

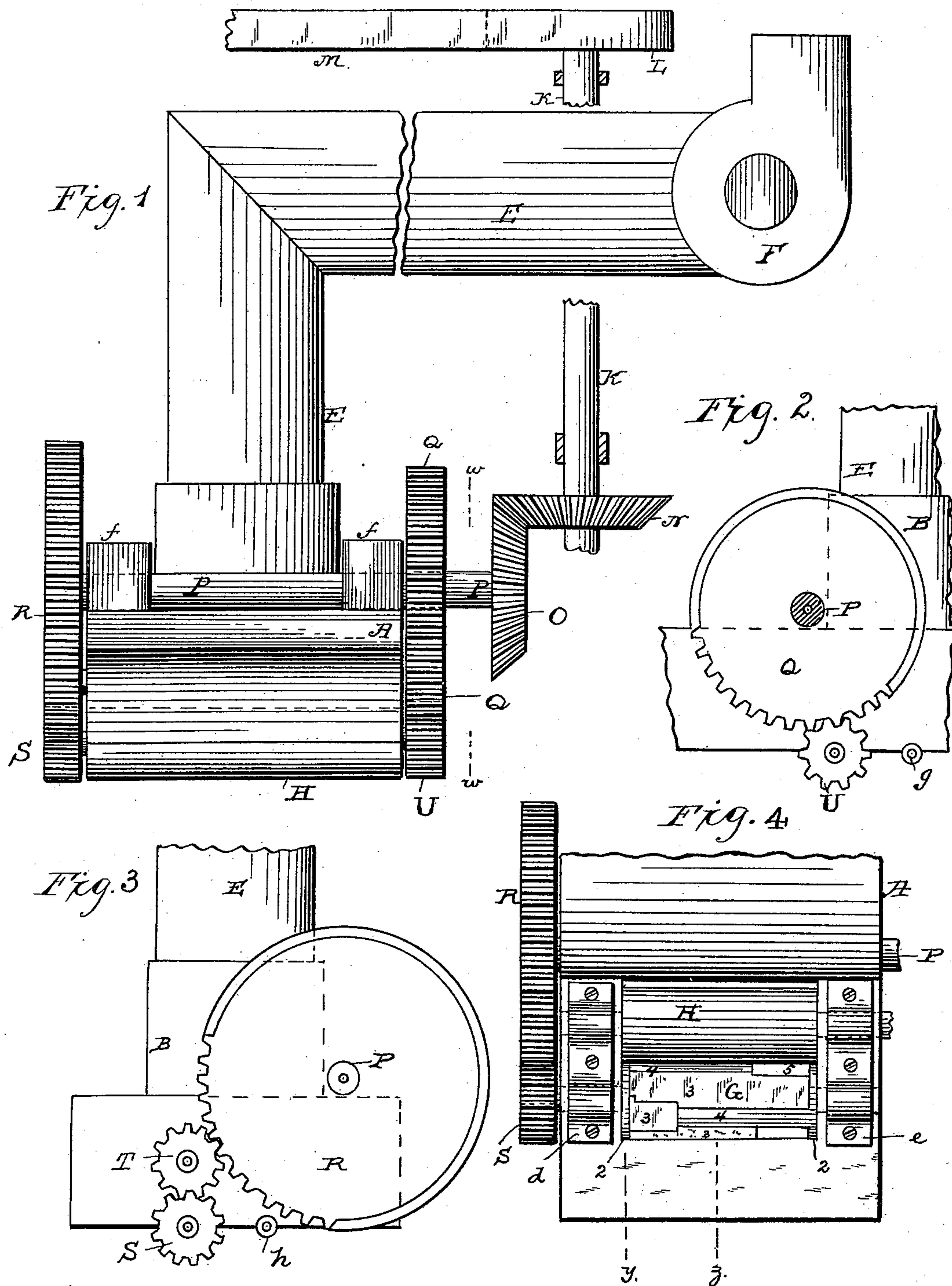
(No Model.)

2 Sheets—Sheet 1.

J. H. BRIERLEY.
HAIR PLUCKING MACHINE.

No. 400,894.

Patented Apr. 9, 1889.



Witnesses:-

W. E. Bowen
Edward Wolff

Inventor

John Hugh Brierley
By atty. Jacob Felbel

(No Model.)

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Fig. 5

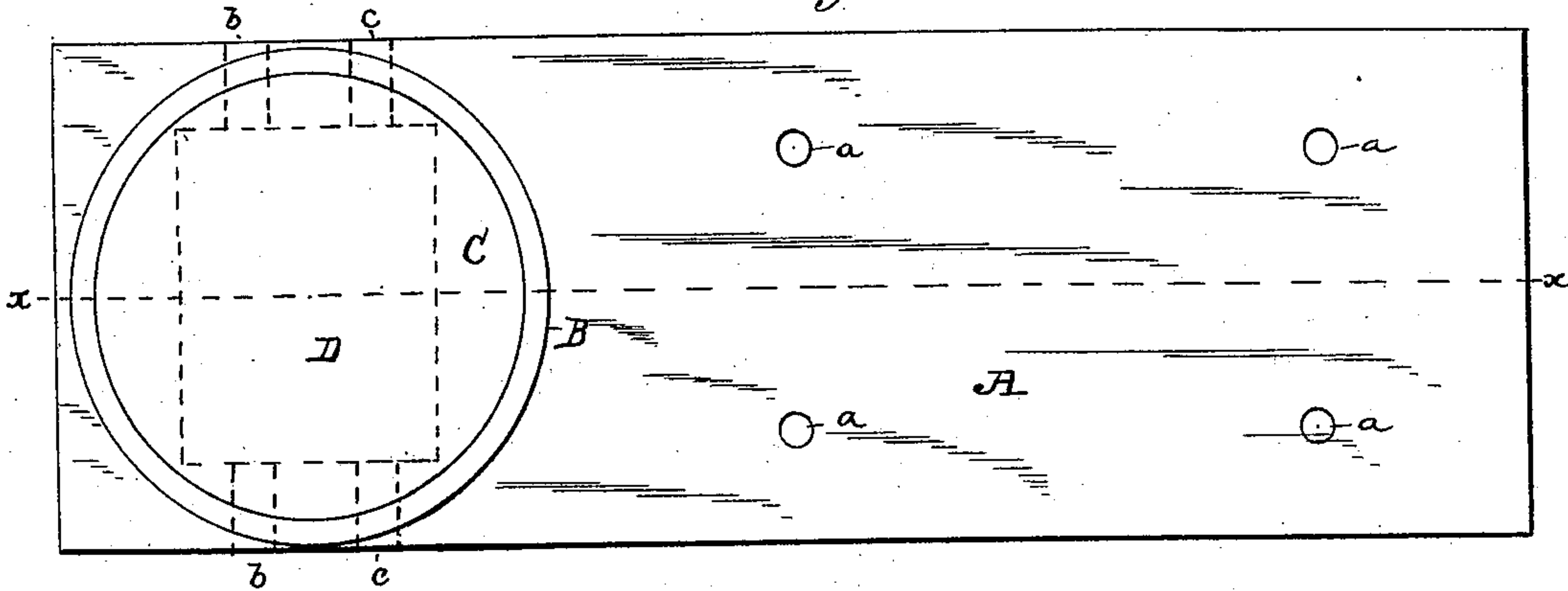


Fig. 6

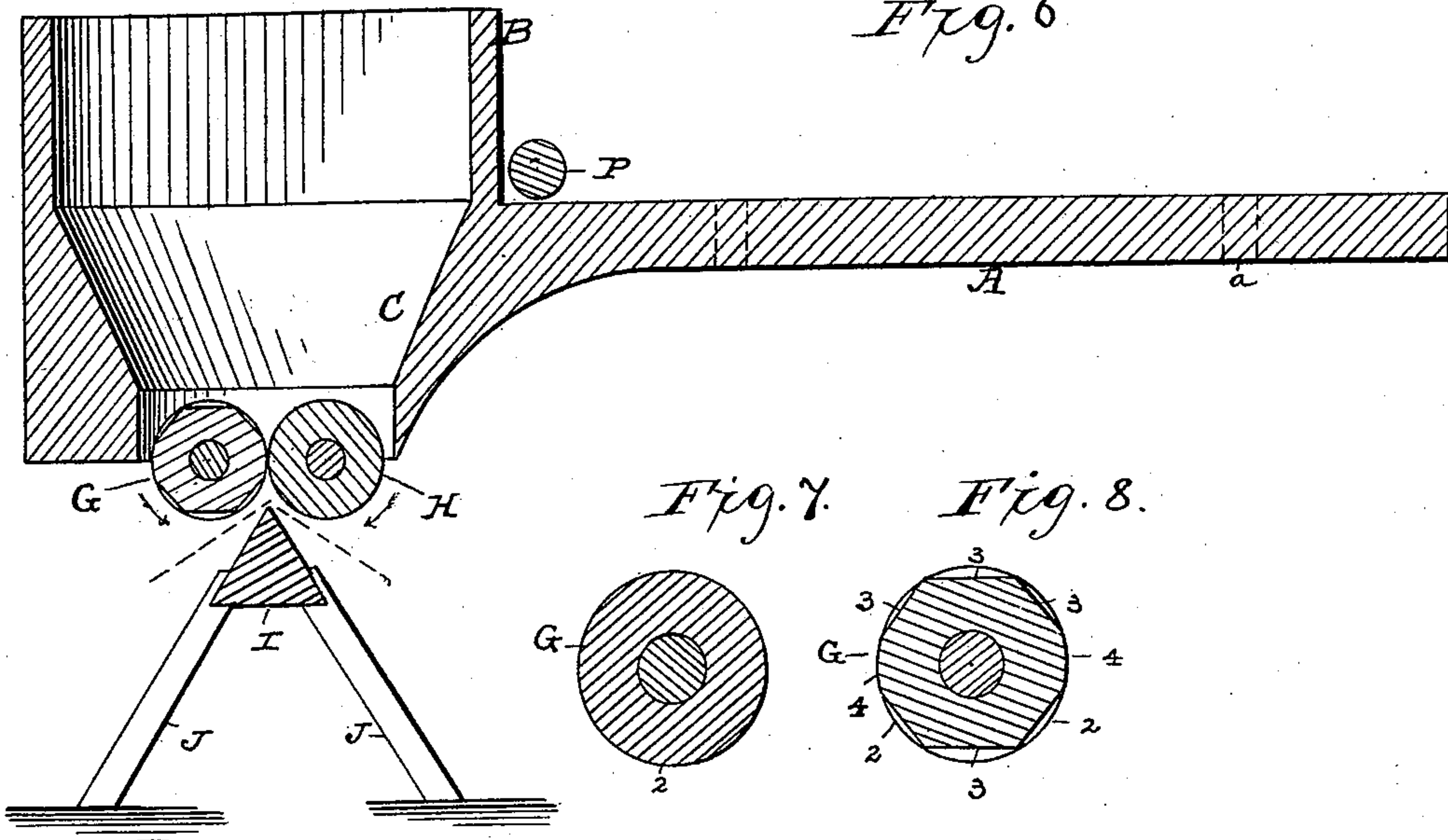
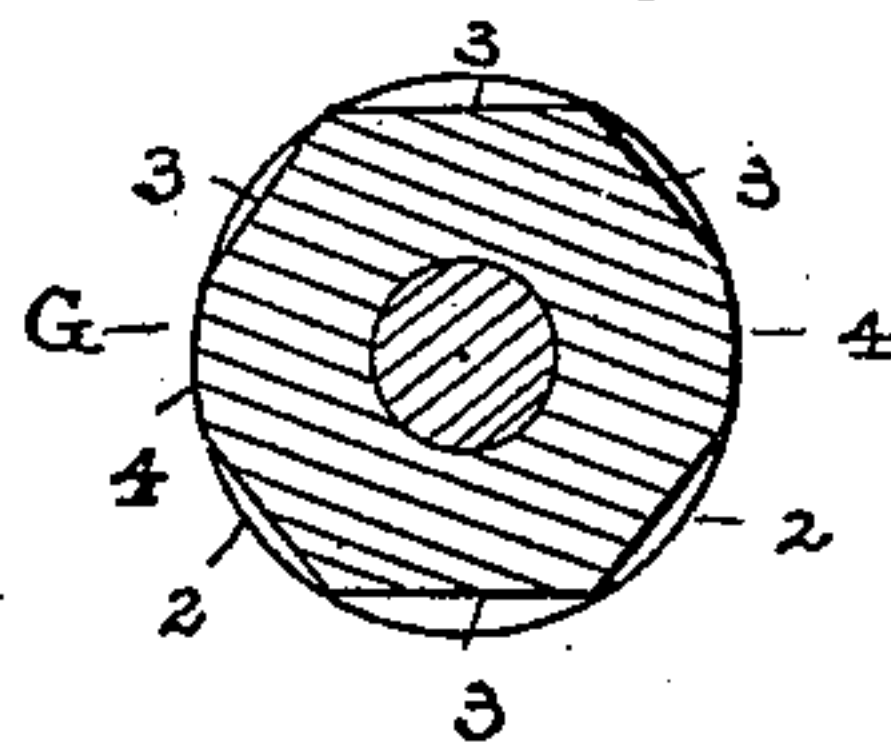
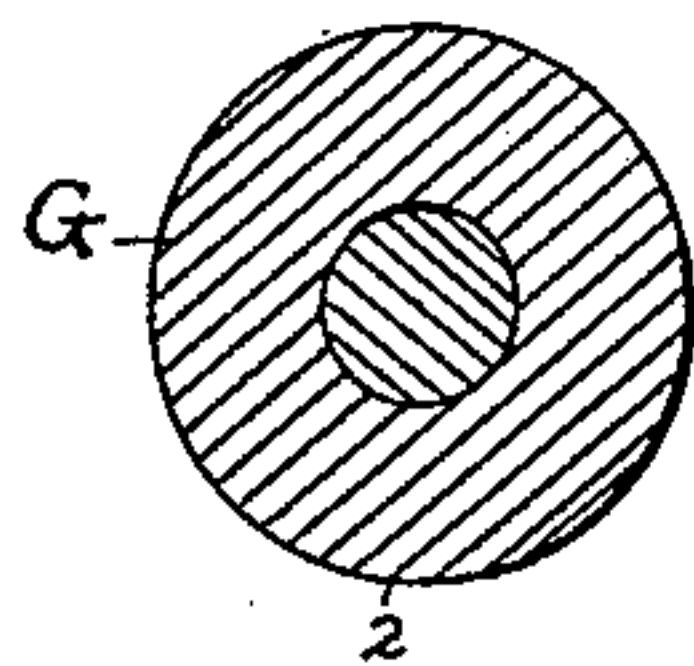


Fig. 7

Fig. 8



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UNITED STATES PATENT OFFICE.

JOHN HUGH BRIERLEY, OF BROOKLYN, NEW YORK.

HAIR-PLUCKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 400,894, dated April 9, 1889.

Application filed June 21, 1888. Serial No. 277,750. (No model.)

To all whom it may concern:

Be it known that I, JOHN HUGH BRIERLEY, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Hair-Plucking Machines, of which the following is a specification.

Previous to my invention numerous attempts have been made to devise a machine for plucking or pulling out the hair from fur-bearing skins; but, so far as my knowledge extends, no one has hitherto produced a machine that is adapted to successfully perform this kind of work.

As is well known to those skilled in the art, the fur or fur fiber on skins of animals—such as the nutria, otter, &c.—is intimately intermixed with hair of greater length which runs or is disposed in almost every direction, and which is required to be removed before the skin can be utilized for manufacturing purposes.

My invention has for its object the removal of the hair in a simple, expeditious, and effective manner; and it consists, primarily, in raising the hair by suction or exhaust, and while raised plucking or pulling it out of the skin, and, secondarily, in the means for operating upon the skins to effect the removal of the hair, all as hereinafter more fully described, and particularly pointed out in the appended claims.

In the drawings which accompany this specification and form a part thereof, Figure 1 is a rear elevation of a machine embodying my invention. Fig. 2 is a side section taken at the line *w w* of Fig. 1. Fig. 3 is an elevation taken at the left-hand side of Fig. 1. Fig. 4 is a bottom plan, the bed-plate being broken away and the gears shown at Fig. 2 being omitted. Fig. 5 is a top view of the bed-plate or frame-work. Fig. 6 is a vertical section therethrough, taken at the line *x x*, with the plucking-rollers and the ridge-piece or skin-support added. Fig. 7 is an enlarged vertical section through the front or flattened plucking-roller, taken at the line *y*. Fig. 8 is a similar section taken at the line *z*.

In the several views the same parts will be found designated by the same letter or numeral of reference.

The bed or base plate, preferably cast of a single piece of metal, is provided with a shank, A, perforated, as at *a*, for the passage of bolts, by which the machine is attached to a suitable work bench, stand, or table. The front portion of the bed-plate is formed with a cylindrical extension or rim, B, a flaring chamber, C, and a rectangular bottom opening, D. Within the rim B is fitted the lower end of a pipe or tube, E, which is provided with a suction-fan or air-exhausting device, F. At the bottom opening, D, are arranged two rollers, G and H, which pluck or pull the hair from the skin being operated upon. These rollers may be mounted in any suitable manner. In the drawings I have shown the under surface of the bed-plate formed with semicircular grooves *b* and *c* for the shafts or journals of said rollers, and half-boxes or cap-pieces *d* and *e*, screwed onto the bed-plate, for maintaining the shafts or journals in position.

The roller G is formed or provided with alternate flat and round surfaces and the roller H is made cylindrical. The ends of the roller G are preferably made cylindrical, as at 2, and between the ends the roller is composed of flat surfaces 3 and curved surfaces 4, and these surfaces are so disposed that there is at all times during the revolutions of the rollers G and H a space between said rollers for the admission of air. At the right-hand side of Fig. 4 a space or air-inlet is designated by the numeral 5. When there is an opening, as 5, between the rollers at one end or portion, the other ends or portions of said rollers run in contact and perform the plucking operation. By constructing the roller G in the manner shown and described the air-inlet 5 keeps constantly changing from point to point, and this construction and mode of operation I deem preferable; but, so far as the main feature of my invention is concerned, the roller G may be otherwise constructed and the air-inlet provided in a different manner.

The rollers G and H may be alternately provided with flat and curved surfaces, and many other variations will suggest themselves to the skilled mechanic desiring to provide the air-inlet.

I designates a ridge-piece or support for the

skin, preferably made thin or sharp at its upper edge and arranged in line with the bite of the rollers G and H. It is preferably mounted in a frame or stand, J, which rests
 5 upon the floor of the room in which the machine is located. This frame may be made adjustable vertically for skins of varying thicknesses or lengths of hair.

The moving parts may be operated in any
 10 desirable manner.

K designates a vertical shaft rotating in suitable bearings, and provided at its upper end with a band-pulley, L, around which passes a driving-belt, M, from the power-shaft.
 15 (Not shown.) At the lower end of the shaft or spindle K is secured a miter-wheel, N, that gears with a similar wheel, O, on one end of a driving-shaft, P, which near the same end is provided with a spur-gear, Q, and at its
 20 opposite end with a spur-gear, R. The shaft P is arranged in rear of the rim B, and rotates in suitable bearings, *ff*, secured to the shank A of the casting or bed-plate.

The roller G is provided with a pinion, S, that meshes with a pinion, T, which runs in engagement with the teeth of the spur-gear R. The roller H is provided with a pinion, U, which meshes with the spur-gear Q. One
 25 end of the roller G and one end of the roller H is unprovided with any gear. The roller-shaft or axis of G is designated by the letter *g* in Fig. 2, and that of H by the letter *h* in Fig. 3.

The operation of the machine will be understood to be as follows: The skin to be operated upon is placed upon the ridge-piece
 35 and the machine set in motion. The fan or blower is rotated rapidly and the air sucked or drawn up through the inlet 5 and the pipe or tube E. The rollers G and H are also rotated rapidly and in the directions indicated by the arrows at Fig. 6. The skin being
 40 operated upon is held by the hands of the workman and pulled back and forth over the ridge-piece, the dotted line at Fig. 6 indicating the preferable directions of pull of the skin. As the skin is moved over the upper
 45 edge of the ridge-piece, that portion in line with the air-inlet is immediately acted upon by the upwardly-rushing air and the hair thereupon is raised or straightened up above the fur, and the next instant is seized by the curved surfaces of the rollers and plucked or
 50 pulled out of the skin. While the curved surfaces are plucking the hair at one point or locality the flat surfaces are letting in air at another, and the exhausting medium F is raising the hair and bringing it into a condition to be seized by the rollers and pulled out. The machine being organized so that
 55 the air-inlet is never closed, the suction or upward draft may be kept in continual operation and at full capacity. If the rollers were constructed so that they would cut off the air entirely at any time during their revolutions, the exhaust would be interrupted
 60 with the result that when the air-passage should be again formed the force of the ex-

haust would be materially less, as it takes an appreciable amount of time to develop or obtain the full power of the suction after an
 70 interruption. As the rollers pluck out the hair they deliver it into the chamber C, from which it is drawn through the pipe E by the air and carried to any desired locality. By pulling the skin at an angle over the ridge-
 75 piece or support, as indicated, there is a tendency of the hair to lift or rise and present itself to the plucking-rollers.

Numerous changes in detail construction of the machine may be made without departing
 80 from the spirit of my invention, the gist of which has already been set forth and will now be embodied in the annexed clauses of claim.

I am aware that heretofore it has been suggested to raise the fur of skins and the nap of
 85 hat-bodies by means of an exhaust apparatus, in order that the fur or nap may be trimmed off evenly by a cutting or clipping contrivance; but I am not aware that previous to my invention there had ever been devised a ma-
 90 chine for plucking or pulling out the hair from fur-bearing skins which embodied the combination, with an air-exhausting contrivance for raising the hair, of a pair of rollers for seizing and plucking or pulling the hair
 95 out of the skin.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a machine for plucking hair from skins, the combination, with a pair of plucking-rollers, of a suction-creating or air-exhausting device for raising the hair. 100

2. In a machine for plucking hair from skins, the combination of a pair of plucking-rollers, an air-inlet, and a suction-creating or air-ex- 105
 hausting device.

3. In a machine for plucking hair from skins, the combination of a pair of plucking-rollers constructed to form an air-inlet and a suction-creating or air-exhausting device. 110

4. In a machine for plucking hair from skins, the combination of a pair of plucking-rollers, one of said rollers being flattened or cut away, and a suction-creating or air-exhausting device. 115

5. In a machine for plucking hair from skins, the combination of a pair of plucking-rollers constructed to have at all times an air opening or inlet between their peripheries and a suction-creating or air-exhausting device. 120

6. In a machine for plucking hair from skins, the combination of a ridge-piece and a pair of plucking-rollers.

7. In a machine for plucking hair from skins, the combination of a ridge-piece, a pair of
 125 plucking-rollers, an air-inlet, and a suction-creating or air-exhausting device.

8. In a machine for plucking hair from skins, the combination of the plucking-rollers G H, the air-chamber C, the pipe E, and the fan F. 130

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Witnesses:

JAMES BRIERLEY,
 JACOB FELBEL.