

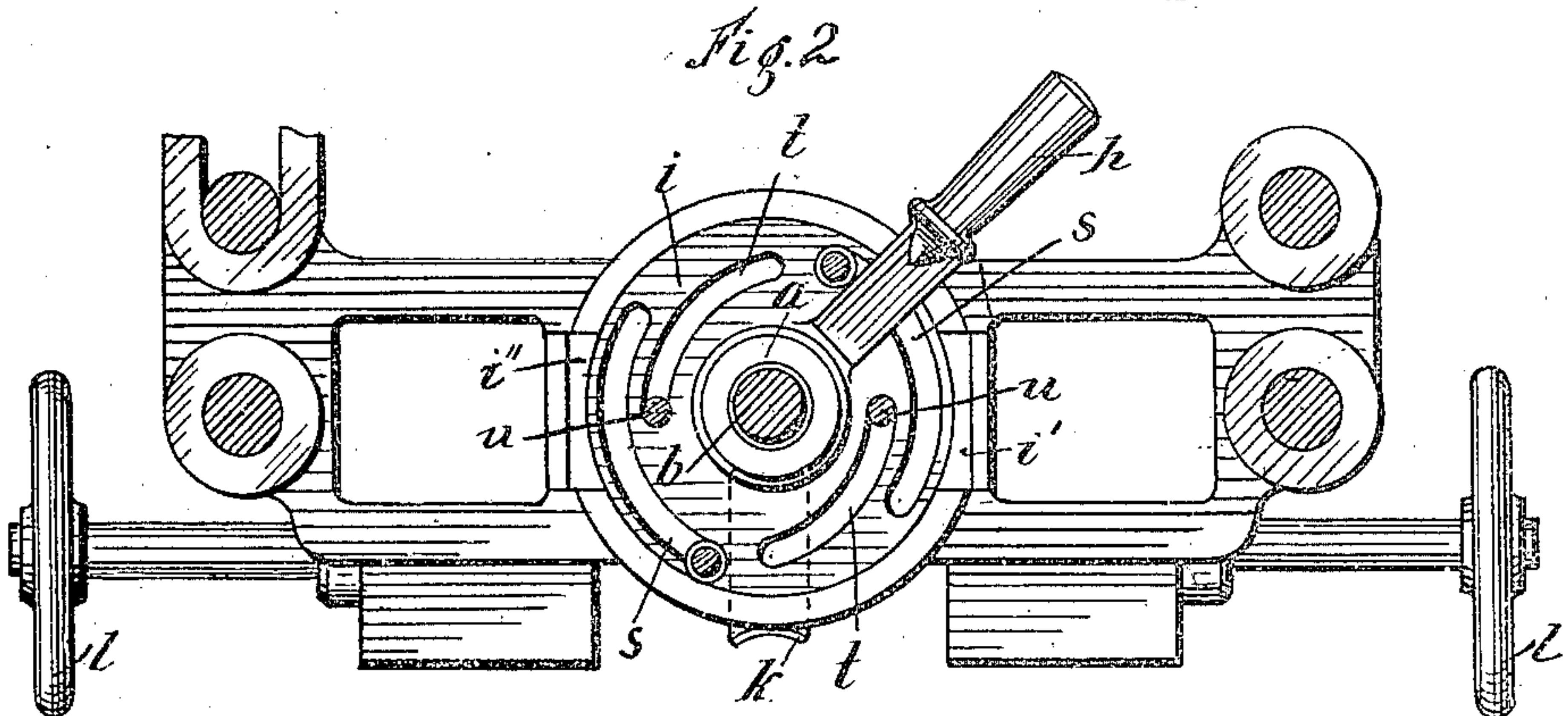
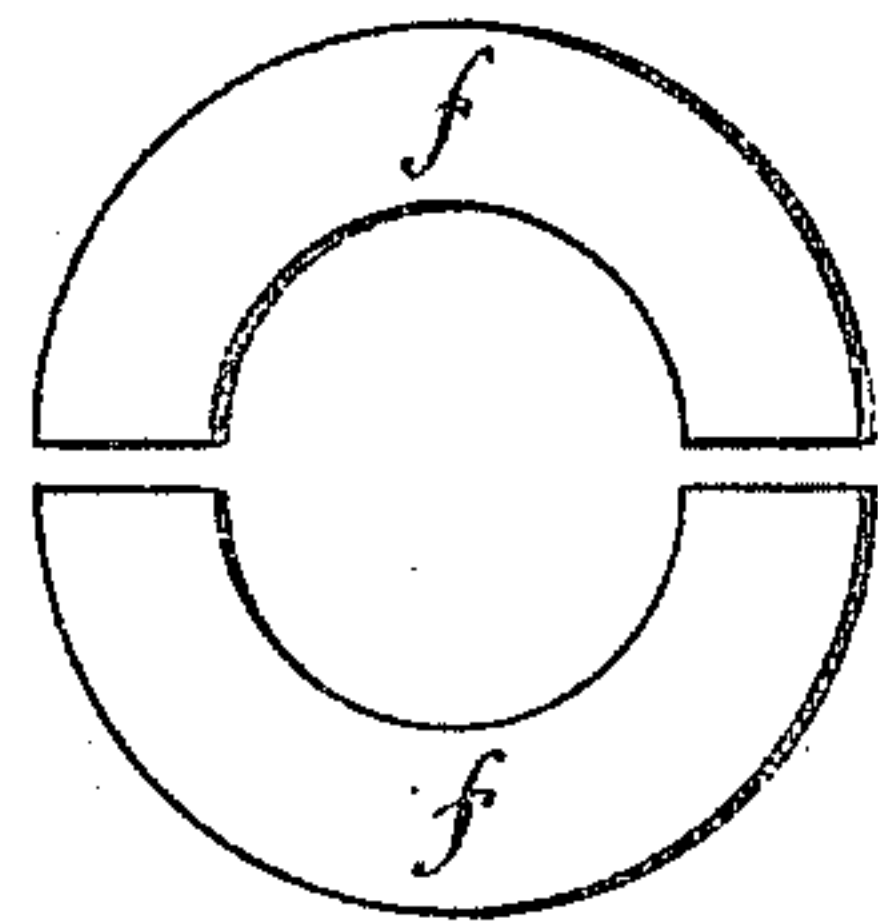
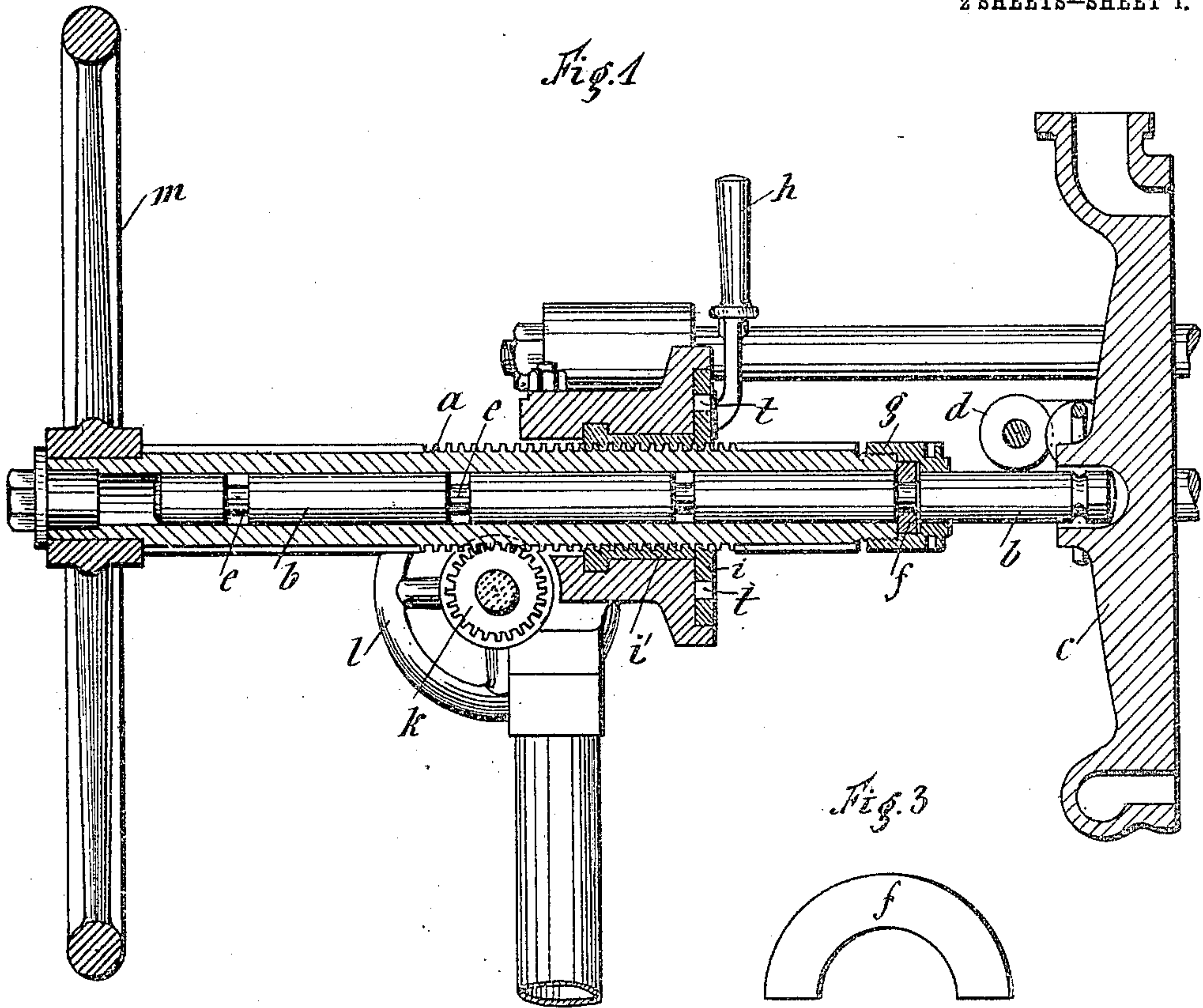
E. FEIX.
GEARING.

APPLICATION FILED FEB. 19, 1909.

951,945.

Patented Mar. 15, 1910.

2 SHEETS—SHEET 1.



Witnesses:
M. W. Darg,
G. Manning.

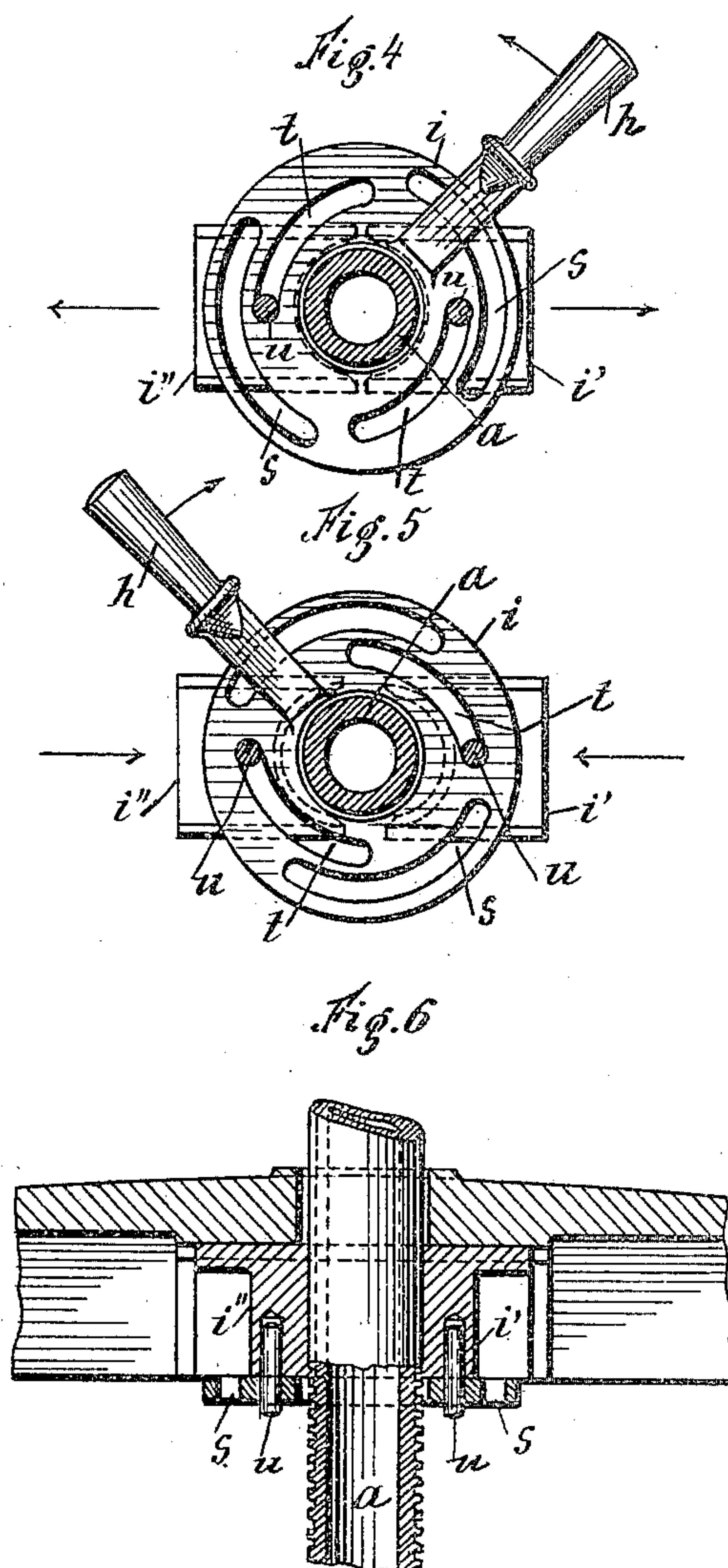
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G. Manning

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UNITED STATES PATENT OFFICE.

ERNST FEIX, OF BODENBACH, AUSTRIA-HUNGARY.

GEARING.

951,945.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed February 19, 1909. Serial No. 478,904.

To all whom it may concern:

Be it known that I, ERNST FEIX, a subject of the Emperor of Austria-Hungary, residing at Bodenbach, Bohemia, Austria-Hungary, have invented certain new and useful Improvements in Gearing, of which the following is a specification.

In frame filter presses which are closed by means of screw-threaded spindles, there is the objection that whether a smaller or larger number of frames are put into the main frame or bed, the closing screw spindle must always have such a length that even the smallest number of frames can be compressed by means of the said spindle. Such a long spindle, has however, the drawback that when a large number of frames are put in, it projects very far beyond the main frame or bed, thus taking up a great deal of space and interfering with the movements of persons in the vicinity. Another very serious objection is the tedious screwing and unscrewing of this long spindle, which takes up a great deal of time, so that it is often necessary, in order to avoid the said work which occupies so much time, to insert special intermediate pieces such as the so-called "spindle extensions," which, however, is a very complicated, lengthy and is moreover, only an incomplete remedy.

The device to which this invention relates removes the above objections without losing those advantageous properties which are inherent to a screw spindle closing device.

The preferred form of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a frame filter press. Fig. 2 is a front elevation of the same. Fig. 3 is a detail view of a ring, hereinafter called the pressure ring, and Figs. 4, 5 and 6 are detail views of the screw spindle nut.

As will be seen from the longitudinal section shown in Fig. 1, the frame filter press arranged otherwise in well known manner, has a hollow screw spindle *a* within which is mounted in a longitudinally adjustable manner, the pressure rod proper. The said pressure rod is connected at its front end to the movable pressure plate *c* which compresses the single filter frames in the bed, and which is adjustably mounted in the well known manner in the filter bed and to that end is supported on rollers *d* for which

the connecting rods of the filter bed form tracks. The pressure rod *b* is provided throughout its length at certain intervals with any desired number of recesses *e* of equal size. With the said recesses a steel ring consisting of two parts is able to engage, the so-called pressure ring *f* (Fig. 3), the inner bore of which is equal to the diameter of the pressure rod at the recessed points *e* and the outer diameter of which is larger than the largest outer diameter of the pressure rod *b*. If the pressure ring *f* is placed into any of the recesses and then a sleeve shaped cap *g* pushed loose over it on the pressure rod *b* and screwed on the front end of the screw spindle, then the screw spindle and the pressure rod will be firmly secured together, but in spite of that, the screw spindle, the pressure ring and the pressure rod will be each separately rotatable about its axis. In that way, by means of any desired number of recesses *e*, the total length of the screw spindle and of the pressure rod can be increased or reduced to any desired extent from a certain minimum length to a certain maximum length, merely by unscrewing the cap *g*, shifting the pressure rod *b* and moving the pressure ring *f* into another recess of the pressure rod.

The screw spindle nut (see also front elevation in Fig. 2) is formed as a two-part or split nut lock *i* which can be opened and closed and which is mounted on the cross-bar of the filter bed. This nut *i* shown in detail in Figs. 4-6, is of known kind and comprises two cheeks *i'* and *i''* guided transversely of the spindle *a*, the pins *u* of said cheeks engaging with the eccentrically disposed slots *t* of the disk *i* which is loose upon the screw-mandrel *a* and is provided with a handle *h*. The disk *i* is guided by means of guide slots *s* centrally of the screw-mandrel *a*. The arrows (Figs. 4 and 5) show the direction of movement of the handle *h* and cheeks *i'* and *i''*. The split nut can thus be easily opened and closed by means of the hand lever *h*. If the said split nut is opened, the screw spindle, together with all the parts connected to it, rests, owing to its own weight, on a toothed wheel *k* engaging with the threads of the screw spindle the axis of the said wheel being supported in the cross bar of the filter bed and rotatable by means of a hand wheel *l*. By means of the said hand wheel *l*, the screw spindle with the pressure rod *p* and the pressure

plate *c* can be quickly and easily reciprocated in the filter bed like a toothed rack, namely to the extent of the whole length of the screw spindle.

5 The operation is as follows:—After the total length of the screw spindle and the pressure rod has been adjusted as desired, by introducing the pressure ring into the corresponding recess, and after the filter
10 frames have been introduced into the filter bed, the nut *i* is opened, and the whole device, together with the pressure plate *c*, is pushed by means of the hand wheel *l* against the introduced filter frames, until they are
15 all firmly pressed together. The nut *i* is then closed, and a few revolutions of the screw spindle at the main hand wheel *m* are sufficient to compress the single filter frames to such an extent that they form a tight
20 joint. If it is desired to open the filter after use, the screw spindle *a* is first turned back a few revolutions, the nut *i* is then opened, and the whole device is pushed by means of the hand wheel *l* back again until there is
25 enough room for conveniently removing the filter frames.

What I claim as my invention, and desire to secure by Letters Patent is:—

30 1. A mechanical movement comprising a hollow screw spindle, a rod having recesses at intervals therein, a split ring adapted to enter any one of said recesses for adjusting

said rod longitudinally, a cap adapted to be screwed upon said spindle to inclose said split ring, and means coöperating with the
35 screw to move the latter longitudinally.

2. A mechanical movement comprising, a hollow screw spindle, a rod having recesses at intervals therein, a split ring adapted to enter any one of said recesses for adjusting
40 said rod longitudinally, a cap adapted to be screwed upon said spindle to inclose said split ring and a two part nut adapted to be closed upon said screw spindle.

3. A mechanical movement comprising, a
45 hollow screw spindle, a longitudinally adjustable rod having recesses at intervals therein, a split ring adapted to enter any one of said recesses for adjusting said rod longitudinally, a cap adapted to be screwed
50 upon said screw spindle to inclose said split ring, a pinion in mesh with the screw thread on said spindle for moving the same longitudinally, means for rotating said pinions
55 by hand and a two part nut adapted to be closed upon said screw spindle.

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

ERNST FEIX.

Witnesses:

LEOPOLD SCHMIND,
ARTHUR SCHREINBURG.