

No. 750,427.

PATENTED JAN. 26, 1904.

C. P. BOSSERT.
LEACH CLEARING MECHANISM.

APPLICATION FILED OCT. 13, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

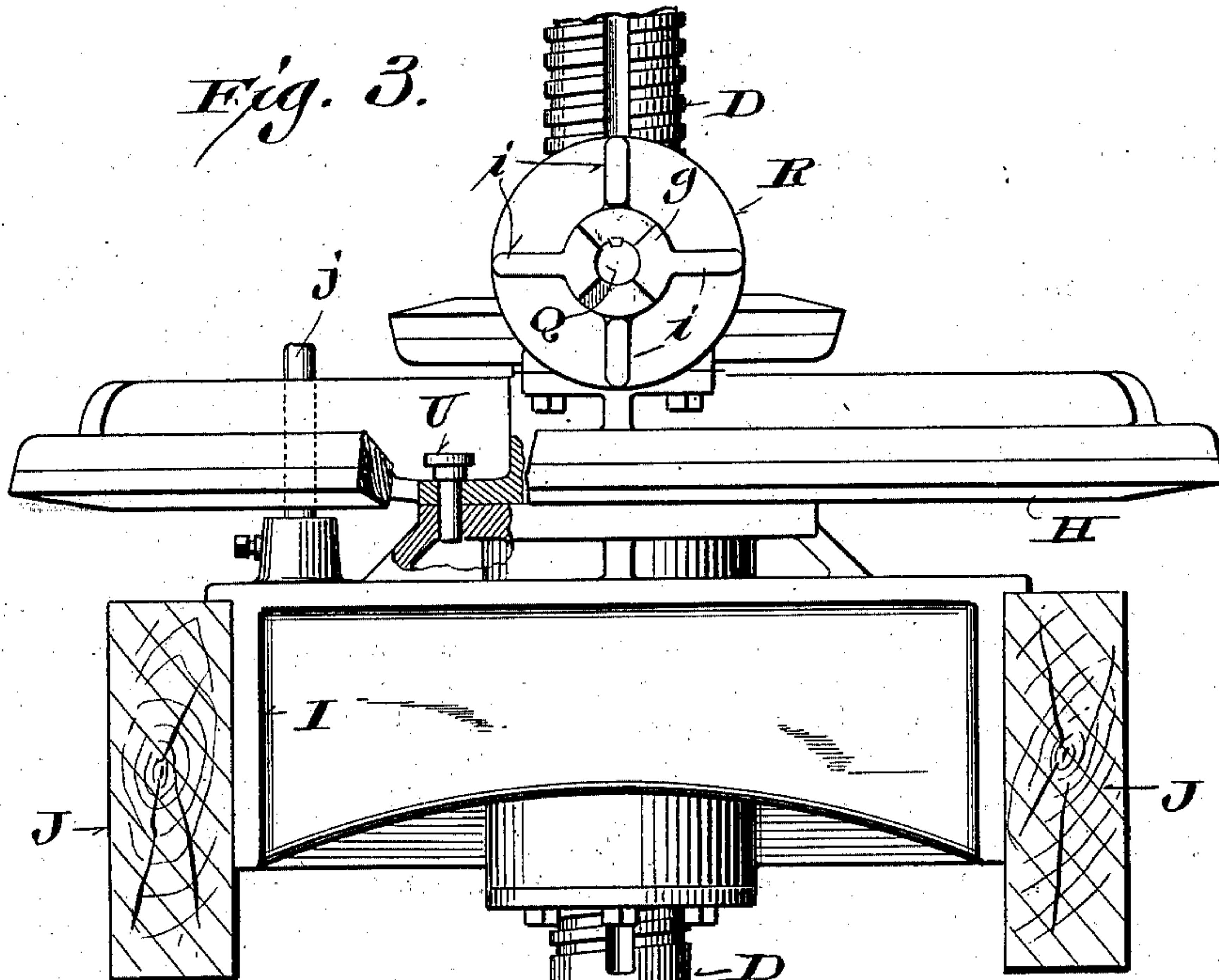


Fig. 4.

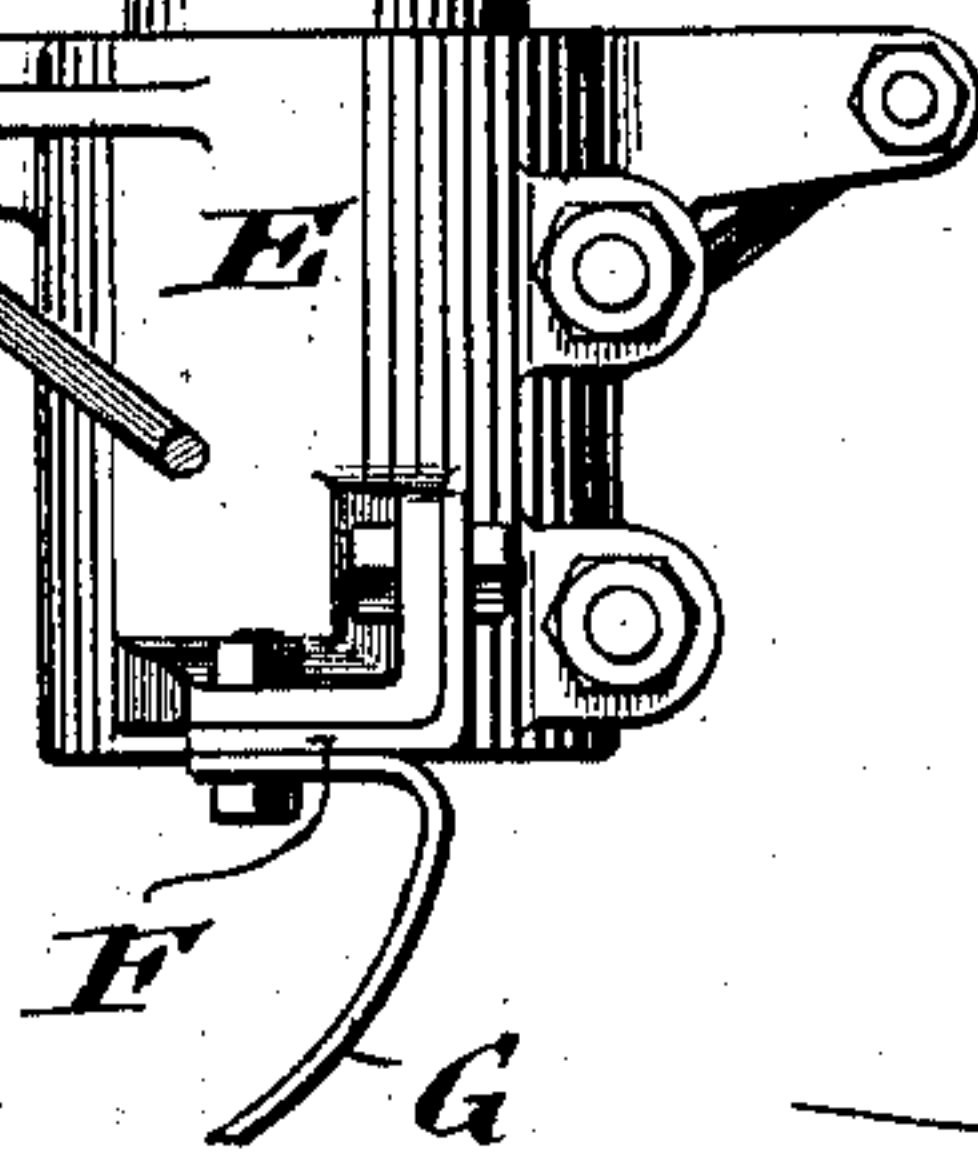
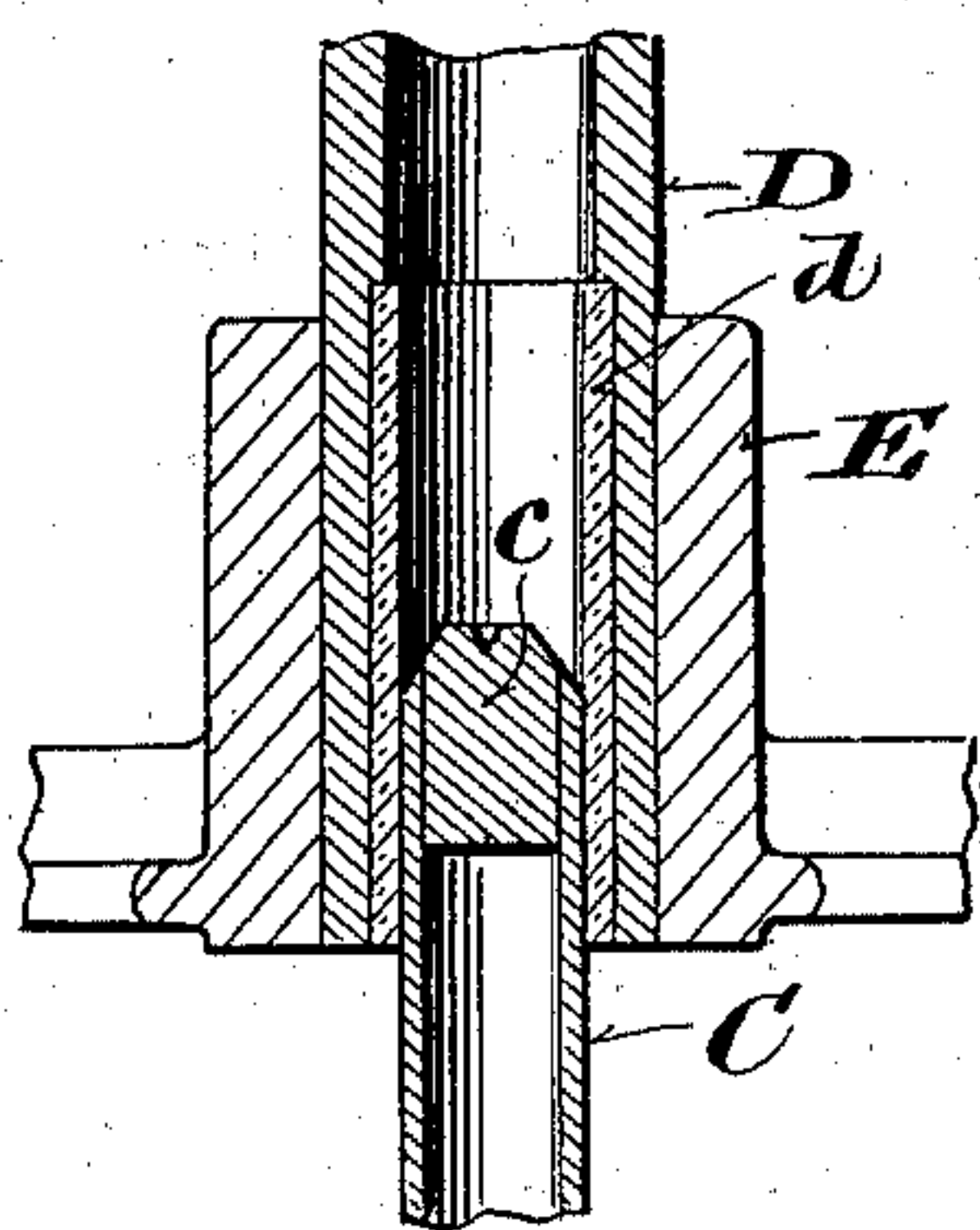
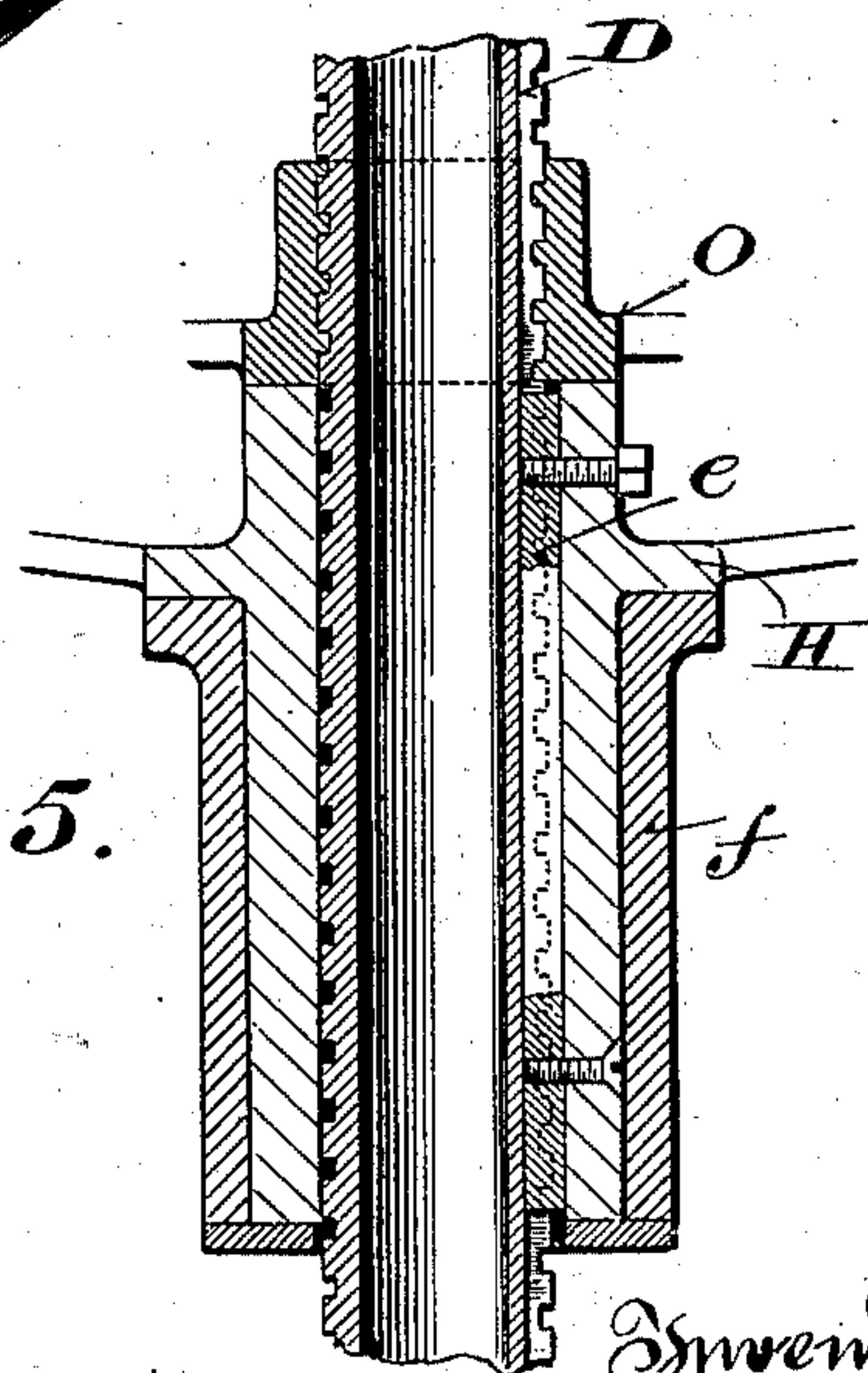


Fig. 5.



Witnesses:
Geo. W. Young.
N. E. Oliphant

Inventor:
Charles P. Bossert
By H. G. Underwood
Attorney

UNITED STATES PATENT OFFICE.

CHARLES P. BOSSERT, OF MILWAUKEE, WISCONSIN.

LEACH-CLEARING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 750,427, dated January 26, 1904.

Application filed October 13, 1903. Serial No. 176,926. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. BOSSERT, a citizen of the United States, and a resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Leach - Clearing Mechanism; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention has for its object to facilitate the removal of spent bark from leaches; and it consists in certain peculiarities of construction and combination of parts hereinafter particularly set forth with reference to the accompanying drawings and subsequently claimed.

Figure 1 of the drawings represents a plan view of a portion of a leach and mechanism therewithin accordance with my invention for operating a spent-bark scraper; Fig. 2, a vertical sectional view of the leach, the spent-bark scraper therein, and the scraper-operating mechanism; Fig. 3, an elevation of said mechanism, partly broken away, the supporting-frame for same being in section on line 3 3 in the first figure; and Figs. 4 and 5, sectional views of fragments of the aforesaid mechanism.

Referring by letter to the drawings, A indicates a leach, and B a mass of spent bark therein, the plug for the registering orifices in the bottoms of the leach having been removed and an opening left in said mass of spent bark alined with said orifices. Central of the leach and extending up through its contents is a post C, the same being preferably a length of pipe set in a base *b* and closed at the upper end by a plug *c*, having a depression therein that serves as a center for a rotary sprinkler, (not shown,) but which is employed at times to distribute water in said leach.

As herein shown, a sleeve D is loose on the post C, the lower end of the sleeve being provided with a bushing *d*, that fits said post, and fast on the bushed end of said sleeve is the spider-hub E of a spent-bark scraper, the same being of any suitable construction, but herein shown as comprising angle-iron radial arms F, connected by bolts and braces to said hub, and blades G, bolted to said arms to depend

therefrom, the shape and disposition of the blades being such that the scrapings of the mass of spent bark are fed to the opening in said mass that registers with the orifices in the bottoms of the leach.

The sleeve D is screw-threaded and longitudinally grooved exteriorly thereof. Fitting the groove of the sleeve is a spline *e*, fastened in the shouldered hub of a bevel gear-wheel H, and said hub turns in a socket *f* in a cross-piece of an angular casting I, that is bolted to timbers J of a frame supported on the rim of the leach. Meshed with the bevel gear-wheel H is a bevel gear-pinion K, fast on a spindle L, for which the casting I and a cross-piece M of the frame aforesaid are provided with bearings, and a sprocket-wheel N is also fast on the spindle to have link-belt connection with drive mechanism.

Engaging the sleeve D above the gear-wheel H, that constitutes its support, is a smaller bevel gear-wheel O, the hub of which is interiorly screw-threaded to match the thread of said sleeve on which it serves as a nut, and in mesh with this smaller gear-wheel is a bevel gear-pinion P, fast on the inner end of a spindle Q, for which said gear-wheel H is provided with bearings, said smaller gear-wheel or nut being held against other than rotary motion. Fast on the outer end of the spindle Q is a disk R, the hub of which is made to constitute one section *g* of a clutch, the other section *h* of this clutch being splined on a driving-pulley spindle S, for which cross-pieces T of the frame aforesaid are provided with bearings. Radiating from the clutch-hub *g* at quarter intervals of the disk R are wipers *i*, that act against a stud *j*, with which the casting I is provided.

In order to at times insure and maintain a perfect alinement of the spindles Q S, a pin U is used in engagement with matching apertures in the gear-wheel H and the casting I, as shown in Fig. 3.

To effect a rapid vertical adjustment of the scraper, the spindles Q S are clutched after being alined and the gear-wheel H locked by means of the pin U, arranged as above specified. The rapid motion of the spindle S being conveyed to the nut or bevel gear-wheel

O on the sleeve D by the spindle Q and its pinion P, the direction of travel of said sleeve on the stationary spline *e* is up or down, as may be necessary or desirable incidental to the rotation of said nut.

The scraper being let down on the mass of spent bark, the spindles Q S unclutched, and the gear-wheel H free to rotate, motion is conveyed to said gear-wheel by the pinion K on the spindle L, provided with the sprocket-wheel N, that is driven by a link belt. (Not shown.) At each revolution of the gear-wheel H a wiper *i* of the disk R comes into contact with the stationary stud *j*, and thus one quarter of a revolution is imparted to the bevel gear-wheel or nut O, whereby there is a corresponding descent of the sleeve D and the scraper to which it is connected, said sleeve and scraper being at the same time in revolution with said wheel.

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

1. A center post in a leach on the bottom of same, a spent-bark scraper having an upwardly-extending post-engaging axial sleeve rigid therewith, and means for imparting continuous rotary motion and automatic intermittent downward travel to the sleeve on the post.

2. A center post in a leach on the bottom of same, a spent-bark scraper having an upwardly-extending post-engaging axial sleeve rigid therewith, means for imparting continuous rotary motion to the sleeve, and other means for imparting automatic intermittent downward travel to said sleeve on the post while in rotation and for adjusting the same up or down when the means for its rotation are idle.

3. A center post in a leach, a spent-bark scraper having an upwardly-projecting exteriorly-screw-threaded axial post-engaging sleeve rigid therewith, a gear-wheel the hub of which turns in a stationary bearing and has spline connection with the sleeve, means for driving the wheel, a spindle having its bearings on said wheel, a nut on said sleeve in gear with the spindle but held against other than rotary motion, and means by which intermittent rotary motion is imparted to said spindle incidental to revolution of the aforesaid wheel.

4. A center post in a leach, a spent-bark scraper having an upwardly-projecting exteriorly-screw-threaded axial post-engaging sleeve rigid therewith, a gear-wheel the hub of which turns in a stationary bearing and has spline connection with the sleeve, means for driving the wheel, a spindle having its bearings on said wheel, a nut on said sleeve in gear with the spindle, a disk fast on said spindle and provided with wipers, the disk-hub being

made to constitute a clutch-section, a stationary stud arranged to be acted upon by the wipers of the disk, a drive-spindle mounted in stationary bearings to be alined with the former spindle, and a clutch-section adjustable on the drive-spindle to be put in or out of engagement with the other clutch-section.

5. A center post in a leach, a spent-bark scraper having an upwardly-projecting exteriorly-screw-threaded axial post-engaging sleeve rigid therewith, a gear-wheel the hub of which turns in a stationary bearing and has spline connection with the sleeve, means for driving the wheel, a spindle having its bearings on said wheel, a nut on said sleeve in gear with the spindle, a disk fast on said spindle and provided with wipers, the disk-hub being made to constitute a clutch-section, a stationary stud arranged to be acted upon by the wipers of the disk, a drive-spindle mounted in stationary bearings to be alined with the former spindle, means for locking the aforesaid gear-wheel to preserve the alinement of said spindles, and a clutch-section adjustable on the drive-spindle to be put in or out of engagement with the other clutch-section.

6. A center post in a leach, a spent-bark scraper having an upwardly-projecting exteriorly-screw-threaded post-engaging sleeve rigid therewith, a frame supported on the leach, a casting in connection with the frame, a gear-wheel the hub of which has spline connection with the sleeve and is loose in a socket with which the casting is provided, a drive-spindle in bearings on the frame and casting, a pinion fast on the spindle and in mesh with the gear-wheel, another spindle having its bearings on said wheel, a nut on said sleeve in gear with the latter spindle, a disk fast on this latter spindle and provided with wipers, the disk-hub being made to constitute a clutch-section, a stud arranged on said casting to be acted upon by the wipers of the disk, another drive-spindle mounted in stationary bearings to be alined with the spindle that is carried by said gear-wheel, a pin engageable with this wheel and the aforesaid casting to preserve the alinement of spindles, and a clutch-section adjustable on the latter drive-spindle to be put in or out of engagement with the other clutch-section.

7. A hollow guide-post set in a leach on the bottom thereof central of the same, and a post-plug having a center depression therein.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

CHARLES P. BOSSERT.

Witnesses:

N. E. OLIPHANT,
JAMES DAVIES.