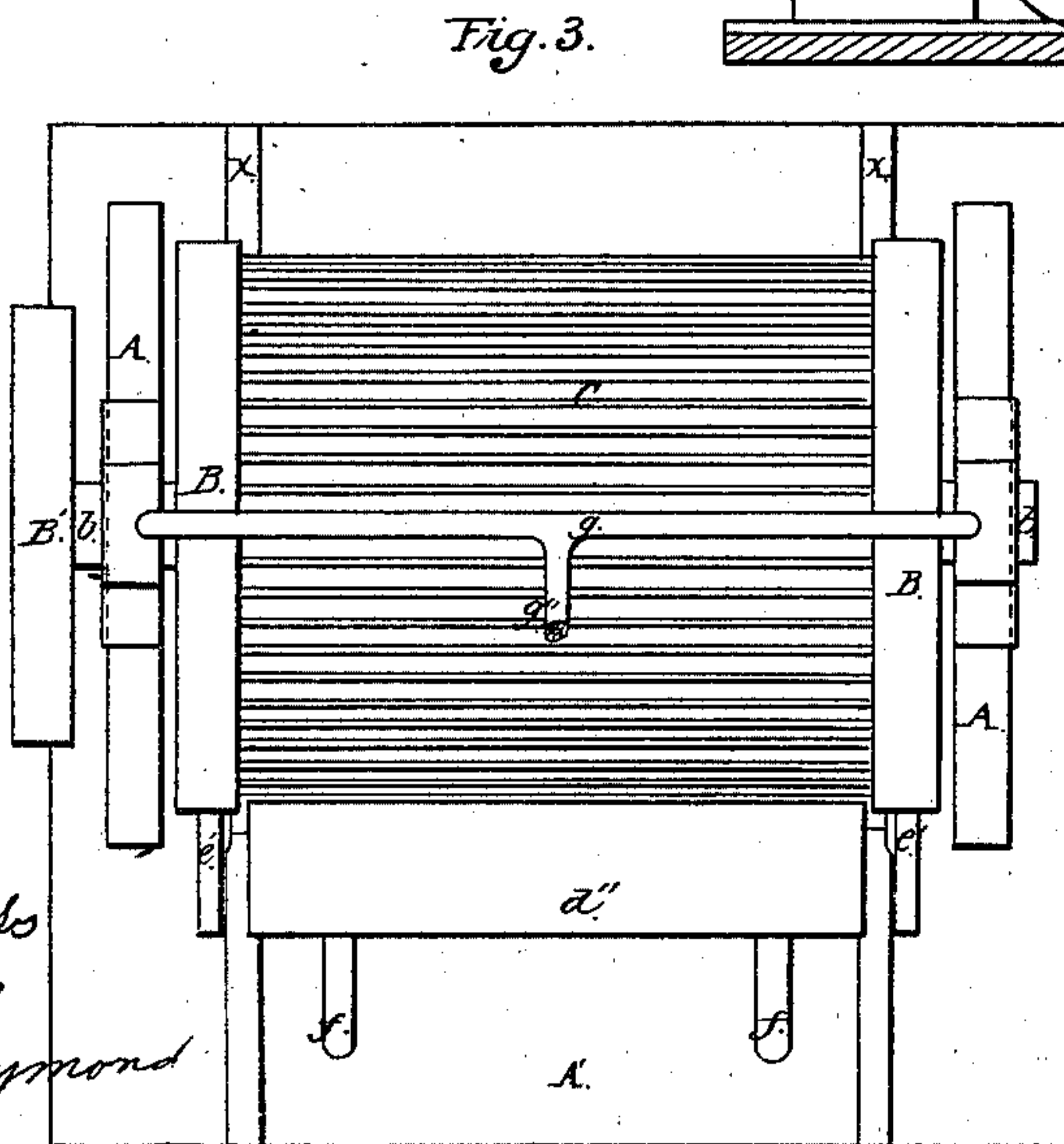
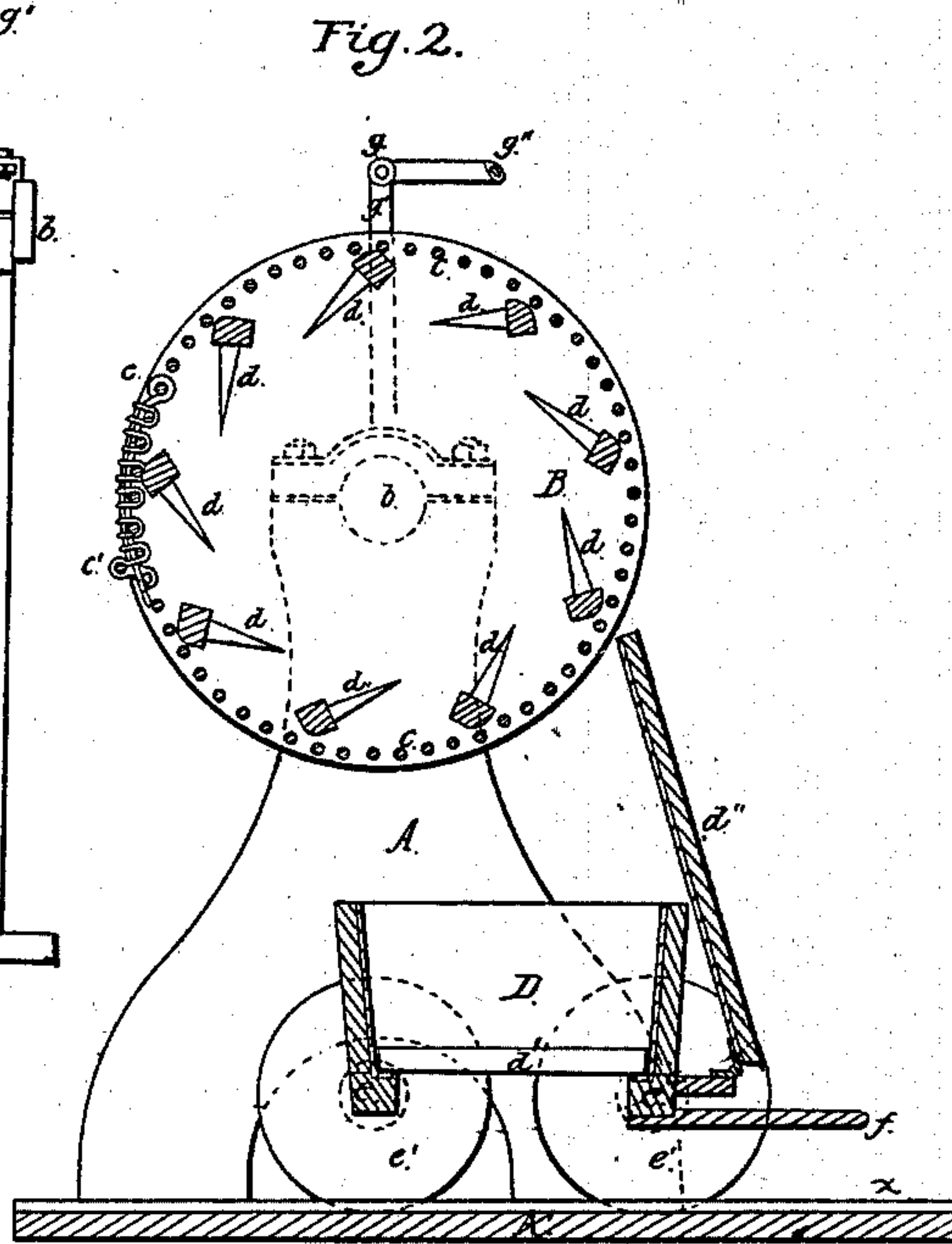
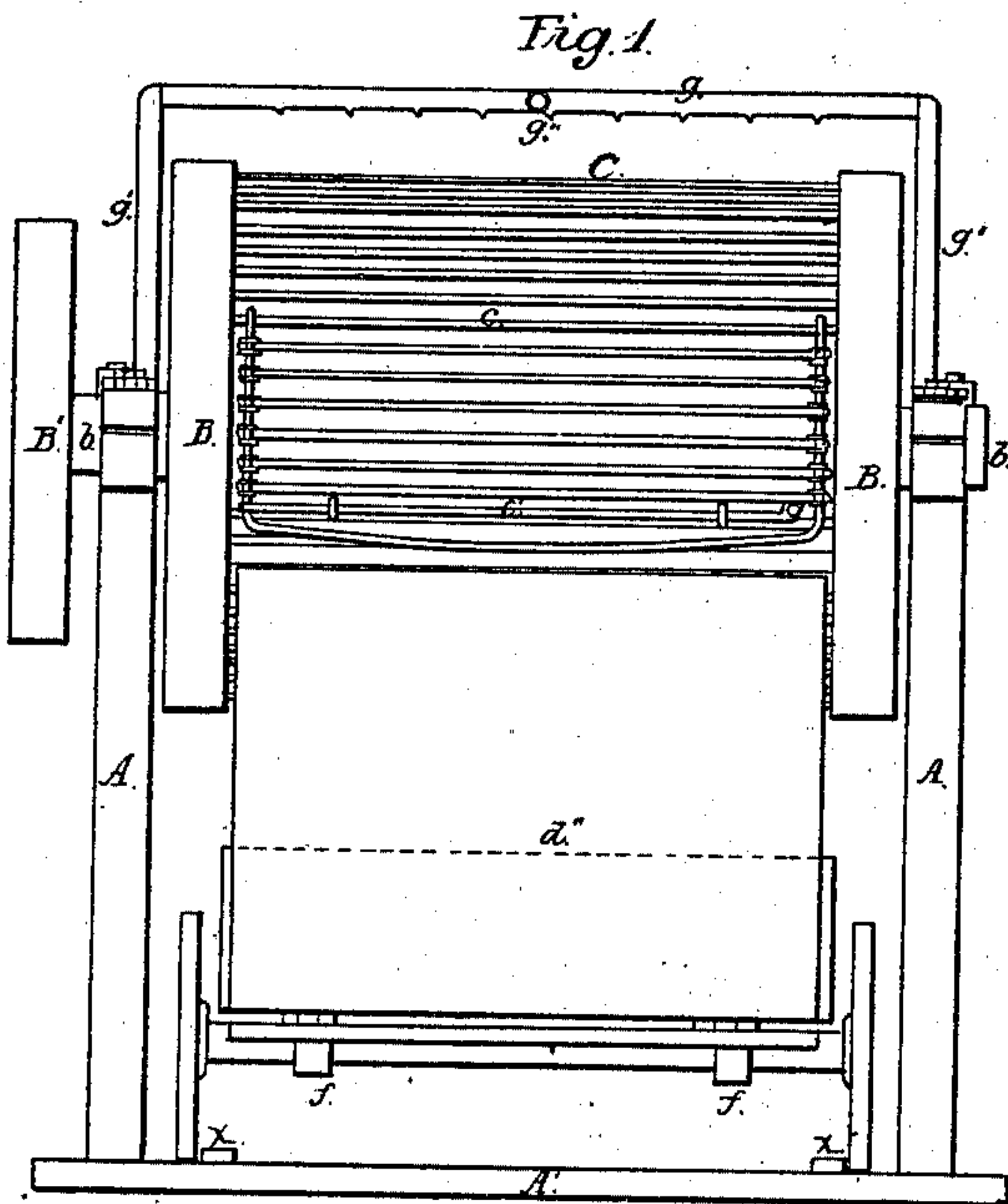


A. & J. KNOWLES & J. BARRACLOUGH.
APPARATUS FOR EXTRACTING WOOL FROM MIXED ARTICLES AND
FABRICS.

No. 62,139.

Patented Feb. 19, 1867.



Witnesses:

P. L. Shabo

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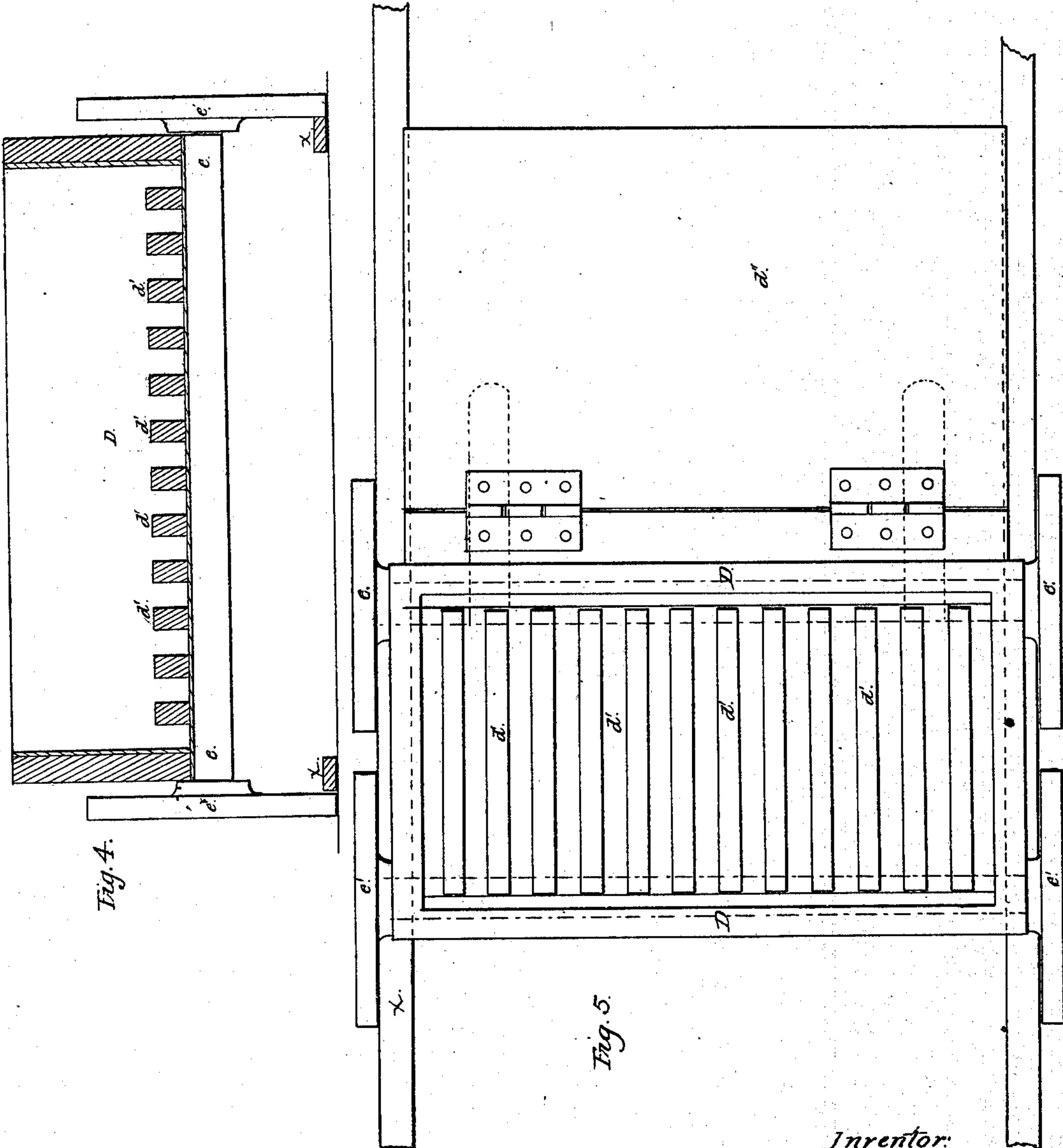
Inventor:

Arthur Knowles
James Knowles
Joshua Barracough

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ARTHUR KNOWLES, JAMES KNOWLES, AND JOSHUA BARRACLOUGH, OF
BRISTAL, NEAR LEEDS, IN THE COUNTY OF YORK, GREAT BRITAIN.

Letters Patent No. 62,139, dated February 19, 1867.

IMPROVEMENT IN APPARATUS FOR EXTRACTING WOOL FROM MIXED ARTICLES AND FABRICS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, ARTHUR KNOWLES, JAMES KNOWLES, and JOSHUA BARRACLOUGH, all of Bristol, near Leeds, in the county of York, subjects of Great Britain, have invented or discovered new and useful "Improvements in Means or Apparatus for Extracting Wool from Cotton and other Vegetable Substances contained in Mixed Fabrics;" and we, the said ARTHUR KNOWLES, JAMES KNOWLES, and JOSHUA BARRACLOUGH, do hereby declare the nature of the said invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement thereof; that is to say—

The object of our invention is to destroy the cotton contained in mixed fabrics more expeditiously than is now done, and for this purpose, after the usual process of steeping the material in acid, we place the same within a cylinder made either of iron or copper wire and placed over a fire. This cylinder slowly revolves on its axis (being actuated by suitable gearing) and is fitted, upon the inner circumference, with eight rows, more or less, of iron spikes to prevent the material or rags from rolling and getting entangled together. The ends of the cylinder are made either of wood or of iron plates, and to each end a shaft is attached, on which the cylinder revolves. During its revolutions the cotton is quickly destroyed by the action of the heat. In order, however, to prevent the wool from injury, water, or steam, if preferred, is injected by means of a perforated pipe or pipes into the cylinder in such quantities as may be desired. When the cotton is sufficiently destroyed the wool resulting from the operation is cleansed from the refuse cotton and acid. By this method the cotton is both more quickly and thoroughly destroyed than hitherto, and the strength of the wool not impaired.

In order, however, that our invention may be more thoroughly understood, reference is made to the accompanying sheet of drawings, and letters and figures marked thereon, similar letters representing similar parts; that is to say—

Description of the Drawings.

Figure 1 is a side elevation of our apparatus.

Figure 2, a vertical section.

Figure 3, a plan; and

Figures 4 and 5, enlarged transverse section and plan of the heating trough.

Letters A represent the standards used for supporting the cylinder, such standards being a part of or bolted to the foundation plate A'. Letters B represent the rotating cylinder, having ends made of wood or iron (into which the wire covering C is secured) and resting upon axes, b, in standards A, one of the axes having a pulley, B', for the purpose of driving, (where belting is used.) On reference to fig. 1 it will be seen that a portion of the wire covering (say one-eighth part) extending from c to c' is made to open on hinges for the purpose of charging and discharging the cylinder with the material to be operated upon. Referring to fig. 2, the iron spikes d (omitted in figs. 1 and 3 to prevent confusion) are shown. These prevent the entangling of the materials. Letters D represent the heating trough, in which the fire rests on bars d'. This trough is furnished with a movable flap, d'', which, when in position as shown in fig. 2, partially prevents the escape of heat. The axes e, having wheels e', support the trough, and by means of the handles f the same is placed in position or withdrawn from under the cylinder, when the same is not in motion, the projections x on the foundation plate guiding the wheels. Letters g show the perforated pipe resting on supports g', secured to the standards A, and furnished with water or steam, as desired, by communicating pipe g''.

The materials to be operated upon (saturated as before explained) being supplied to the cylinder, the latter is caused to rotate, and the fire (the draught of which may be urged by a blast pipe from an ordinary fan) placed underneath, steam or water being simultaneously admitted to the cylinder, if desired, by means of the perforated pipe before named. By the action of the heat the cotton is destroyed and the wool remains. The wool is then removed, washed, and dried by the customary methods, and is again fit for manufacturing purposes.

Having now fully disclosed the nature of our invention, and in what manner the same may be performed, we would have it understood that what we claim as of our invention, is—

The means or apparatus shown and described for the purpose of extracting wool from cotton and other vegetable substances contained in mixed fabrics.

ARTHUR KNOWLES, [L. s.]
JAMES KNOWLES, [L. s.]
JOSHUA BARRACLOUGH. [L. s.]

Witnesses:

PHILIP H. SHARP,

WM. L. RAYMOND, *United States Consul.*