S. A. Chapman,

Burnishing Metal,

No. 62,251, Patented Feb. 19, 1867.

Fig. 1.

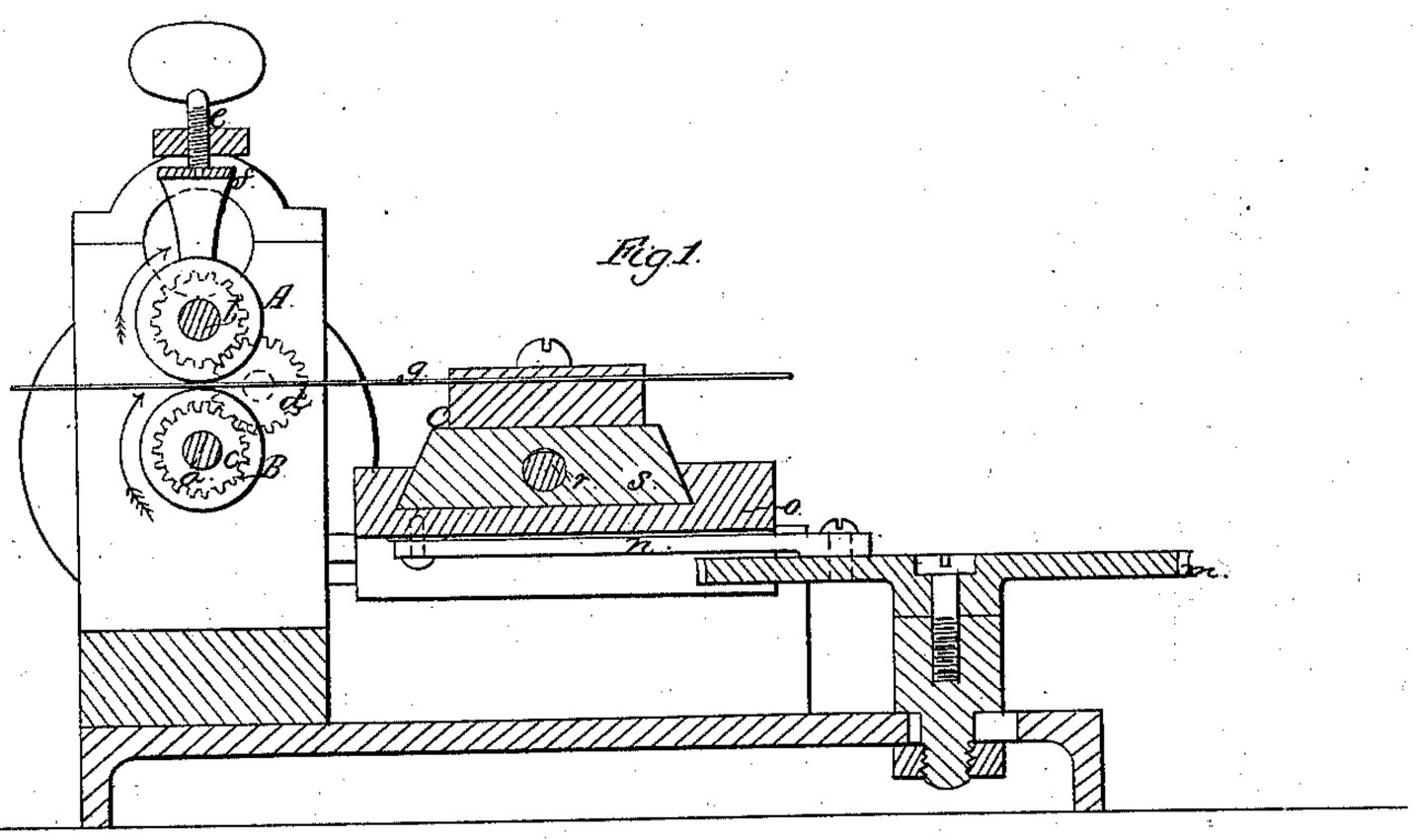
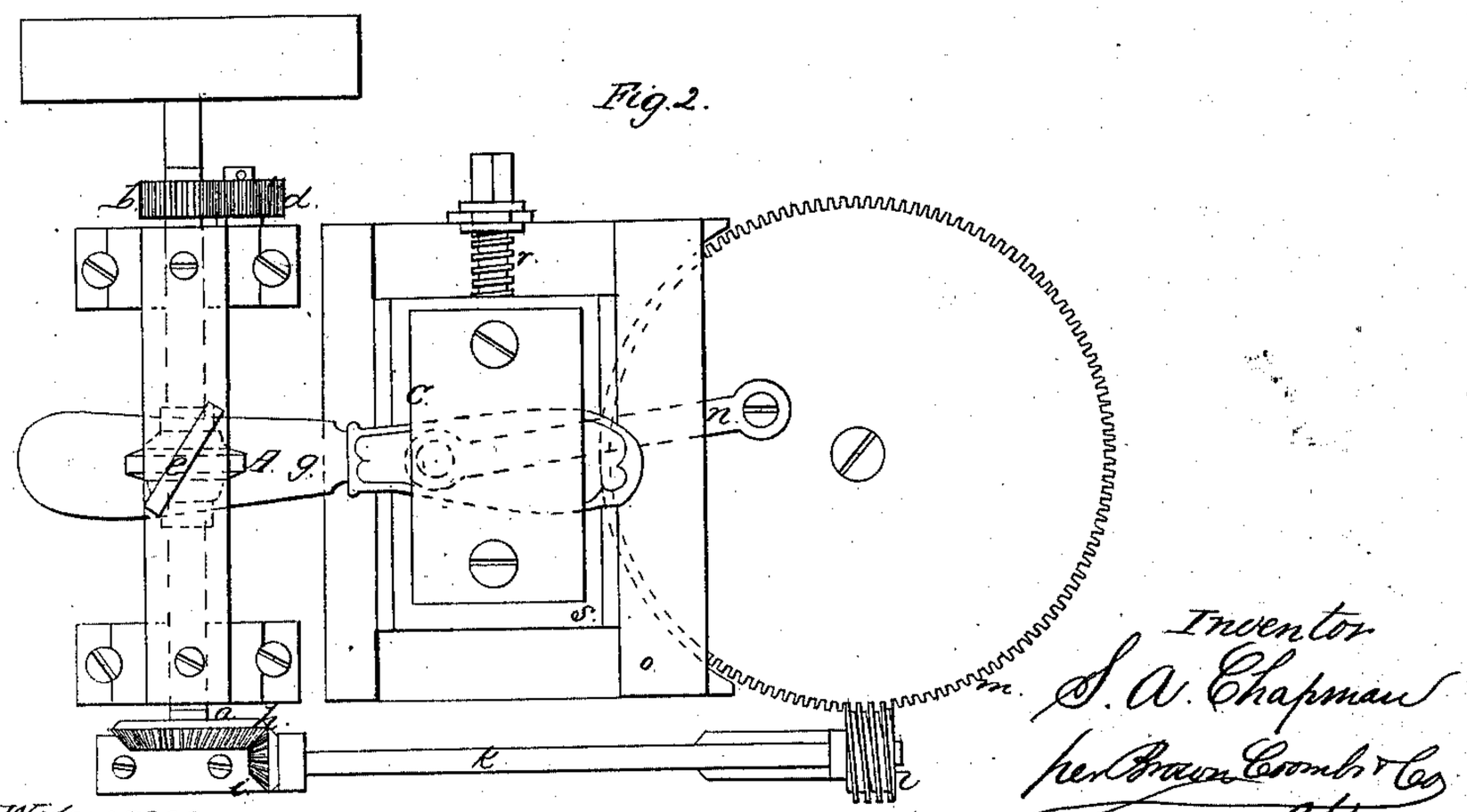


Fig. 2.



Witnesses.
J. H. Coombs
G. W. Reed

Inventor
S. A. Chapman
per Brown Coombs & Co
Attys.

United States Patent Office.

SAMUEL A. CHAPMAN, OF WATERBURY, CONNECTICUT.

Letters Patent No. 62,251, *dated February* 19, 1867.

IMPROVEMENT IN MACHINES FOR BURNISHING PLATED WARE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, SAMUEL A. CHAPMAN, of Waterbury, in the county of New Haven, and State of Connecticut, have invented a certain new and useful Improvement on Machines for Finishing or Breaking Down Plated Ware, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a vertical section of a machine constructed according to my improvement, and

Figure 2, a plan of the same.

Like letters indicate like parts in both figures.

In electro-plate work, as it comes from the battery, the plated article has usually a frosted or rough appearance, which, especially in table and other ware, it is desirable or necessary to remove by a burnishing, or what is known in the trade as a breaking-down process, and which consists in smoothing or laying down the galvanic deposit by pressure and friction as produced by the act of rubbing; and the nature of my invention consists in a combination of revolving rolls, operating under pressure in reverse directions on the plated article, with a longitudinal feed motion having a less velocity than that of the rolls, and which may be worked in connection with any suitable cross-feed for varying the plane or line of action, whereby the requisite breaking down is effectually accomplished by a rolling process, without any tendency of the rolls to draw the work away from its holder.

Referring to the accompanying drawing, A B are rolls mounted in any suitable framework, and caused to revolve in directions which produce a reverse action or draw on opposite sides of the article passing in between them, and which in the drawing is that of a knife, the blade of which the rolls are shown as breaking down the plated surface of. This action of the rolls and the various motions of the machine may be produced by different mechanical means or combinations, but the following description will suffice to explain how the same may be effected. Motion being communicated to the lower roll-shaft *a* by means of pulley or otherwise, the necessary travel is given to the upper roll by means of spur-gear, *b c*, on the roll-shafts meshing into an intermediate wheel *d*. The upper roll has its pressure on the work adjustable by means of a screw, *e*, brought to bear down on a brace, *f*, which may be either of a rigid or elastic character, and which is connected with it so as to act at its opposite ends on the bearings of said roll-shaft. The knife *g*, or other article under operation, is suitably secured in a holder, C, which has a longitudinal motion given it on a bed or ways so as to project or traverse the article through the rolls in a plane transverse to but parallel with their axis. It is important that this feed should be slower than the rubbing travel of the peripheries of the rolls on the work. Such motion may be produced by a bevel-wheel, *h*, on the lower roll-shaft, driving a bevel-pinion, *i*, on a shaft, *k*, which carries a screw, *l*, that gears with a worm-wheel, *m*, made to give a reciprocating action by a pitman, *n*, to the base *o* of the holder C. Any other mechanism, however, may be used to produce such feed, and the same may be adjustable as regards stroke or speed to suit different lengths and requirements of work. A cross-feed may also be provided the machine to vary the line or run of the work through the rolls, and which may be of an intermittent character, and be produced by occasionally operating a screw, *r*, fitting a female thread in a cross-slide, *s*, forming part of or connected with the holder C, and arranged to play crosswise in the base *o*. From this description it will be apparent that the knife or other article under operation, reciprocated to and fro, will be acted upon by the rolls to "break down" the plated surfaces thereof, and give a smooth finish to the same, without any tendency on part of the rolls to draw the work from its holder.

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

The rolls A and B, revolving to operate in reverse directions on opposite sides of the work, as described, in combination with a longitudinal reciprocating feed motion to the work at a less velocity than the periphery of the rolls, substantially as and for the purpose herein set forth.

SAMUEL A. CHAPMAN.

Witnesses:

ANSON F. ABBOTT,

JAMES M. ABBOTT.