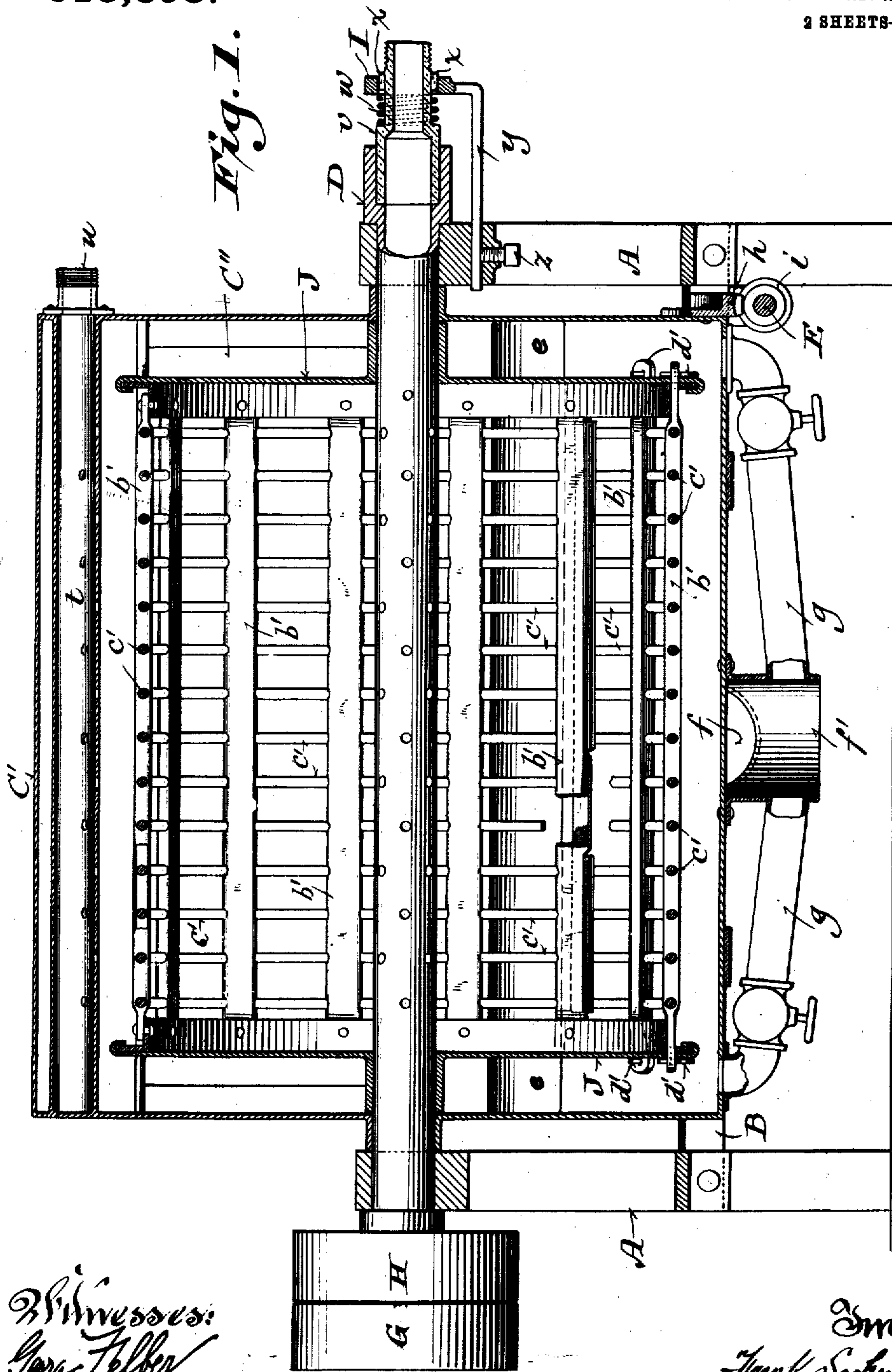


F. SOCHUREK, SR.
 WASHING APPARATUS.
 APPLICATION FILED JULY 20, 1908.

915,898.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.



Witnesses:
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 By *Clayton Young*
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2 SHEETS—SHEET 2.

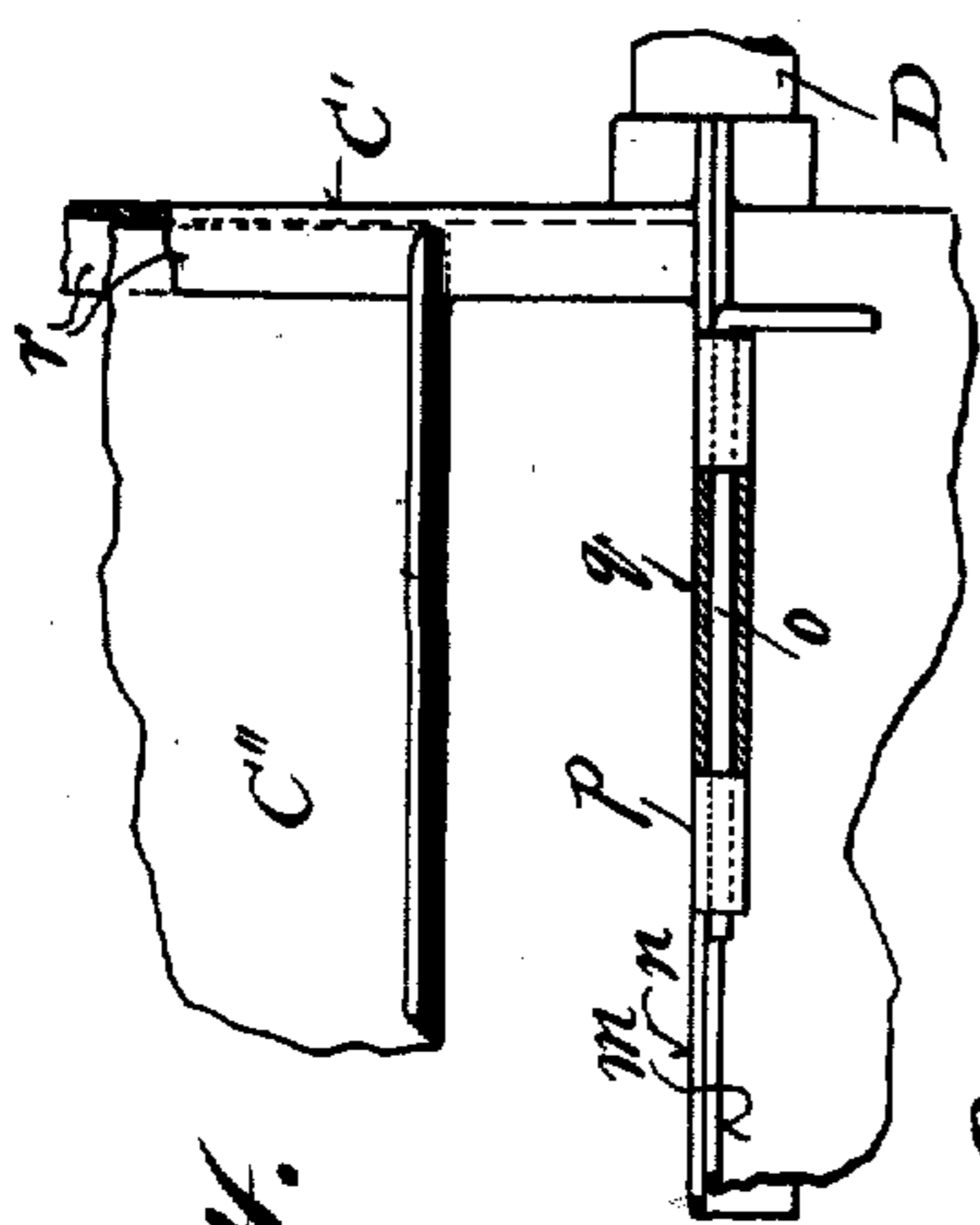


Fig. 4.

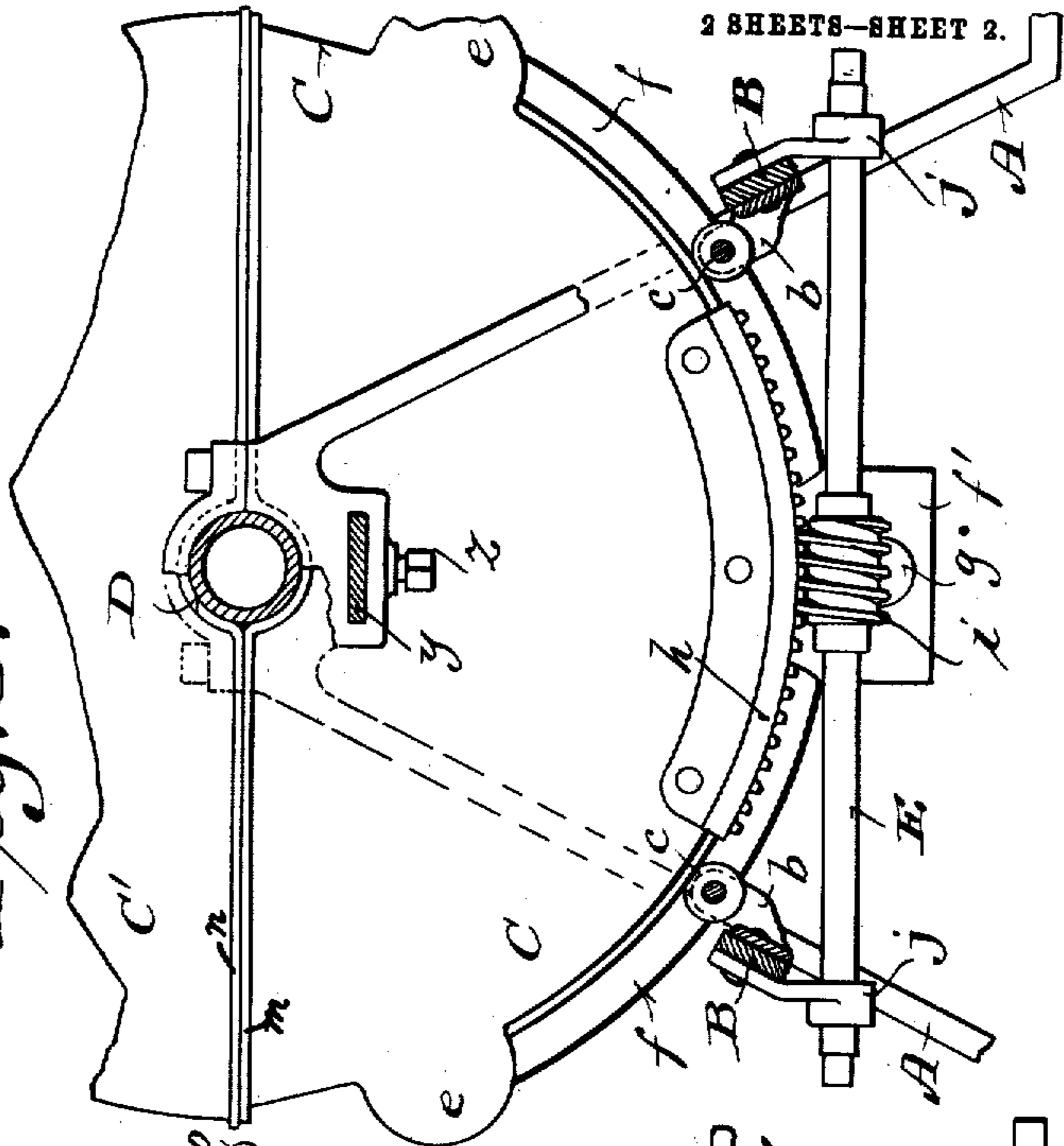


Fig. 3.

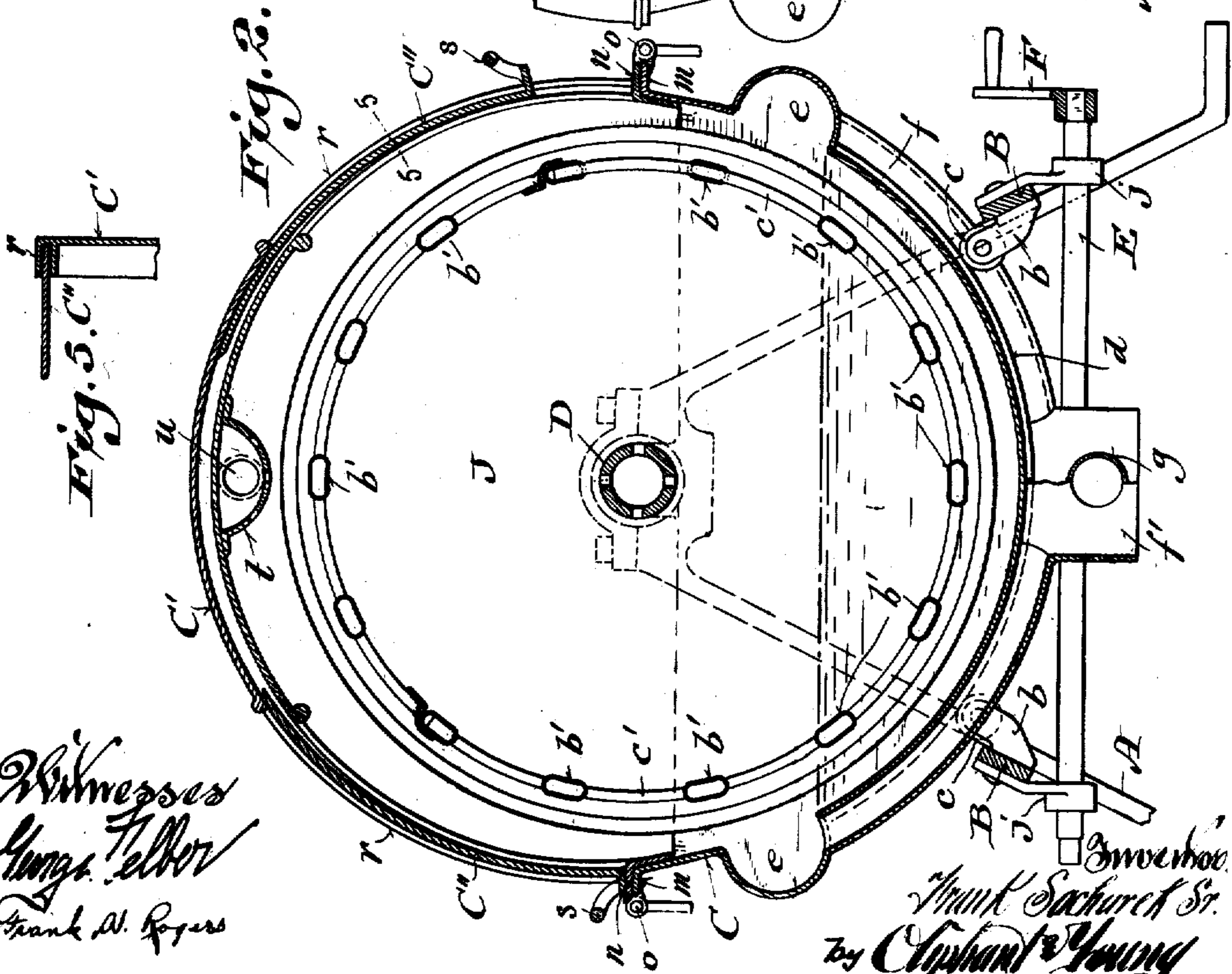


Fig. 2.



Fig. 3. C' C''

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UNITED STATES PATENT OFFICE.

FRANK SOCHUREK, SR., OF MILWAUKEE, WISCONSIN.

WASHING APPARATUS.

No. 915,898.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed July 20, 1908. Serial No. 444,507.

To all whom it may concern:

Be it known that I, FRANK SOCHUREK, Sr., a citizen of the United States, and resident of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Washing Apparatus; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in what is hereinafter particularly set forth with reference to the accompanying drawings and pointed out in claims, its object being to provide simple, economical and efficient machines for washing brewers' shavings without appreciable splitting or breaking of same.

Figure 1 of the drawings represents a vertical longitudinal section view of a washing machine in accordance with my invention, certain of the parts of same appearing in side elevation being broken away; Fig. 2, a for the most part vertical transverse section of the machine; Fig. 3, an end elevation of a fragment of the machine partly in section; Fig. 4, a side elevation of a fragment of the machine partly in section, and Fig. 5, a sectional view of a detail of the machine on the plane indicated by line 5—5 in Fig. 2.

Referring by characters to the drawings, A indicates each of a pair of end standards, and B each of a pair of side bars in connection with the standards to therewith constitute the frame of the machine. Provided in connection with the side bars of the frame are hangers *b* of the journals or arbors of anti-friction rollers *c* that oppose curvilinear tracks *d* upon the lower section C of a separable drum, the head ends of this section of the drum being centrally recessed to obtain clearance for a partly hollow and perforated shaft D for which the frame-standards are provided with bearings. The drum-section C is provided with upper opposite longitudinal channels *e* that extend outward and are semicircular in cross-section. These channels are in communication with an outer conduit *f* that is central of said drum-section transversely of the same and provided midway of its length with a radially extending discharge-nozzle *f'* in connection with cock-controlled drain-pipes *g* of the drum.

One head-end of the drum-section C is provided with a depending segmental rack *h* in mesh with a worm-pinion *i* of a shaft E supported in bearings *j* attached to the bars B of the machine-frame. A turning-crank F is

employed on either of the squared ends of the shaft E to effect a rotary adjustment of the drum.

The upper section C' of the drum has its head-ends centrally recessed to clear the shaft D, and this upper section of said drum extends into the lower section of same. Outer upper end and side flanges *m* of the lower drum-section oppose similar flanges *n* of the upper drum-section, and pintles *o* engage knuckles *p, q*, of the side flanges of both drum-sections. The pintles at either side of the drum being removed, the upper drum-section may be swung over on the remaining pintles to open said drum, and upon removal of all of the pintles said upper drum-section may be detached from the lower drum-section.

The upper drum-section comprises opposite slides C'' for which the head-ends of said drum-section are provided with guides *r*, and handles *s* are attached to the slides. Either or both slides may be pushed up to open the drum, and both being thus adjusted one passes under the other there being suitable clearance in their guides to provide for this result. Extending from end to end of the upper drum-section, at the top of same, is a perforated rinse-water conduit in communication with a screw-threaded nipple *u* attached to one end of said drum-section outside the same.

The hollow perforated shaft D is provided with fast and loose pulleys G, H, at one end for connection with a driving-belt. A shouldered and screw-threaded nipple *v* has ground-joint engagement with the other end of said shaft, and a spiral tension spring *w* is arranged on the nipple between a shoulder of same and a slide I centered on nipple-lugs *x* a shank *y* of the slide being adjustably held by a set-screw *z* in an aperture of the adjacent end-standard of the machine-frame. By means of the spring a water-tight joint is had between the shaft and nipple without interference with the rotary motion of said shaft.

Mounted on the shaft D is an annular cage comprising heads J, J, and an intermediate metallic fabric consisting of a series of tubular bars *b'* and a series of wires *c'* on which the bars are suitably spaced and squeezed, said bars being primarily annular in cross-section and provided with apertures at predetermined intervals longitudinally thereof for the engagement of said wires. The fabric

presents no sharp corners to injure the shavings and is of sufficient strength, rigidity and durability for my purpose, said fabric being made non-corrosive by galvanizing. The bars of the major portion of the aforesaid fabric are riveted to annular flanges of the cage-heads, but the bars of a removable section of said fabric are engaged at their ends with slots provided in said heads. Key-pins *d'* are employed to prevent accidental displacement of the removable section of the aforesaid fabric portion of the cage. When the key-pins are disengaged from the bars of the removable section of the fabric portion of the cage, the latter may be readily detached from the cage-heads by suitable manipulation, it being moved in one direction to have said bars clear one of the heads and then in the opposite direction to have the aforesaid bars clear the other of said heads.

The shavings to be washed are confined within the cage and water for washing and rinsing is supplied through the pipe *D* and conduit *t*, hose or other suitable water conductors being connected to the nipples aforesaid. The cage is rotated from left to right or in the opposite direction in the closed drum. There is a tendency of the rotary cage and its contents to lift the water in the direction of rotation and thereby drain said water away from one of the channels *e* into the other of said channels when said drum is in normal position as shown in Fig. 1. To limit or prevent this drainage a rotary adjustment of the drum is had in the proper direction by the gearing above specified, to change the position of said channels, one of the same being elevated in the direction of the lift of the water and the other correspondingly lowered. The shavings having been washed they are thereafter thoroughly rinsed, the excess rinse-water finding its way out through the conduit *f* from one or both channels *e* aforesaid, and the rinsing having been accomplished, the drain-pipes *g* are opened to draw off all the water from said drum.

I claim:

1. In a machine for washing brewers' shavings, the combination of a frame, a separable drum mounted in the frame, a partly hollow, perforated and rotary cage-shaft for which the frame is provided with bearings, a nipple having ground-joint engagement with an end

of the shaft, a slide guided on the nipple and having a shank adjustably secured in an aperture of an adjacent frame-standard, and a spiral tension-spring interposed between a shoulder of the nipple and the slide.

2. In a machine for washing brewers' shavings, the combination of a frame, a separable rotary adjustable drum mounted in the frame and having the lower section thereof provided with upper opposite outwardly extending longitudinal channels, an outer conduit on said drum section transversely of the same in communication with said channels and having a radial discharge opening midway of its length, and a cage rotary in the drum through water therein.

3. In a machine for washing brewers' shavings, the combination of a frame, a separable rotary adjustable drum mounted in the frame and having the lower section thereof provided with upper opposite outwardly extending longitudinal channels, an outer conduit on said drum section transversely of the same in communication with said channels and having a radial discharge nozzle midway of its length, cock-controlled drain-pipes connecting said drum section and nozzle, and a cage rotary in the drum through water therein.

4. In a machine for washing brewers' shavings, the combination of a frame, a separable rotary adjustable drum mounted in the frame and having the lower section thereof provided with upper opposite outwardly extending longitudinal channels, an outer conduit on said drum section transversely of the same in communication with said channels and having a radial discharge opening midway of its length, a partly hollow perforated shaft for which said frame is provided with bearings, a cage in connection with the shaft within the drum, and an inlet nipple with which one end of said shaft has water-tight rotary connection.

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.

FRANK SOCHUREK, Sr.

Witnesses:

JOHN W. WOLLER,
HENRY F. WOLLER.