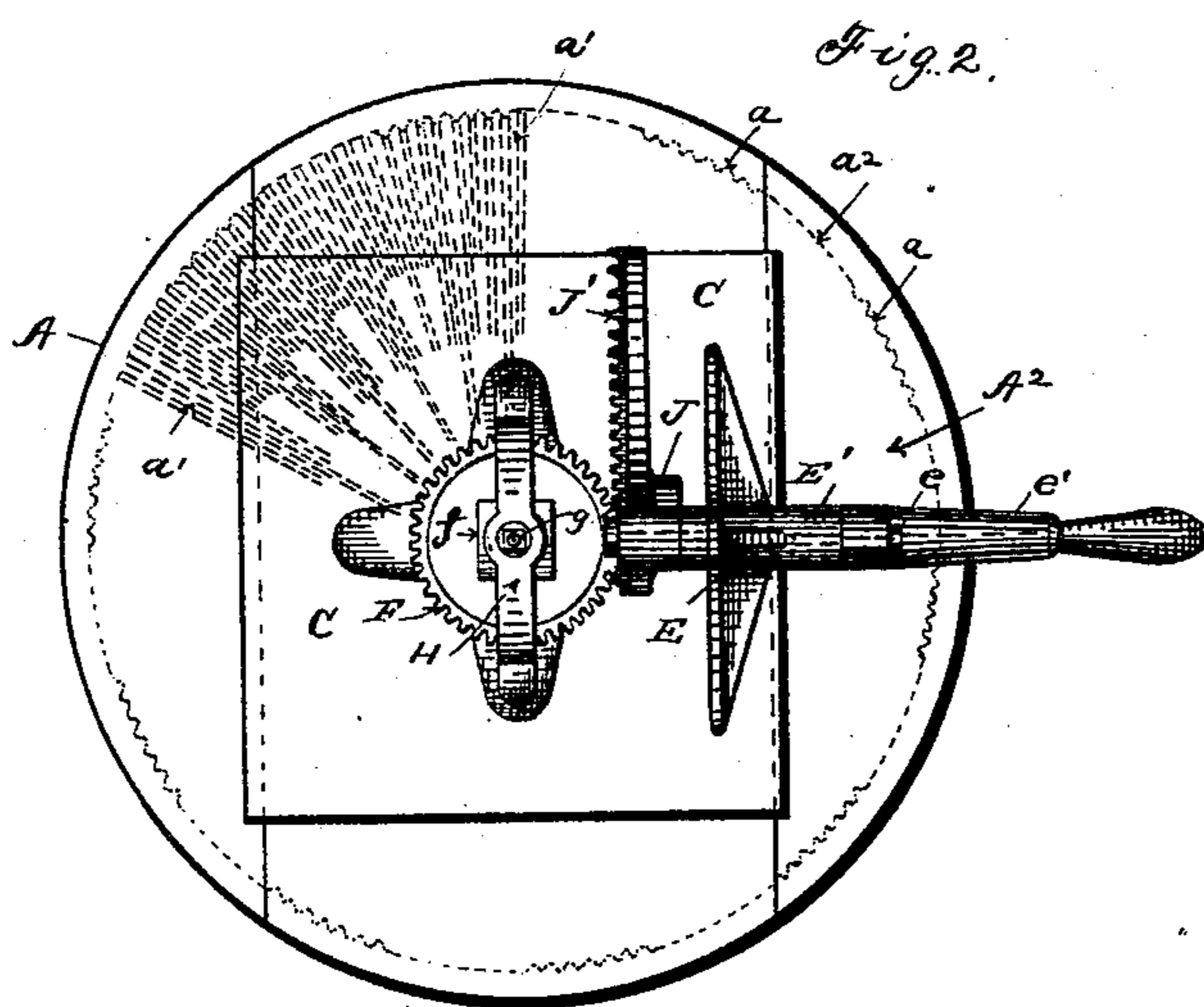
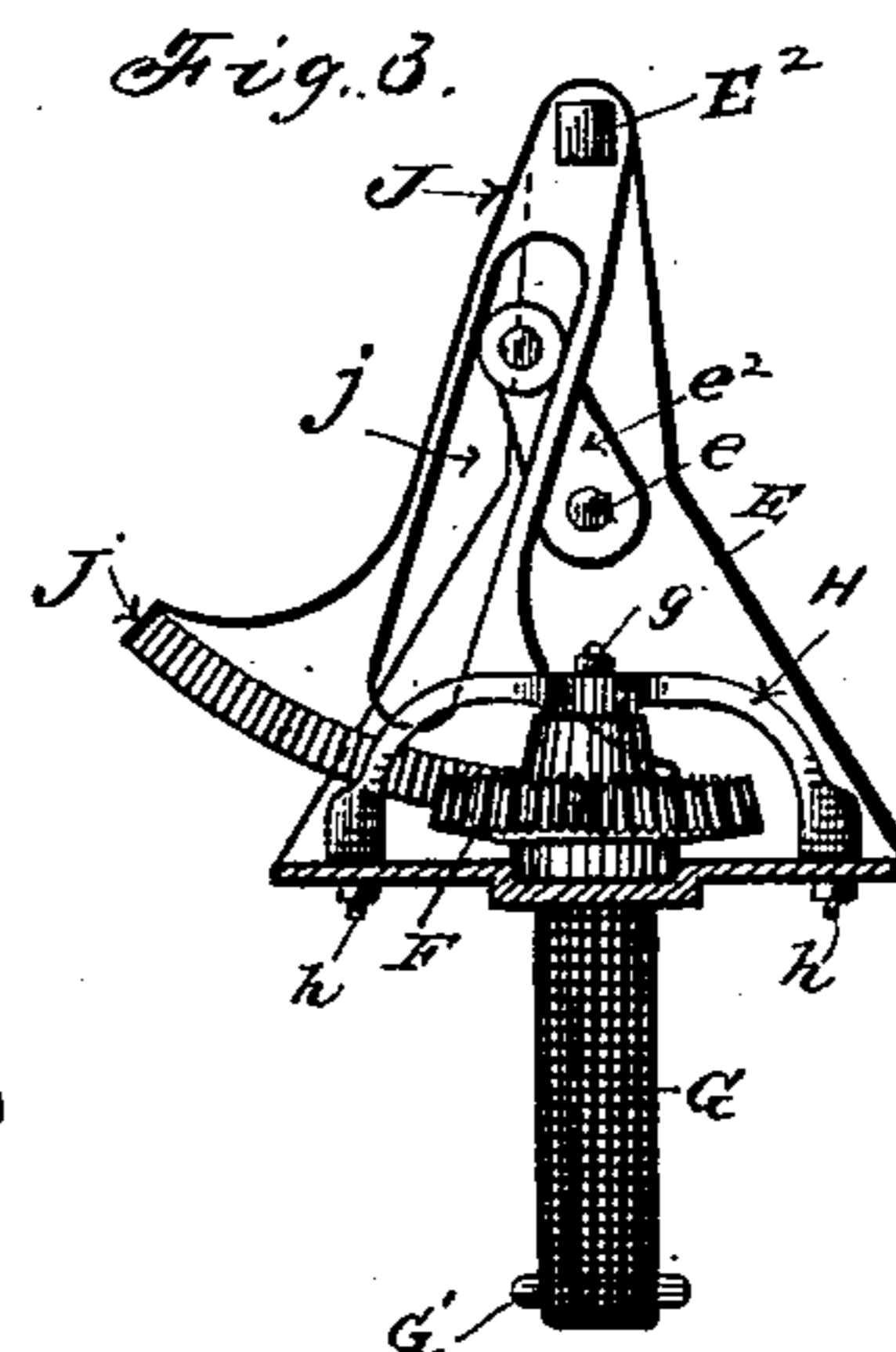
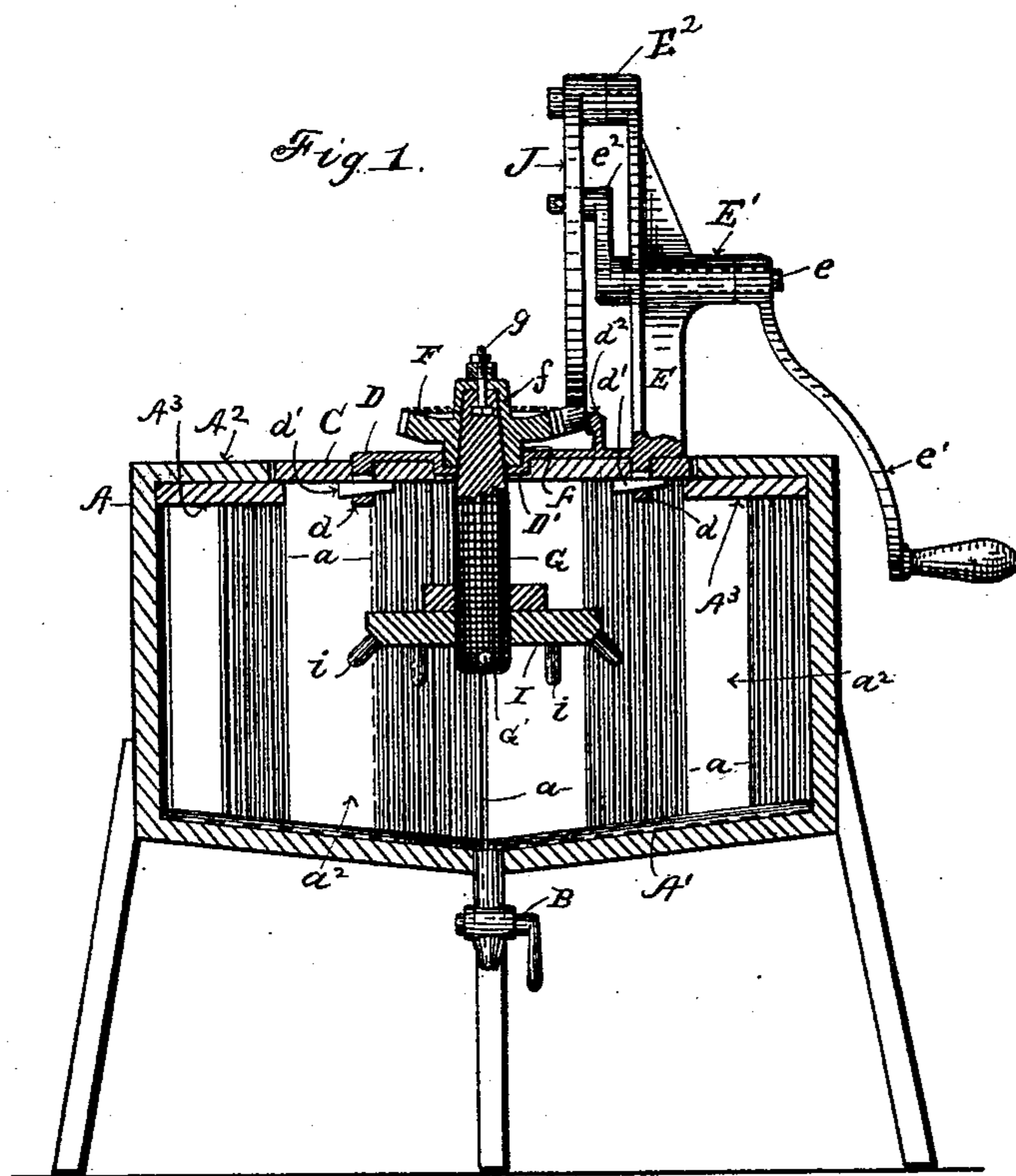


(No Model.)

W. H. TURNBULL.
WASHING MACHINE.

No. 453,135.

Patented May 26, 1891.



Witnesses.
W. R. Edelin
C. S. Lewis.

Inventor.
William H. Turnbull.
By Leggett and Leggett.
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. TURNBULL, OF DEFIANCE, OHIO.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,135, dated May 26, 1891.

Application filed March 13, 1890. Serial No. 343,742. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. TURNBULL, of Defiance, in the county of Defiance and State of Ohio, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in washing-machines; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation in section. Fig. 2 is a plan. Fig. 3 is an elevation in detail taken at right angles to the view shown in Fig. 1.

A represents the tub or vat, the same being constructed of fibrous pulp molded into approximately the form shown, the bottom member A' thereof being concaved and provided with a central opening for receiving drain-cock B, by which arrangement the tub is readily drained. On the inside of the tub the bottom member A' is corrugated—for instance, as shown in dotted lines a' , Fig. 2. Also, alternate sections of the side wall A are corrugated vertically, as shown at a , these corrugated sections alternating with smooth sections a^2 , the corrugations of both the bottom and side walls being constructed in molding the tub. The top wall A² of the tub has a large opening for receiving cover C, cleats A³ being secured to the under side of wall A² at least on two sides of the opening, these cleats projecting toward each other, as shown in Fig. 1, for supporting the cover. The cover may be hinged to wall A², or the cover and attachment may be lifted bodily from the tub in gaining access to the inside of the tub.

D is a cast-metal plate, preferably integral with standard E. Plate D has a depending hollow hub D', that externally fits in a corresponding seat or depression in cover C. Plate D has depending lugs d , that extend through corresponding holes in the cover, these lugs having lateral holes adapted to receive keys d' below the cover for securing the plate rigidly to the cover.

F is the driving-pinion, the same having a hub f . The depending section of this hub is journaled in the counterbore or enlarged chamber of hub D' aforesaid. The pinion and hub are provided with a tapering vertical socket for receiving the corresponding upper section of wooden stem G. A bolt g is set into and projects from the upper end of stem G, this bolt extending through a corresponding hole in the upper end wall of hub f and the bolt extending also through a vertical hole in yoke H, the bolt fitting loosely in this hole. The feet of this yoke rest on plate D, to which the yoke is secured preferably by means of screws shown at h .

On stem G is mounted a wooden disk or head I, the latter having a centrally-located hole adapted to fit stem G loosely, so that head I may slide up and down the stem, the latter being provided with a lateral hole near the lower end thereof for receiving pin G' for holding the head on the stem. Head I is provided with a series of pegs i , substantially as shown, these pegs engaging the clothes and serving as beaters in washing.

Standard E has a hub E' of considerable length and located midway of the standard, and in the bore of this hub is journaled crank-shaft e , the latter being provided at the outer end with a hand-crank e' and provided at the inner end with a shorter crank e^2 .

To the upper end of the standard, at E², is pivoted the depending arm J. This arm terminates below in a segmental gear J', the teeth of which are adapted to engage the teeth of pinion F aforesaid. Arm J has a longitudinal slot j , in which slot operates the wrist of crank e^2 . By turning crank e' arm J is oscillated, whereby pinion F and attachments are rotated alternately in opposite directions. Plate D is provided with a lug or rub-iron at d^2 , that by bearing against the rear side of the segmental rack holds the latter to its engagement with the driving-pinion.

The construction of the side walls of the tub, comprising, as aforesaid, alternates smooth and corrugated sections, is found to be very effective in washing. Also, the concaved bottom of the tub allows the heavier dirt to gravitate to the center thereof, where it remains practically out of the way of the clothes in rubbing the latter on the corrugated sec-

tions of the bottom and of the sides. The corrugations both of the bottom and side walls of the tub being molded in are much superior to any ribs or other mechanism that may
5 take the place of such corrugations, where such ribs or other devices have to be fastened to the tub.

What I claim is—

10 The combination, with a tub and a cover, of a plate secured to the cover, a standard rigid with the plate, a swinging arm depending from the upper end of the standard, a crank carried by the standard for rocking the

depending arm, a segmental gear on the lower end of the swinging arm, a pinion mounted 15 on the plate and engaging the segmental gear, and a stem secured to the pinion, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses this 5th 20 day of February, 1890.

WILLIAM H. TURNBULL.

Witnesses:

FRED. W. LE SUEUR,
F. A. TURNBULL.