

(No Model.)

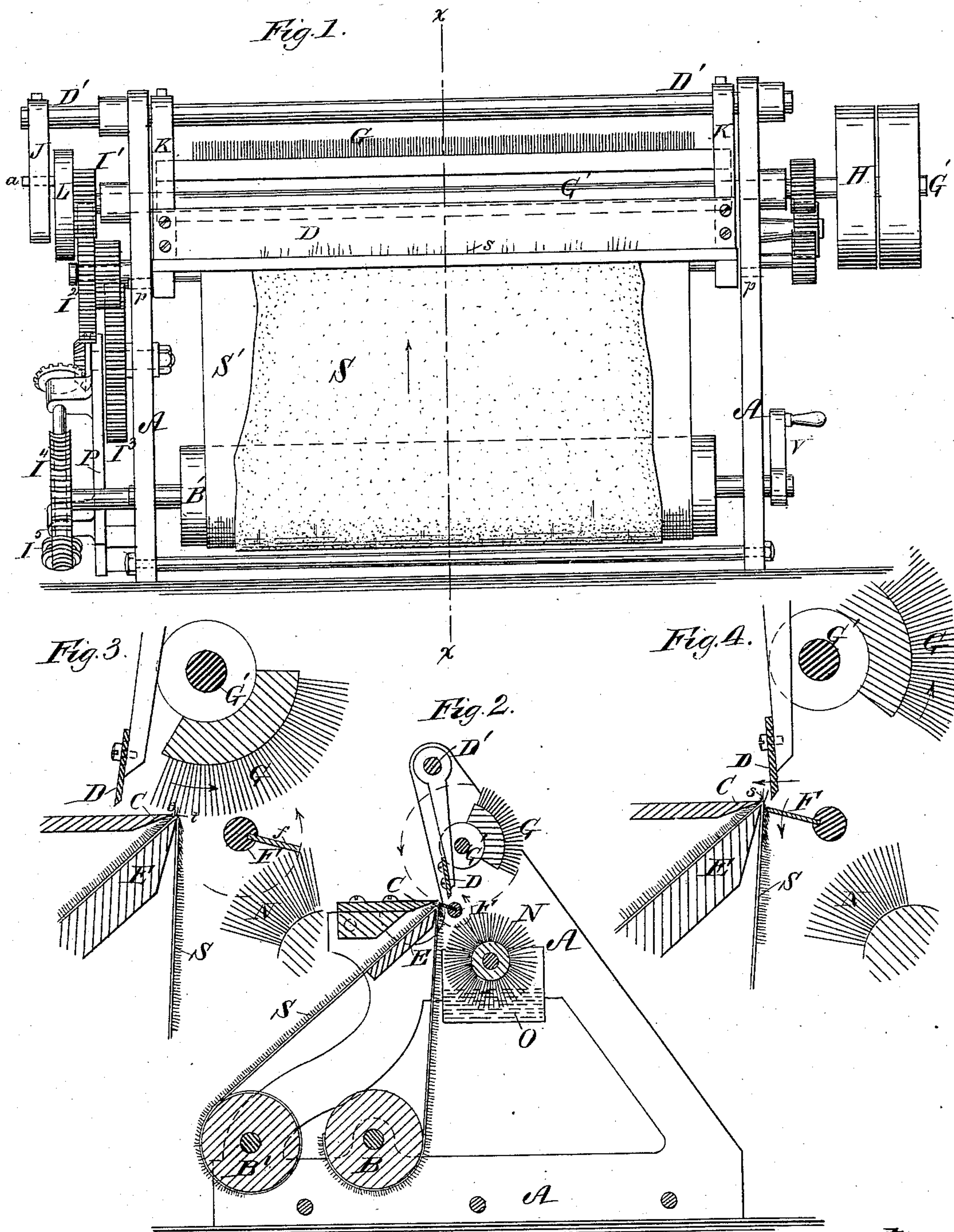
2 Sheets—Sheet 1.

H. W. COVERT.

METHOD OF AND APPARATUS FOR REMOVING HAIRS FROM SEAL  
AND OTHER FURS.

No. 304,992.

Patented Sept. 9, 1884.



Witnesses:  
H. P. Parker.  
Stanley A. Covert.

Inventor:  
Henry W. Covert

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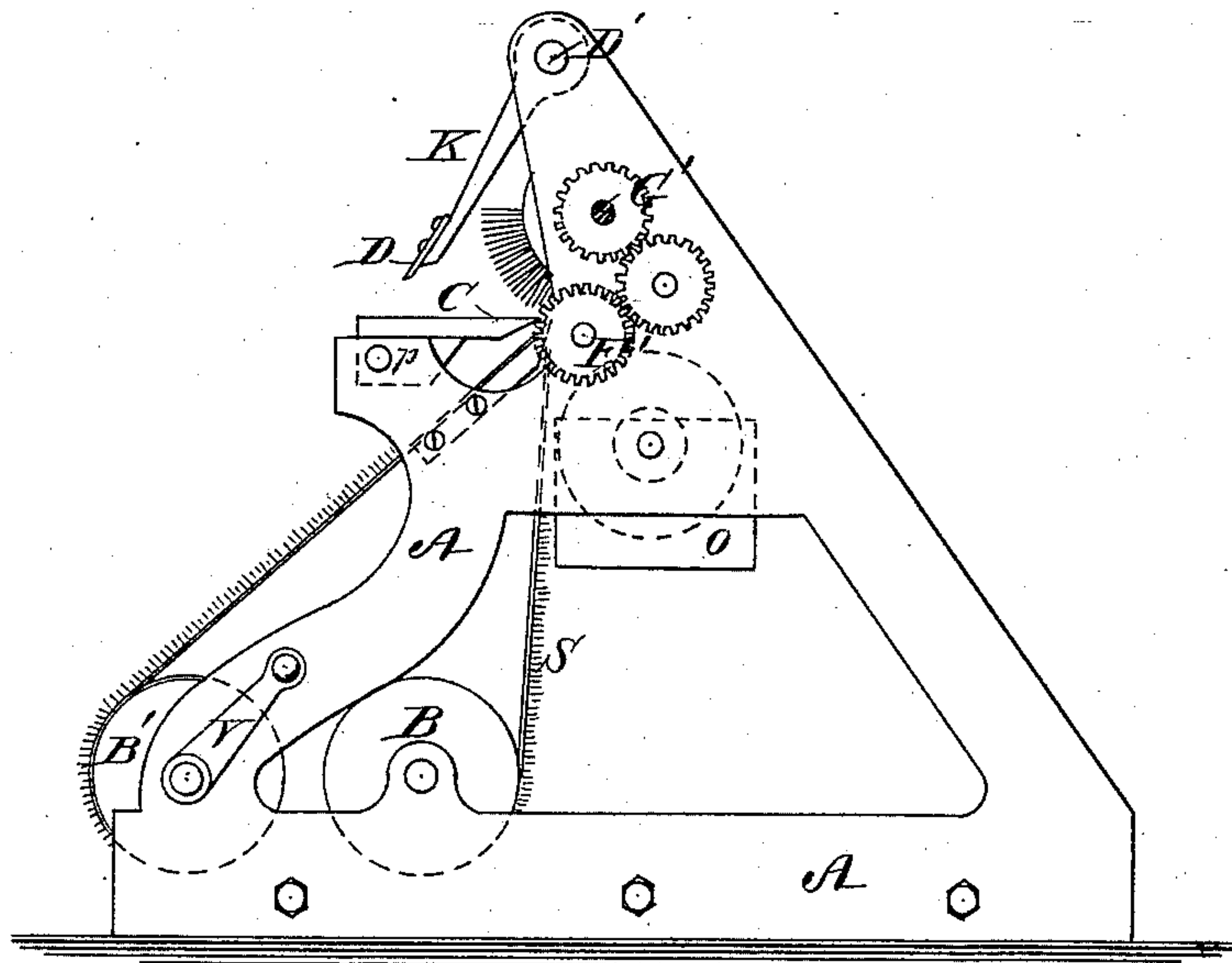
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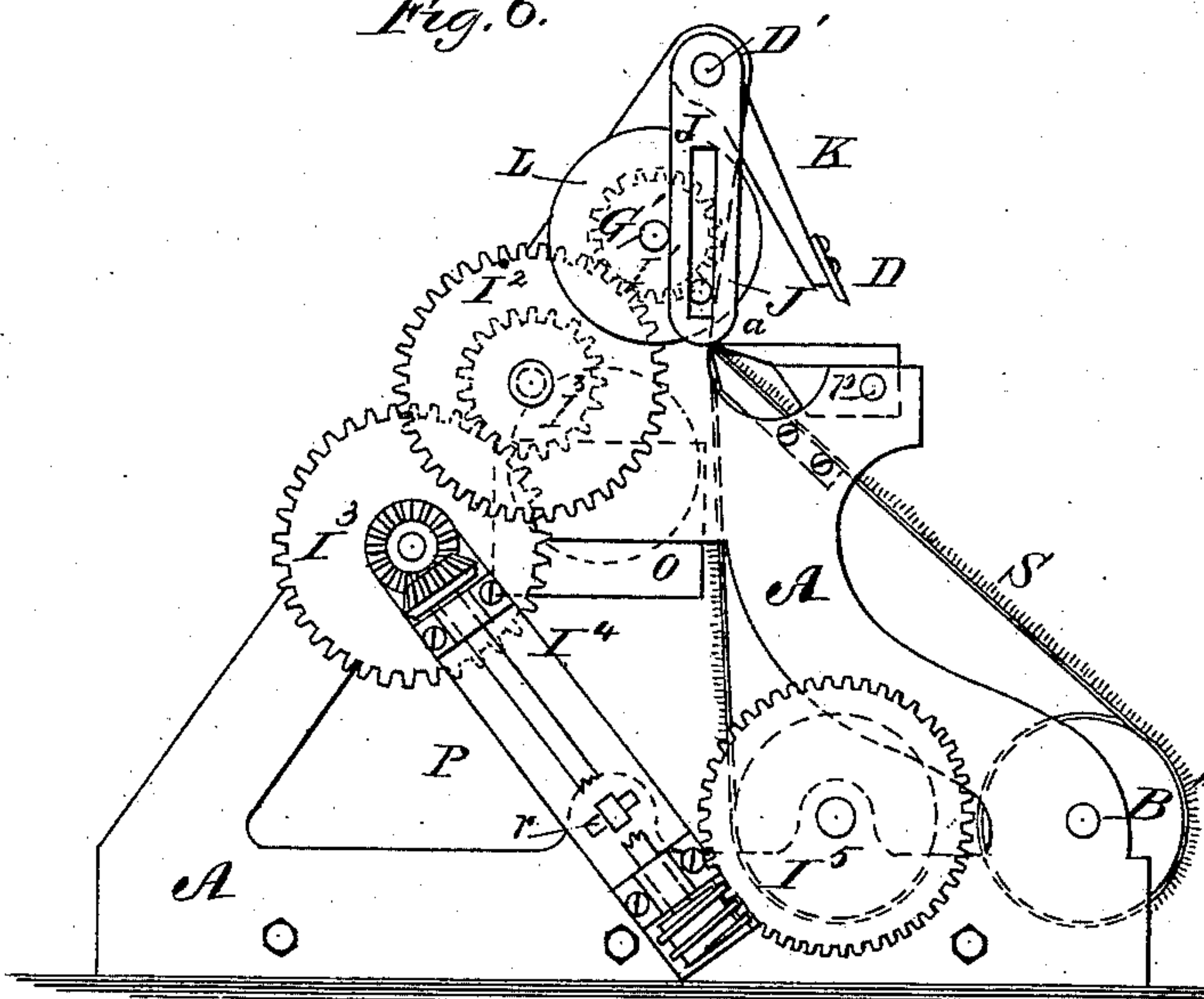
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*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

HENRY W. COVERT, OF BROOKLYN, NEW YORK.

METHOD OF AND APPARATUS FOR REMOVING HAIRS FROM SEAL AND OTHER FURS.

SPECIFICATION forming part of Letters Patent No. 304,992, dated September 9, 1884.

Application filed January 31, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. COVERT, of the city of Brooklyn, county of Kings, and State of New York, have made certain Improvements in the Method of and Apparatus for Removing Hairs from Seal and other Furs, by means of which improvements this work can be done more perfectly than it has heretofore been done, which improvements also enable me to remove the hairs from seal-skins before they are colored; also to remove the hairs from beaver and other skins, which the machines now in use are unable to do.

Following is a full description of my invention, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a front elevation of my machine. Fig. 2 is a section of the same through the line X X. Figs. 3 and 4 are enlarged views showing the operation of my machine more clearly. Figs. 5 and 6 are end views of my machine, showing the connection of the mechanism with the driving-shaft.

A A, Figs. 1, 2, 5, 6, is the frame which supports the mechanism, fastened together by means of bolts or straps at any convenient points, and placed far enough apart to allow the skin to be unhaired to pass between them.

B B' are drums of wood, the axles of which pass through and are supported by the frame A A, B' having a crank on one end, V, and B having a worm-wheel on one end, I<sup>5</sup>.

C is a cutting blade or shear, pivoted to the frame A A at p p, the cutting-edge resting permanently on the fur for the purpose of holding it firmly down in its natural position.

D is the upper and movable blade or shear, which is supported by two arms, K K, fastened to the rock-shaft D'.

D' is a shaft passing through and supported by the frame A A, which is caused to rock by means of the crank J.

E is a plate of metal or wood, fastened securely to the frame A A, the upper side of which is brought to a sharp but not a cutting edge.

F is a smaller shaft passing through and supported by the frame A A, which is revolved in the direction indicated by the arrow by the gear-wheels shown in Plate 5.

G' is the driving-shaft, passing through and supported by the frame A A.

G is a segment of a cylindrical brush, which is fastened to and revolved by the shaft G'.

H is the driving-pulley, which imparts motion to all the machinery.

I' I<sup>2</sup> I<sup>3</sup> I<sup>4</sup> I<sup>5</sup>, Fig. 6, show the feeding arrangement, I' being fastened to the driving-shaft G, and I<sup>5</sup> to the drum B. The bar I<sup>4</sup> centers on the shaft of I<sup>3</sup>, and by means of the bolt which passes through the frame and slot shown at r can be disconnected from I<sup>5</sup>.

J is a slotted crank attached to the shaft D'.

K K are arms fastened to the shaft D', which arms support the movable blade D.

L is a wheel attached to the shaft G', having a projecting pin, a, which passes through the slot in the crank J, causing the shaft D' to move back and forward as the shaft G' revolves.

N is a cylindrical brush supported by the frame A A, but free to revolve.

O is a vessel partly filled with water or any equivalent fluid, into which the brush N is partly submerged.

S is a belt of cloth which passes over the plate E, one end of which is fastened to the drum B', and the other end to the drum B.

f is a plate of metal fastened to the shaft F, and revolving with it inside of the frame A A.

s represents the hairs as they appear released from the fur.

t represents a layer of fur as it lies when brushed over and before it is passed on to the body of the fur previously brushed over.

The operation of my machine is as follows: The skin, S, from which the hairs are to be removed is sewed to the belt S', and then wound tightly around the drum B'. Now, when the shaft G' is turned in the direction indicated by the arrow, the skin is drawn slowly over the edge of the plate E and wound around the drum B by means of the feed arrangement I' I<sup>2</sup> I<sup>3</sup> I<sup>4</sup> I<sup>5</sup>. Every time the brush G passes over the fur at the edge of the plate E it draws over with it as much fur, together with the accompanying hairs, as have been released from the blade C during one revolution. As the brush leaves the fur the hairs, by reason of their stiffness and elasticity, spring up against the cutting-blade C. When the brush G has



passed the line of motion of the plate *f*, this plate *f* passes on in its revolution and carries down the fur just brushed over out of reach of the cutting-blades. At the same time the cutting-blade *D* is carried forward and cuts off the hairs which have been released. The different positions of the brush *G*, plate *f*, and blade *D* to perform these operations are shown in Figs. 3 and 4, all the movements being performed by one revolution of the shaft *G'*. Now, each layer of fur, as it is brushed over, remains isolated until the plate *f* reaches it, as shown by the line *t*, Fig. 3. In this isolated condition it has not sufficient strength to resist the elasticity of the hairs which have been brushed over with it, and which consequently instantly spring up within range of the cutting-blades. This isolated condition of a thin layer of fur is a very important feature of my invention, as by means of it I am enabled to get a perfect and complete separation of the hairs from the fur. To produce this isolated layer of fur it is necessary that the fur from which the hairs have been removed should be prevented from intermingling with the next layer of fur until the hairs in it are released, which I do in the following manner, viz: The brush *N* is

placed in such position as to allow the plate *f* to pass through it at every revolution. This brush is partly submerged in the vessel of water *O*, and is revolved a little every time the plate *f* passes through it, by which means it is kept filled with water, so that the plate *f*, by passing through the brush, retains and conveys enough water to the fur every time it reaches it to cause it to adhere to the pelt.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a machine for unhairing furs, the method of forcing over the fur by means of a brush, in combination with a support for the fur and means for holding the fur down, substantially as herein described.

2. The method of holding the fur down by means of water or any equivalent fluid, substantially as herein described.

Signed at New York, in the county of New York and State of New York, this 30th day of January, A. D. 1884.

HENRY W. COVERT.

Witnesses:

EDGAR TATE,

ALFRED H. DAVIS.