C. Gregor,

Cork Machine.

No. 34,716 Patented Mar. 18, 1862.

Fig. 2

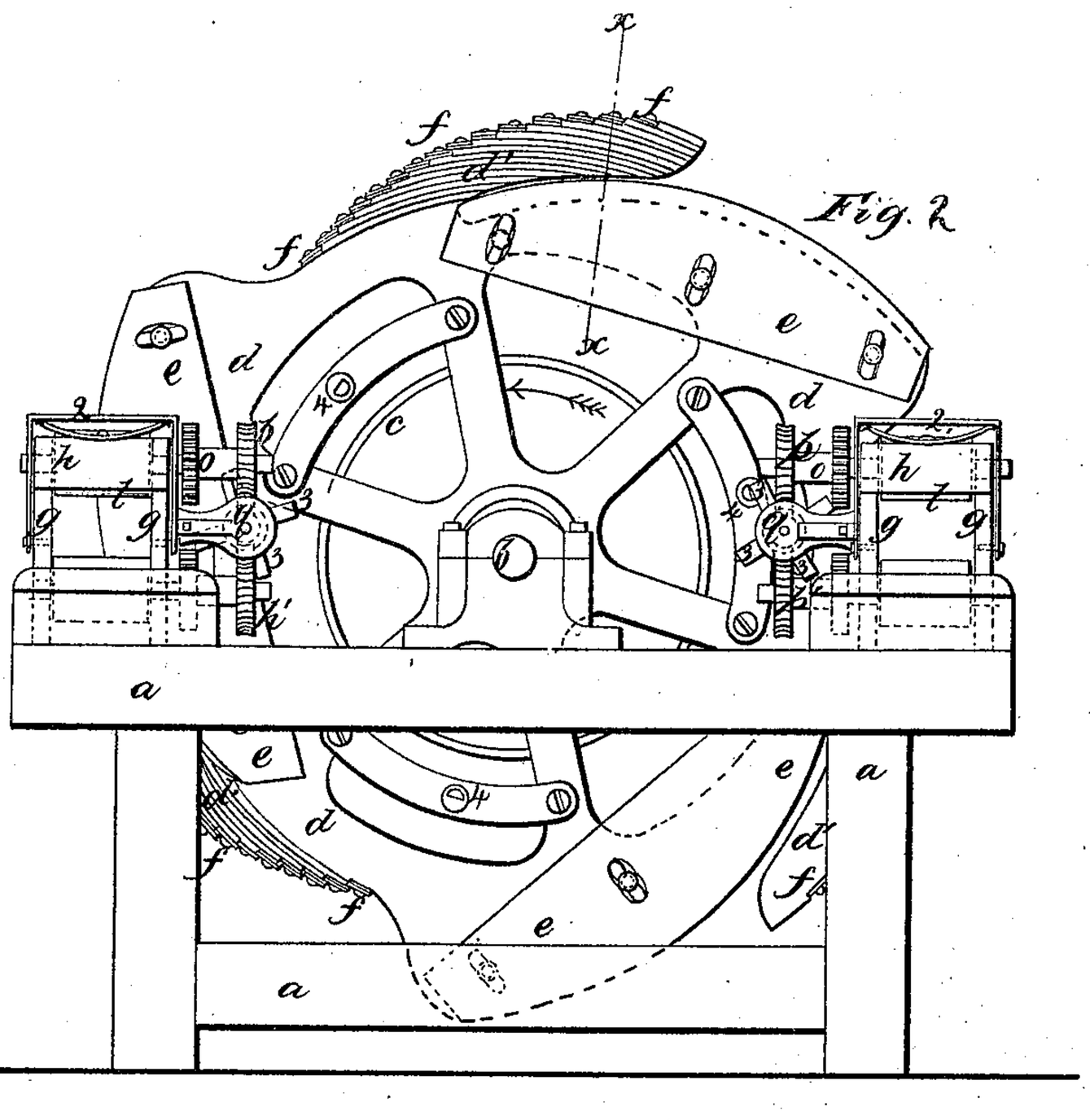


Fig. 1.

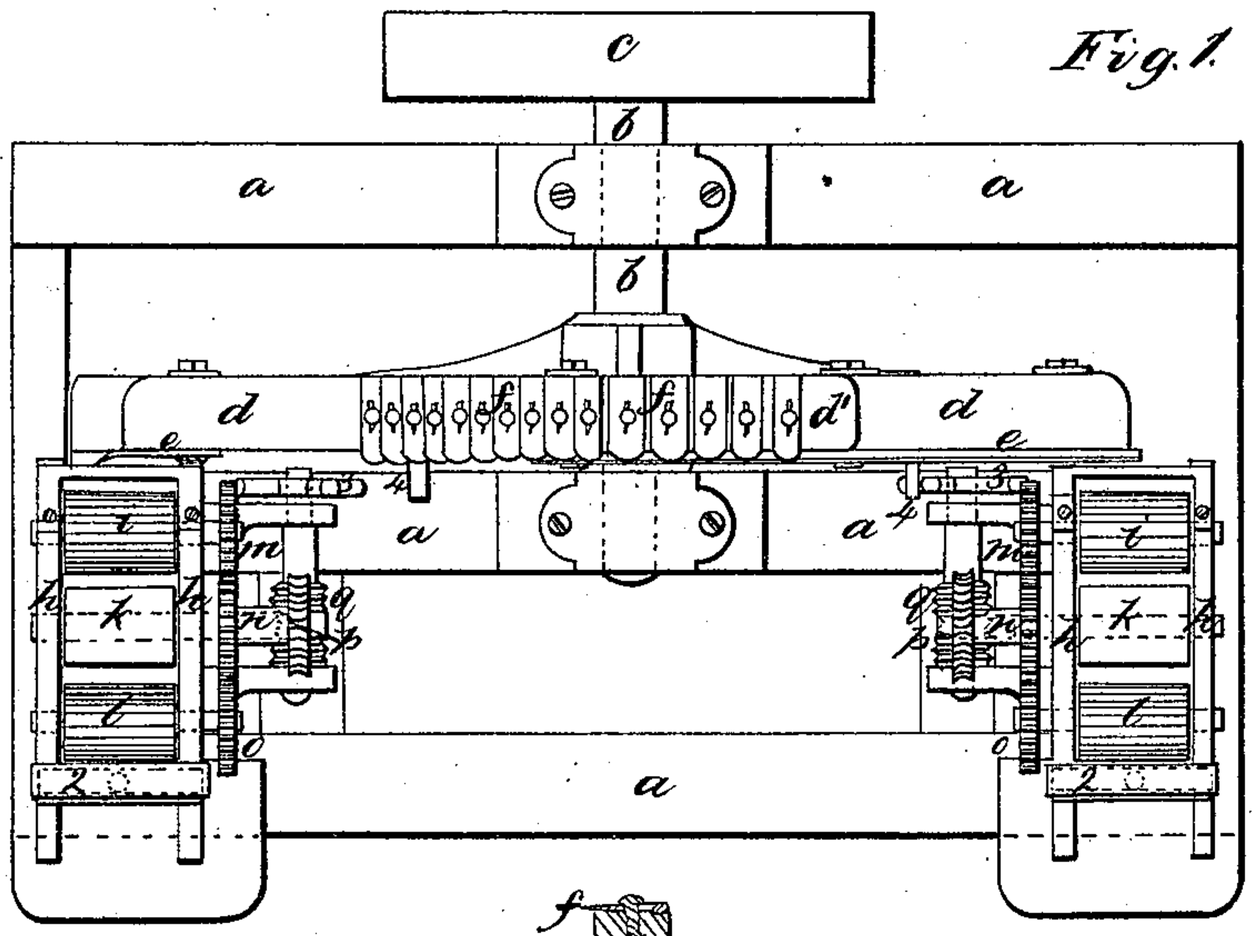
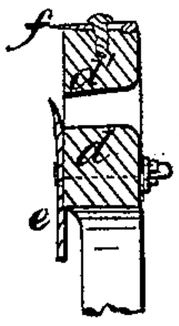


Fig. 3.



Witnesses
Lemuel W. Serrell
Thos. Geo. Harold

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UNITED STATES PATENT OFFICE.

CHARLES GREGOR, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND CHARLES SCHWEITZER, OF SAME PLACE.

IMPROVEMENT IN MACHINERY FOR CUTTING CORK INTO STRIPS.

Specification forming part of Letters Patent No. **34,716**, dated March 18, 1862.

To all whom it may concern:

Be it known that I, CHARLES GREGOR, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Machinery for Cutting Cork into Fine Strips; and I do hereby declare that the following is a full, clear, and exact description of the said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a plan of my machine. Fig. 2 is a side elevation, and Fig. 3 is a section, of the cutters at the line *x x*.

Similar marks of reference denote the same parts.

Cork has heretofore been cut into small strips or fibers and employed for stuffing cushions, mattresses, &c. My invention does not relate to such finely-cut strips of cork in themselves as an elastic material; but my said invention relates to the mechanism for producing such fine strips of cork; and it consists in the employment of a revolving wheel carrying two different kinds of knives or cutters, the one kind of knife cutting at right angles to the plane of revolution of the wheel, and hence forming incisions into and across the piece of cork presented and dividing the surface up into a series of sections. The other kind of knife cuts in the plane of the revolution of the wheel, with a progressive shearing cut that extends across the surface of the cork, and the shaving that is thereby removed having previously been separated by the other set of knives falls away in the form of small polygonal strips, adapted as an elastic material to the aforesaid uses.

In the drawings, *a* is a frame of suitable construction carrying the shaft *b*, driven by competent power applied to the drum *c*.

d is a face-wheel carrying one or more knives, *e*. I have shown three of these knives. Each is formed with an inclined or dishing edge, as seen in the section, Fig. 3, which edge, being sharpened to cut the cork, does not become heated in use, because there is so little surface in contact with the cork, and hence the cut is more perfect. These knives *e* are revolved with the wheel *d* in the direction of the arrow, Fig. 2, and travel with the end of the knife that is nearest the center of the wheel in advance, and hence produce a shearing cut across the cork that is being operated on, as hereinafter set forth.

d' are arms projecting from the face-wheel *d*, leaving a mouth to the respective knives *e*. On these arms *d'* are series of cutters *f f*, set at regular increasing distances from the center of the wheel, as indicated by the red lines, Fig. 2. The distance between the first cutter, *f*, nearest the center and the last is to be as much as the width of cork operated on. These cutters *f f* are sharpened, and are so adjusted that each point travels in nearly the same plane at right angles to the shaft *b*, and each set of cutters *f* traveling in advance of the knife *e*, the surface of the cork presented is scored with curved parallel cuts by said knives or cutters *f*, and then a shaving taken off by the knife *e* falls apart in the form of small strips. The cutters *f* and knives *e* are to be attached by slots and screws, so as to be adjusted, or to allow for removal or sharpening. The cork is fed in strips into the machine through one or more feed-boxes. I have shown two of these feed-boxes. *g g* are the sides of said boxes. *h* is a frame above attached at 1 1, and held down by spring-pressure, as at 2 2. In this frame *h* are rollers *i*, *k*, and *l*. The center roller, *k*, is loose on its shaft, while the rollers *i* and *l* are fixed on their shafts and become feed-rollers, being roughened or grooved for that purpose.

m, *n*, and *o* are gear-wheels on the shafts of the respective rollers, and the wheel *n* is connected by a sleeve with the wheel *p*, that is turned gradually by a screw-pinion, *q*, moved by arms 3 3 at the end of its axis, that are taken by studs 4 4 on the wheel *d* as said wheel revolves. The upper sides of said feed-boxes are both fitted with said frame *h*, rollers, and gears, as aforesaid; and the lower sides of said feed-boxes are provided each with a set of rollers, gears, and wheel, *p'*, moved by the respective screw-pinions *q*, as aforesaid. The rollers in the bottoms of the feed boxes are shown by dotted lines in Fig. 2.

The cork is to be cut into strips of a width corresponding to that of the feed-boxes and fed thereinto in two or more layers, according to the thickness of the cork. The fee ing-rollers, pressing upon and carrying through the

said cork by a slow but uniform progressive movement, present the ends of the strips to the action of the revolving wheel *d*, carrying the cutters *f f* and *e e*, that separate the strips in manner aforesaid. It will be seen that any length of strips can be fed in, and also that the irregular pieces cut off the strips can be availed of by packing them in between the layers, and by "breaking joints," or lapping one piece on another, the various layers go through the feed-box of a nearly uniform width and thickness, although the pieces may themselves be angular at their ends, or in some cases not the entire width of the box.

The cutting by my machine is very rapid, and all the motions are continuous and revolving; hence the machine is more durable than would be the case if the parts received a reciprocating motion. The cutting is progressive, and hence but little power is required to hold the cork while being operated on, and the machine itself runs more evenly and requires less power than would be the case if the knives acted all or a large number at one time.

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

1. The revolving wheel *d*, provided with the cutters *e* and *f*, in the manner specified, and operating as set forth.

2. The arrangement of the feed-box, provided with the rollers *i k l*, gears *m*, *n*, *o*, and *p*, and pinion *q*, actuated from the wheel *d*, whereby the cork is fed progressively to the action of the cutters, as set forth.

3. The knives *e e*, with the dish-formed cutting-edges, in combination with the wheel *d*, substantially as set forth, and for the purposes specified.

In witness whereof I have hereunto set my signature this 31st day of December, 1861.

CHARLES GREGOR.

Witnesses:

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THOS. GEO. HAROLD.