(No Model.) 2 Sheets—Sheet 1.

S. FEUST.

BUFFING AND POLISHING MACHINE.

No. 270,294. Patented Jan. 9, 1883.

Fig: 1.

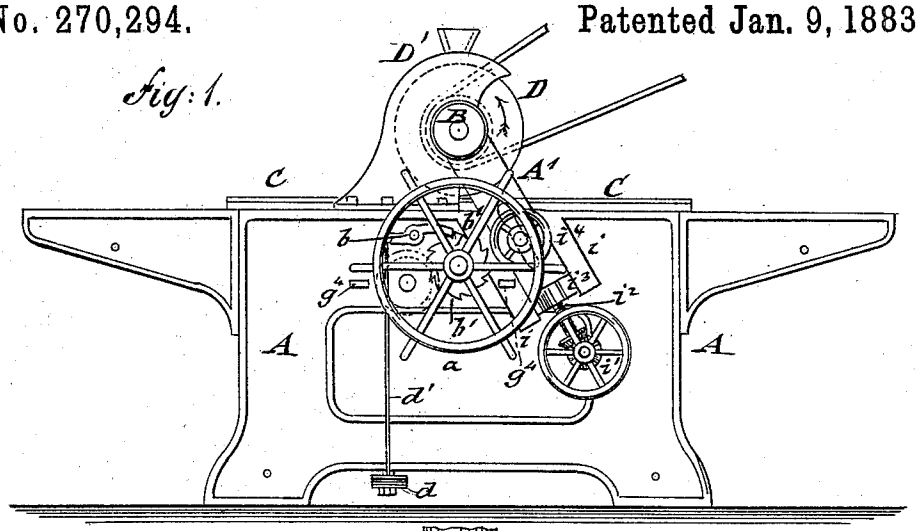


Fig: 2.

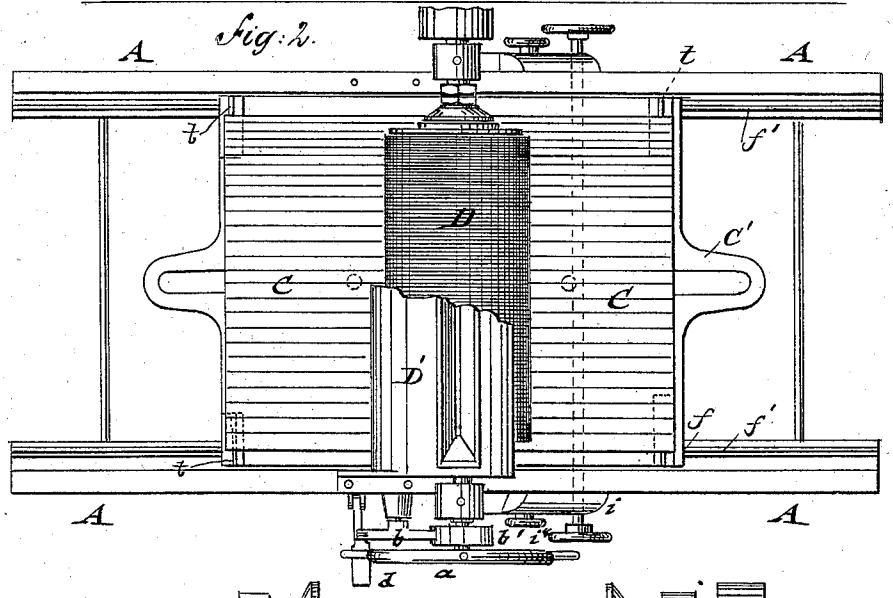
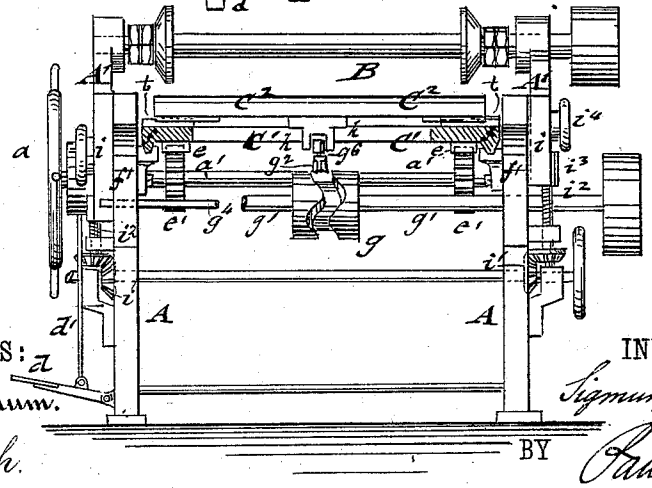


Fig: 3.



WITNESSES:
Sol. M. Rosenbaum.
Otto F. Risch.

INVENTOR:
Sigmund Feust
BY Paul Goepel.
ATTORNEY.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig: 4

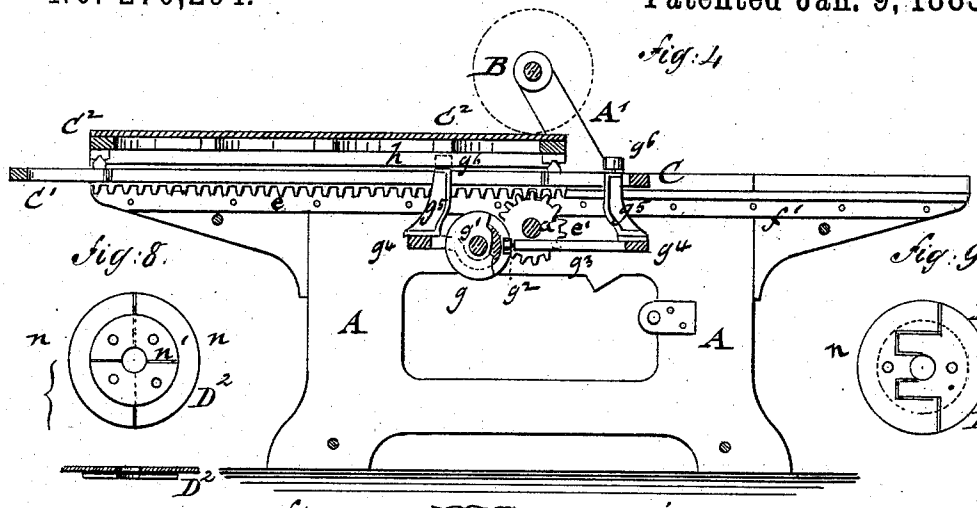


Fig: 8.

Fig: 9

Fig: 5

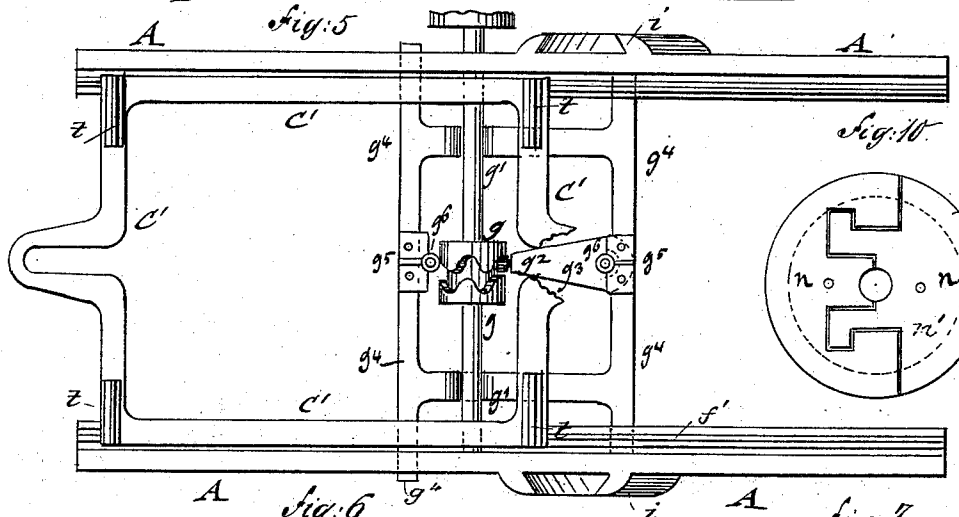
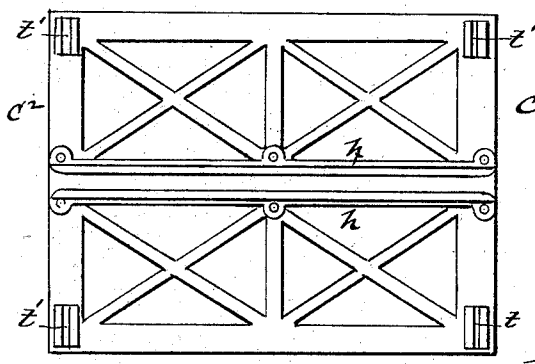


Fig: 10.

Fig: 6.

Fig: 7.



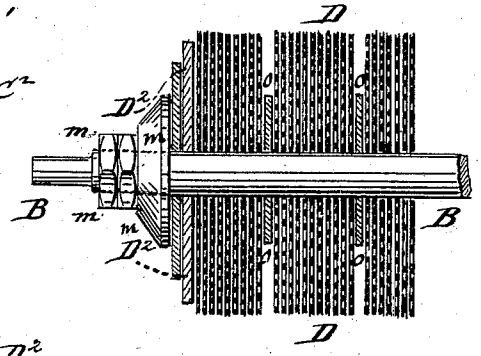
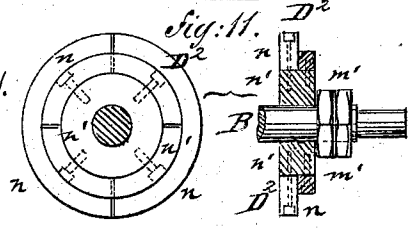


Fig: 11.



WITNESSES:

Sol. N. Rosenbaum.

Otto F. Risch

INVENTOR:

Sigmund Feust

BY Paul Goepel.

ATTORNEY.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

SIGMUND FEUST, OF NEW YORK, N. Y.

BUFFING AND POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 270,294, dated January 9, 1883.

Application filed March 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND FEUST, of the city, county, and State of New York, have invented certain new and useful Improvements in Buffing and Polishing Machines, of which the following is a specification.

The object of this invention is to furnish a buffing and polishing machine for articles of brass or other metal, which is easily and safely worked and constructed in such a manner that the shaft carrying the buffing material can be adjusted in downward direction as the material wears off, and in which the heads which retain the buffing material can be conveniently removed and reduced in size without taking the buffing material from the shaft.

My invention consists in the combination, with the buffing-wheel and the shaft carrying the same, of separable heads, which can be detached from the shaft and reduced so as to correspond to the size of the buffing material as it wears off without removing the latter from the shaft, the buffing material being divided by intermediate disks into a number of separate sections, all as hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of my improved buffing and polishing machine. Fig. 2 is a plan with a part broken off. Fig. 3 is a vertical transverse section; Fig. 4, a vertical longitudinal section; Fig. 5, a top view of the mechanism for imparting lateral motion to the feed-table; and Figs. 6, 7, 8, 9, 10, and 11 are details.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the supporting-frame of my improved buffing and polishing machine, which supports on side standards, A′, the buffing-shaft B, that is revolved by a belt-and-pulley transmission from a suitable counter-shaft.

Below the buffing material is arranged a feed-table, C, to which longitudinal reciprocating motion and, simultaneously therewith, lateral motion is imparted. The reciprocating motion is imparted either by hand or power. In the former case the feed-table is turned in one direction or back by means of a hand-wheel, *a*, keyed to a transverse shaft, *a′*. For this purpose a pawl, *b*, has first to be released from a ratchet, *b′*, on the shaft *a′* by means of a treadle, *d*, and connecting-rod *d′*. The pawl *b* serves to lock the feed-table into rigid position, so as to prevent any accidental motion of the same when the same is not in use.

The feed-table C consists of a lower section, C′, which is provided at the under side with racks *e*, that mesh with pinions *e′* of the driving-shaft *a′*, the section C′ being guided by means of tapering side rails, *f*, on correspondingly-grooved ways, *f′*, of the supporting-frame A.

Upon transverse ways *t* of the lower section, C′, is guided the upper section, C^2, of the feed-table, which section receives lateral motion from a wave-wheel, *g*, the shaft *g′* of which is rotated by any suitable transmitting mechanism from the driving-shaft *a′*. The wave-wheel *g* engages an anti-friction roller, g^2, of a fixed arm, g^3, applied to a frame, g^4, which latter is guided in lateral openings of frame A. The frame g^4 carries upright arms g^5, having anti-friction rollers g^6 at their upper ends, which latter engage parallel rails *h* at the center and under side of the upper section, C^2. Simultaneously with the forward motion of the feed-table, which is imparted by the pinions and racks of the lower section, the upper section is laterally reciprocated by the mechanism described, or any equivalent thereof, so as to expose thereby the work applied to the feed-table to the action of the buffing wheel or brush D and prevent it from getting streaky.

The work to be polished is secured to the upper section of the feed-table C in any approved manner. When the feed-table C has arrived at its extreme position in one direction the motion of the driving-shaft is reversed, and thereby the feed-table returned in opposite direction, so that the goods are passed a second time below the buffing-wheel, and so on alternately. The buffing-wheel D is inclosed by a guard casing or hood, D′, which is provided with a hopper at the top, through which the buffing compound is slowly supplied to the buffing-wheel or cylinder. The hood D′ prevents the throwing of the dust toward the operator, so as to protect the same. The standards A′, which carry the bearings of the shaft of the buffing-wheel, are adjusted in inclined

guides *i* of the frame A by means of a bevel-gear, *i'*, operated by a hand-wheel, the bevel-gear actuating a screw-rod, i^2, that engages a fixed screw-nut, i^3, at the lower end of the inclined standards A'. By this arrangement the length of the driving-belt of the buffing-shaft need not be changed, even when the buffing-shaft has to be lowered or raised, owing to the wear of the buffing material or the replacing of new material. The inclined standards A' are slotted and provided with clamp-nuts i^4, so as to be rigidly secured after the buffing-shaft has been adjusted to the proper relative position on the feed-table C.

The buffing-wheel D is supported on the buffing-shaft B by means of separable and detachable heads D^2, which are screwed up against the buffing material by a washer, *m*, and set and jam nuts *m'*, as shown clearly in Fig. 7. The separable heads D^2 are made of sections *n*, of quadrantal or semicircular shape, which are screwed to supporting disks or collars *n'*, as shown in Fig. 11; or they are made of interlocking sections *n*, applied to supporting-disks *n'*, as shown in Figs. 9 and 10, so that by slightly loosening the washer *m* and unscrewing the connecting-disks *n'* the sections *n* of the heads D^2 may be separated from each other and removed from the shaft, so as to be reduced in size, without removing the buffing material from the shaft. In this manner the heads of the buffing material can always be kept at a size which corresponds exactly to that of the buffing material, notwithstanding the gradual reduction which takes place in the size of the same by wear. By means of intermediate separating-disks, *o*, made of metal, the buffing wheel or brush D is divided into a number of sections, as shown in Fig. 7, which is of certain advantage in the buffing operation.

The buffing wheel, drum, or head may be composed of felt or other suitable fabric or material, or these wheels may be composed of a combination of materials suitably adapted to the purpose. I make no claim to the material of which the wheels are made, as any of the well-known buffing materials may be adopted.

The head D^2 of Fig. 8 is formed of two semicircular plates, *n n*, secured to similar plates, *n'*, which break joints with the joints of the plates *n*. The head D^2 of Figs. 9 and 10 is formed of two angular interlocking plates, *n n*, screwed to a disk, *n'*. The head shown by Fig. 10 is composed of segment-rings *u*, screwed to a disk, *n*, on the shaft B.

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

1. In a buffing and polishing machine, the combination, with the buffing-shaft carrying the buffing material, of separable and removable heads for retaining the same, and means, substantially as described, for securing the heads to the buffing material, substantially as set forth.

2. In a buffing and polishing machine, a buffing-wheel composed of movable and detachable sections, with disks of smaller diamter interposed at intervals, and heads pressed against the outer sections, all clamped together on the shaft, substantially as described.

3. The combination of an adjustable buffing wheel or brush, a feed-table composed of a lower reciprocating section, C', an upper laterally-reciprocating section, C^2, a laterally-reciprocating frame, g^4, provided with upright arms, the rollers on these arms traversing between rails *h*, fixed to the bottom of the section C^2, and the wave-wheel which reciprocates the frame g^4, substantially as described.

4. In a buffing and polishing machine, a head for the buffing material, which is separable and removable from its shaft, and which is composed of two or more sections jointed together by disks and fastening-screws, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

SIGMUND FEUST.

Witnesses:
PAUL GOEPEL,
CARL KARP.