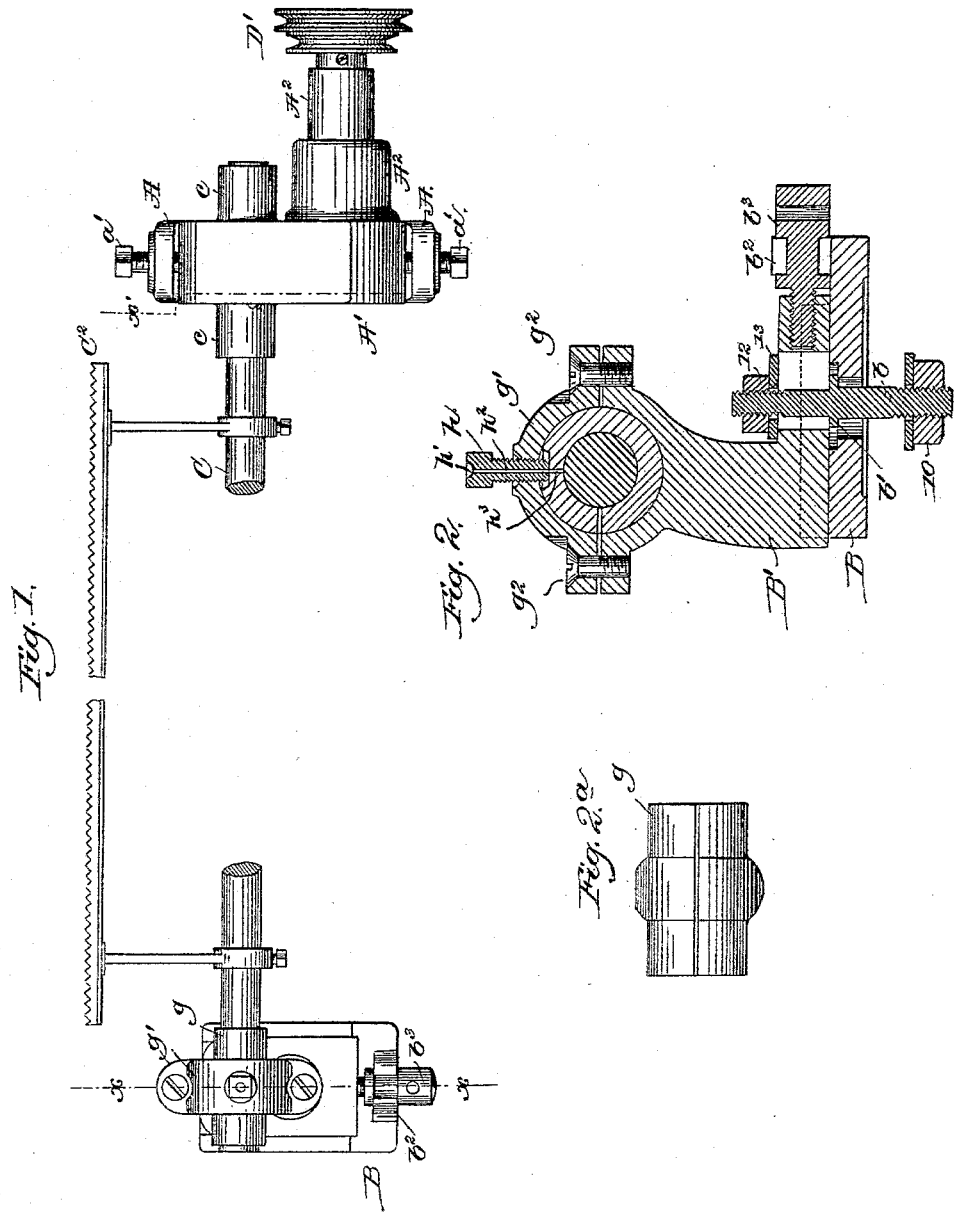
(No Model.) 2 Sheets—Sheet 1.

E. WRIGHT.

MECHANISM FOR OPERATING DOFFER COMBS OF CARDING MACHINES.

No. 381,516. Patented Apr. 17, 1888.



Witnesses.
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

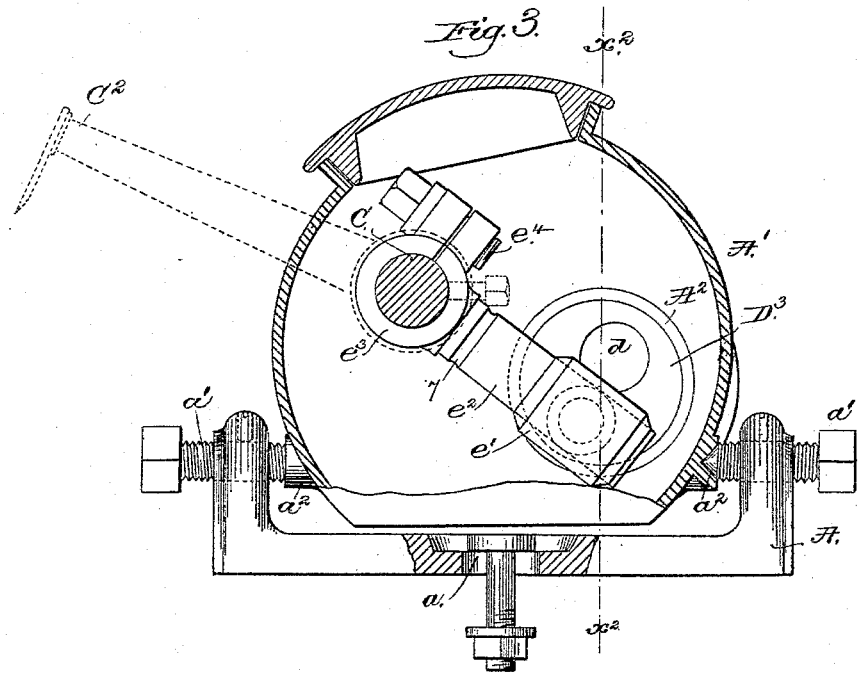
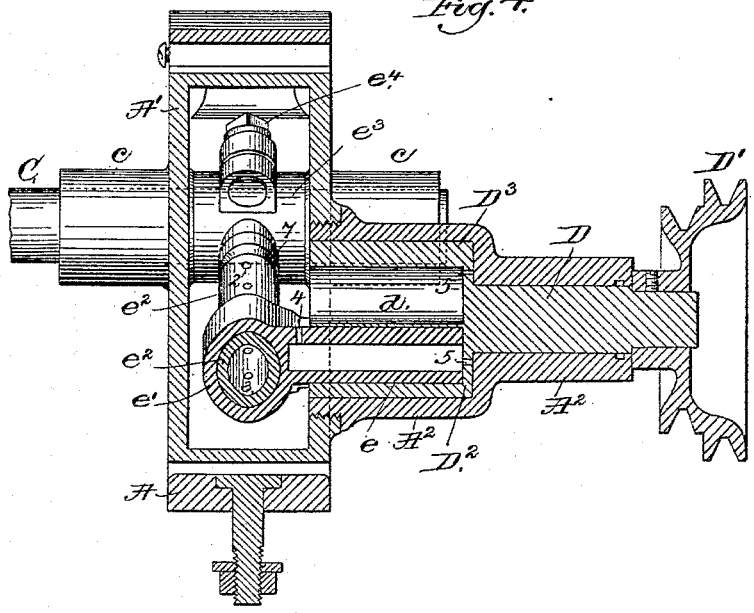


Fig. 4.



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UNITED STATES PATENT OFFICE.

ELIJAH WRIGHT, OF NORTH ANDOVER, MASSACHUSETTS, ASSIGNOR TO THE DAVIS & FURBER MACHINE COMPANY, OF SAME PLACE.

MECHANISM FOR OPERATING DOFFER-COMBS OF CARDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 381,516, dated April 17, 1888.

Application filed January 3, 1887. Serial No. 223,217. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH WRIGHT, of North Andover, county of Essex, and State of Massachusetts, have invented an Improvement in Mechanism for Operating Doffer-Combs of Carding-Engines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of mechanism for operating doffer-combs, whereby they may be run rapidly and without jar or noise, the mechanism being also simple and durable.

I have provided means whereby a greater or less extent of movement may be given to the comb in a rapid and efficient manner.

Figure 1 in plan view represents my improved mechanism for operating doffer-combs, the comb-shaft and comb being broken out centrally to save space upon the drawings. Fig. 2 is a section of Fig. 1 in the line x x. Fig. 2^a shows one of the bearings removed. Fig. 3 is a sectional detail of Fig. 1 in the line x', and Fig. 4 is a section of Fig. 3 in the line x^2.

The shoes A B will in practice be securely attached or bolted to the side frames of the carding-machine. The shoe A is shown as having a recess, as a, for the reception of the bolt to enter the side frame.

The stand A′, herein shown as a hollow case for the reception of oil, is pivoted upon conical-pointed adjusting-screws a' a', extended through ears of the shoe and entering conical recesses in lugs a^2 a^2 of the case, the pointed screws permitting the case to rock in order that it may adjust itself to the comb-shaft C, the bearings c for the said comb-shaft near one end forming a part of the stand A′. The stand A′ also has attached to it a bearing-hub, A^2, which receives in it a shaft, D, the outer end of which has attached to it a belt-pulley, D′, through which the comb-shaft is driven, the said shaft D having its bearings in the hub A^2, the inner end of the shaft D being enlarged or provided with a head, as D^3.

The head D^3 is provided with one or more holes, as d, located at different distances from the center of the said head and of the shaft D, one of the said holes receiving loosely the stem e of a sleeve, e', the said sleeve in turn receiving in it an arm, e^2, preferably made hollow and extended from a hub, e^3, which is split and provided with ears to receive a set-screw, e^4, whereby the said hub is securely but adjustably attached to the comb-shaft C. The arm e^2 will preferably be provided with holes, as 2 and 3, for the passage of oil between the said arm and the sleeve e'. The shank e is also provided with an oil-passage, as 4, and the hub with an oil-passage, as 5.

By the employment of two or more holes, as d, located at different distances from the center of rotation of the head D^3, it is possible to change the position of the shank e with relation to the center of rotation of the head D^3, thus giving a greater or less extent of movement to the comb C^2, attached to the comb-shaft in any usual manner.

The arm e^2 is provided with an annular groove, as 7, (see Figs. 3 and 4,) so located therein with relation to the movement of the sleeve e' that the upper end of the said sleeve in its upstroke passes the lower edge of the said groove, the groove preventing the arm from being so worn by the sleeve as to leave a shoulder against which the upper end of the sleeve would abut if the groove were omitted. This groove 7 is of sufficient width to provide for differences in motion of the sleeve owing to the shank e being in one or the other of the holes d.

The shoe B will in practice be bolted to one of the side frames of the carding-machine (not shown) by a bolt, as b, (see Fig. 2,) it having a collar, b', intermediate its screw-threaded ends, the lower end of the bolt entering the shoe and the frame and having applied to it a nut and washer, as 10, to secure the said shoe to the frame, the upper end of the bolt b being extended up through a slot in the foot of the stand B′, where it has applied to it a suitable nut, 12, and preferably a washer, 13, under the nut, the slot permitting the stand B′ to be adjusted to and from the usual doffer. (Not shown.)

The shoe B at one end has a slotted ear, b^2, which receives in it an adjusting-screw, b^3, provided, as herein shown, with an annular groove to co-operate with the said ear and prevent longitudinal movement of the screw, yet permit it to be rotated when desired, the

inner threaded end of the said screw entering a threaded hole cut in the foot of the stand B′. By loosening the nut 12 and turning the screw b^3 the stand may be closely adjusted without adjusting the shoe, the one single bolt *b* serving for two purposes.

The stand B′ at its upper end is forked to receive the sleeve-bearing *g*, slotted from end to end and provided, as herein shown, with a convex enlargement to enter a cavity of like shape formed in the stand and in the cap *g′*, attached to the stand by screws g^2 g^2, the bearings so made representing one form of what may be called a "ball and-socket" bearing.

To prevent rotation of the bearing, and also provide means whereby the bearing may be contracted in diameter to compensate for wear of the comb-shaft and bearing, I have added the screw *h*, which enters a slot in the said bearing. (See Fig. 2.)

The head of screw *h* is hollowed out, forming an oil-cup, *h′*, which communicates with the inner surface of the bearing *g* by means of the longitudinal passage h^2 in the screw and h^3 in the bearing *g*.

I claim—

1. The comb-shaft, the attached hub having an arm, e^2, and the rotating shaft D, combined with the shank *e*, loosely connected eccentrically to the head of the shaft D, the said shank having at its outer end the hollow sleeve *e′*, the said sleeve receiving the arm e^2, and the said arm e^2 rocking the comb-shaft and holding the shank *e* in the head of the shaft D, substantially as described.

2. The comb-shaft, the attached hub having an arm, e^2, and the rotating shaft D, having the enlarged head provided with two or more holes located at different distances from the center of rotation of the said head, in combination with the sleeve having the shank *e*, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELIJAH WRIGHT.

Witnesses:
EBEN A. BALDWIN,
GEO. L. WRIGHT.