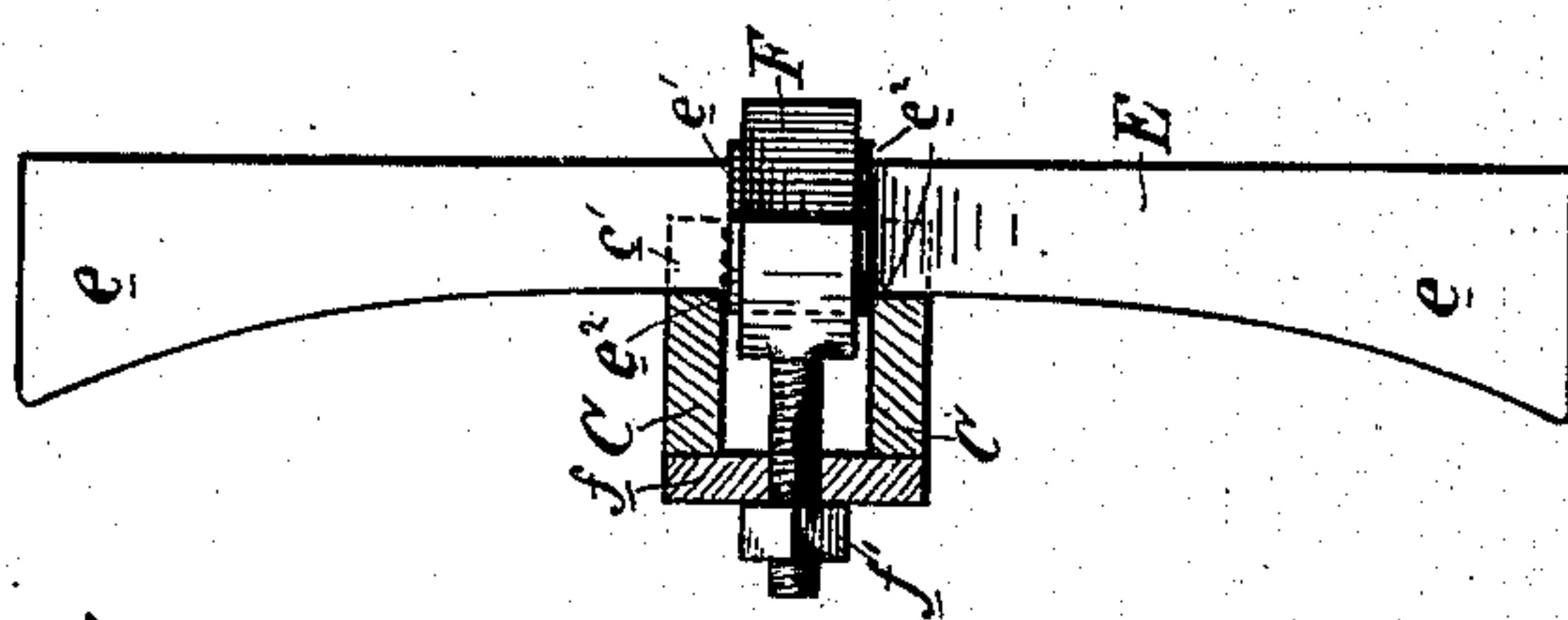
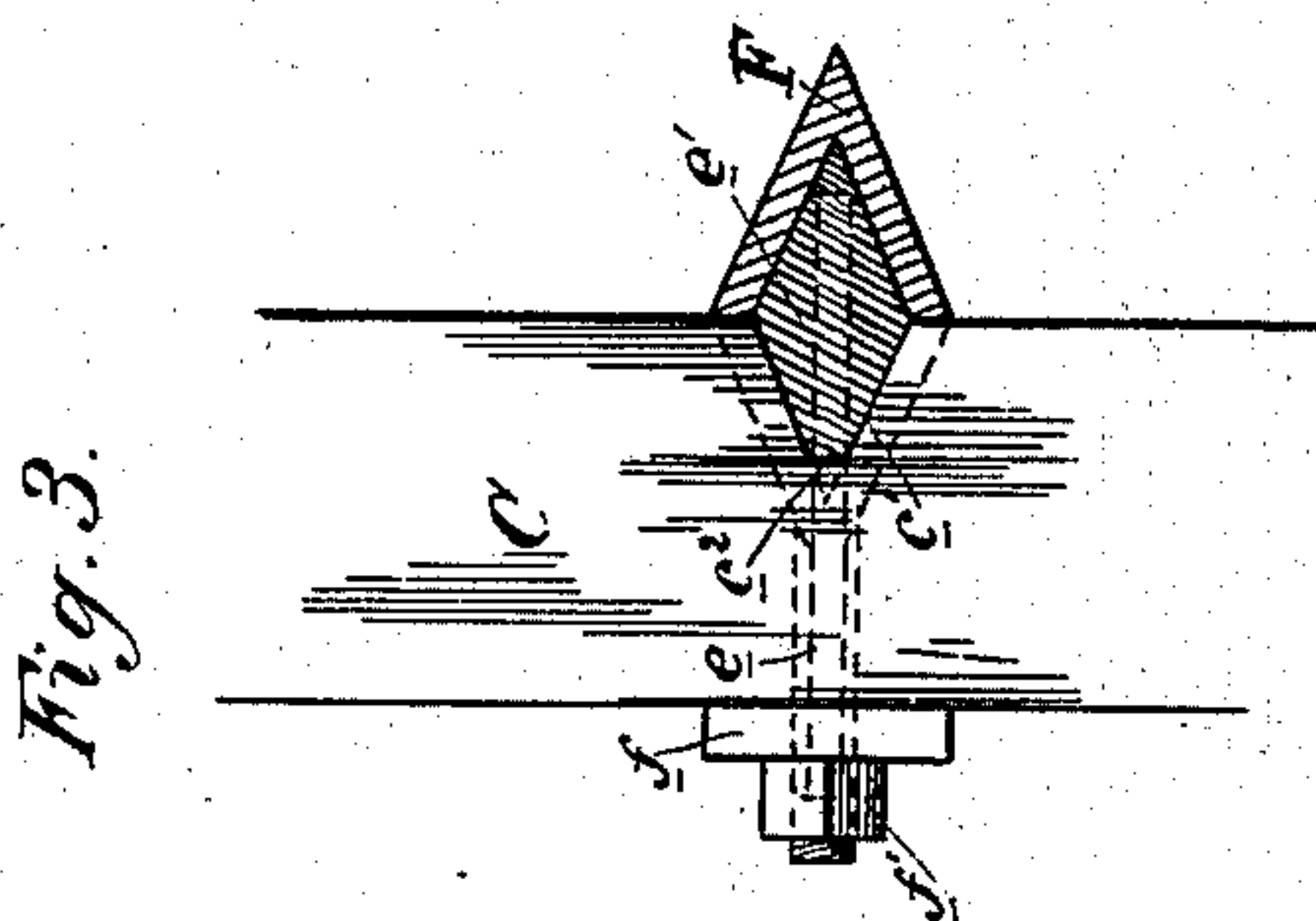
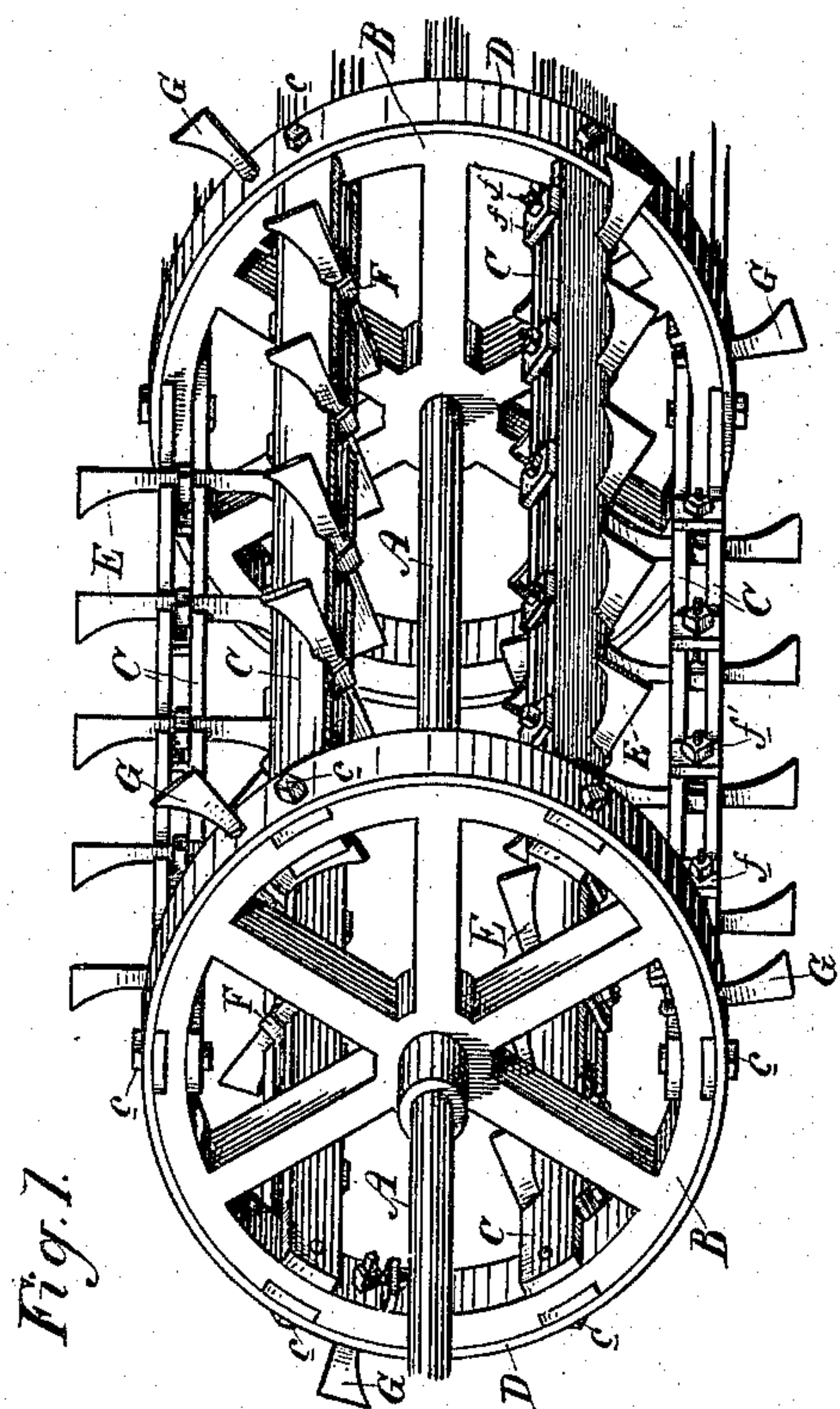
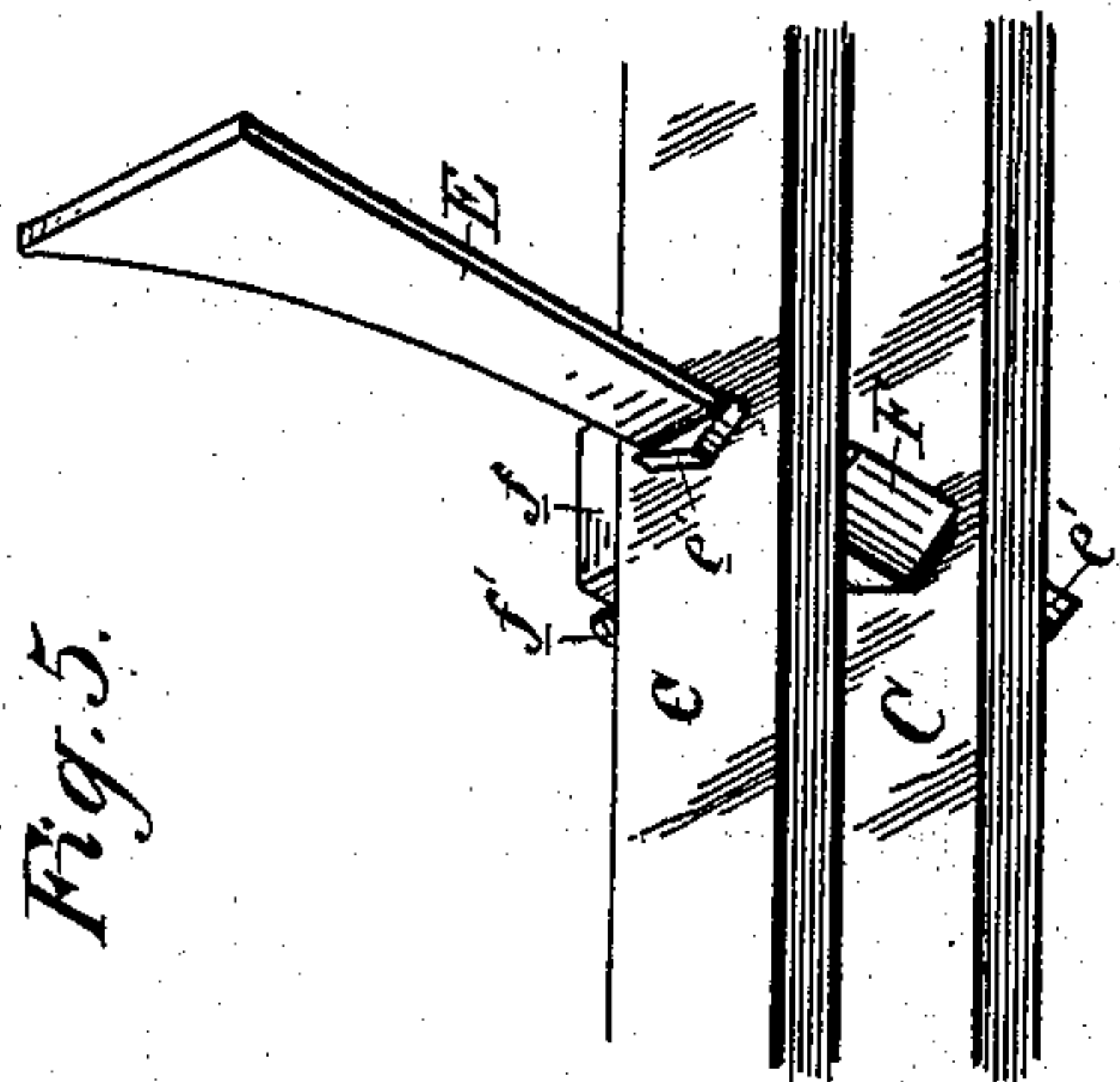
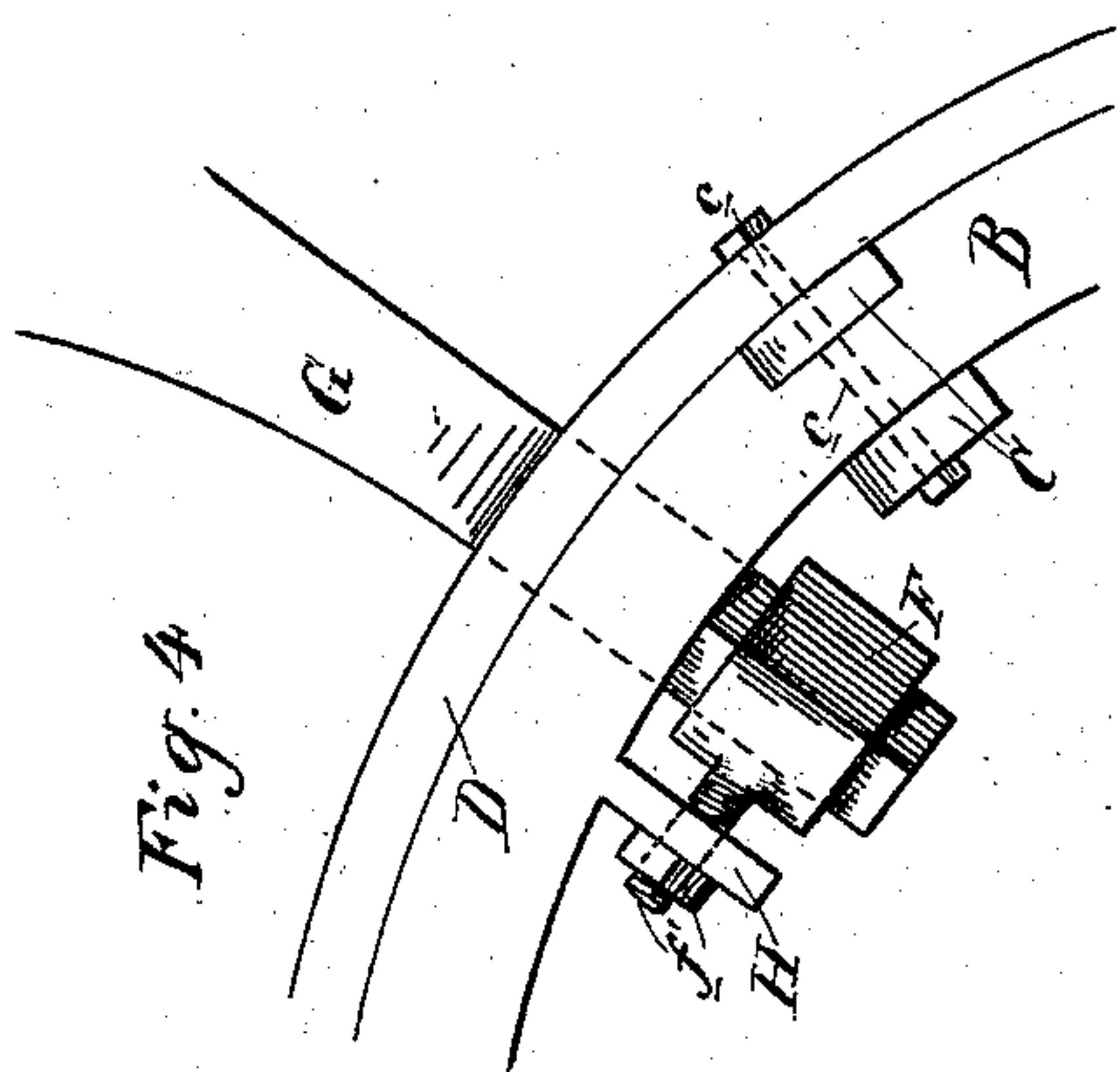


(No Model.)

E. C. SOUNEY.
THRASHING CYLINDER.

No. 322,135.

Patented July 14, 1885.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWARD CHARLES SOUNEY, OF SACRAMENTO, CALIFORNIA.

THRASHING-CYLINDER.

SPECIFICATION forming part of Letters Patent No. 322,135, dated July 14, 1885.

Application filed April 9, 1885. (No model.)

To all whom it may concern:

Be it known that I, EDWARD CHARLES SOUNEY, of the city and county of Sacramento, and State of California, have invented an Improvement in Thrashing-Cylinders; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to certain new and useful improvements in the construction of thrashing-cylinders. These improvements consist in peculiarly-arranged double bars, in novel reversible and single teeth, and the means for seating and securing together the teeth bars and heads, all of which I shall hereinafter fully explain, and particularly point out in the claims.

The object of my invention is generally to provide a practical and serviceable thrashing-cylinder of great strength of parts, and adapted to be readily repaired by the easy removal of worn or broken teeth and the substitution of new ones.

The particular object of each improvement I shall set forth in connection with its description.

Referring to the accompanying drawings, Figure 1 is a perspective view of a cylinder embodying my invention. Fig. 2 is a side elevation of one of the bar-teeth, showing its attachment to the bar. Fig. 3 is a cross-section of same and plan of bar, showing the diamond-shaped body and eyebolts. Fig. 4 is an elevation showing in detail one of the band-teeth. Fig. 5 is a perspective view showing a modification in the manner of securing the bar-teeth.

A is the cylinder-shaft, and B are its heads.

C are the bars. These are arranged in pairs, forming practically double or two-part bars. The outer part or bar of each pair is let flush into the heads, while the inner one lies against the inner surface of the rim of the heads, the two parts being firmly secured together by bolts *c*, which pass through both parts and the intervening rim of the head.

D are the bands, secured on the periphery of the heads in the usual manner.

E are the bar-teeth. These are made double-enders, whereby they may be reversed when necessary. Each tooth consists of a head, *e*, at each end, and a body, *e'*, joining the ends. The bodies are made diamond-shaped in cross-

section, and are seated on the forward edges of the double bars in V-shaped recesses or notches *c'*. These notches are not, however, a perfect V shape, but have a square base, *c''*, truncating the sides of the notches; and the bodies of the teeth are also prepared with shoulders *e''*, which fit or bear against the inner surfaces of the bases of notches, thus forming a rest or stop for the teeth. The teeth are secured in their seats by eyebolts or clips F, the eyes of which are of an elongated diamond shape, and embrace the bodies of the teeth. The bolts pass backwardly between the spaced or double bars and receive a cross-washer or yoke-plate, *f*, which bears against the rear edges of the bars and resists a nut, *f'*, by which the bolts or clips are set up to tighten and hold the teeth to their places.

In Fig. 5 I show a modification in the tooth itself and in the manner of seating it. The tooth is here made single, and, instead of being seated in the edge of the bars, passes through them in suitable sockets. It is secured in the same manner as the double one. I prefer, however, to seat the teeth in the edges of the bars, as said bars are less weakened thereby than when holes are made through them.

The teeth I have thus far described are what are known more properly as "bar-teeth." The band-teeth, by reason of their peculiar location, require a slight modification in the manner of seating and securing them.

G are the band-teeth. The stems of these pass through the bands D and through the rims of the heads, on the inner surfaces of which are formed radial lugs or plates H, to which the stems of these teeth are secured by an eyebolt, F, and nut *f'*, similar to those previously described. These band-teeth may pass through the bars also; but I prefer to pass them through the bands and heads forward of the bars, as shown, thereby affording an opportunity for the bolts *c* to secure both parts of the bar together.

Although there are usually but four band-teeth to each head, while there are twelve bars, and therefore the teeth would but to a limited extent interfere with the bolts *c*, yet I prefer to have said bolts in all the bars at all their intersections with the heads, thereby rendering the cylinder stronger; and I prefer

this more especially as the band-teeth will do equally good work in the position shown.

The advantage of a reversible tooth is obvious; but there is a further advantage in a greater strength, and also in increased weight for the cylinder, which up to a certain point increases its efficiency.

The body of the tooth, being large, is stronger than the shank of the ordinary tooth, which is its weakest point, and at which it breaks; but the chief advantage of the cylinder is in the facility afforded for removing the teeth.

Ordinarily the securing-nuts of the teeth are inside of the bars and are very difficult to reach; but in my cylinder these nuts lie in the side of the bars, and can be reached without difficulty.

The means for securing the teeth are simple and effective.

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

1. In a thrashing-cylinder, the combination of the heads formed with rims, the two-part tooth-carrying bars C, one part lying inside and the other outside of the rims of the heads, and bolts passing through said rims and said bars, substantially as herein described.

2. In a thrashing-cylinder, the combination of the heads formed with rims, the two-part bars C, one part lying inside and one outside of the rims of the heads and bolted thereto, and teeth seated and secured on the forward edges of the bars at right angles thereto and radially to the heads, substantially as herein described.

3. In a thrashing-cylinder, the combination of the heads, the two-part bars C, secured to the heads, teeth seated in said bars at right angles thereto and radially to the heads, eyebolts embracing the teeth and passing between the parts of the double bar, yoke-plates receiving the bolts and bearing against the edge of the bars, and nuts on the bolts bearing on the yoke-plates, substantially as herein described.

4. In a thrashing-cylinder, the heads B, and double or two-part bars C, bolted to the rims of the heads, as described, in combination with the double-ender or reversible teeth E, seated in the bars at right angles thereto and radially to the heads, the eyebolts F, embracing the bodies of the teeth and passing between the parts of the double bars, the yoke-plates *f*, receiving the bolts and bearing

against the edges of the bars, and the securing-nuts *f'*, all arranged and adapted to operate substantially as herein described.

5. In a thrashing-cylinder, the cylinder-heads, and the two-part bars C, secured to the rims of the heads, as described, and having V-shaped notches or recesses *c'* on their forward edges, in combination with the teeth E, having bodies *e'*, diamond-shaped in cross-section and adapted to fit in the notches *c'*, the eyebolts F, embracing the bodies of the teeth and passing back between the parts of the bars, the yoke-plates *f* on the bolts and bearing against the back edges of the bars, and the securing-nuts *f'*, substantially as herein described.

6. In a thrashing-cylinder, the cylinder-heads and the two-part bars C, secured to the rims of the heads, as described, and having approximately V-shaped notches or recesses *c'* on their forward edges, in combination with the teeth E, having diamond-shaped bodies *e'*, adapted to fit the notches, and shoulders *e''*, bearing against the inner edges of their bases, the eyebolts F, embracing the bodies of the teeth and passing back between the parts of the bars, the yoke-plates *f* on the bolts and bearing against the back edges of the bars, and the securing-nuts *f'*, substantially as herein described.

7. In a thrashing-cylinder, the heads B, having the radial lugs H on the inner surface of their rims and the bands D on their peripheries, in combination with the band-teeth G, having stems passing through the bands and rims of the heads, and the means for securing said teeth, consisting of the eyebolts F, embracing the stems and passing through the lugs and the nuts *f'*, substantially as herein described.

8. In a thrashing-cylinder, the heads B, double or two-part tooth-carrying bars C, and the bolts *c*, securing the parts of said bars to the heads, in combination with the bands D, encircling the heads, and the band-teeth G, secured in said bands and heads between the points at which the bars are bolted to the heads, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand this 21st day of March, 1885.

EDWARD CHARLES SOUNEY.

Witnesses:

GEO. E. BATES,

THOMAS D. SOUNEY.