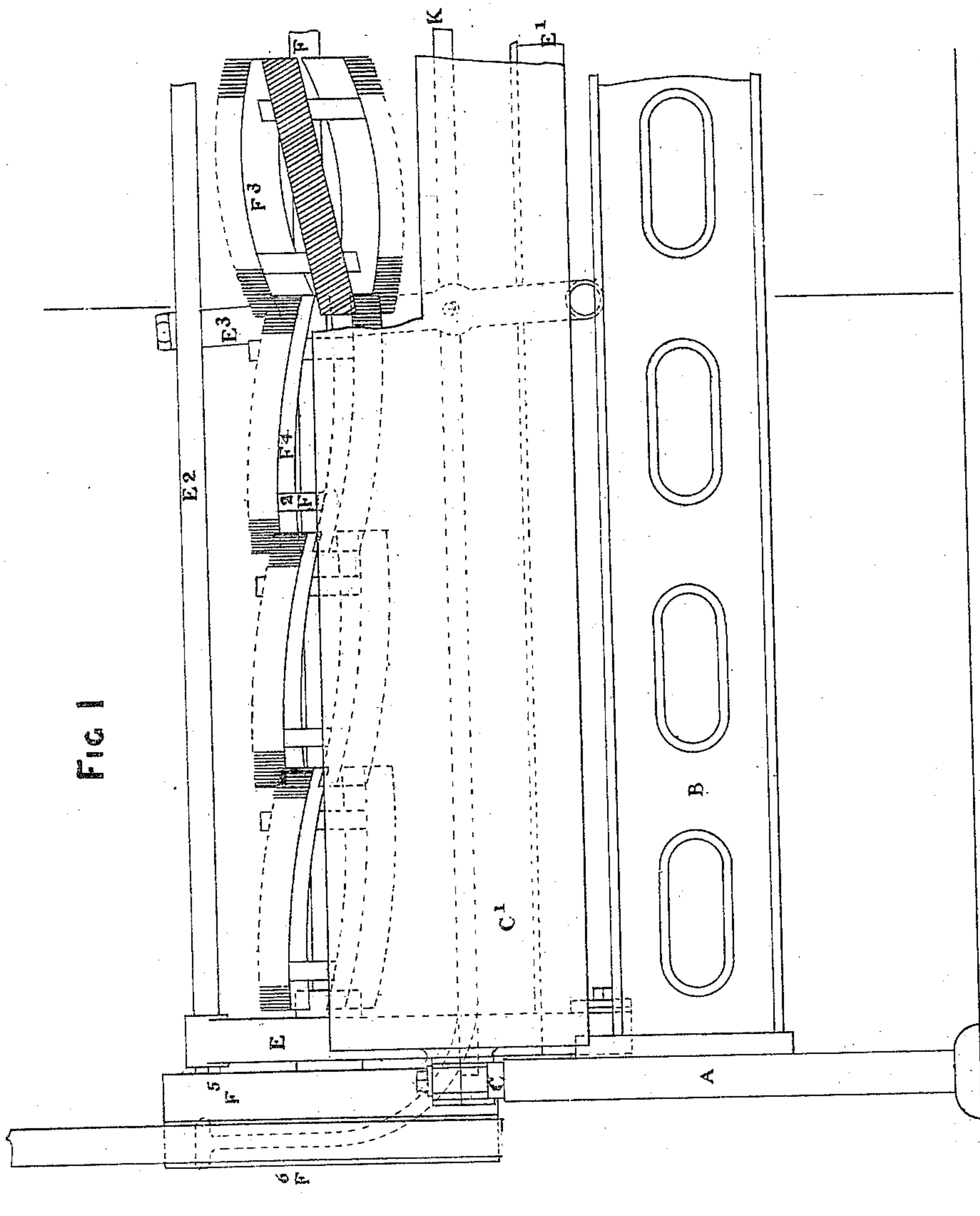


C. TURNER.
Machinery for Removing Dirt from Skins.
No. 143,733. Patented Oct. 14, 1873.



Witnesses;
Witnesses: H. W. Gough C.E.
William Hughes

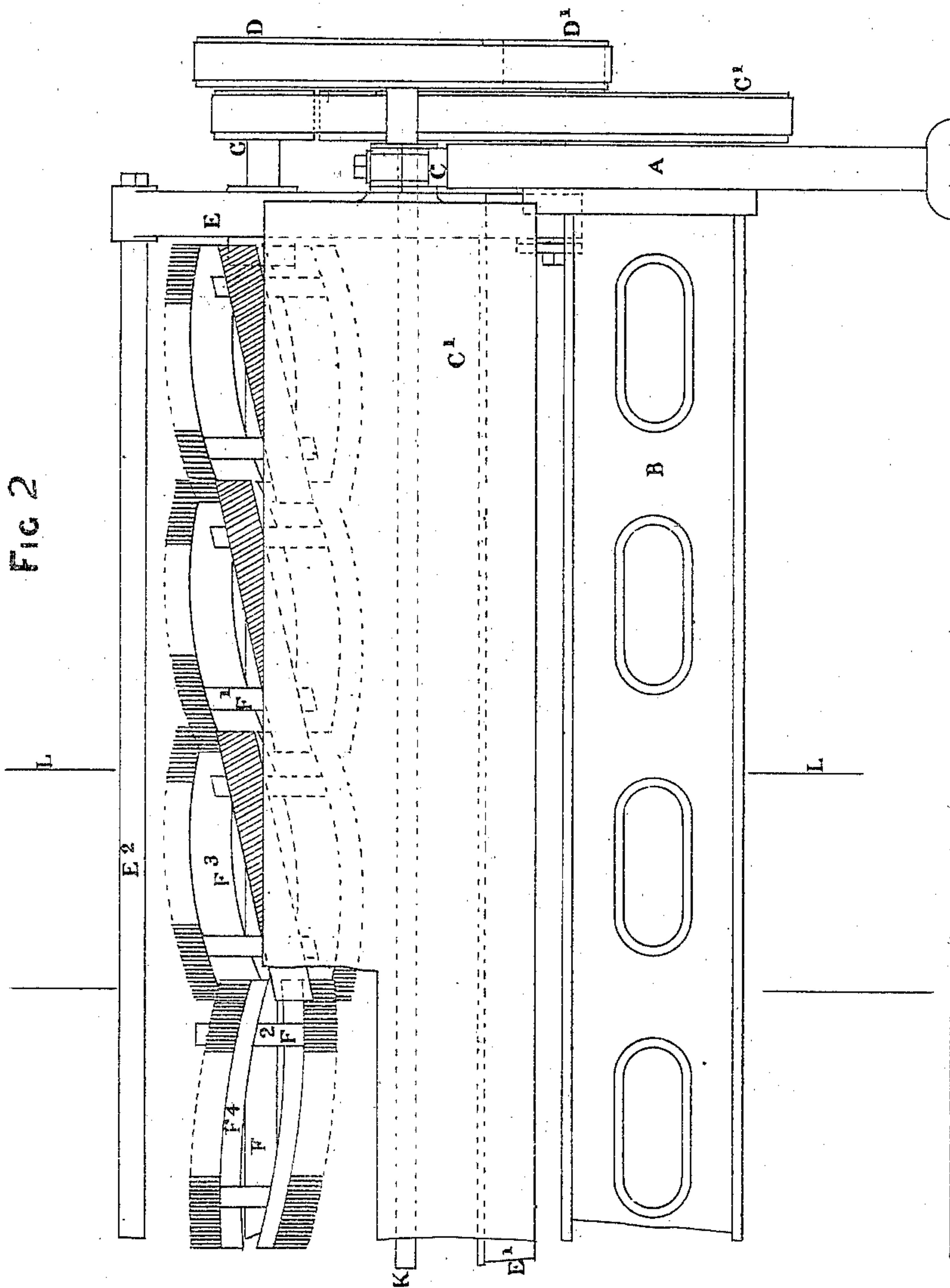
Inventor;
Charles Turner

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FIG 4

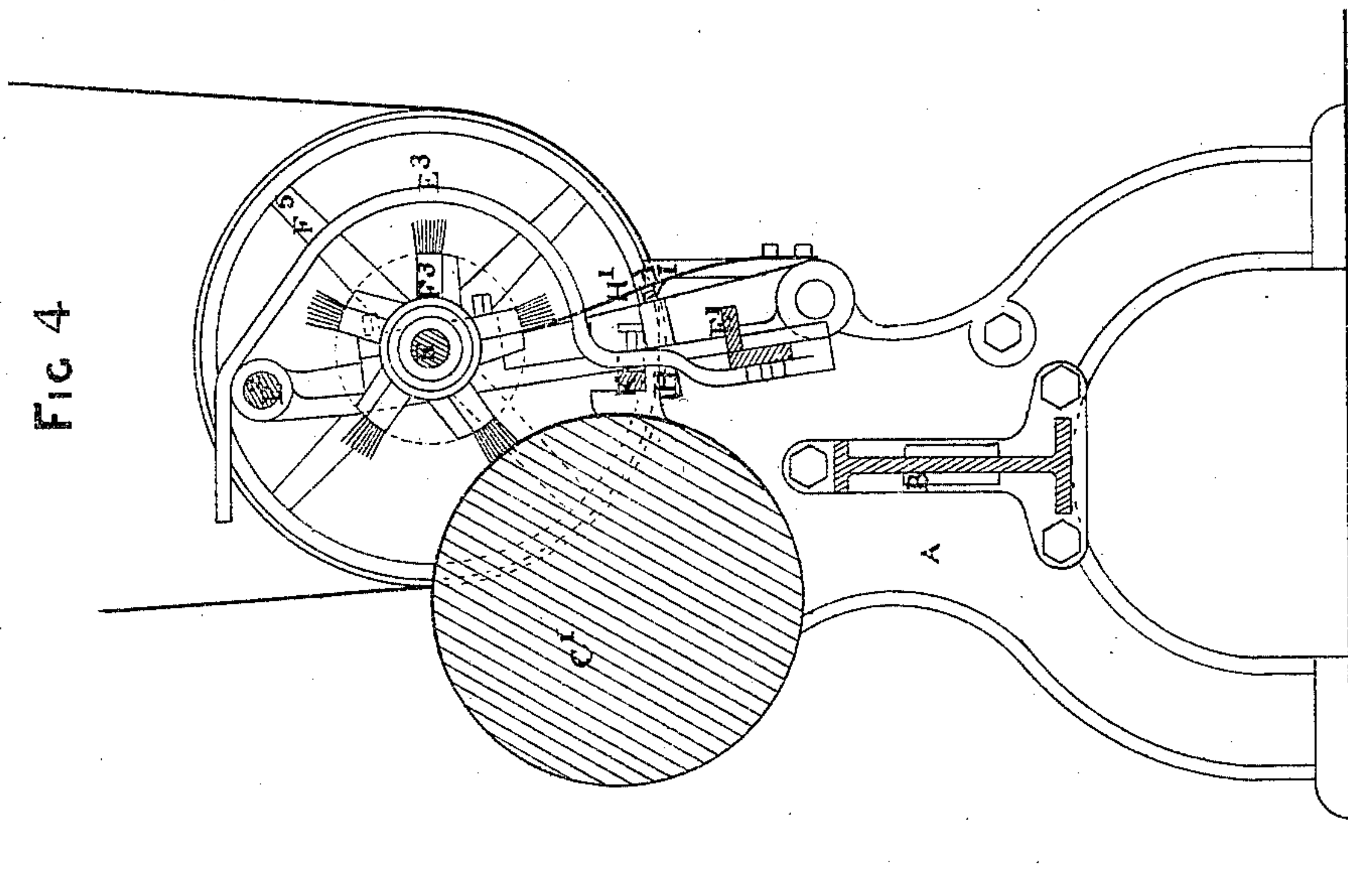
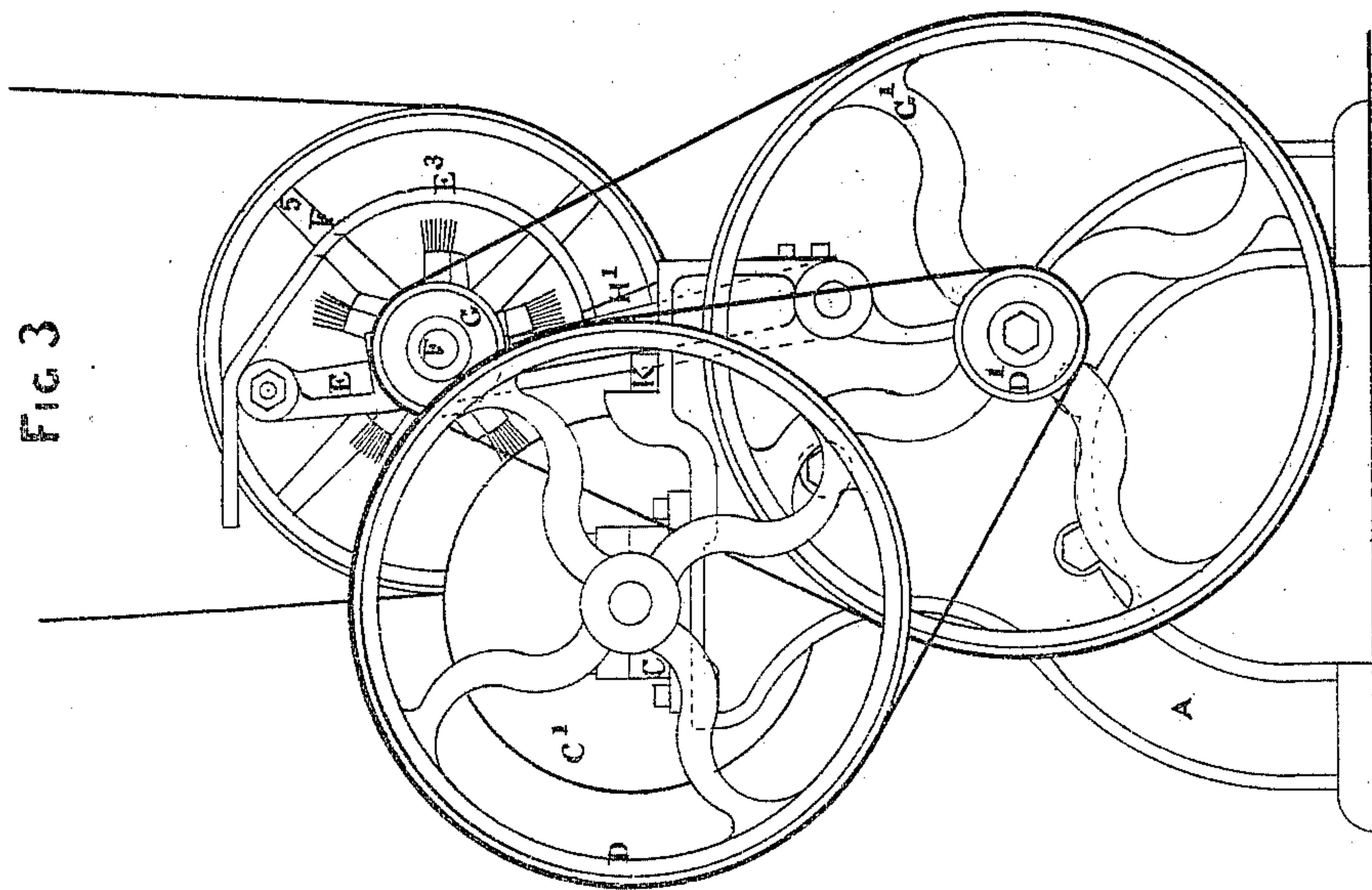


FIG 3



Witnesses:
H. W. Gough C.E.
William Hughes

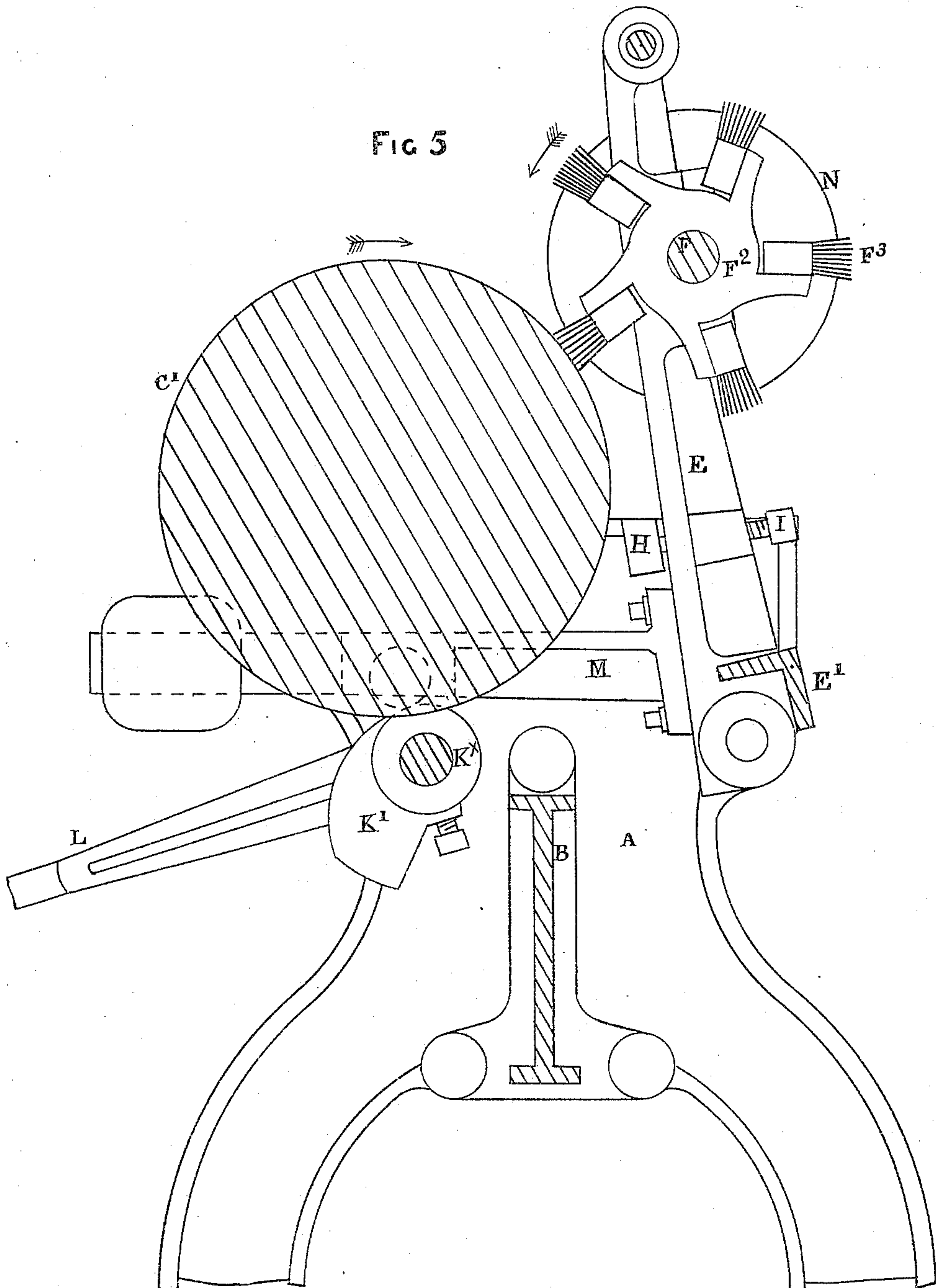
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UNITED STATES PATENT OFFICE.

CHARLES TURNER, OF LENTON, ENGLAND.

IMPROVEMENT IN MACHINERY FOR REMOVING DIRT FROM SKINS.

Specification forming part of Letters Patent No. **143,733**, dated October 14, 1873; application filed January 16, 1873.

To all whom it may concern:

Be it known that I, CHARLES TURNER, of Lenton, in the county of Nottingham, England, have invented certain improvements in machinery for scudding, puring, scouring, and removing the grease and dirt from all kinds of split or unsplit skins, roans, goat and calf skins or hides, either untanned or tanned, and for striking out, softening, and polishing dyed or undyed goods, of which the following is a specification:

Figures 1 to 4 represent one modification of my improved machinery drawn one-sixth the full size. A second modification is shown at Fig. 5, which is a sectional view of the machine drawn one-fourth the full size. For the first modification, Figs. 1 and 2, when placed together, represent a front view of the machine, Fig. 3 a view at the right end of the machine, and Fig. 4 a sectional view on the line L L of Fig. 2.

A A are two end standards, which are connected together by a tie-bar, B. Each standard has a bearing, C, bolted to it to receive the axle of a cylinder, C'. Portion of this cylinder is shown broken away in Figs. 1 and 2 the better to enable the arrangement of certain brushes to be seen. There are slotted holes in the bearings C, through which holding-down bolts pass, so as to allow of the horizontal adjustment of the cylinder to compensate for the wearing away of the brushes. The axle of the cylinder projects beyond the standard at the right end of the machine, and has secured on it a pulley, D. Below and at the back of the cylinder an axle projects from each standard. These axles, which face each other, and are parallel with the cylinder, carry a frame constructed as follows: There are two arms, E E, which are held parallel to each other by an angle-bar, E¹, secured near their lower ends, and a rod, E², at their upper ends. The arms E E form bearings for a second axle, F, which is provided with three or more bosses, F¹, at the right of the center of the frame, and also three or more pairs of bosses, F², at the left of the center. From each boss a number of slotted arms project. The arms on the bosses at the right of the center may be placed at any angle from twenty-five to forty-five degrees with the sides of the bosses; and the

arms on the bosses at the left of the center are placed at a corresponding angle, but reversed, so that when the whole of the brushes are secured in position one-half of them will lie with their right ends pointing upward, like F³, toward the right of the machine, and the other half will lie with their left ends pointing upward, like F⁴, toward the left of the machine, the brushes successively pressing upon the cylinder as they revolve. The brushes are secured to the slotted arms of the bosses by means of screw-bolts, one of which is passed through each slot, and also through a hole in the block of the brush, the bolts being tightened by means of nuts, such arrangement allowing each brush to be adjusted to or from the surface of the cylinder. The brush-bosses may be secured on the axle F by means of a key-wedge or set-screw to each. When so secured and the brushes adjusted thereon the ends of one set of brushes overlap the ends of the next adjoining set of brushes. The brush-frame is likewise capable of adjustment to or from the cylinder by the following means: On the inner side of each standard a block, H, is cast, upon which blocks the ends of set-screws I rest, one such screw being passed through each of the two arms E E of the frame, which is pressed forcibly toward the cylinder by means of two springs, H', seen at Figs. 3 and 4. The axle of the brushes is provided at the left end with a fast pulley, F⁵, and a loose pulley, F⁶. A belt from any prime mover, being passed round the fast pulley, will communicate motion to the machine; or, instead of the pulleys, the axle may be furnished with a fly-wheel and handle, so as to operate the machine by manual labor. The right outer end of the brush-axle carries a pulley, G, round which a belt is passed, the belt being also passed round a larger pulley, G', which revolves on an axle on the outside of, and is supported by, the right-end standard. The pulley G' carries a pulley, D', round which a belt is passed, which also passes round the pulley D on the axle of the cylinder.

The pulleys G' and D' may be placed on an axle in the position seen at Fig. 3, thereby allowing longer driving-belts to be used; or they may be placed in the position seen at Fig. 2, so as to revolve on the axle carrying the

right end of the brush-frame, such axle being made to pass through the right-end standard and project outward for that purpose; or, instead of employing the pulleys G G' and D D' and belts, toothed gearing-wheels may be substituted to drive the machine. In either case the pulleys or wheels must be in the same relative proportion as the pulleys shown at Fig. 3.

The brushes and frame are moved back clear of the cylinder by moving a lever, E³, to the left. This lever rocks upon an axle at its lower end, which axle is carried by the angle-bar E¹. The lever is slotted to receive a pin which is secured in a bar, K, which slides upon, and is supported by, the standards A. The bar K is wedged-shaped at the back, the wedged portions forcing back the arms E E of the brush-frame as the lever E³ is moved to the left, the same movement throwing the driving-strap onto the loose pulley by means of a fork, which is carried by the bar K, shown by dotted lines at Fig. 1, one movement of the lever E³ to the left, throwing back the brushes and stopping the machine. The reverse movement of the lever starts the machine and brings the brushes onto the surface of the cylinder. When scudding or purging skins or hides, (hereafter called skins only,) by means of a machine constructed as above described, the workman throws back the brush-frame and brushes and spreads one edge of the skin upon the cylinder, allowing the remainder of the skin to hang down between the brushes and the cylinder; the handle E³ is then moved to the right, the brushes are pressed forward onto the skin revolving toward the operator, and, as the cylinder gradually draws the skin up toward him, the brushes effectually brush out the grease. The skin being well spread out on the cylinder, by the reversed inclination of the brushes on their axle, the grease and other refuse taken off the skin or hide is thrown, by the centrifugal force of the brushes, onto the ground or into a receptacle placed to receive it.

In my second modification, I employ a machine constructed as shown in section at Fig. 5; in which machine the standards A, cylinder C', and frame-carrying brushes F³; set-screws I, blocks H, and the bar B, are identical with these parts in the first-described modification; but, in addition thereto, I attach a weighted lever, M, to each of the arms E of the brush-frame. These levers lie between the ends of the cylinder and the standards. Each arm carries a friction-truck, each of which trucks run on a cam, K', near each end of the machine. These cams are secured on, and

carried by, an axle, K^x, lying in bearings formed in the standards. The cam-axle is provided at either end with a handle, L, by which the workman may operate it, so as to throw back the brush-frame clear of the cylinder, when required. The weights carried by the arms M can be moved upon the arms, so as to adjust the pressure of the brushes upon the cylinder. The brush-axle is provided with a pulley, N, at each end, round which pulleys belts are passed from drums on a main driving-shaft, so arranged that the brushes will revolve toward the operator. The cylinder C' is caused to revolve from the operator by means of a belt, which is passed round a pulley secured on either end of its axle, and also round a drum on a main driving-shaft, the brush-axle revolving sixty or more revolutions to one revolution of the cylinder.

In addition to the brush-frame, shown at Fig. 5, carrying a brush-axle, bosses, brushes, and pulleys, as above described, I may also employ a second and similar frame, axle, bosses, brushes, and pulleys in front of the first-named; such second double series of brushes, revolving the reverse way to the first series, are operated by belts from drums on a main driving-shaft; such second frame and brushes are carried by the first frame, and are capable of being lifted up clear of the cylinder to enable the operator to place the skins, hides, or goods upon the cylinder.

A patent for the United Kingdom of Great Britain and Ireland has been obtained by me for the above-described improved apparatus for scudding or purging skins or hides, sealed the 6th August, 1872, and dated the 31st May, 1872, No. 1,654; and

I claim as my invention—

1. The combination of the swinging brush-frames E E E¹ E², having brushes F³ F⁴, as described, with the set-screws I, block H, and springs H', as described.

2. The combination of the hand-lever E³ with the wedge-bar K, substantially as described, for the purpose set forth.

3. The brush frame or frames, each carrying a brush-axle, F, bosses F¹ F², and brushes F³ F⁴, tie-bar E¹, blocks H, set-screws I, pulleys N, the weighted truck-carrying arms M, cam-axle K, and cams K', hand-lever L, and cylinder C', all operating substantially as described, for the purposes set forth.

CHARLES TURNER.

Witnesses:

H. W. GOUGH,
WILLIAM HUGHES.