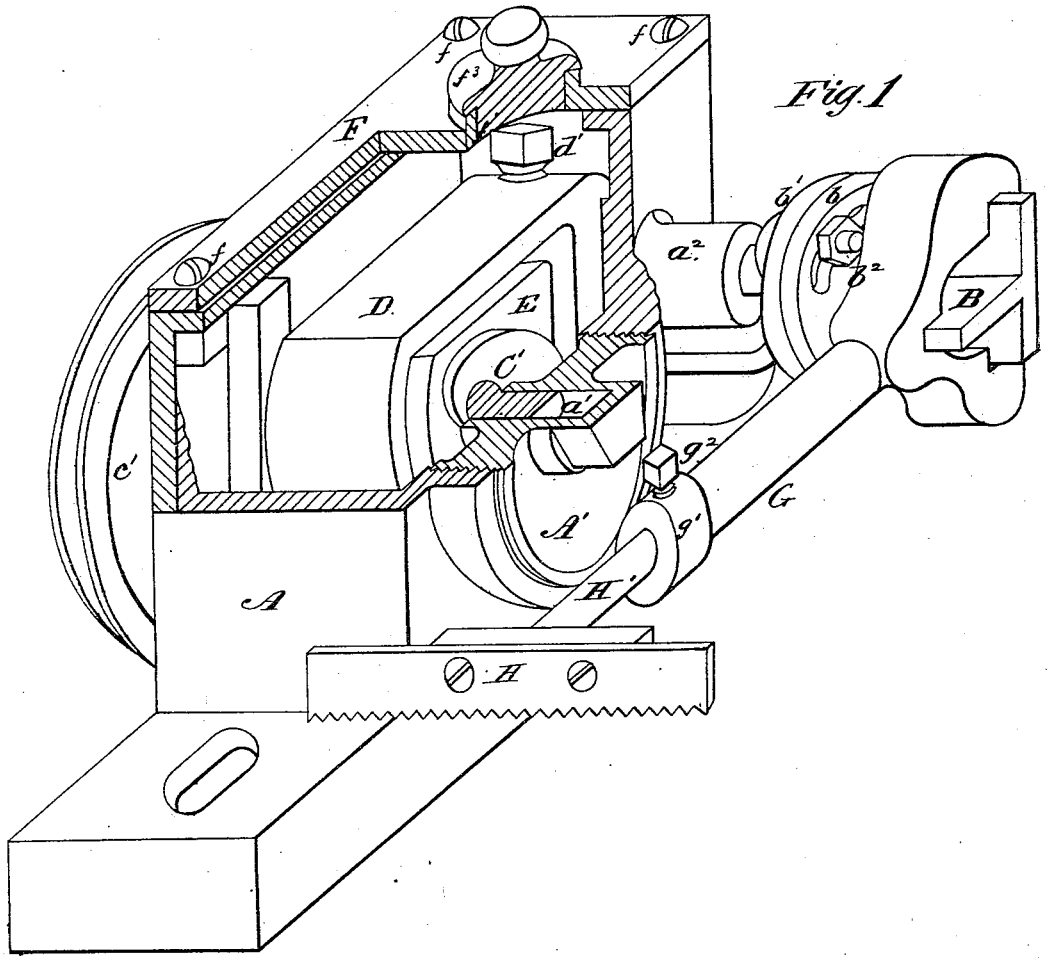
2 Sheets--Sheet 1.

J. K. PROCTOR.

Mechanism for Operating Doffer Combs.

No. 166,408. Patented Aug. 3, 1875.

Fig. 1



Witnesses
S. J. Van Stavoren.
Jos. P. Connolly

By

Josiah K. Proctor Inventor
Connolly Bros

Attorneys

2 Sheets--Sheet 2.

J. K. PROCTOR.

Mechanism for Operating Doffer Combs.

No. 166,408. Patented Aug. 3, 1875.

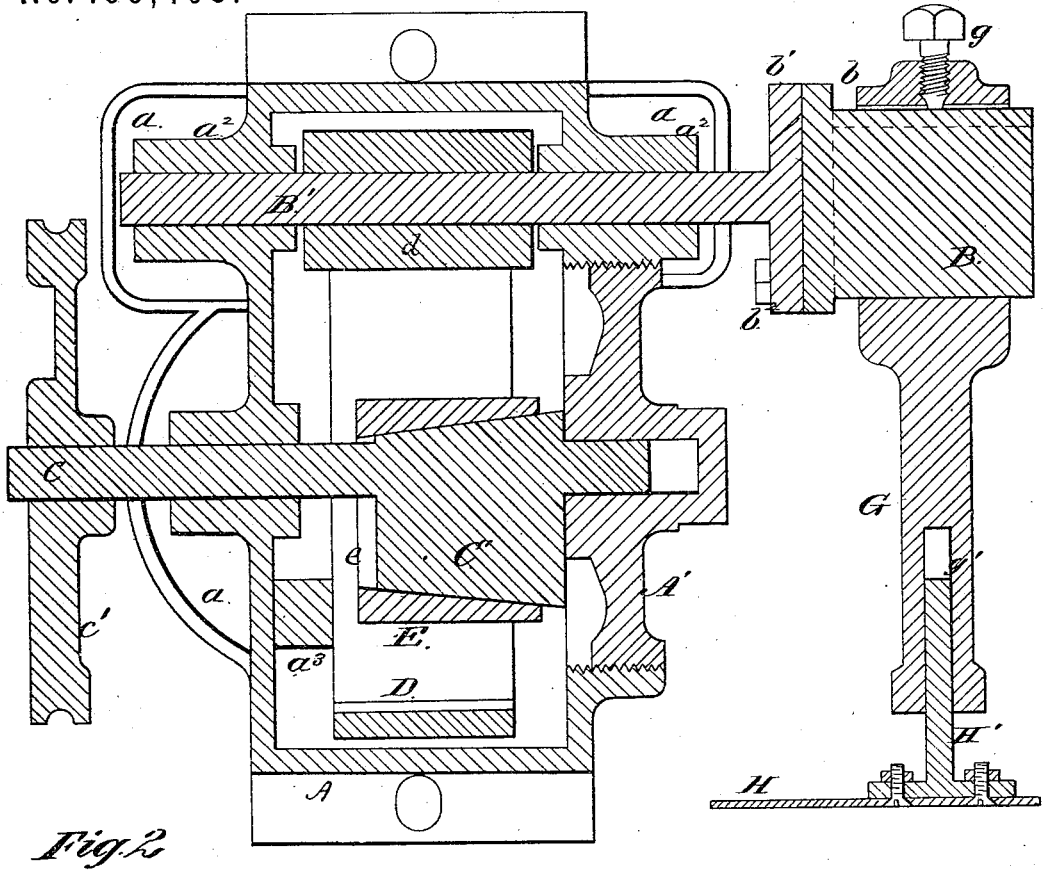


Fig. 2

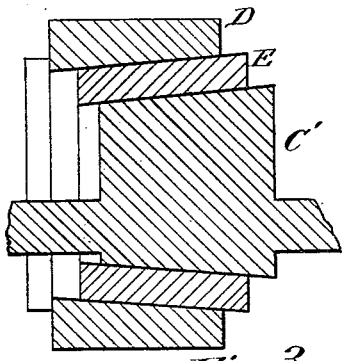


Fig. 3

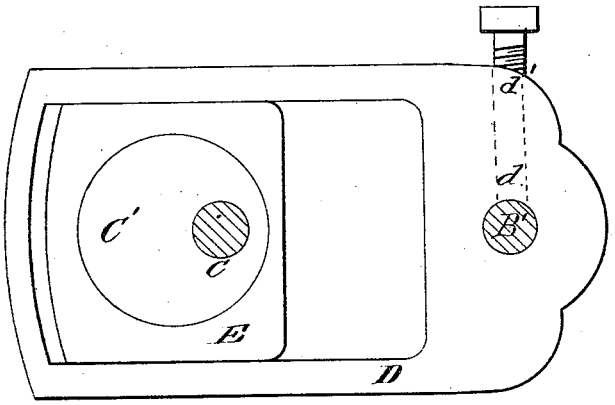


Fig. 4

Witnesses

S. J. Van Staveren

Jos. P. Connolly

By

Inventor

Josiah K. Proctor

Connolly Bros

Attorneys

UNITED STATES PATENT OFFICE.

JOSIAH K. PROCTOR, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JAMES SMITH & CO., OF SAME PLACE.

IMPROVEMENT IN MECHANISMS FOR OPERATING DOFFER-COMBS.

Specification forming part of Letters Patent No. **166,408**, dated August 3, 1875; application filed April 23, 1875.

To all whom it may concern:

Be it known that I, JOSIAH K. PROCTOR, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Doffer-Comb Mechanism; 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 it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a perspective, partly broken away; Fig. 2, a horizontal section; Fig. 3, a vertical section of the cone eccentric, block, and stirrup; Fig. 4, a detail elevation of the cone eccentric, block, and stirrup.

The nature of my invention consists in the peculiar construction and combination of parts, as hereinafter fully described.

Referring to the accompanying drawing, A shows the oil well or box, formed with drip-cups *a a*. B is the comb-shaft, to which a rapid reciprocating motion is to be communicated, and C is a revolving shaft, provided with a pulley-wheel, *c'*. A' is a screw-hub, located in one side of the box A, having an elongated socket, a^1, in which the shaft C has an end bearing. C' is an eccentric cone formed on the shaft C. D represents a yoke fitting in the box A, and formed with an end enlargement, *d*, having an opening for the passage of the end of the comb-shaft journal B', and made fast in said opening by means of a set-screw, *d'*, said journals B' having bearings at a^2 a^2 in the box A. E is a block sliding longitudinally in the yoke D, said block having a conical opening, *e*, to coincide with the cone C', and flaring correspondingly on the outside to conform to the taper of the opening in the yoke, as shown plainly in Fig. 3.

The effect of this construction is as follows: A rotary motion being communicated to the shaft C, the cone C' is caused to rotate in the block E, said block moving to and fro in the yoke D, at the same time rocking the latter, and conveying a reciprocating motion to the journal B' and shaft B. Lost motion of the cone C' and block E is taken up by screwing in the nut or hub A', causing said cone to move in the block, and the block to move farther into the yoke D.

In order to keep the forward end of the yoke D true in the box A, said box is formed with a rib, a^3, against which the side of the yoke impinges. F is the lid of the box, secured in place by screws *f f*, and provided with an opening, f^1, through which access may be had to the set-screw *d'*, said opening being closed by a stopple or plug, f^3. The shaft B terminates in a flange, *b*, a similar flange, b^1, terminating the journal B', and the two flanges being held in close contact by bolts b^2 passing through a round opening in the flange b^1, and a segmental or curved slot in the flange *b*, so as to permit the adjustment of the shaft B. Said shaft B is made T or other form, of angle-iron, combining lightness with strength, and preventing the shaft from springing away at its center from the cylinder, thus obviating a difficulty heretofore encountered with shafts as ordinarily constructed of round iron. G represents one of the arms for sustaining the doffer-comb H, said arm being made adjustable. H' represents a telescopic extension of the arm G, fitting in a socket, g^1, and held in place by a set-screw, g^2.

The advantages of the foregoing construction are briefly as follows: The center or revolving shaft and the journal of the comb-shaft both running in the same box, the latter is thoroughly lubricated without any extra expenditure of oil, and the parts are made more compact than if said journal were exterior to the said box. The combination of the eccentric cone, sliding block, and yoke affords very superior means for transmitting a fast reciprocating motion to the comb-shaft from the center or revolving shaft. The comb-shaft, being constructed of angle-iron, can be made very strong, and at the same time very light, permitting a very rapid motion to be communicated to it without causing it to spring away at its center.

What I claim as my invention is as follows:

1. The combination, with the rocking yoke D, having a flaring opening, of the tapered block E, fitting in said opening, substantially as shown and described.

2. The combination of the comb-shaft B, having a journal, B′, the revolving shaft C, having an eccentric cone, C′, the yoke D for transmitting motion between said shafts, and the block E, the several parts being combined and arranged for operation substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of April, 1875.

JOSIAH K. PROCTOR.

Witnesses:

M. DANL. CONNOLLY,

THOS. A. CONNOLLY.