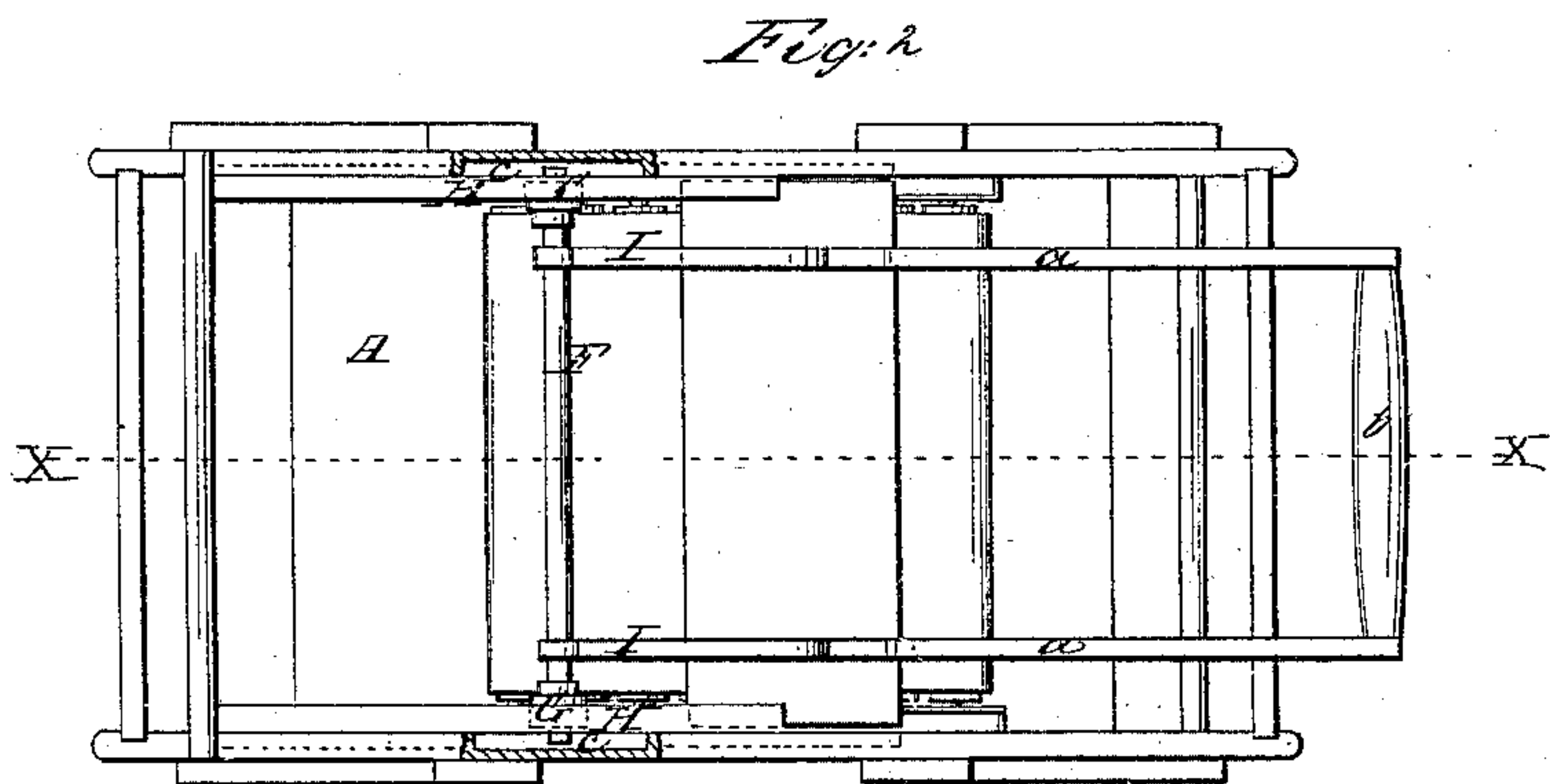
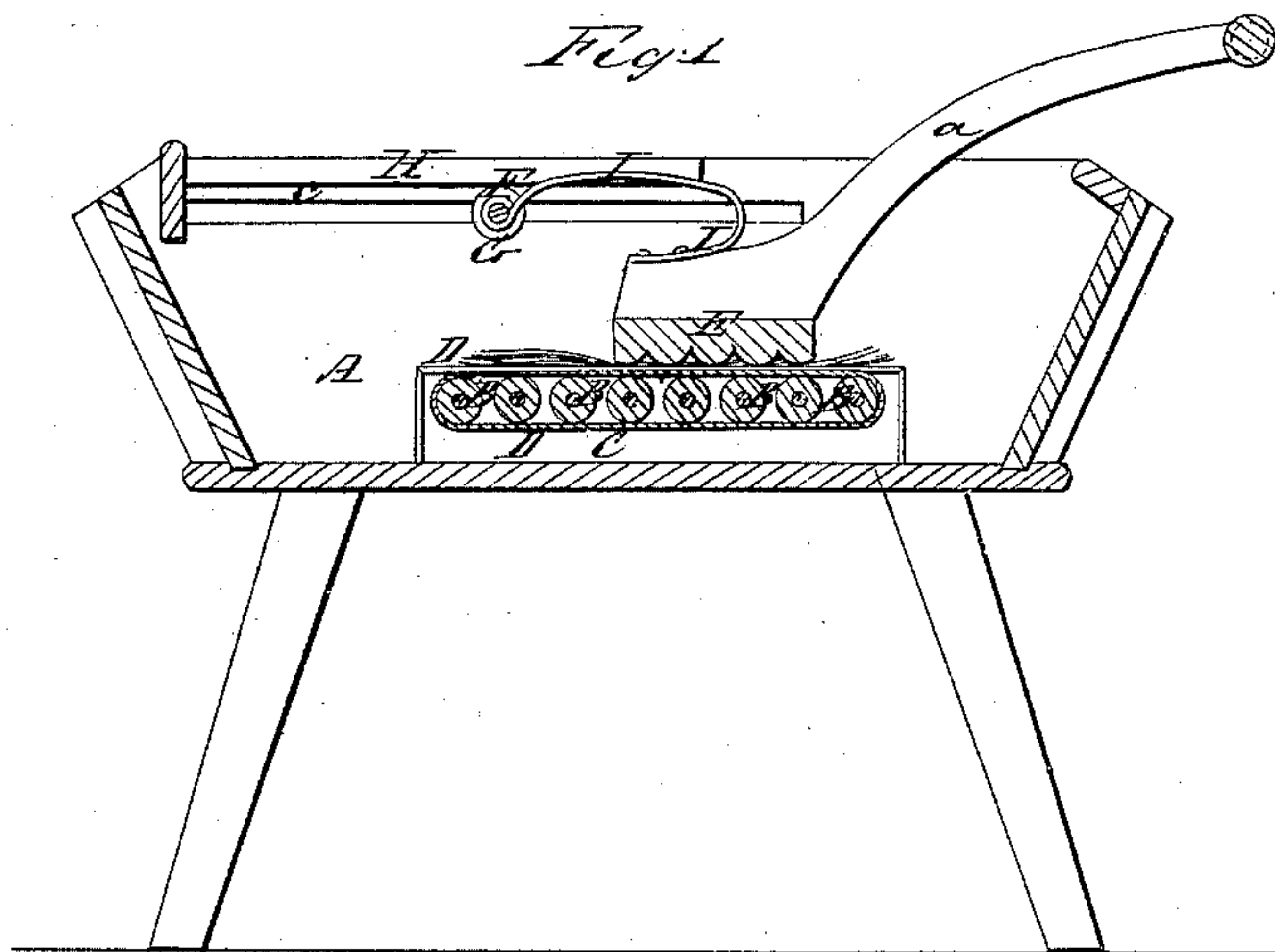


# Olin & Hopkins, Washing Machine.

N<sup>o</sup> 56,442.

Patented July 17, 1866.



Witnesses  
J. W. Houghton  
Jas. A. Service

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# UNITED STATES PATENT OFFICE.

NORMAN OLIN AND E. L. HOPKINS, OF HOMER, MICHIGAN.

## IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 56,442, dated July 17, 1866.

*To all whom it may concern:*

Be it known that we, N. OLIN and E. L. HOPKINS, of Homer, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Washing-Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal vertical section of our invention, taken on the plane of the line *x*, Fig. 2. Fig. 2 is a plan or top view.

Similar letters of reference indicate like parts.

Our invention consists in the combination and arrangement of certain parts to constitute a clothes-washing machine, the principal features being an endless apron or belt passing over a series of rollers to form a bed on which to rest the clothes while being washed; a shaft carrying rollers on each end, which shaft is guided by its ends traveling in grooves in the sides of the machine, and which rollers bear against or travel upon an inverted track or guide-piece placed above them, the rubbing-board being connected to the said shaft by springs which will allow it to rise or cause it to fall, so as to correspond to the quantity of clothes being washed.

A designates the body or box of the machine. B B are a series of rollers journaled in block C, secured near the bottom of the tub to the side walls. D is an endless belt or apron passing over the rollers, and upon this the clothes to be washed are placed, as shown in red in Fig. 1, and it forms a carriage constantly running to and fro with the rubber E, and therefore the clothes receive the full benefit of the rubbing without so great a liability of being torn.

The rubber E has a fluted face, as is usual

with rubbers, and it has arms *a* extending from it, which are connected at the exterior ends by a cross-rod, *b*, whereby to operate it.

F is a shaft running transversely across the machine, and supported by its ends traveling in a groove, *c*, made in opposite sides of the box A. Upon each end of the shaft there is a roller, G, which travels along on an inverted track—that is to say, they bear against a guide-piece, H, secured above them to the sides of the machine.

I I are bent springs, one end of each being connected to the shaft F and the other to the top of the rubber E. The rubber is guided by the rollers bearing against the track H and the shafts traveling in the grooves *c*, which permit it to have a reciprocating motion in the box A, and the springs I I permit it to rise and fall correspondingly to the thickness or quantity of the clothes being washed.

To remove the rubber from the machine it should be drawn forward till the shaft is nearly to the ends of the slots, when, by throwing one end of the shaft ahead of the others the shaft, and consequently the rubber and springs, can be readily removed from the machine. It can, of course, be replaced in much the same way.

This machine is simple and efficient.

What we claim as new, and desire to secure by Letters Patent, is—

The combination, with each other, of the endless belt or apron D, passing over the rollers B, the rubber E, shaft F, carrying the rollers G G, and the springs I I, arranged and operating substantially as described.

The above specification of our invention signed by us this 9th day of April, 1866.

NORMAN OLIN.

ESIEK L. HOPKINS.

Witnesses:

VOLNEY GIBBS,

WILLIAM J. GREGG.