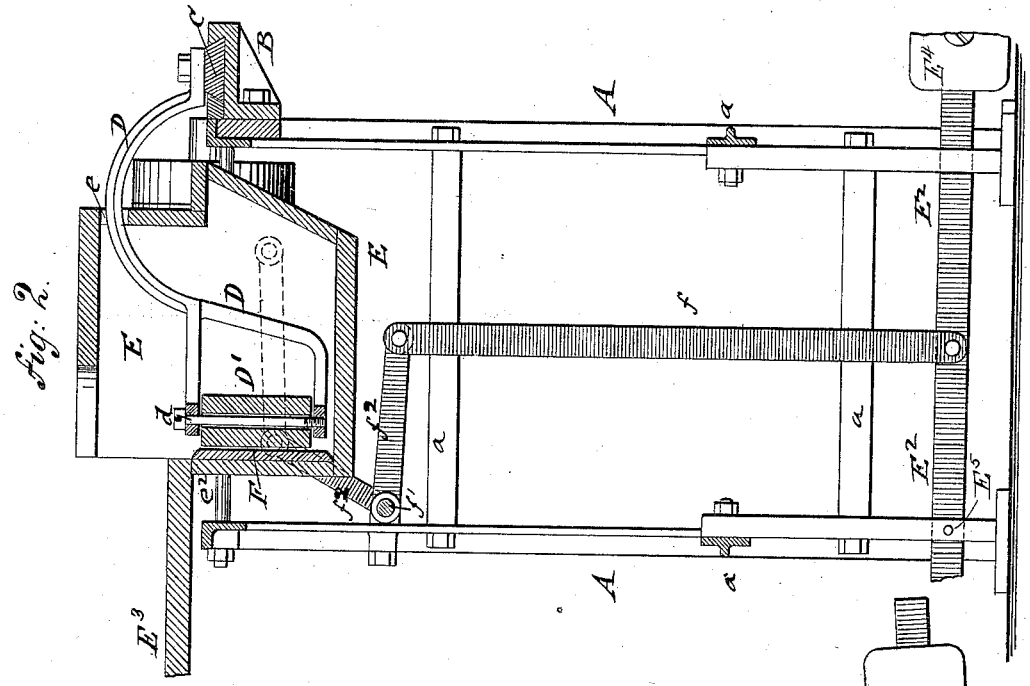
(No Model.) 2 Sheets—Sheet 1.

C. LEHMANN.

STARCHING MACHINE.

No. 344,662. Patented June 29, 1886.

Fig. 2.



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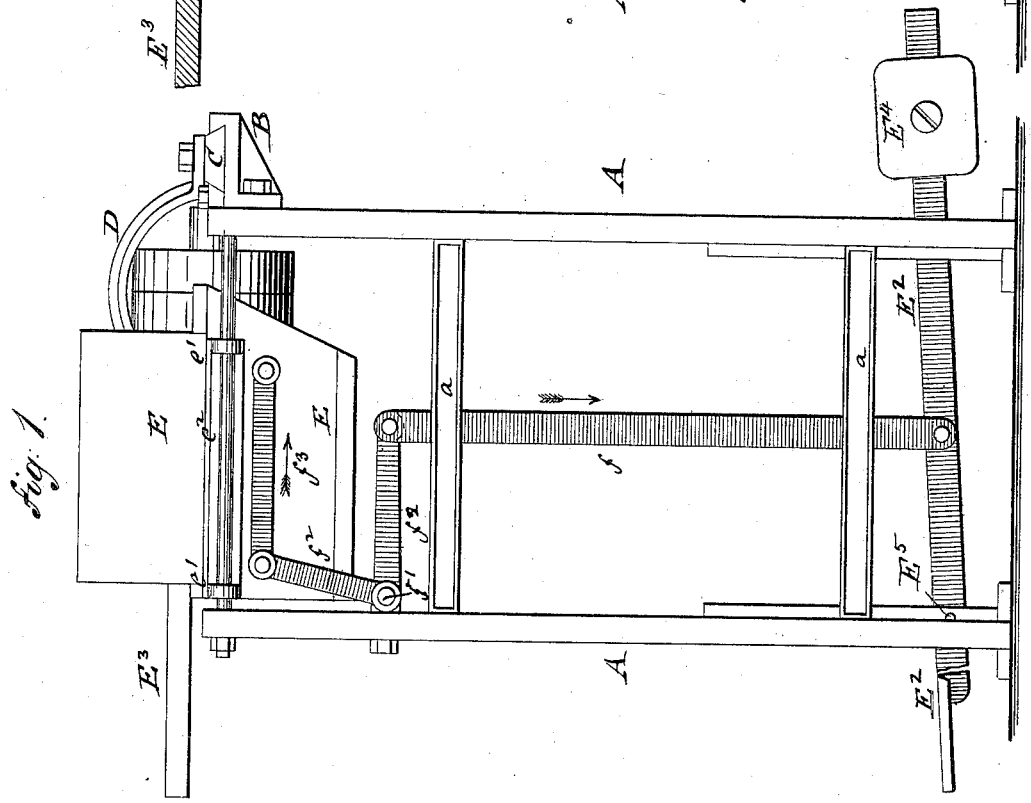

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(No Model.) 2 Sheets—Sheet 2.

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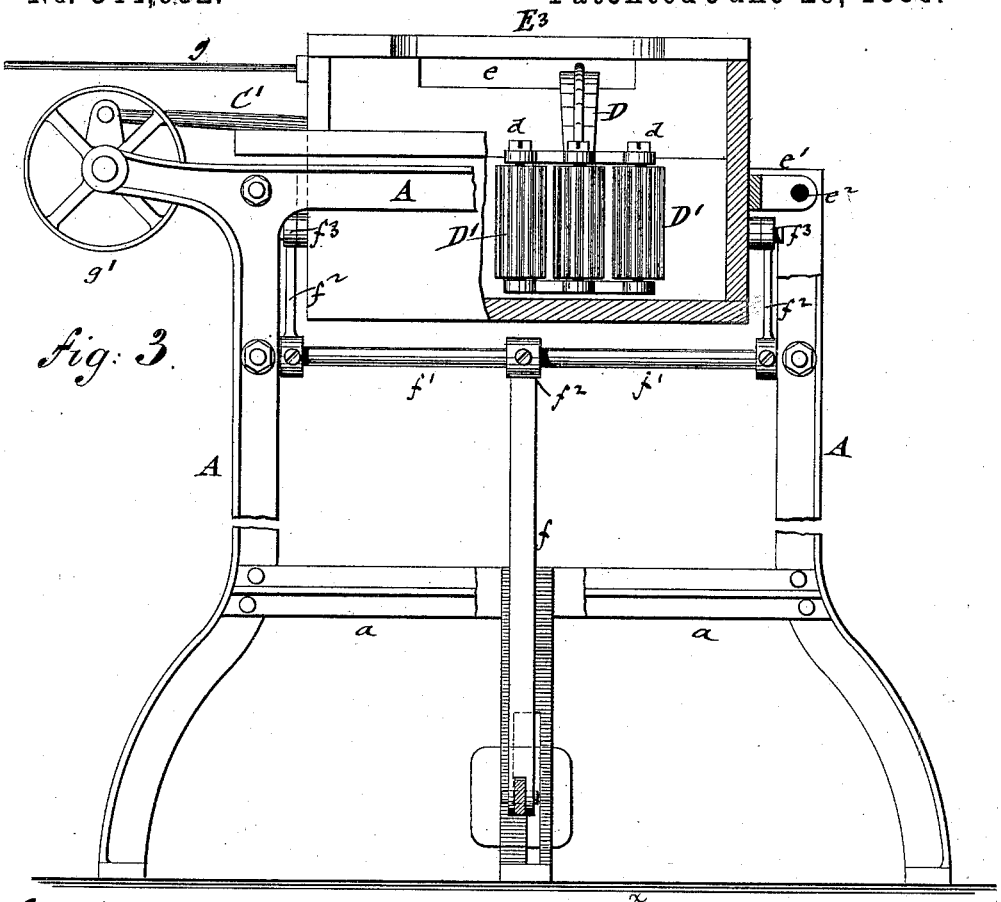
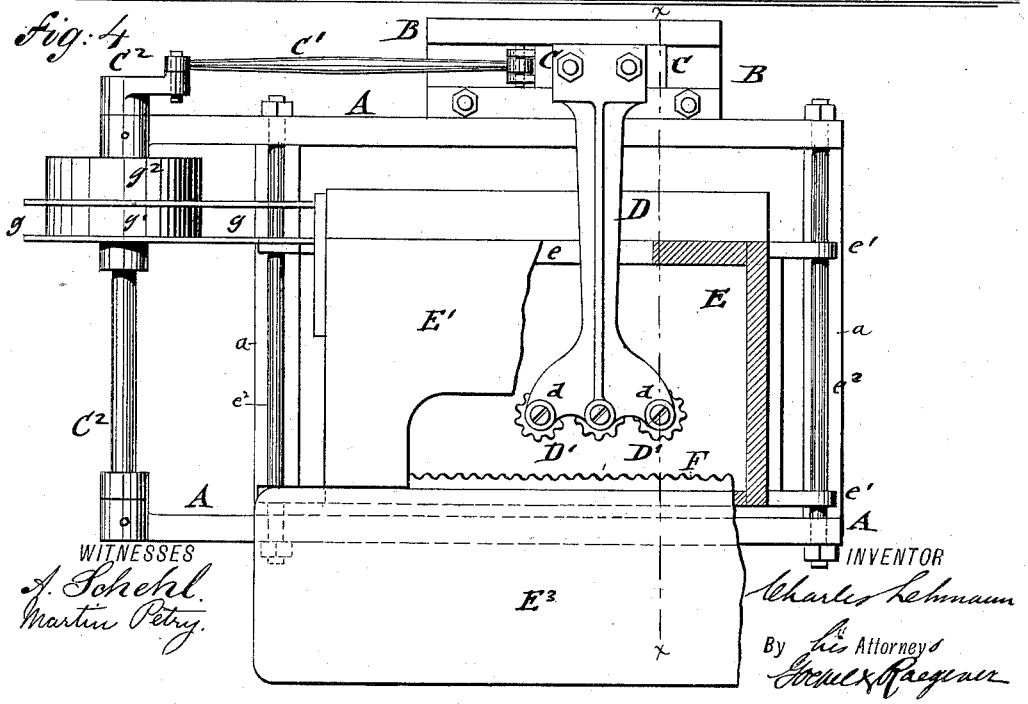


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES LEHMANN, OF JERSEY CITY, NEW JERSEY.

STARCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 344,662, dated June 29, 1886.

Application filed May 8, 1885. Serial No. 164,750. (No model.)

To all whom it may concern:

Be it known that I, CHARLES LEHMANN, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Machines for Starching Shirt-Bosoms, of which the following is a specification.

This invention has reference to an improved machine for starching shirt-bosoms in a quicker and more effective manner than by hand; and the invention consists of ribbed starching-rollers that are supported by a horizontally-reciprocating arm, and pressed against the corrugated end wall of a laterally-reciprocating starch-trough, on which wall the shirt-bosom is placed, so as to be acted upon by the rolls, which rub the starch into the same.

In the accompanying drawings, Figure 1 represents a side elevation of my improved machine for starching shirt-bosoms. Fig. 2 is a vertical transverse section on the line *x x* of Fig. 4; Fig. 3, a front elevation with parts broken away; and Fig. 4 a plan of the same, also with parts broken away.

Similar letters of reference indicate corresponding parts.

A in the drawings represents the supporting-frame of my improved machine for starching shirt-bosoms, which frame consists of four standards that are supported by longitudinal and transverse brace-pieces *a*.

To the upper and longer rear part of the frame A is attached a fixed horizontal guide-rail, B, which guides in a dovetail groove a reciprocating slide-piece, C. The slide-piece C is connected by a pitman, C′, to a driving crank-shaft, C^2, which is supported in bearings of the frame A, and operated by hand, foot, or steam power, so as to reciprocate the slide-piece C.

To the slide-piece C is attached a curved arm, D, that extends through a horizontal slot, *e*, of the rear wall of the starch-trough E to the interior of the same and branches out into two arms that carry fixed vertical spindles *d*, for supporting the ribbed starching-rollers D′. The starch-trough E is closed partly by a cover, E′, which is recessed at the front part for permitting the insertion of the bosoms to be starched. The trough E is guided by perforated side lugs, *e′*, on fixed transverse rods e^2 of the frame A, and is laterally reciprocated thereon by means of a treadle, E^2, fulcrumed at E^5 in the frame, and provided with a weight, E^4, on its longer arm, and intermediate connecting-rod, *f*, shaft *f′*, bell-cranks f^2, and pivot-links f^3, which latter are applied to the side walls of the trough E, as shown in Figs. 1 and 3. By depressing the treadle E^2 the trough is moved forward on the rods e^2, while on releasing the treadle it is moved by the weight in a backward direction. The interior of the front wall of the trough E is covered by a corrugated plate, F, over which the bosom to be starched is placed before the box is moved against the starching-rollers D′. The body of the shirt is placed on the table E^3, attached to the trough E, when the bosom is placed with its face side on the corrugated front wall of the trough, and the latter then moved forward by depressing the treadle, and the bosom exposed to the rubbing action of the ribbed starching-rollers, which pass several times forward and back over the bosom, so as to rub the starch into the under side of the bosom. The trough E is provided at one side with a belt-shifting fork, *g*, when the machine is worked by power, in which case the shaft C^2 is provided with a loose pulley, *g′*, and a fast pulley, g^2, on which latter the driving-belt is shifted by the fork *g* by the backward motion of the starch-trough, occasioned by the weight E^4, and forward again to the loose pulley when the trough has been returned to its former position by depressing the treadle and raising the weight thereon. By the belt and fast pulley the starching-rollers are reciprocated as soon as the bosom is pressed against the same by the backward motion of the starch-trough, so that the rollers move over the bosom and force the starch into the same. In this manner the bosoms of shirts can be quickly and conveniently starched in a reliable and uniform manner at a considerable saving of time and labor without requiring skilled hands. The machine is therefore specially useful for laundries, shirt-factories, hotels, and wherever large quantities of shirts have to be starched and ironed, as the starching is accomplished in a quicker and better manner than by hand.

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

1. The combination, with ribbed and horizontally-reciprocating starching-rollers, of a

laterally-reciprocating starch-trough having a corrugated front wall facing the rollers, substantially as set forth.

2. The combination of a laterally-reciprocating starch-trough having a corrugated front wall, ribbed starching-rollers, a curved and forked arm having fixed spindles for supporting the starching-rollers, and a reciprocating slide-piece attached to the supporting arm, substantially as set forth.

3. The combination of a supporting-frame, a laterally-reciprocating starch-trough having a corrugated front wall, a weighted treadle, and intermediate mechanism for laterally reciprocating the trough, ribbed starching-rollers, a forked and curved arm having fixed spindles for supporting the rollers, a slide-piece to which the supporting-arm of the starching-rollers is attached, and mechanism, substantially as described, for reciprocating the slide-piece.

4. The combination of a supporting-frame having a grooved guide-rail and fixed transverse guide-rods, a laterally-reciprocating starch-trough having a corrugated front wall, perforated side lugs, and a horizontal table, ribbed starching-rollers, a forked and curved arm having fixed spindles for supporting the rollers, a slide-piece to which said supporting-arm is attached, a belt-shifter attached to the trough, a crank-shaft having a loose and a fast pulley, and a pitman connecting the crank-shaft with the slide-piece, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CHARLES LEHMANN.

Witnesses:
PAUL GOEPEL,
SIDNEY MANN.