

(No Model.)

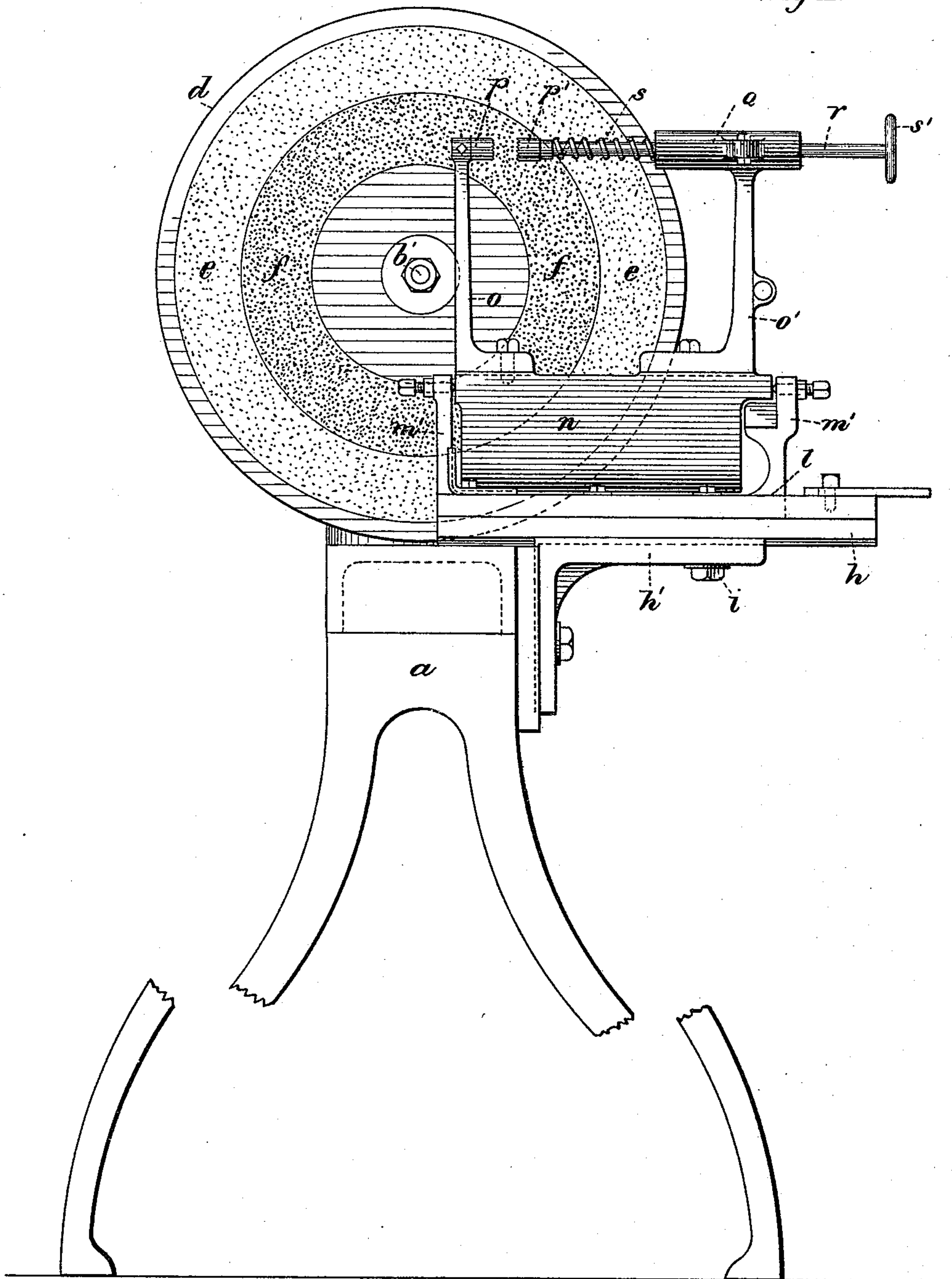
2 Sheets—Sheet 1.

C. D. ARMSTRONG.  
CORK GRINDING MACHINE.

No. 447,860.

Patented Mar. 10, 1891.

*Fig. 1.*



WITNESSES.

*W. B. Corwin*  
*A. J. McConville*

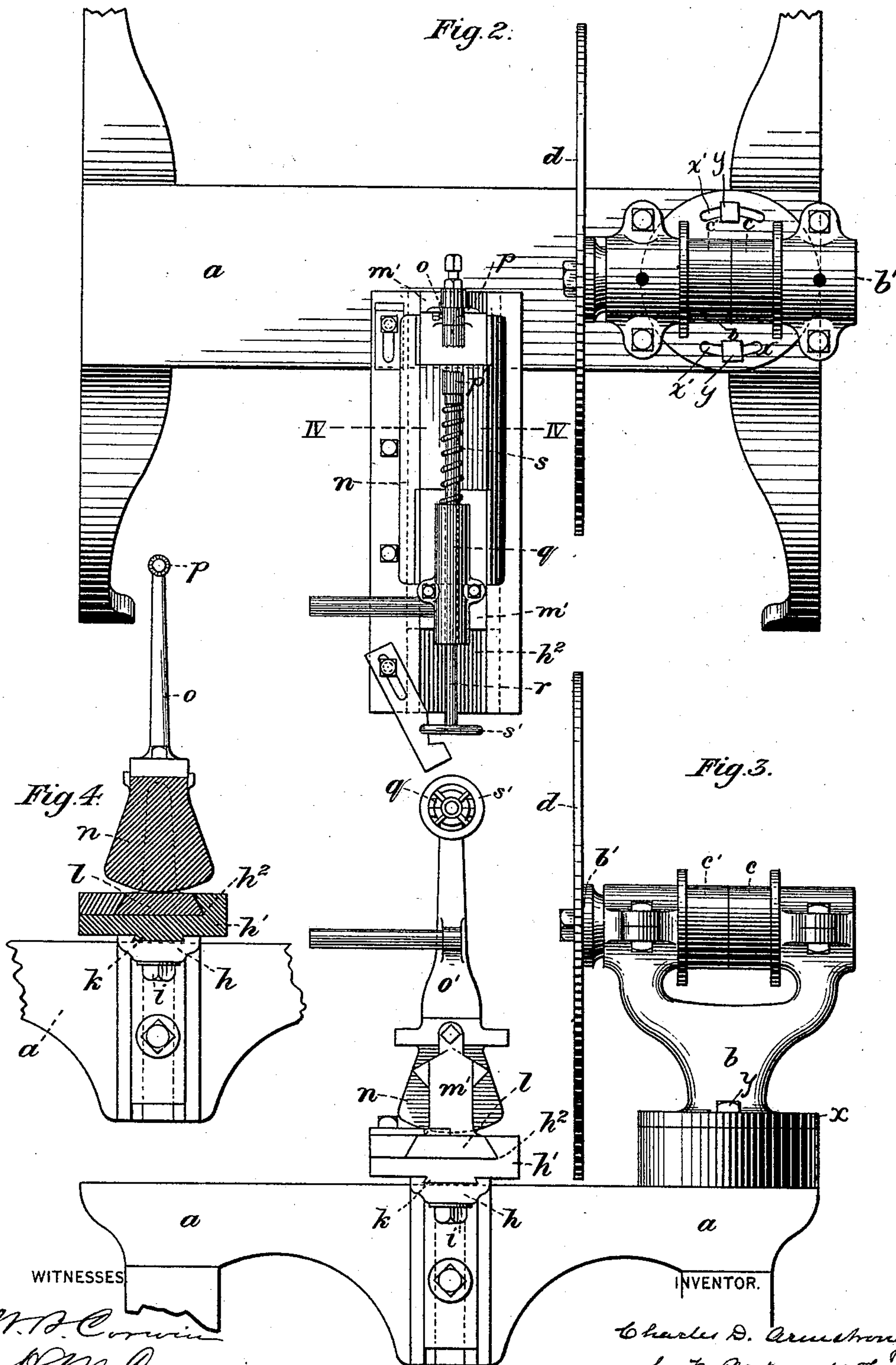
INVENTOR.

*Charles D. Armstrong*  
*by W. Batewell Jones*  
*his attorneys*

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# UNITED STATES PATENT OFFICE.

CHARLES D. ARMSTRONG, OF PITTSBURG, PENNSYLVANIA.

## CORK-GRINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 447,860, dated March 10, 1891.

Application filed October 25, 1890. Serial No. 369,332. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES D. ARMSTRONG, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Cork-Grinding Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an end elevation of my improved cork-grinding machine. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation; and Fig. 4 is a vertical sectional view, partially broken away, on the line IV IV of Fig. 2.

Like symbols of reference indicate like parts in each.

In grinding corks the usual method is to first cut the pieces of cork to what are known as squares or quarters and then grind these pieces by bringing them in contact with one or more rapidly-revolving disks or grinding-surfaces, the piece being brought in contact first with a disk having a coarse grinding-surface and then with another having a finer finishing-surface.

I will now describe my invention so that others skilled in the art may manufacture and use the same.

In the drawings, *a* represents the frame or bed-table of the machine, at one end of which table an adjustably-pivoted standard or housing *b* is mounted, in which a shaft *b'*, having a belt-wheel *c*, is journaled. This belt-wheel is formed in two parts, one of which *c'* is keyed to the shaft *b'* and the other *c* idly mounted on the shaft, so that motion is transferred from the idler to the shaft by shifting the power-belt. Keyed to the inner end of the shaft *b'* is a flat disk *d*, on the inner face of which two concentric grinding-surfaces *e* *f* are formed or secured. These surfaces may be of emery-paper or other suitable material, the outer one *e* being fine and the inner one *f* being coarse. Extending from the bed-table *a* in a line substantially parallel with the plane of the disk *d* is a bracket *h'*, on which a feed-table *h* is adjustably secured longitudinally by the bolt *i*, the table fitting in the bracket with a dovetail *k*. Fitting in a dovetailed slide *h<sup>2</sup>* in the feed-table *h* is a longitudinally-sliding bracket or table *l*, having standards *m' m'*, to which an oscillating or swinging cork-holder

is journaled. This cork-holder is composed of the counter-weight *n*, situate below the pivotal point, the two standards *o o'*, the standard *o* having a stationary chuck *p* journaled to the upper end of the same, the face of the chuck being, preferably, serrated and the standard *o'* having a tubular sleeve *q*, in which a longitudinally movable and revoluble rod *r* is mounted, having a chuck *p'* on its inner end similar to the chuck *p*, and a spiral spring *s* encircling the rod and situate between the chuck *p'* and the sleeve *q*. The purpose of the counter-weight is to keep the swinging cork-holder in an upright position. At the outer end of the rod *r* is a wheel or handle *s'*, by means of which the cork-holding rod *r* may be rotated, and the standard *o'* having a handle *s<sup>2</sup>*, by which the table or bracket *l* is moved back and forth in the slide *h*.

The operation is as follows: One of the squares or quarters of cork is placed between the chucks *p p'* and is held securely between the chucks by the force of the spring *s*. The cork-holder is swung or oscillated until the cork comes in contact with the grinding-surface *f* of the disk *d*, which disk has first been set in motion by the belt-wheel *c'*. The holding-rod *r* is then turned by the handle *s'* so as to bring the edges or corners of the cork in contact with the grinding-surface until the cork is ground to the desired shape. The table or bracket *l* is then drawn back in the slide *h* until the cork is brought within the range of the finishing grinding-surface *e*, against which it is brought in a like manner by tilting the cork-holder.

Where it is desired to produce a taper on the cork in grinding, the pivoted standard *b* in the table *a* is adjusted to give the disk *d* the proper angle with the sliding bracket *l*. To enable this to be done, the base *x* of the standard *b* is slotted at *x'*, (see Fig. 2,) through which slots threaded bolts *y* pass and engage with the bed *z*. The table *h* may also be adjusted by the bolt *i* to conform with the grinding-surface.

The advantages of my improvement are its efficiency and simplicity.

I am aware that a swinging or oscillating cork-holder, in combination with two grinding-disks having different grinding-surfaces, is not new.



I am also aware that it is old to employ a single grinding-disk having two concentric annular grinding-surfaces, together with a carriage, which moves in a direction parallel  
5 with the face of the disk, and a laterally-sliding cork-holder mounted on the carriage. I believe that I am the first to employ, in combination with a disk having two grinding-surfaces, a longitudinally-movable table with  
10 a cork-holding frame mounted pivotally on the table and capable of being turned laterally on its pivot into contact with the disk. The advantage which I get from this combination is that it affords to the operator great  
15 delicacy of touch in moving the cork, enabling it to be pressed against the disk firmly or gently, as may be desired, and to be withdrawn instantly. Owing to the rapid action of the grinding-disk, these qualities are very  
20 desirable, in that they enable great accuracy to be secured as respects the size and uniformity of the product.

I claim—

In a cork-grinding machine, the combination of a grinding-disk having an abrasive 25 face, mechanism for rotating said disk, a table mounted on slides, on which it is longitudinally movable in front of and parallel with the face of the grinding-disk, a swinging cork-holding frame pivotally mounted on said table 30 and movable laterally on its pivot toward the face of said grinding-disk, a rotary cork-holder on said frame, and a handle by which the holder may be turned and the cork moved to or from the disk, substantially as and for 35 the purposes described.

In testimony whereof I have hereunto set my hand, this 21st day of October, A. D. 1890.

CHARLES D. ARMSTRONG.

Witnesses:

JAMES K. BAKEWELL,  
H. L. GILL.