

(No Model.)

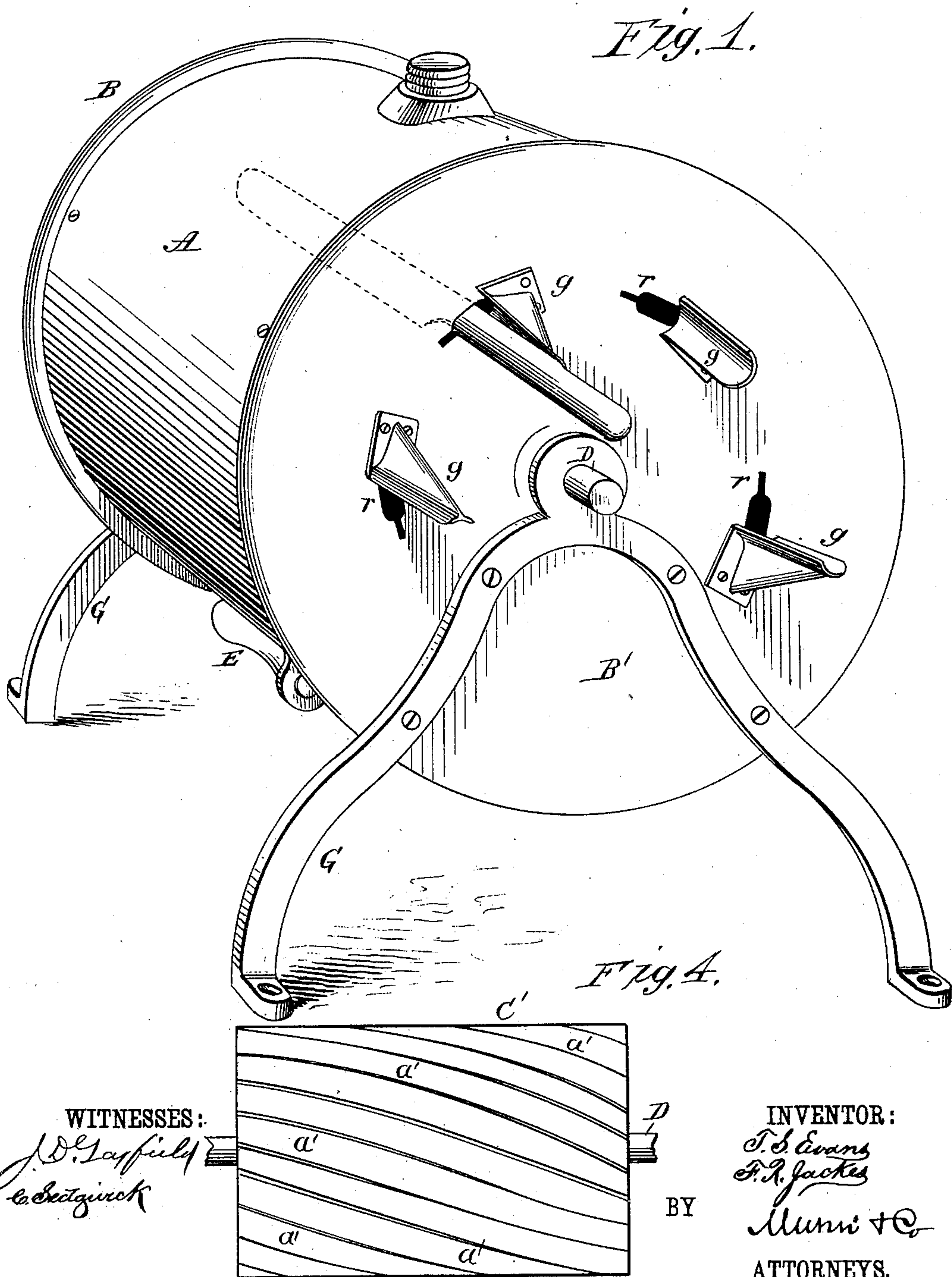
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T. S. EVANS & F. R. JACKES.

KNIFE CLEANING MACHINE.

No. 362,261.

Patented May 3, 1887.



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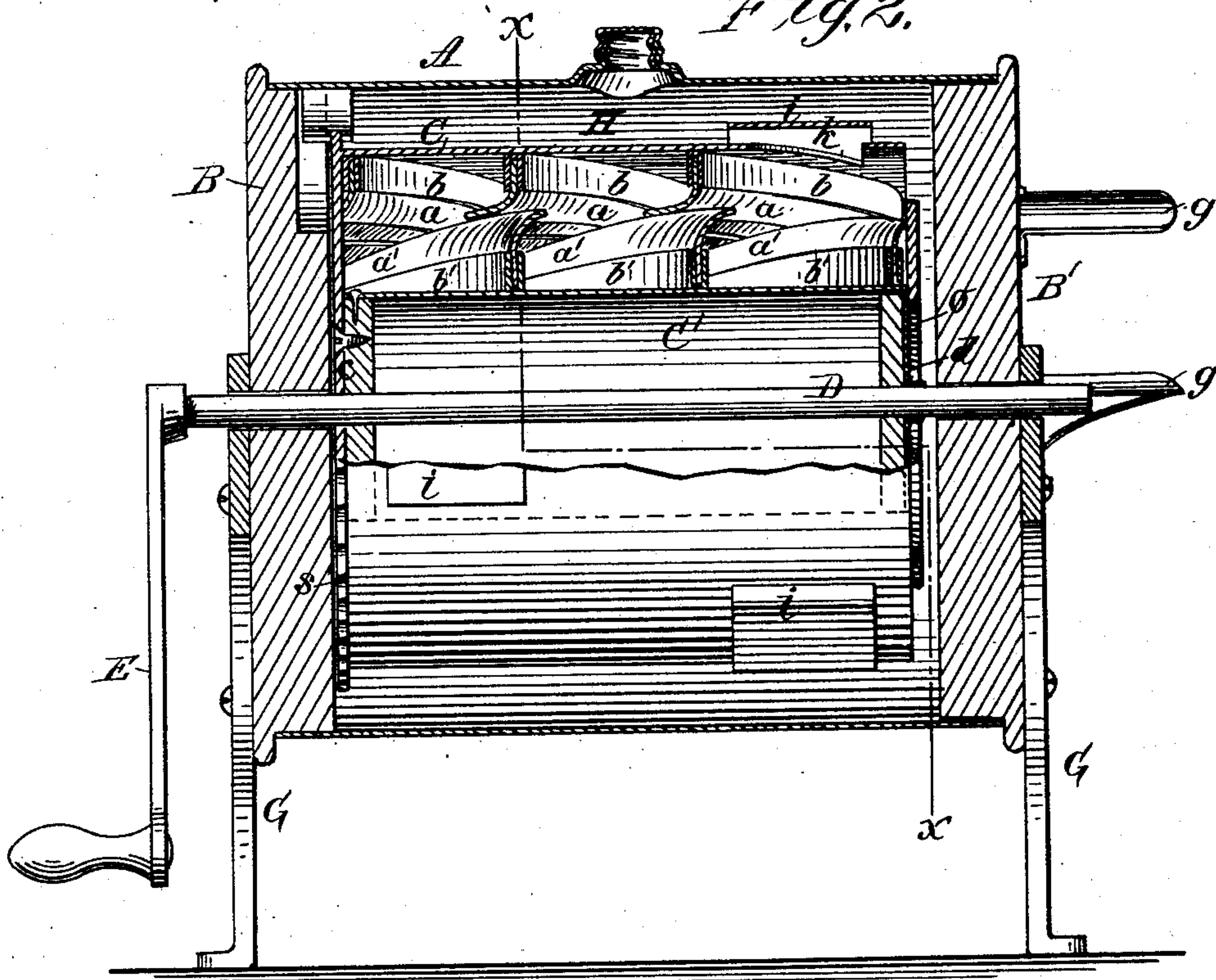
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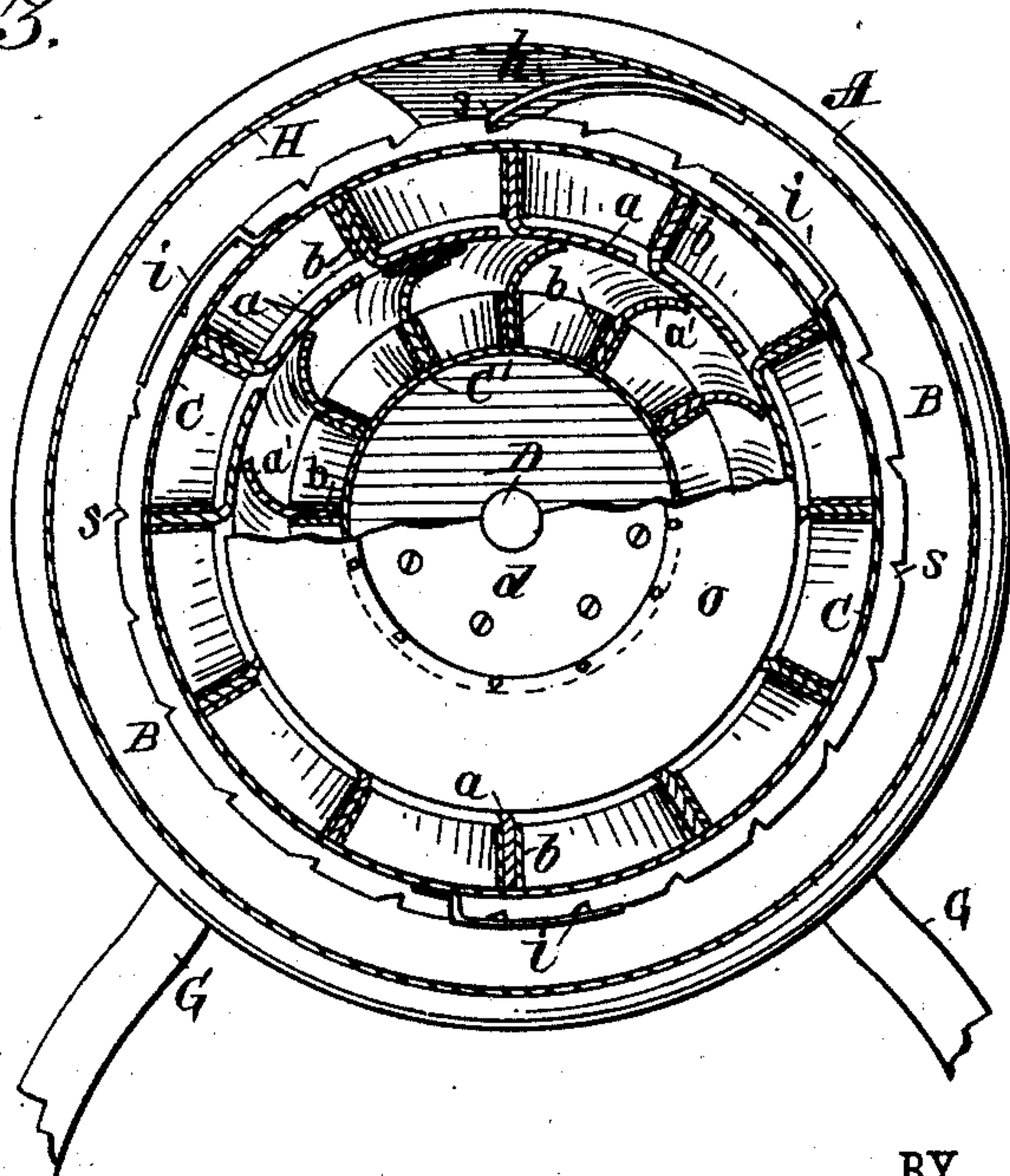
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*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

THOMAS S. EVANS AND FRANKLIN R. JACKES, OF WINNIPEG, MANITOBA,  
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## KNIFE-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 362,261, dated May 3, 1887.

Application filed June 8, 1886. Serial No. 204,445 (No model.)

*To all whom it may concern:*

Be it known that we, THOMAS SYDNEY EVANS and FRANKLIN ROBERT JACKES, both of Winnipeg, in the Province of Manitoba and Dominion of Canada, have invented a new and Improved Knife-Cleaning Machine, of which the following is a full, clear, and exact description.

Our invention relates to machines for cleaning knives, and has for its object the production of a machine that, while cheap and simple in construction, is reliable and efficient in operation.

It consists in concentrically-arranged cylinders having an annular space between, to whose opposite surfaces are affixed a series of spirally-arranged cleaners, the lower series the reverse of the upper, adapted to revolve in an outer cylindrical casing, and also in details of construction of the cylinder and casing, as will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of our knife-cleaning machine; Fig. 2, a longitudinal section thereof; Fig. 3, a vertical section taken through line *x x* of Fig. 2; and Fig. 4 a plan view of the inner cylinder, illustrating the spiral arrangement of the cleaners thereon.

A is a cylindrical casing provided with heads BB', and supported upon suitable standards, G G.

C C' are metal cylinders concentrically arranged, forming an annular space between. Within the space thus formed are two series of cleaners, *a a'*, of leather or other suitable material, secured to the cylinders C C' by metal binding-strips *b b'*. These cleaners *a a'* are arranged spirally at proper intervals, the one series to cover the inner surface of the cylinder C and the other the outer surface of the cylinder C', extending the full length of the cylinders, as shown in Fig. 4.

The spiral arrangement of the cleaners *a'* on the outer surface of the cylinder C' is the reverse of that around the inner surface of the cylinder C, forming thereby a series of reverse spiral laps, as shown in Fig. 2.

The cylinder C' is made secure to the head *c* of the cylinder C at one end, the other end being fastened to the shaft D by a suitable plate, *d*, and by means of the crank E upon the end of the shaft D, which passes through the machine from side to side to bearings in the standards G G, the two concentric cylinders, secured to the shaft D, as above, are revolved as one cylinder. A guide-ring, *o*, made preferably of leather, is fastened to the end of the cylinder C', around the plate *d* of the shaft D, and extends up around the cylinder C' to a line with the top edges of its cleaner *a'*, and serves to guide the knives when inserted through openings *r*, hereinafter described, between the upper and lower series of cleaners.

A spring-pawl, *h*, secured to the under upper side of the casing A, is adapted to engage notches *s* in a flange formed upon the head *c* of the outer cylinder, C, to prevent the cylinders from being turned in the wrong direction.

Between the cylinder C and the casing A is an annular space, H, into which the cleaning compound is poured, through a screw-capped opening in the top of the casing.

Openings *k k* are made at intervals in the top or outer surface of the cylinder C, to admit the cleaning compound to the leather cleaners *a a'*, as it is gathered up by the metal cleats or conductors *i i*, fastened immediately over them. These cleats or conductors are formed of a flat piece of metal, having a short arm bent over and fastened to the cylinder, as shown in Fig. 3.

In the head B' of the casing A slots *r* are cut in a right line with the junction of the leather cleaners *a a'*, through which the knives are inserted to be cleaned. Each slot is provided with a semicircular guide, *g*. (Shown in Fig. 1.)

The fact of the leather cleaners being fastened to metal cylinders by metal cleats, as shown, prevents the possibility of any expansion or contraction.

In the operation of our knife-cleaner a number of knife-blades are inserted through slots cut for that purpose in one end of the cylindrical casing, as shown in Fig. 1. The knife-blades thus inserted are guided by the leather guide-ring *o* to a contact with and between the reverse spiral leather cleaners *a a'* of the cyl-



inders C C', as illustrated in Fig. 3. A cleaning compound is poured into the annular space H, between the casing and the cylinder C, through the capped opening in the top of the cylinder. The cylinder is then set in motion by turning the crank E, and cleats or conductors *i i* upon the outer or upper side of the cylinder C gather the compound and convey it to the spiral leather cleaners through openings *k*, formed in the cylinder C immediately under the cleats or conductors *i i*. As the knife-blades remain stationary and the cylinders are revolved, they are rapidly and thoroughly cleaned through continued contact with the series of reverse spiral laps of the leather cleaners well covered with the compound conveyed to them, as above.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a knife-cleaning machine, two concentrically-arranged cylinders carrying upon their opposing surfaces spirally-arranged cleaners, substantially as shown and described, and for the purpose herein set forth.

2. In a knife-cleaning machine, two concentrically-arranged cylinders adapted to revolve together in an inclosing casing, carrying upon their opposing surfaces spirally-arranged cleaners, the spirals upon the two cylinders being reversely arranged, substantially as and for the purposes herein set forth.

3. In a knife-cleaning machine, the combination, with two concentric cylinders adapted for revolution about a common axis, of metal clamps spirally arranged upon the opposing

faces of said cylinders, and flexible cleaners held in said clamps, substantially as shown and described, and for the purposes herein set forth.

4. In a knife-cleaning machine, the combination, with two concentric cleaners, carrying cylinders, and a knife-holding disk arranged at the open end of said cylinders, of a flexible guiding-disk interposed between the ends of said cylinders and the knife-holding disk, substantially as shown and described, and for the purpose herein set forth.

5. In a knife-cleaning machine, the combination, with the metal cylinder C, provided upon its outer surfaces with opening *k* and cleats or conductors *i*, and upon its inner surface with spirally-arranged cleaners, of an inner cylinder, C', concentric therewith and attached thereto, the cylinder C' having cleaners spirally arranged in an opposite direction to those on the cylinder C, the two cylinders being mounted upon a shaft, D, and adapted for rotation in a casing, substantially as shown and described, and for the purposes set forth.

6. In a machine for cleaning knives, the combination, with the casing A, fitted with a screw-capped central opening and a spring-pawl, *h*, of the flanged head *c* of the cleaning-cylinders, provided with notches S, adapted to receive the pawl *h*, substantially as shown and described, and for the purposes set forth.

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