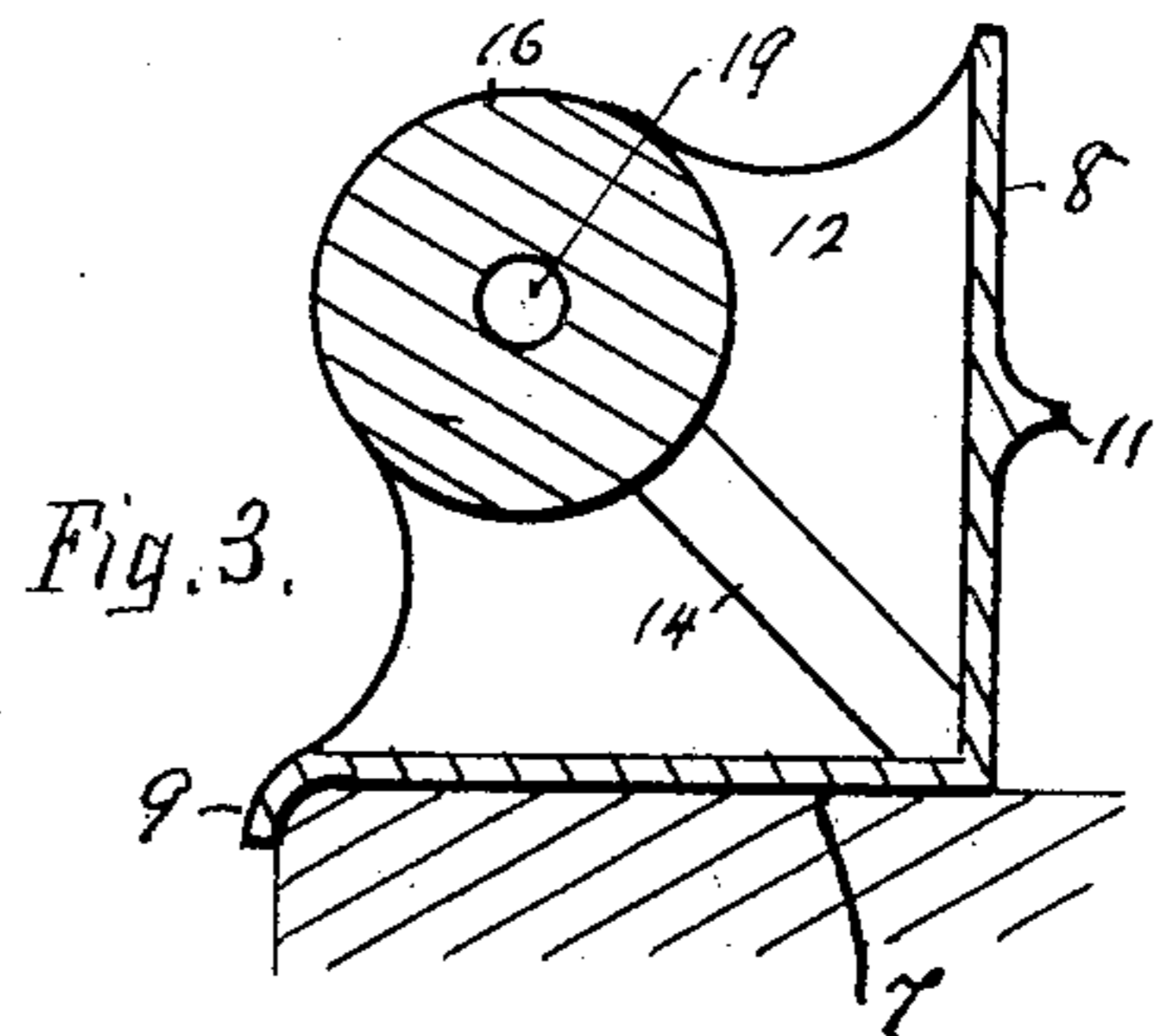
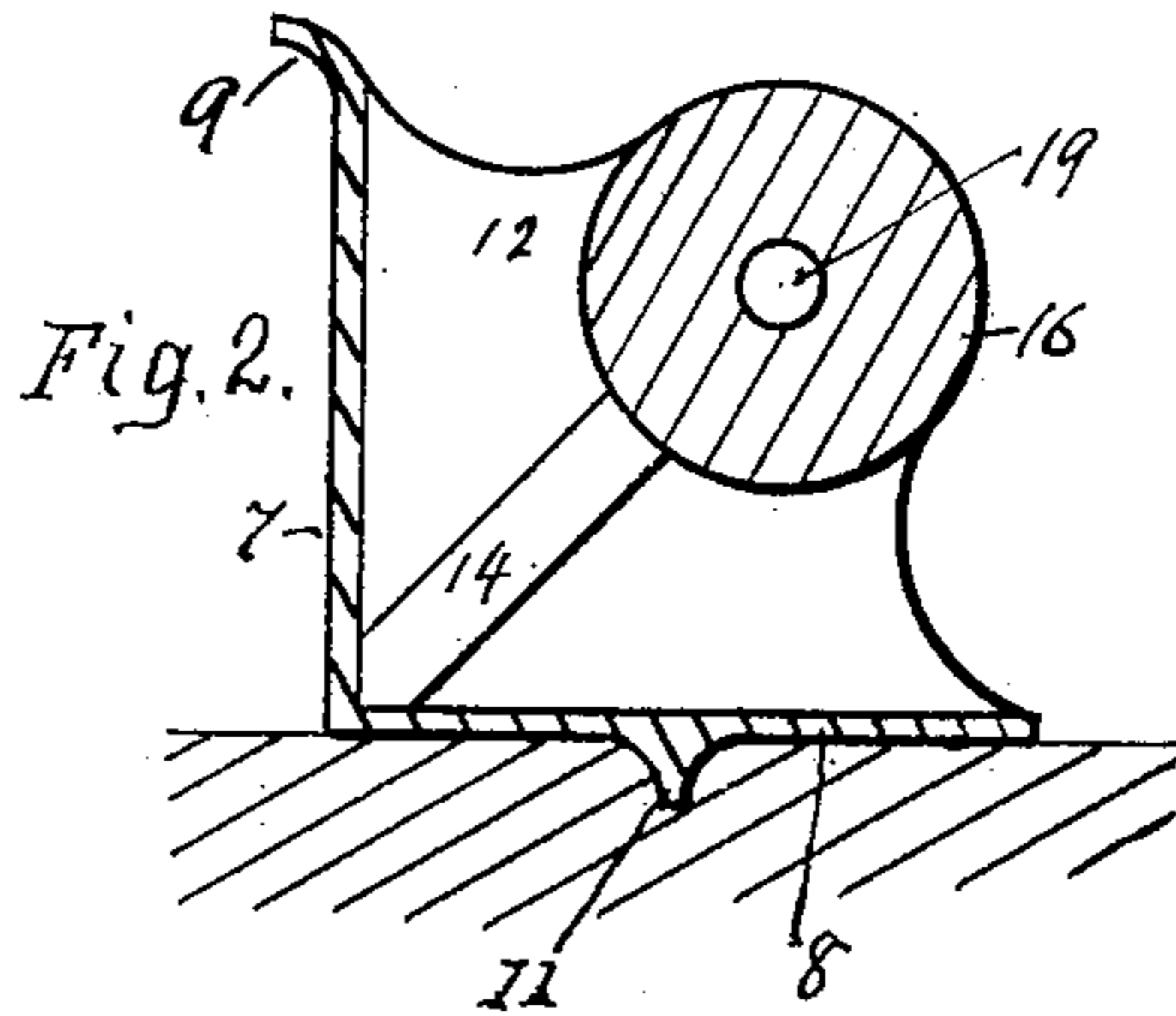
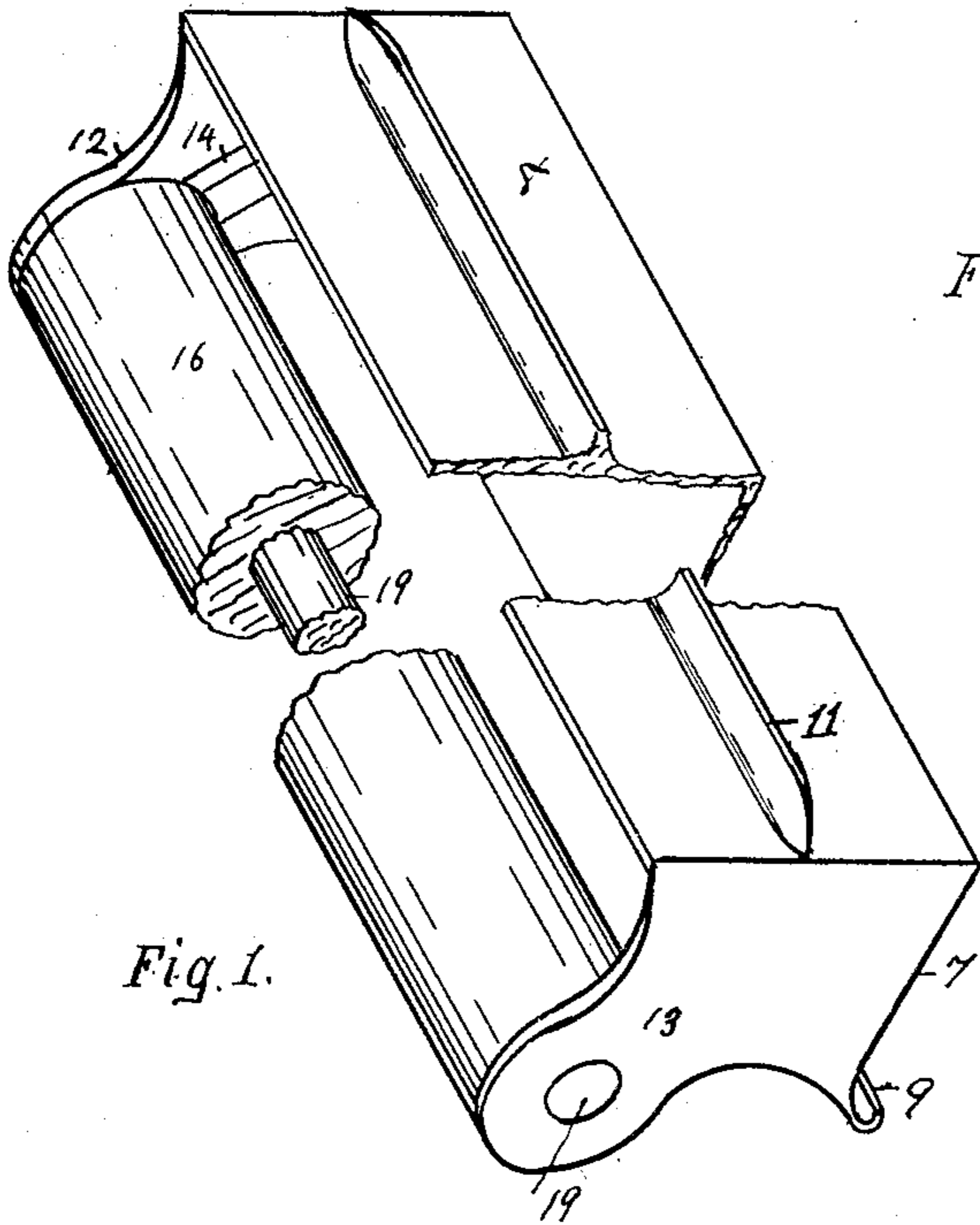
Patented Aug. 12, 1902.

E. A. BENNINGHOFEN.

TROWEL.

(Application filed July 15, 1901.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

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TROWEL.

SPECIFICATION forming part of Letters Patent No. 706,514, dated August 12, 1902.

Application filed July 15, 1901. Serial No. 68,438. (No model.)

To all whom it may concern:

Be it known that I, ERNEST A. BENNINGHOFEN, a citizen of the United States, residing at Hamilton, Ohio, have invented a new and
5 useful Improvement in Trowels, of which the following is a specification.

My invention relates to trowels of that class adapted to use in finishing cement pavements and other plane surfaces; and the objects of
10 my improvement are to provide two faces or smoothing-surfaces at right angles to each other with one handle common to them both, one of said faces having a projecting rib formed thereon and the other terminating at
15 one edge in a curved flange in order that the trowel may be used for the double purpose of making the conventional grooves in the surface of the pavement and for rounding the
20 top edges thereof. These objects are attained in the following-described manner, as illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the trowel with parts broken away; Fig. 2, a transverse
25 section showing the trowel in position to form a groove in the surface of the pavement; Fig. 3, a transverse section showing the trowel in the position to round the edge of the pavement; Fig. 4, a transverse section of a modified
30 form of construction adapted to form a bead on the edge of the pavement; and Fig. 5, a side elevation, with parts in section, of the portion of a trowel.

In the drawings, 7 and 8 represent plane
35 surfaces formed integral and at right angles to each other. The edge of one of said surfaces or faces terminates in a longitudinal flange 9, and a longitudinal rib 11 is raised on the middle portion of the other. Ears 12
40 and 13 are formed on the corresponding ends of said faces, perpendicular thereto and integral therewith. Ribs 14 and 15 project from the inner surfaces of the ears and in a plane which bisects the angle between the smoothing-surfaces 7 and 8. Handle 16 is formed
45 with a transverse groove 17 in each of its ends, adapted to engage with the respective ribs on the ears to prevent it from being turned on the rivet or bolt 19, which is inserted axially
50 therethrough and through the ears and serves to secure the handle permanently in position.

In operation surface 8, with the pointed rib

11 thereon, serves to produce the conventional grooves in the surface of the pavement, as shown in Fig. 2, and surface 7, with the longitudinal flange 9 thereon, serves to form a
55 rounded edge on the top of the pavement, as shown in Fig. 3. In this manner the trowel serves a double purpose and accomplishes the same result which has heretofore required the
60 use of two separate tools. For different purposes the smoothing-surfaces may be formed with a diversity of ribs and grooves, as desired, one modified form of construction being shown in Fig. 4, wherein the combination of
65 a rib 20 with flange 9 forms a semicircular groove 21, adapted to produce a bead on the edge of the pavement. The curved flange may be omitted from blade or surface 7, when said blade will be adapted to smooth plane
70 surfaces of any extent, which may then be properly grooved by turning the trowel with ribbed surface or blade 8 into position.

Having fully described my improvement, what I claim as my invention, and desire to
75 secure by Letters Patent of the United States, is—

1. As a new article of manufacture, a trowel having two blades formed integral and at substantially a right angle to each other, and a
80 handle permanently mounted parallel with the blades and in the angle formed between them, the one of said blades having a longitudinal rib formed on its surface and the other terminating at one edge in a curved longitudinal
85 flange.

2. As a new article of manufacture, a trowel consisting of two blades formed integral and at an angle to each other, one of said blades being formed with a longitudinal groove on
90 its surface, and a handle permanently mounted parallel with the blades and within the angle between them.

3. As a new article of manufacture, a trowel consisting of two blades formed integral and
95 at an angle to each other, one of said blades being formed with a longitudinal rib on the middle portion of its surface, and a handle mounted parallel with and in the angle formed between the blades.

ERNEST A. BENNINGHOFEN.

Witnesses:

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