

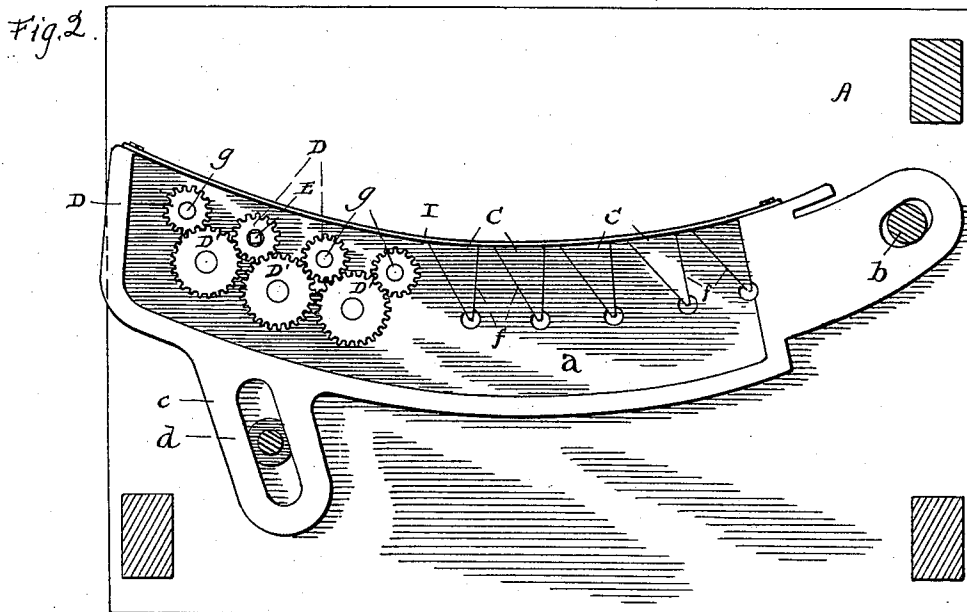
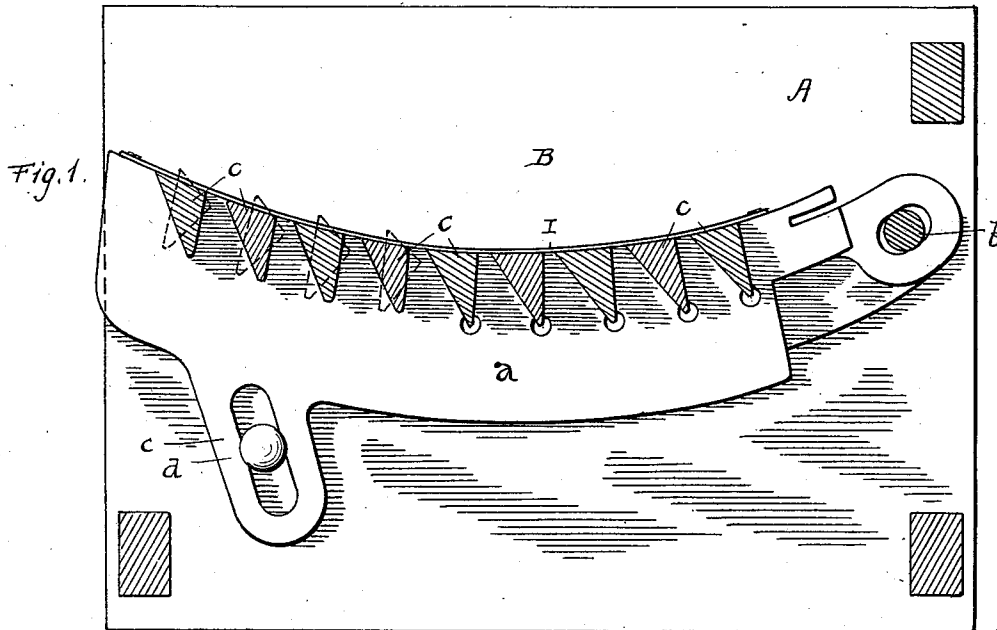
(No Model.)

2 Sheets—Sheet 1.

A. ARNFIELD.
GRATE FOR COTTON LAPPERS.

No. 540,570.

Patented June 4, 1895.



WITNESSES

Philb. Wasi.
George H. Parmelee.

INVENTOR

A. Arnfield
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his Attorney

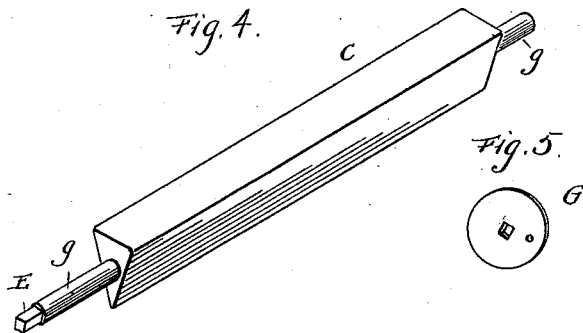
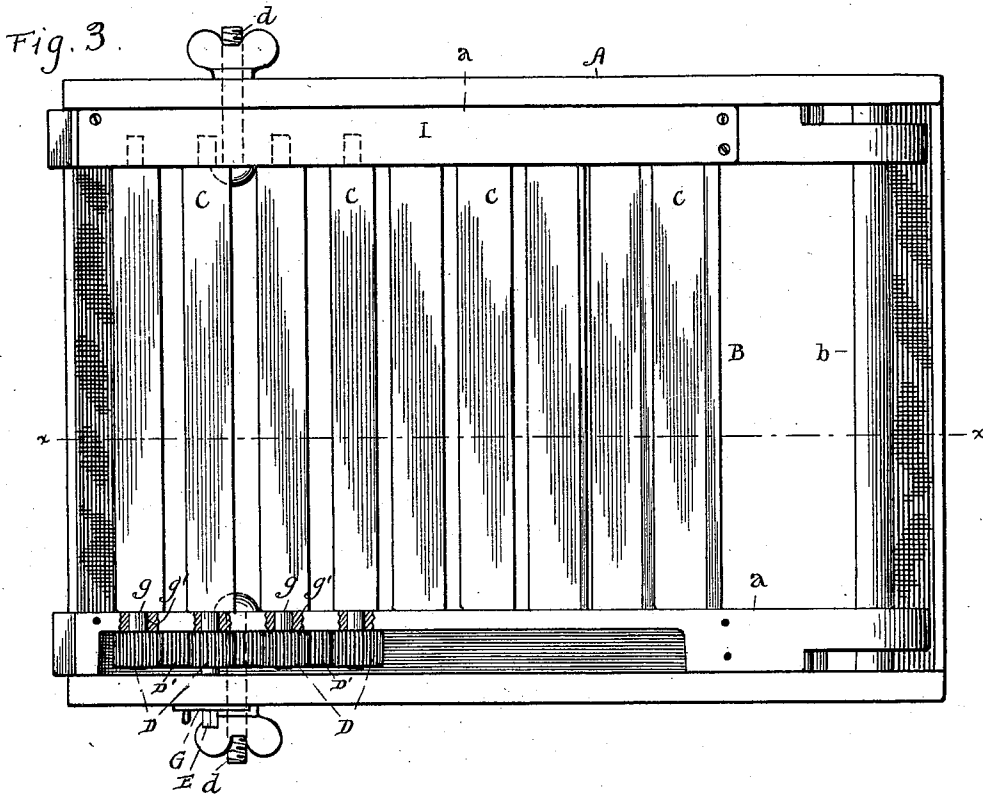
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No. 540,570.

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WITNESSES

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UNITED STATES PATENT OFFICE.

ALFRED ARNFIELD, OF LOWELL, MASSACHUSETTS.

GRATE FOR COTTON-LAPPERS.

SPECIFICATION forming part of Letters Patent No. 540,570, dated June 4, 1895.

Application filed December 29, 1894. Serial No. 533,329. (No model.)

To all whom it may concern:

Be it known that I, ALFRED ARNFIELD, a citizen of the United States, and a resident of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Grates for Cotton-Lappers; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a section on line *xx*, Fig. 3. Fig. 2 is a side elevation of invention, with one side of frame removed. Fig. 3 is a plan view of invention. Fig. 4 is a perspective of one of grate-bars, and Fig. 5 a view of the locking device for the grate-bars.

This invention has relation to certain new and useful improvements in grates for cotton lapping machines, and is designed to provide a grate of this character having means whereby the upper, or seed and leaf bars thereof may be quickly and easily changed for the purpose of varying the openings between them as may be necessary in the operation of the machine, and without stopping the machine.

With this object in view the invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claims.

Referring to the accompanying drawings, the letter A indicates a portion of the frame of a cotton lapping machine, and B the grate thereof. Said grate comprises a pair of curved cheek pieces *a, a*, whose forward ends are pivotally secured to bolts or studs *b* of the frame in order to permit the grate to swing bodily in a vertical plane toward or away from the beaters. (Not shown.) The rear portions of said cheek pieces are provided with depending, vertically slotted legs *c*, through which pass a bolt or bolts *d*.

C designates the grate bars which extend transversely between the two cheek pieces. Said bars are of triangular form in cross section, and those which constitute the rear portion of the grate, or the "sand" bars, as they are termed are held in the cheek pieces by seating their wedging faces in corresponding

seats *f*. The bars at the forward portion of the grate which are known as "seed and leaf bars," usually from four to six in number, are provided at each end portion with journals *g*, which loosely engage bearings *g'* in said cheek-pieces, whereby said bars may be rotated. These journals are extended at one end and are provided each with a pinion D, which pinions are geared one to another by means of loose pinions D'. The outer lateral face of one of the cheek pieces is cut out, as indicated in Figs. 2 and 3 to receive the series of pinions in order that they may not project beyond the surface of said piece and whereby the latter may be placed in close relation to the side of casing. The journal of one of the bars is extended through the side of frame and is squared, as indicated at E to permit the application of a wrench or crank thereto. By turning this bar, and through it the other bars, it will be apparent that the bars are simultaneously adjusted to bring their faces into different relations to each other, whereby the openings between them are varied.

To secure the bars in any desired adjustment, a lock G may be provided. This lock may consist simply of a pin inserted in a socket plate on the frame and in contact with the squared portion E of the journal extension to prevent its turning; or a pawl and ratchet, or other well-known device may be employed for the purpose.

It is sometimes desirable to set the bars somewhat raking, and this may be accomplished by the present invention by a slight rotation of the bars to change the angles of their surfaces.

The entire series of bars are usually held in their seats in the cheek pieces by means of removable cap-pieces I. By removing these pieces any bar can be quickly removed and replaced. Said pieces consist each of a narrow, elongated strip which is secured to the upper edge of the cheek piece by screws, or other suitable means.

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

1. In a grate for cotton lapping machines, the combination of a pair of curved cheek pieces *a, a*, whose rear ends are pivotally secured in the frame and whose forward ends

are provided with depending slotted legs which engage bearings of the frame, a series of triangular grate bars extending transversely between said cheek pieces, the rear or sand bars of the series having their wedging faces removably supported in seats of said pieces, and the forward or seed and leaf bars having journals which turn in bearings of said pieces, the removable cap pieces which secure said bars in their seats, and means whereby the seed and leaf bars may be rotated simultaneously, substantially as specified.

2. In a grate for cotton lapping machines, the combination with the cheek pieces, the triangular sand bars removably seated therein, and the seed and leaf bars journaled to

rotate in said pieces, of a series of pinions on the journals of said seed and leaf bars, and gear wheels connecting said pinions, said pinions and gear wheels being seated within a cut-away portion of one of the cheek pieces, the journal of one of said bars being extended through the side of the frame and provided with means for the application of a wrench or crank thereto, and means for securing said bars in adjustment, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED ARNFIELD.

Witnesses:

JAMES H. HALL,
JOHN F. THOMPSON.