(No Model.) 2 Sheets—Sheet 1.

L. DIMOCK.

SILK MANUFACTURING MACHINERY.

No. 483,284. Patented Sept. 27, 1892.

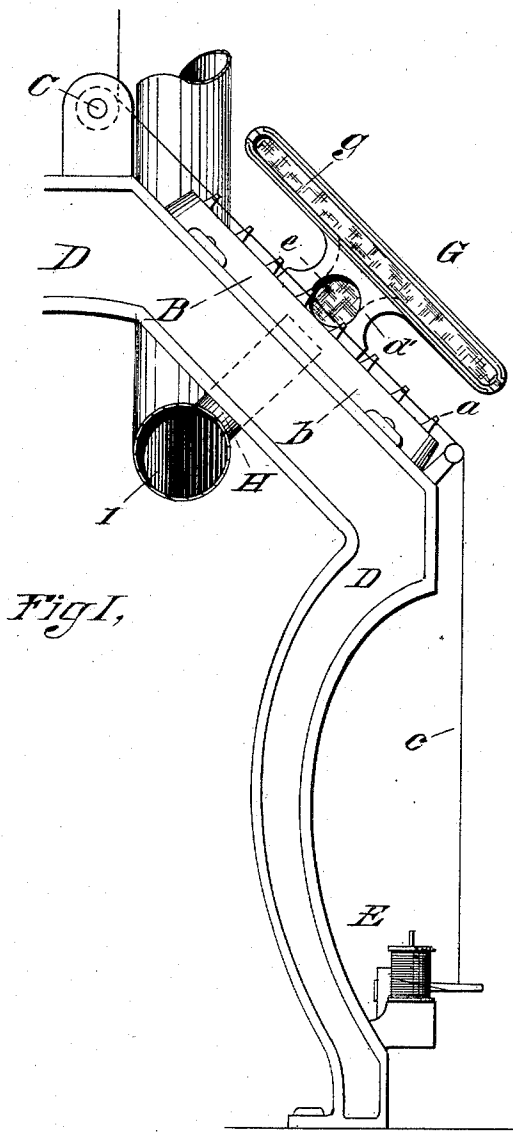


Fig I,

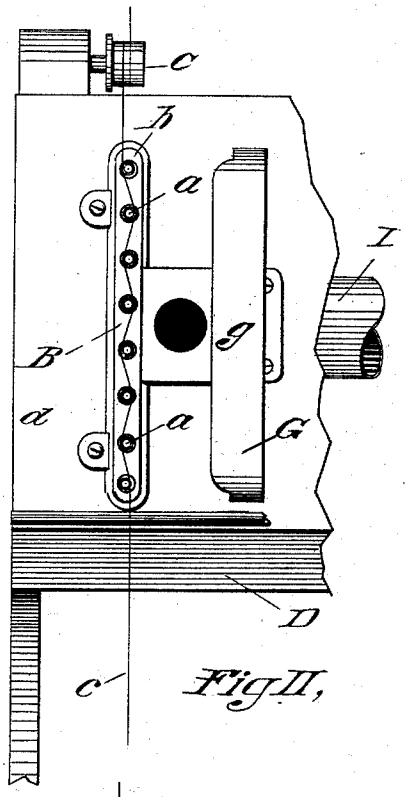


Fig II,

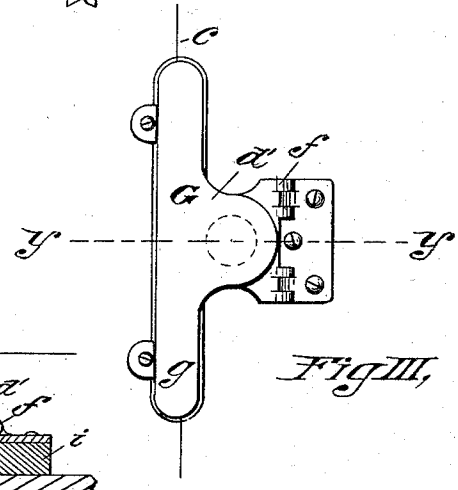


Fig III,

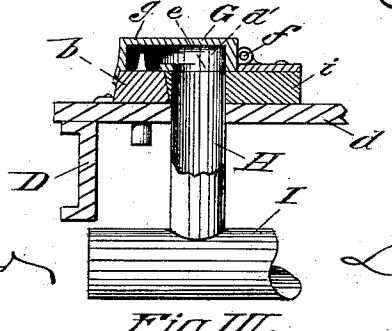


Fig IV,

Witnesses,
Wm. J. Callender
Christopher Clarke

Inventor,
L. Dimock
by T. F. Hyde
Atty

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

L. DIMOCK.

SILK MANUFACTURING MACHINERY.

No. 483,284. Patented Sept. 27, 1892.

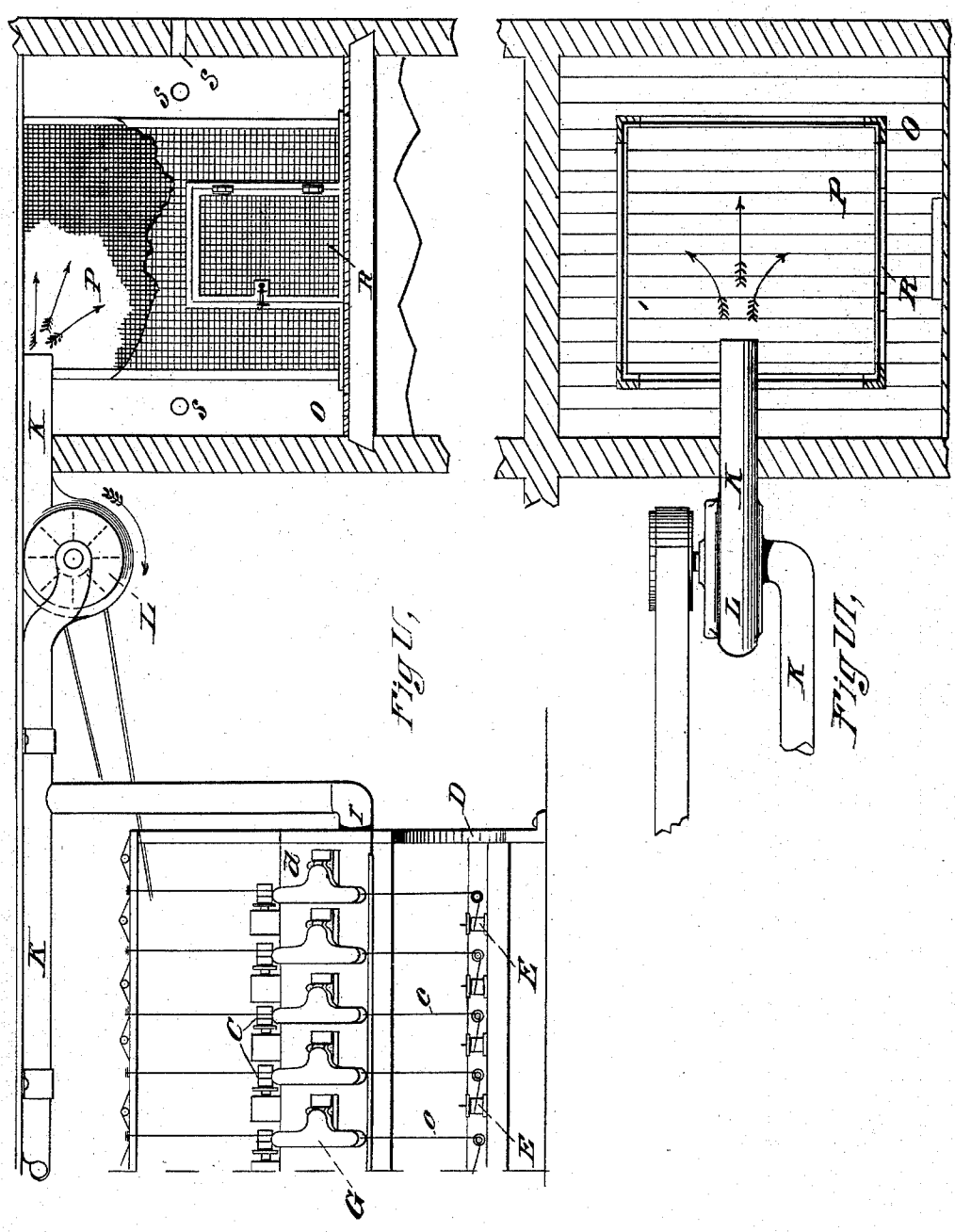


Fig. II.

Fig. III.

Witnesses,
Wm. F. Callender
Christopher Clarke

Inventor,
L. Dimock
by R. F. Hyde
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LUCIUS DIMOCK, OF LEEDS, MASSACHUSETTS.

SILK-MANUFACTURING MACHINERY.

SPECIFICATION forming part of Letters Patent No. 483,284, dated September 27, 1892.

Application filed January 23, 1892. Serial No. 418,979. (No model.)

To all whom it may concern:

Be it known that I, LUCIUS DIMOCK, a citizen of the United States, residing at Leeds, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Silk-Manufacturing Machinery, of which the following is a specification.

My improvements relate, in brief, to the cleaning of the silk thread by the arrest of the lint at the point where it is set free from the thread in the process of cleaning and its conduct therefrom.

The objects of the improvements are to insure the more perfect cleaning of the silk by preventing the adhesion to it of loose particles of lint after the thread leaves the cleaner, to prevent the escape of the lint into the room to the detriment of the machinery and to the inconvenience of the operatives, and to deposit all of the lint from the cleaner-frames in one place convenient for removal at leisure.

The invention consists in the combination and construction as hereinafter described, and more particularly pointed out in the claims.

My invention is fully illustrated in the accompanying drawings, in which—

Figure I is an end elevation of a cleaner-frame, showing the side of one cleaner with the cover thrown open. Fig. II is a plan view of one cleaner in position on the frame and with its cover open. Fig. III is a top plan view of one cleaner having its cover closed. Fig. IV is a cross-section of a cleaner with its cover closed and upon the dotted line *y y* of Fig. III. Fig. V is a front elevation of a portion of a cleaner-frame, a front elevation in partial section of the collecting-room, and a side view of the connecting-pipes between them with the fan; and Fig. VI is a horizontal section of the collecting-room with a top view of the fan.

In the drawings the part of my improved cleaner marked B represents the complete cleaner in common use and which consists of a base *b*, seating a train of loosely-revolving cone-spindles *a* and adapted to be secured to the table *d* of a frame D intermediate to the drawing-roll C and the delivery-bobbin E, so that the thread *c* passing from the bobbin E is drawn over the train of spindles to be cleaned, the cleaning process consisting of the friction of the thread coming in contact where wrapped to inclose each spindle, as shown more particularly in Fig. II, the number of spindles in the train insuring every part of the thread being submitted to this friction before leaving the train; but the lint set free in this cleaning process has been a serious annoyance, as it would gather on the thread after leaving the cleaner and form bunches upon it that could only be removed with much care and at the loss of time, and being very light it would permeate the whole room and accumulate in the bearings of the machinery and otherwise cause much inconvenience. To obviate the above I have constructed a cleaner as follows: To the base *b* is fitted a cover which can be easily removed and replaced. This cover forms, with the top surface of base *b*, a continuous passage, inclosing the spindles *a* and leaving a clear space around each. The cover has an opening at each end, which serves the double purpose of admitting the passage of the thread *c* and of forming ports for the admission of air. From the passage-way formed by the cover and at a point between the end openings is formed a port to a pipe, in which is induced a current of air drawn from without the covered cleaner through its end openings and past and around each spindle. The current of air thus carried through the cleaner removes every particle of lint as it is detached from the thread, to leave none in the cleaner or outside of it in the room.

I have constructed the cover G of a metal shell, the cover proper *g* of which has a compartment formed of its walls adapted to inclose the spindles while resting upon the upper surface of base *b*, as more particularly shown in Fig. IV, while a hollow shank *d'*, communicating through one wall with said compartment, is provided with a port *e*, which coincides with the mouth of a tube H, to thus form when the cover is closed a continuous air-passage from tube H to the interior of cover *g*. The shank *d'* is provided with a hinge *f*, which, being secured to the table *d*, retains the cover G always in place, and so that it can be thrown open without care when necessary to expose the spindles.

The cover G is shown hinged to a block *i*, having its upper surface in the same plane

with the top of the base *b*, and a bearing-surface surrounding the mouth of tube H, which forms a good seat to the surface of shank *d'*, surrounding port *e*, which form of construction is a convenient way of combining my invention with the cleaner in common use. The tube H connects the cleaner with a tube I, extending the length of the frame and serving to receive similar tubes H from all of the cleaners in the frame, and the tube I may be connected with a main tube K, receiving similar tubes I from all of the frames in the room. Where a tube K forms a main pipe receiving branch tubes to form a system including all of the cleaners, the air is exhausted at the outer end of the tube K by any of the well-known methods to induce the required current of air through the cleaners.

As a simple and effective means of producing the exhaust in tube K, I prefer to arrange in it a fan L, as shown in Figs. V and VI.

Owing to the quantity of lint set free in a large mill, which from the properties of the lint itself makes it difficult to dispose of the lint as produced, it is advisable to collect it in one place, from which it can be removed at intervals of time to be destroyed or utilized, and in order to accomplish this effectually I have constructed a collecting-compartment as follows: In the center of a closed compartment O is erected another compartment P, the walls of which are formed of wire-netting. The walls of compartment P extend from the floor to the ceiling of compartment O and have a clear space between the vertical walls of the two compartments, as shown in Fig. VI, so that an air-space virtually completely surrounds compartment P. The tube K is carried through the walls of both compartments near the top of compartment P to have its open mouth within compartment P. Openings *s* are formed in the walls of compartment O to permit an egress of the air forced through pipe K. Both compartments are provided with doors giving convenient access to their interiors, the door R to compartment P being shown in Fig. V. The current of air entering compartment P and bringing with it the lint is stagnated within said compartment, and the lint falling at once by gravity to the floor or adhering to the wire walls while the fan is in operation falls when the fan is stopped. When the lint in compartment P has accumulated in sufficient quantity, it can be removed in sacks or other convenient receptacles.

Now, having described my invention, what I claim as new is—

1. In silk-cleaning machinery, a frame-support, a spindle-bar secured thereon, a train of spindles seated in the spindle-bar, a drawing-roll for taking a thread over said spindles, a removable cover provided with end openings and adapted to fit over the spindles and form an air-passage from end to end of the train and through its open ends, a port in the cover connecting said passage with an exhaust-chamber, and an exhaust-current of air induced through said chamber from the outside of the closed train of spindles, all combined and operated as and for the purpose set forth.

2. The combination, substantially as set forth, of a train of silk-cleaning spindles, a hinged cover for the same, forming an air-passage around the spindles, provided with ports for the admission of air thereto, and an exhaust-chamber communicating with the interior of said cover and through which the air is drawn from the cover, all operating as and for the purpose set forth.

LUCIUS DIMOCK.

Witnesses:
R. F. HYDE,
L. H. PERKINS.