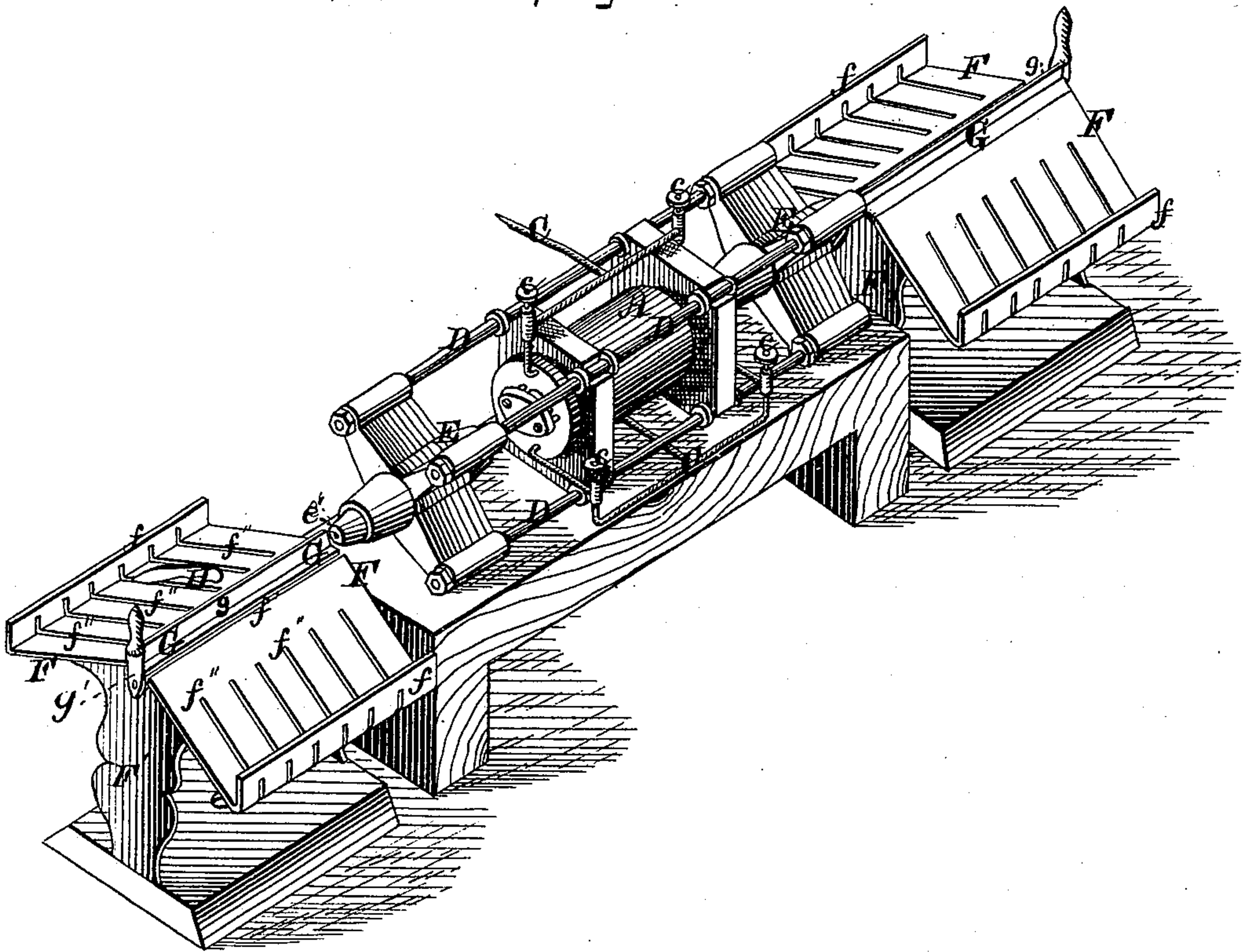


R. LANSTROM.
Machine for Manufacturing Pencils.
No. 168,030. Patented Sept. 21, 1875.

Fig. 1.



WITNESSES:

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Fig. 2.

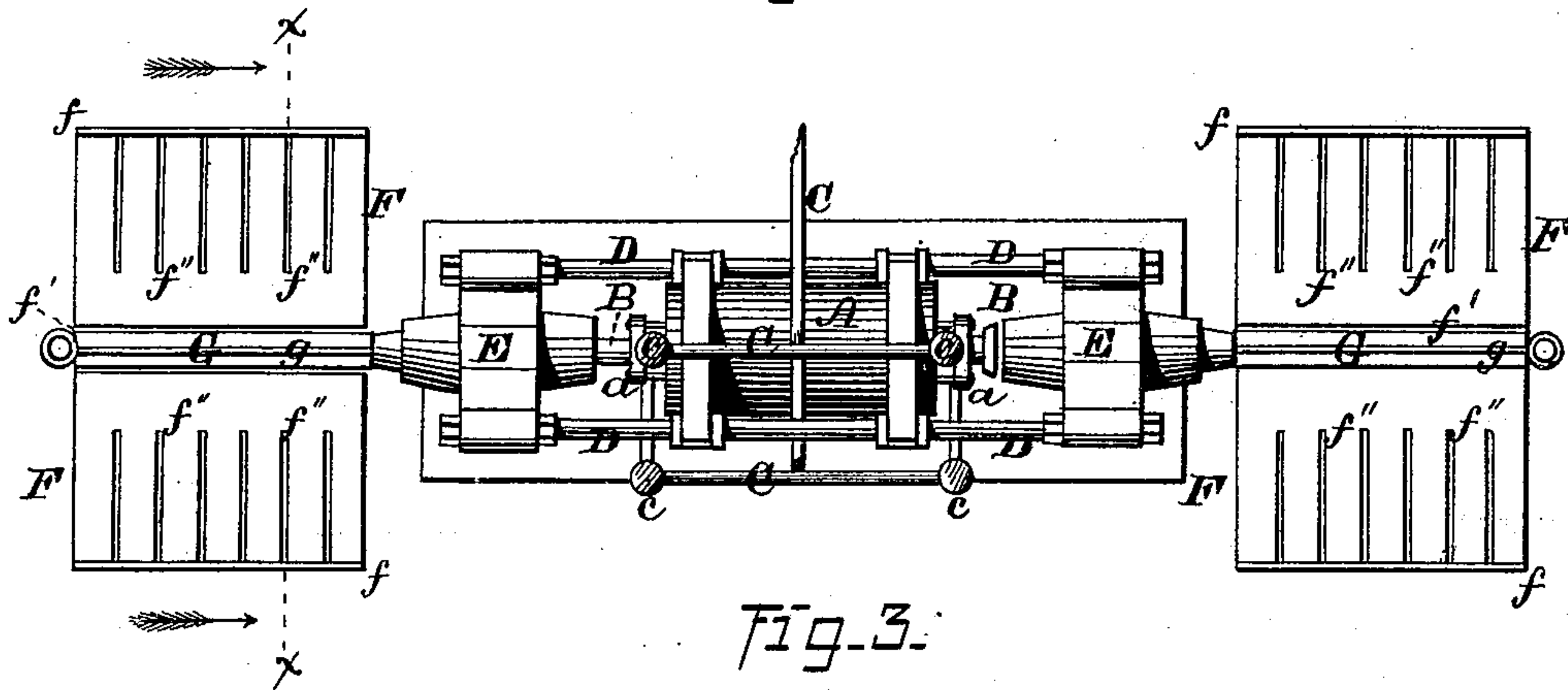


Fig. 3.

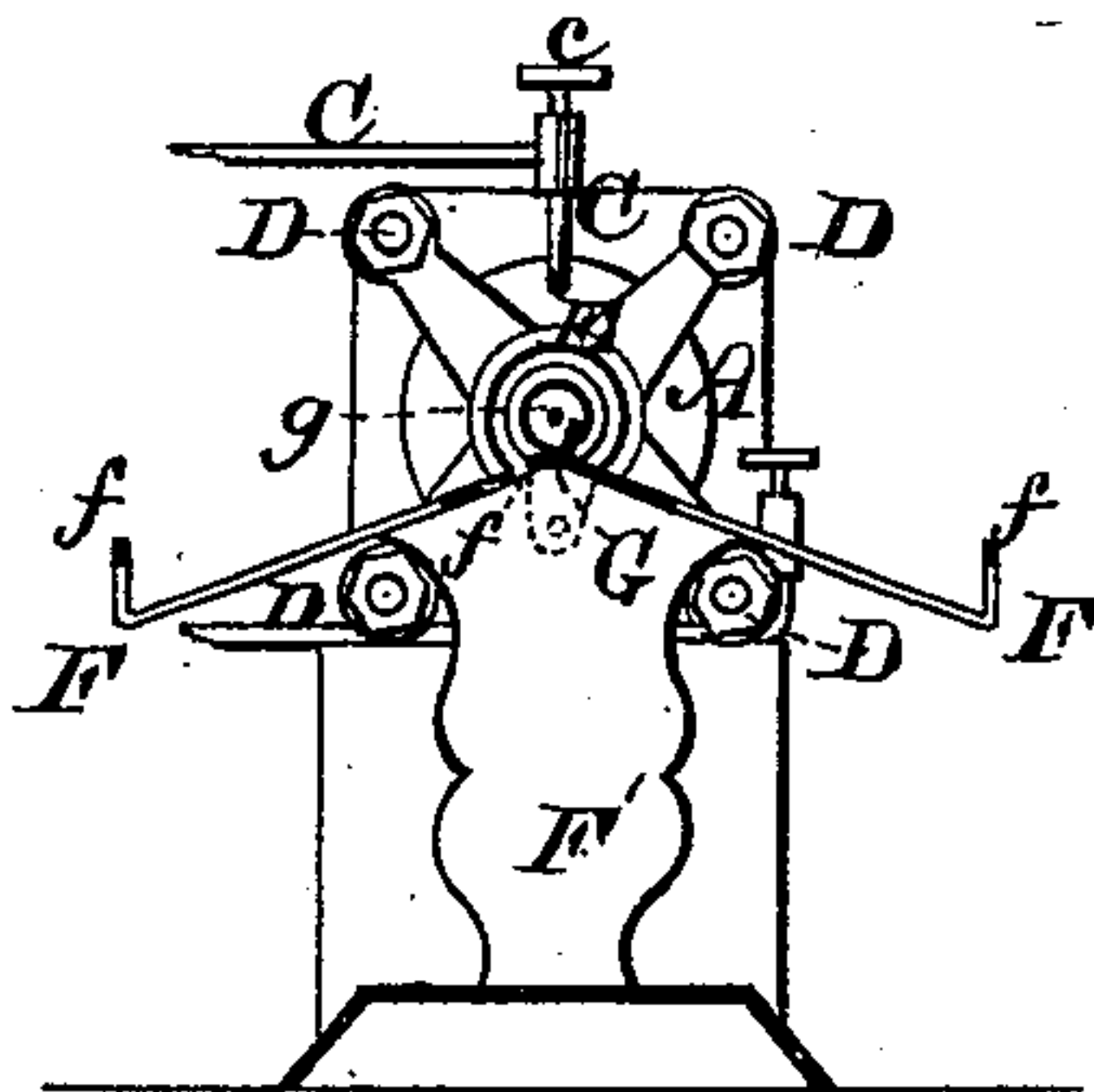
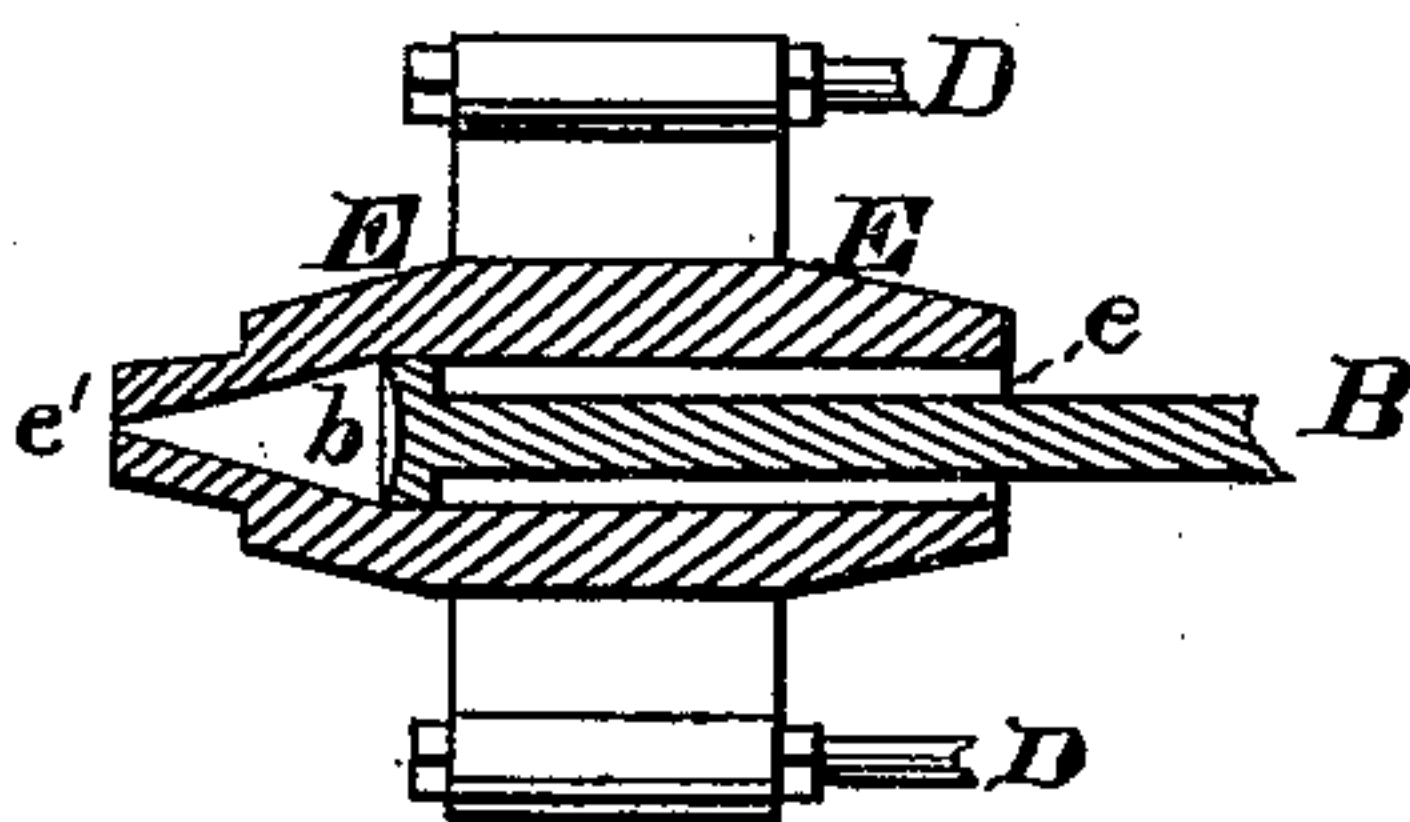


Fig. 4.



WITNESSES=

Jas. Hutchinson
 John R. Young

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UNITED STATES PATENT OFFICE.

REINHOLD LANSTROM, OF CINCINNATI, OHIO, ASSIGNOR TO THE UNITED STATES SOAP-STONE MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR MANUFACTURING PENCILS.

Specification forming part of Letters Patent No. **168,030**, dated September 21, 1875; application filed July 19, 1875.

To all whom it may concern:

Be it known that REINHOLD LANSTROM, of Cincinnati, in the county of Hamilton and in the State of Ohio, have invented certain new and useful Improvements in Machines for Manufacturing Slate-Pencils, Crayons, &c.; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved machine as arranged for operation. Fig. 2 is a plan view of the upper side of the same. Fig. 3 is a vertical section upon line *x* of Fig. 2, and Fig. 4 is a central longitudinal section of one of the cylinders and pistons employed for the reception of the plastic material and for expressing the same in the desired form.

Letters of like name and kind refer to like parts in each of the figures.

The design of my invention is to enable slate-pencils, crayons, &c., to be formed of or from steatite or other similar mineral; and it consists, principally, in the construction and operation of the tables employed for the reception of the pressed bars, substantially as and for the purpose hereinafter shown. It consists, further, in the means employed for cutting the pressed bars or rods to length, substantially as and for the purpose hereinafter set forth.

In the annexed drawings, A represents a cylinder, provided interiorly with a piston, which has at each end a rod, B, that projects outward through a suitable stuffing-box, *a*, at the end of said cylinder, in the usual manner. The cylinder A is intended for use with either steam or liquids, and is provided at each end with suitable inlet and outlet ports, and with the necessary pipes C and C and valves *c* and *c*, so as to enable its piston to be caused at will to move from end to end, all in the usual manner. At a short distance from each end of the cylinder A, and connected therewith by means of a number of rods, D and D, is a second cylinder, E, which exteriorly has the form shown in Figs. 1 and 2, and interiorly is provided with a longitudinal central round opening, *e*, that has a

uniform diameter from the inner end nearly to the outer end of said cylinder, at which latter point said opening terminates by a regular decrease in an opening, *e'*, that has the exact diameter of the article to be formed. Upon the end of each piston-rod B is formed a plunger, *b*, that fills the opening *e* of the contiguous cylinder E, and when moved forward within the same will press in the same direction any fluid or semi-fluid substance placed within said cylinder. The length of said rod B and the relative positions and lengths of the said cylinders A and E are such as to cause the plunger *b* to be withdrawn from the latter whenever said piston-rod reaches the backward limit of its stroke, so as to uncover the inner end of said opening *e*, while upon its forward stroke said piston will cause said plunger to pass to, or nearly to, the tapering portion of said opening *e*.

As thus constructed, the machine is operated as follows: The plunger is withdrawn from one of the cylinders E, and the interior of the latter is then filled with plastic material, after which said plunger is caused to enter said cylinder and move forward within the same to the limit of its outer stroke, by which means said plastic material will be forced outward through the opening *e'* in the form of a rod, which has transversely the dimension of said opening. When the plastic material has been expressed from one cylinder the other is in position to be charged, when the operation before described is performed upon its contents, said cylinders E and E being thus alternately charged and emptied. As the pressed rod or bar issues from the cylinder E it is received upon a table, F, which, as seen in Figs. 1 and 3, inclines downward in opposite directions from its transverse center, and at each side is extended vertically upward to a sufficient distance to enable it to contain a number of said rods.

At the transverse center of the table F, in a line vertically with the center of the cylinders, is left a longitudinal opening, *f'*, within which is placed a bar, G, that has the exact angle formed by the junction of the upward and inward inclination of the sides of said

table, and at its transverse center is provided with a vertical longitudinal flange, *g*, which, at its end, just grazes the end of the cylinder *E*, and extends above the opening *e'* of the same. The bar *G* is provided at each end with a vertical arm, *g'*, that, at its lower end, is pivoted to or upon the support *F'* of the table *F*, and enables said bar, which has less width than its opening *f'*, to be moved from side to side within the same.

When the bar *G* is turned to one side the discharge-opening *e'* of the cylinder *E* is uncovered, and the rod issuing therefrom is unobstructed; but when said rod has reached the desired length said bar is moved to the opposite side, and the end of the flange *g* passing across said opening cuts off said rod, which falls upon the side of the table against which said bar rests. After the projecting portion of the rod has been cut off, as described, the discharge-opening is left unobstructed, and another length passes outward to be in turn severed and fall upon the opposite side of the table.

Each side of the table *F* is provided with a series of vertical slots, *f''* and *f'''*, which extend in parallel lines from near its outer edge to a point near its inner edge, and are separated by spaces, each of which is just equal to the length of the crayon or pencil to be made. When, now, a rod of the pressed ma-

terial falls upon a table, it can be easily and quickly cut into the desired lengths by means of a thin knife, *H*, which is passed downward through said rod and into each slot *f''*.

After the crayons or pencils are formed, as shown, they are pointed and otherwise completed by other mechanism.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. The table *F*, formed with oppositely-inclined leaves provided at each side with an upward-turned edge, *f*, and having the parallel vertical slots *f''* and *f'''*, in combination with the cylinder *E* and knife *H*, substantially as and for the purpose shown.

2. In combination with the cylinder *E* and table *F*, the bar *G*, provided with the vertical longitudinal flange *g*, pivoted to or upon said table and arranged to reciprocate within the opening *f'* and across the discharge-opening *e'*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of July, 1875.

REINHOLD LANSTROM.

Witnesses:

D. B. LUPTON,

WM. G. WILLIAMS.