

J. Robins,
Making Combs,
Nº 8,174,
Patented June 24, 1851.
Fig. 1.

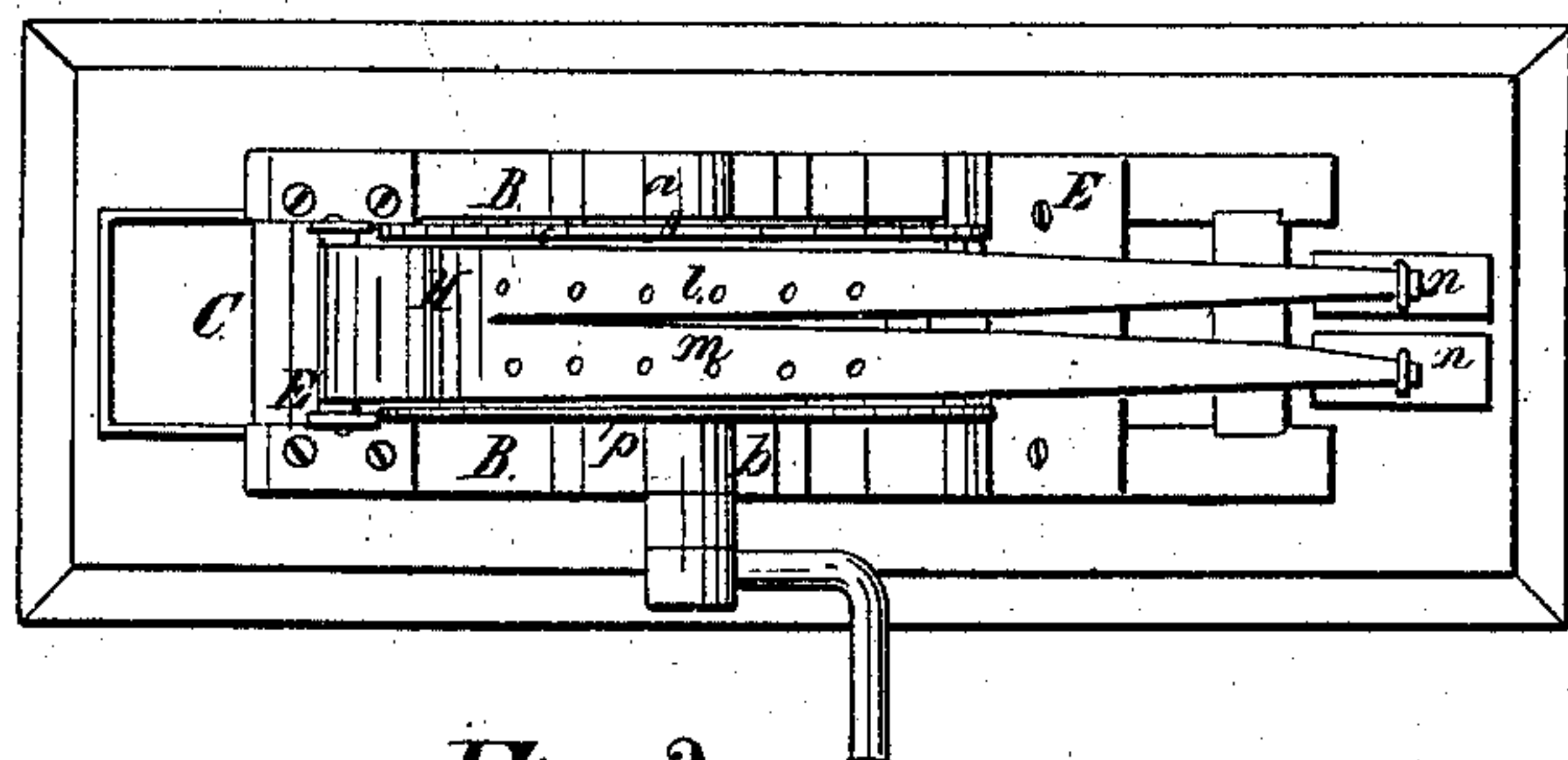


Fig. 2.

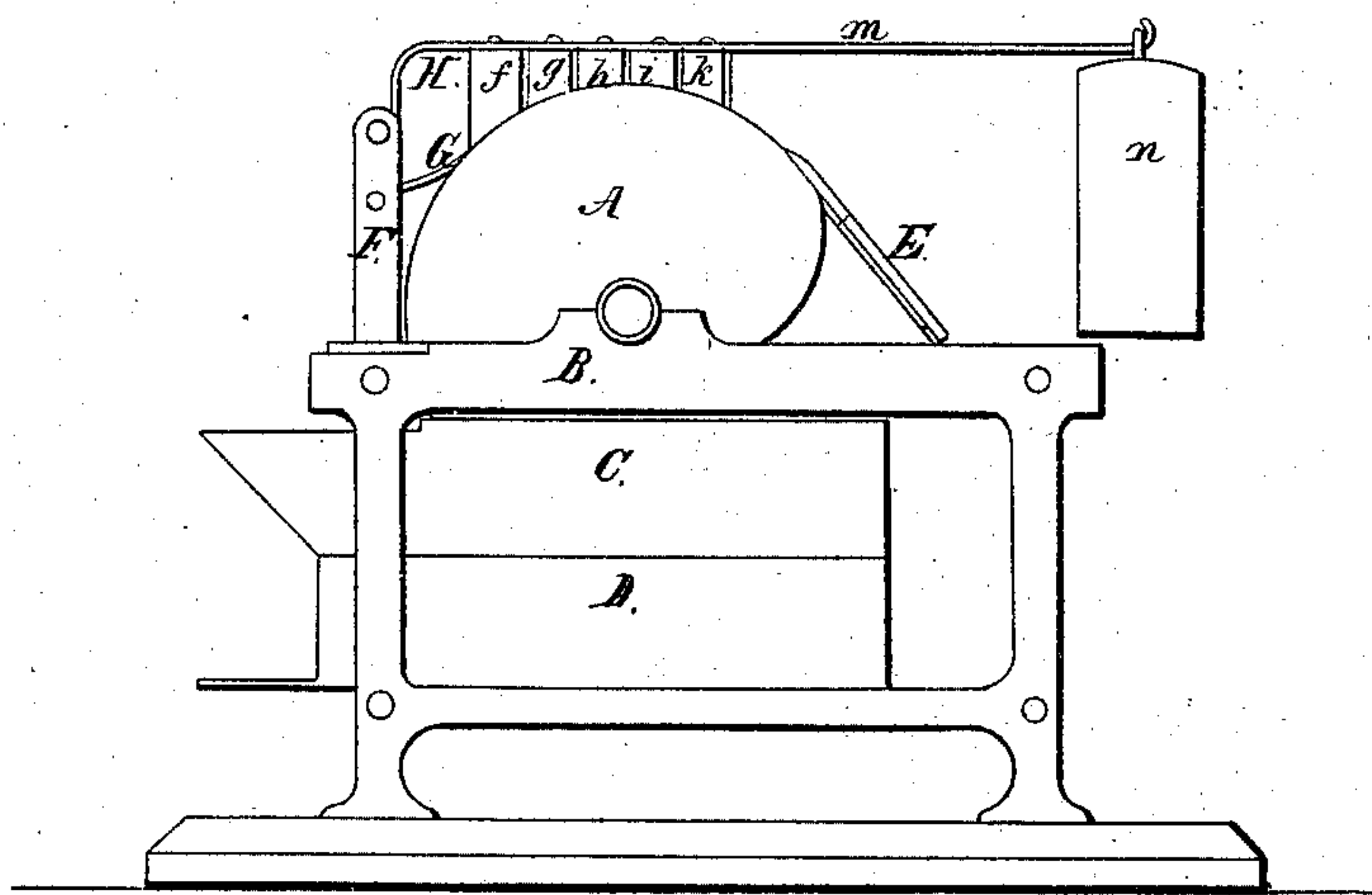


Fig. 3.

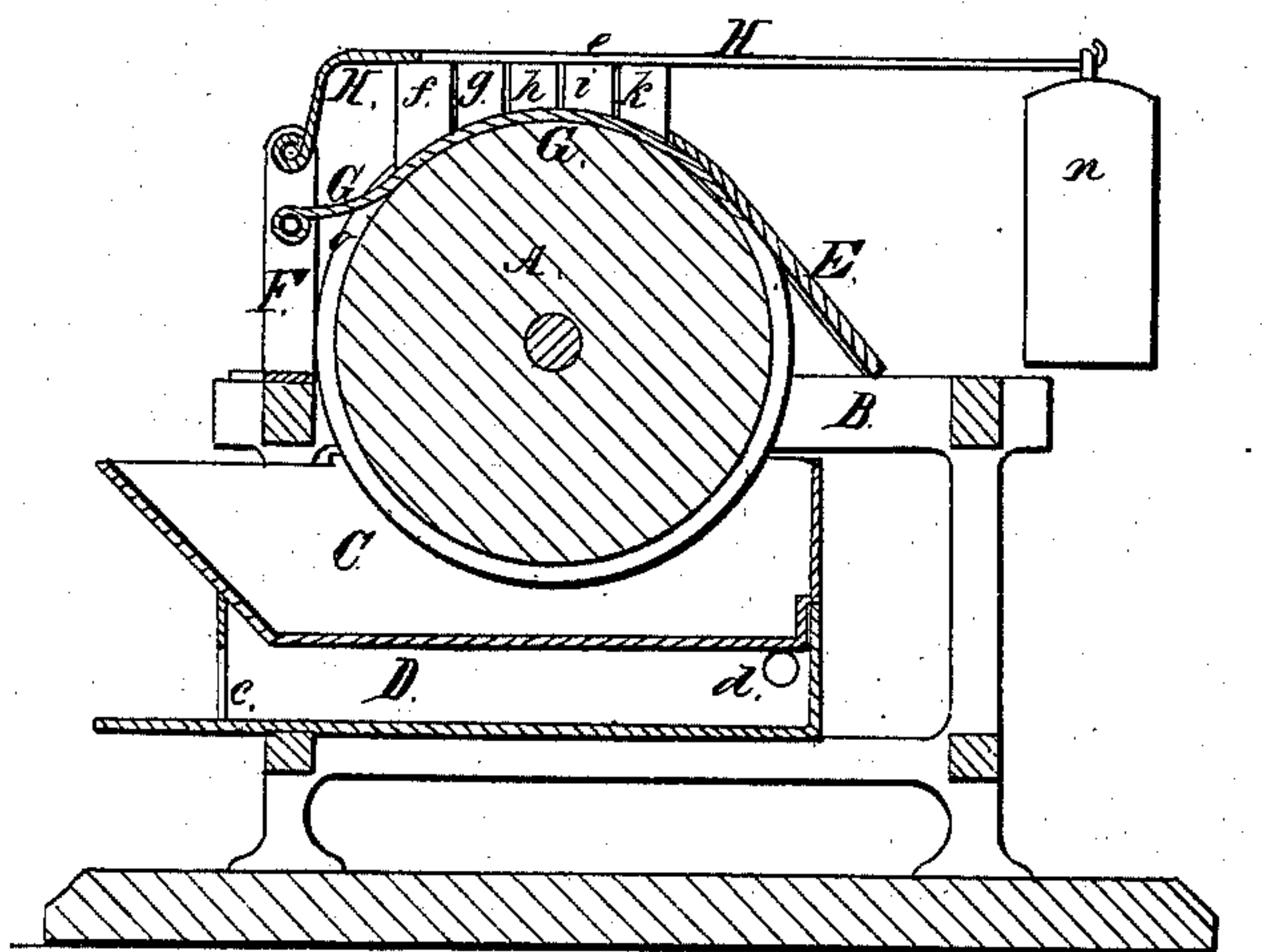
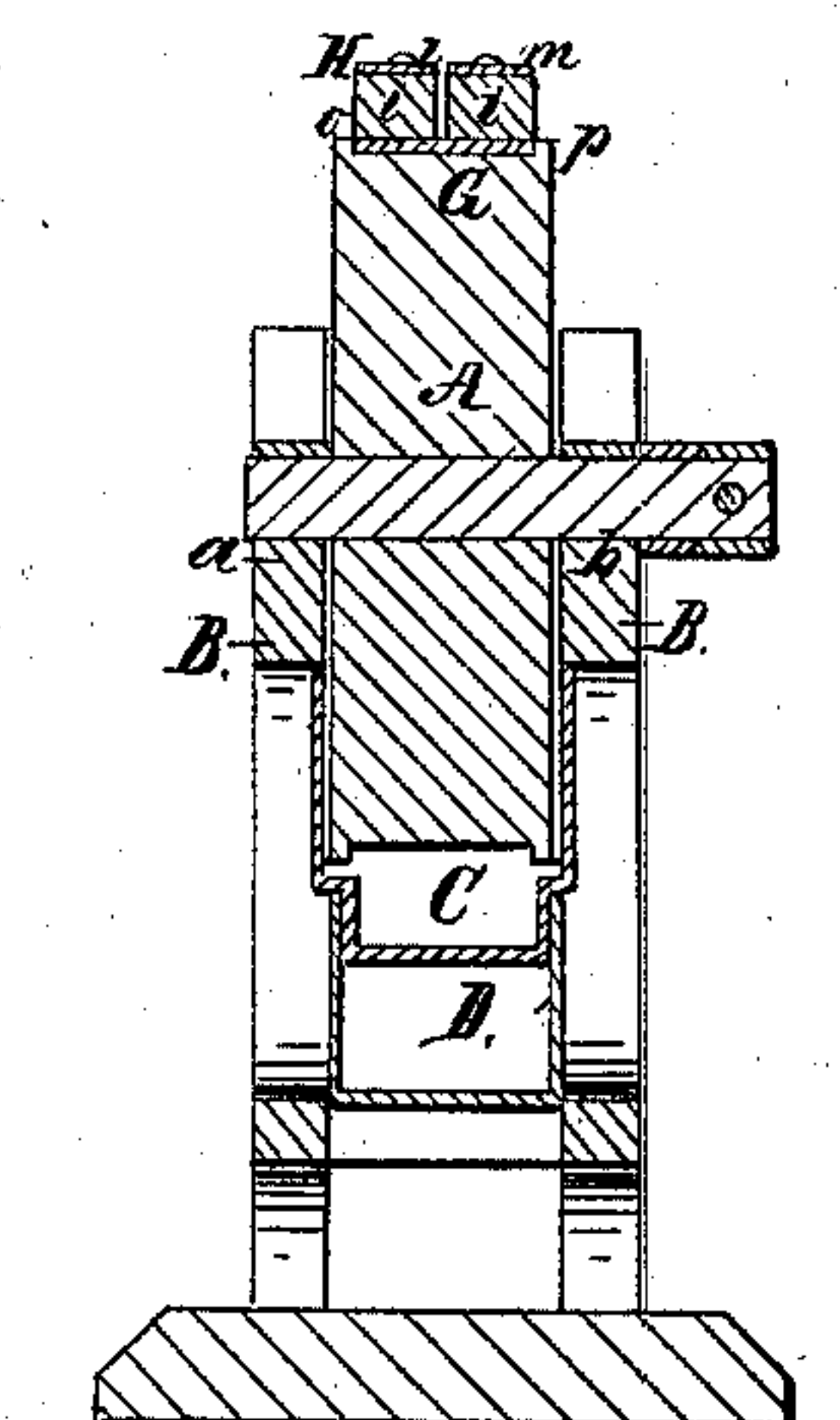


Fig. 4.



UNITED STATES PATENT OFFICE.

JABEZ ROBINS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO J. R. MORSE, OF LEOMINSTER, MASSACHUSETTS.

MACHINE FOR SPLITTING HORN AND SHELL.

Specification of Letters Patent No. 8,174, dated June 24, 1851.

To all whom it may concern:

Be it known that I, JABEZ ROBINS, a subject of Great Britain, having resided in the United States the year next preceding and taken oath of intention to become a citizen thereof, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new or Improved Machine for Splitting Horn or Tortoise-Shell for the Manufacture of Combs; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, denotes a top view; Fig. 2, a side elevation, and Fig. 3, a vertical, central, and longitudinal section of my said machine. Fig. 4, is a central, vertical, and transverse section of it.

In the drawings A, represents a cylindrical drum or wheel made of metal, or other proper material, and having its periphery roughened or made with points so as to be capable of adhesion to a piece of horn or shell when laid upon it, and carried around by its revolution on its axis. The said drum is supported by a frame B, and has the journals of its shaft inserted in suitable boxes *a, b*. Beneath the drum, and so that the drum shall dip into it is a trough C, under which is a furnace D, so placed as to be capable of heating water, or any other liquid which may be introduced into the trough. The fuel for the furnace may be put into it through a doorway *c*, and the smoke discharged through a suitable outlet *d*, made at the other end of it.

A splitting knife E, is arranged about tangentially to, and somewhat above the upper surface of the drum A, as seen in Figs. 1, and 3, and to a frame E, raised upon the top of the mainframe, in the position as seen in the drawings, a thin plate or strip of metal G, is hinged at one end, and made to extend to and lay upon or over the periphery of the wheel, and nearly up to the splitting knife, as seen in Fig. 3.

To the top of the frame E, is also hinged a long spring lever H, to whose under surface a series of blocks *f, g, h, i, k*, is attached the said blocks being curved on their lower faces, so as to rest against, and bear upon the curved upper surface of the strip G. The said lever H, is forked or split into two or more parts *l, m*, as seen in Fig. 1, a weight

n, being hung to the outer extremity of each of the same, as seen in Figs. 1, 2, and 3. The lever H, as well as the strip G, are so hinged to the frame A as to be capable of moving in directions either toward or away from the curved upper surface of the drum. Flanches *o, p*, are applied to and made to extend above the outer edges of the periphery of the drum; the strip G, and the bearers or blocks *f, g, h, i, k*, being placed between such flanches, and kept in place by them, while the machine is in operation. These flanches also serve to keep the sheet of horn or shell in place on the drum.

In operating with my machine the trough or cistern is first supplied with water, which on being heated to the boiling state or thereabout, by fire made in the furnace, will convey heat to the drum A. This drum is next put in revolution by any suitable means or power and in a direction toward the cutting edge of the splitting knife. The piece of horn or shell to be split is next placed in a moistened or softened state upon the curved surface of the drum, and just below the strip G, and so that the roughened surface of the drum will adhere to, and carry the piece of horn or shell around between it and the thin strip of metal G, and against the cutting edge of the knife, so as to cause the said piece to be split, or to have its surplus material removed by the said knife, the latter passing over the knife, while the other part passes underneath it.

By having the bed on which the shell rests, and by which it is moved against the knife, to revolve in hot water in the manner as specified, its temperature can readily be kept up to or about to that of boiling water, whereas a table or plain bed such as is generally used, when heated by steam or fire underneath it in the ordinary way, is constantly liable to lose its heat, and to such irregularities thereof, as to often times require a loss of much time before it can be brought up to the heat required. The cylinder A, by revolving in heated water, in the manner as described, not only more easily maintains its heat, but has other important advantages over the plain surface bed.

By making the lever H, a stiff elastic spring, and in two or more parts, it causes all the blocks attached to it, to bear with a proper degree or degrees of pressure upon the strip G, however irregular may be the

thickness of a sheet of horn or shell, while being moved under the said strip. It also binds the shell close down against the wheel or drum, and in close proximity with the
5 edge of the knife.

What I claim as my invention or improvement, is—

The cylindrical rotary bed or drum A, in combination with the water cistern or
10 trough, and its furnace, and machinery over the drum for bearing the shell or material down upon it, during its revolution as speci-

fied; the said drum being provided with a roughened or friction curved surface, such as will adhere to the shell, and cause it to
15 move with it, and against the knife as described.

In testimony whereof I have hereto set my signature, this thirteenth day of February A. D. 1851.

JABEZ ROBINS.

Witnesses:

BENJAMIN EDDY,
R. H. EDDY.