G. ADREANCE.

Fluting-Machine.

No. 217,670. **Patented July 22, 1879.**

Fig. 1.

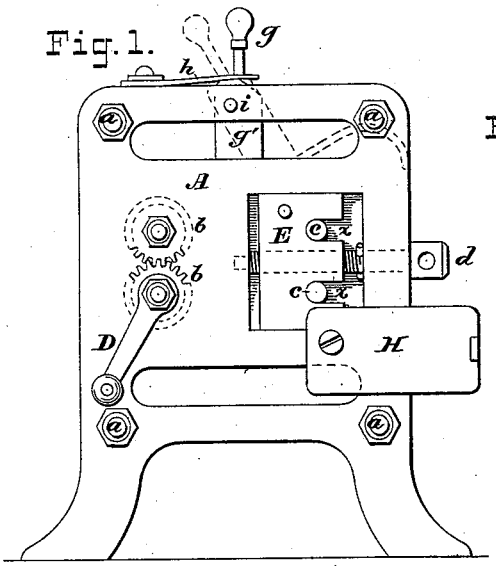


Fig. 2.

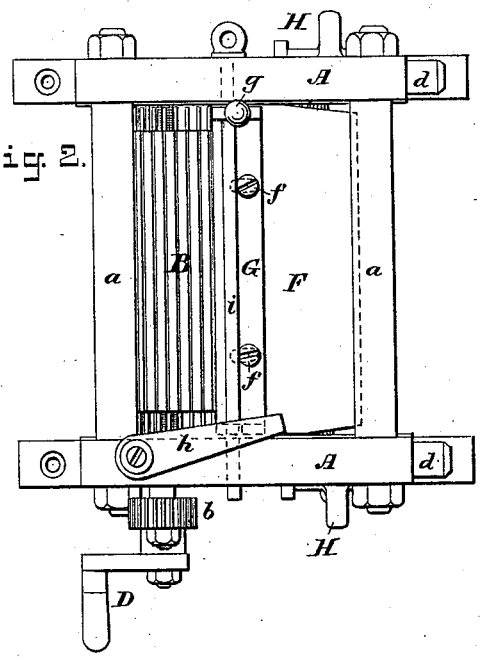


Fig. 3.

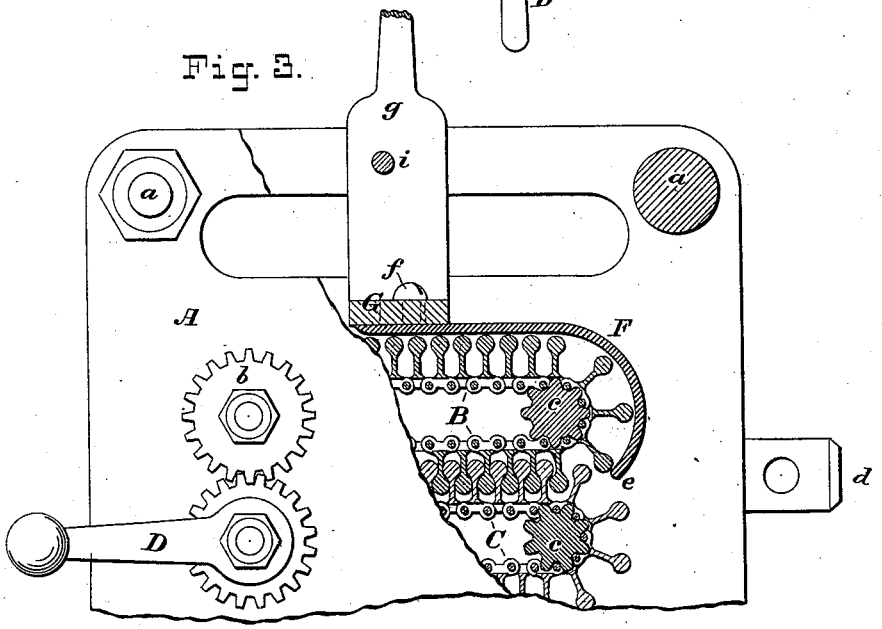
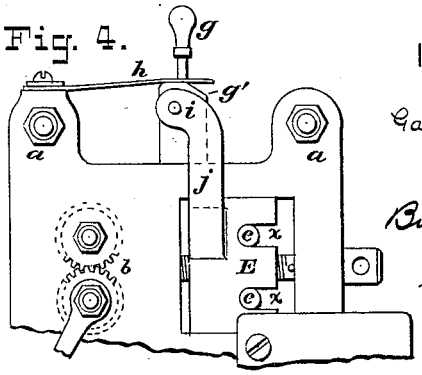


Fig. 4.



ATTEST:

George H. Fraser.

Jos. Goodrich

INVENTOR:

Garret Adreance,

By his Attorneys,

Burke, Fraser and Connett.

UNITED STATES PATENT OFFICE.

GARRET ADREANCE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FLUTING-MACHINES.

Specification forming part of Letters Patent No. **217,670**, dated July 22, 1879; application filed May 14, 1879.

To all whom it may concern:

Be it known that I, GARRET ADREANCE, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Fluting-Machines, of which the following is a specification.

This invention relates to that class of machines known as "chain-fluters;" and it consists, in part, of a hood for guiding and retaining the fluted goods on the chain, and, partly, in the peculiar construction of the bearings in which the rollers are mounted.

In these machines, as ordinarily constructed, the chains which form the plaits are left unin-closed, and when the goods have passed beyond the rollers and the links open the fluted goods leave the chain.

My invention seeks to retain the fluted goods between the heated links of the chain for a longer period, so as to make the flutes or corrugations more permanent. Moreover, in the employment of heat for fluting, the journals of the rollers become hot, are covered with smoke, and rapidly dry up the oil, which, with the smoke, forms a thick crust, impeding the operation of the machine by reason of the friction produced. This crust must be removed frequently, and in the ordinary mounting of the journal its removal is difficult of accomplishment.

My invention seeks to obviate the difficulty by means which will be fully hereinafter described.

In the drawings, which serve to illustrate my invention, Figure 1 is an end elevation of a fluting-machine embodying my invention. Fig. 2 is a plan or top view of the same. Fig. 3 is a partial sectional elevation of the machine on a larger scale. Fig. 4 is an elevation of a modification of Fig. 1.

A A represent the end frames, and *a a* the stretchers which tie them together. B is the upper, and C the lower, of the endless chains, formed of the usual crimping-links. These are borne by four rollers, those in front being provided with intermeshing gear-wheels *b b* and a crank, D, and those behind being journaled at *c c* in adjustable bearing-blocks E, provided with set-screws or adjusting-screws *d d*. The blocks E are cut entirely away at the back of the journals *c c*, (see *x x*, Fig. 1,) and the latter press only against the front side of the bearing, leaving ample clearance behind for the accumulation of crust from the burned oil. This construction also gives free access to the journal in scraping, cleaning, and oiling it.

F is a guiding-hood and keeper arranged over the top of the upper chain, B, its rear edge curving over the rear upper roller, and arranged substantially concentric therewith, the margin *e* resting close to the point or line where the intermeshing links of the chain begin to open as they break around the upper and lower rollers, as shown in Fig. 3.

The strip of goods to be fluted is fed between the chains at the front, and is carried through by the rotation of the crank to the rear side. When the end of the strip reaches the point where the links begin to separate by breaking around the rollers it escapes from the chain and tends to drop. The curved margin of the hood prevents this and directs it upward, keeping it in the chain as it passes around the upper roller, and until the links again close up on the returning upper side of the upper chain. It now passes back under the level or flattened portion of the hood, which may be made to fit down closely to the chain, as shown. By means of this hood, the goods or materials are kept in close contact with the heated links of the chain twice as long as when no hood is employed, and the flutings are rendered far more permanent thereby.

The hood F may be hung or hinged in various ways, that shown in Figs. 1 and 2 being perhaps preferable. In this construction G is a bar, to which the hood F is secured by screws *f f*, the holes through which they pass being slotted to allow for some adjustment in setting it. This bar G has uprights, one of which is prolonged to form a handle, *g*, and the other, *g'*, provided with two bevels, which take under a spring, *h*, fixed to the main frame. The whole swings on a rod, *i*, which extends across the frame through the uprights *g g'*, and has bearings in the frame; or, if preferred, a pin or stud on each side frame may be substituted, or any other suitable method of pivoting employed. When the hood is down or in its normal position the spring *h* presses upon one of the flattened or beveled faces and retains it in position, and when turned back, as indi-

cated in dotted lines in Fig. 1, the other face is brought under the spring, and the hood is held uplifted.

It is important that the hood should be capable of removal or of being turned back, so as to get at the advancing end of the fluted goods, if necessary; but it may be hinged to one of the ties *a*, or to some other part of the machine. In Fig. 4 I have shown it hinged to lugs *j* projecting upward from the bearing-blocks E, in which case it will always adjust itself with the said blocks and retain its relative position with respect to the chain-rollers and chain, whatever may be the adjustment of the blocks.

The hood F is shown as constructed of a plate, but it may be composed of curved wires or of an open-work plate. These openings should not, however, be wide enough or large enough to allow the fluted goods to pass through.

H H are hinged covers, which turn up over the bearings in the blocks E, and protect them from the smoke of the burner which heats the chains.

I claim—

1. A chain-fluting machine provided with a hood or keeper, F, for the purposes set forth.

2. A chain-fluting machine provided with a hood or keeper, F, arranged to house the chain where it breaks over the rear roller, so as to prevent the crimped goods from escaping from the chain, and arranged to be turned back, substantially as set forth.

3. The combination of the swinging hood or keeper F, the bar G, the handle or lever *g*, the beveled upright *g'*, and the spring *h*, all constructed and arranged substantially as set forth.

4. The combination of the adjustable hood F with the adjustable bearing-blocks E E and the chains and rollers of the fluting-machine, substantially as set forth.

5. In a chain-fluting machine the blocks E E, provided with slotted bearings *x x* for the journals *c c* of one pair of chain-rollers, in combination with the chains B C, their carrying-rollers, the stretching-screws *d d*, and the protecting-covers H H, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GARRET ADREANCE.

Witnesses:

ARTHUR C. FRASER,

HENRY CONNETT.