

(No Model.)

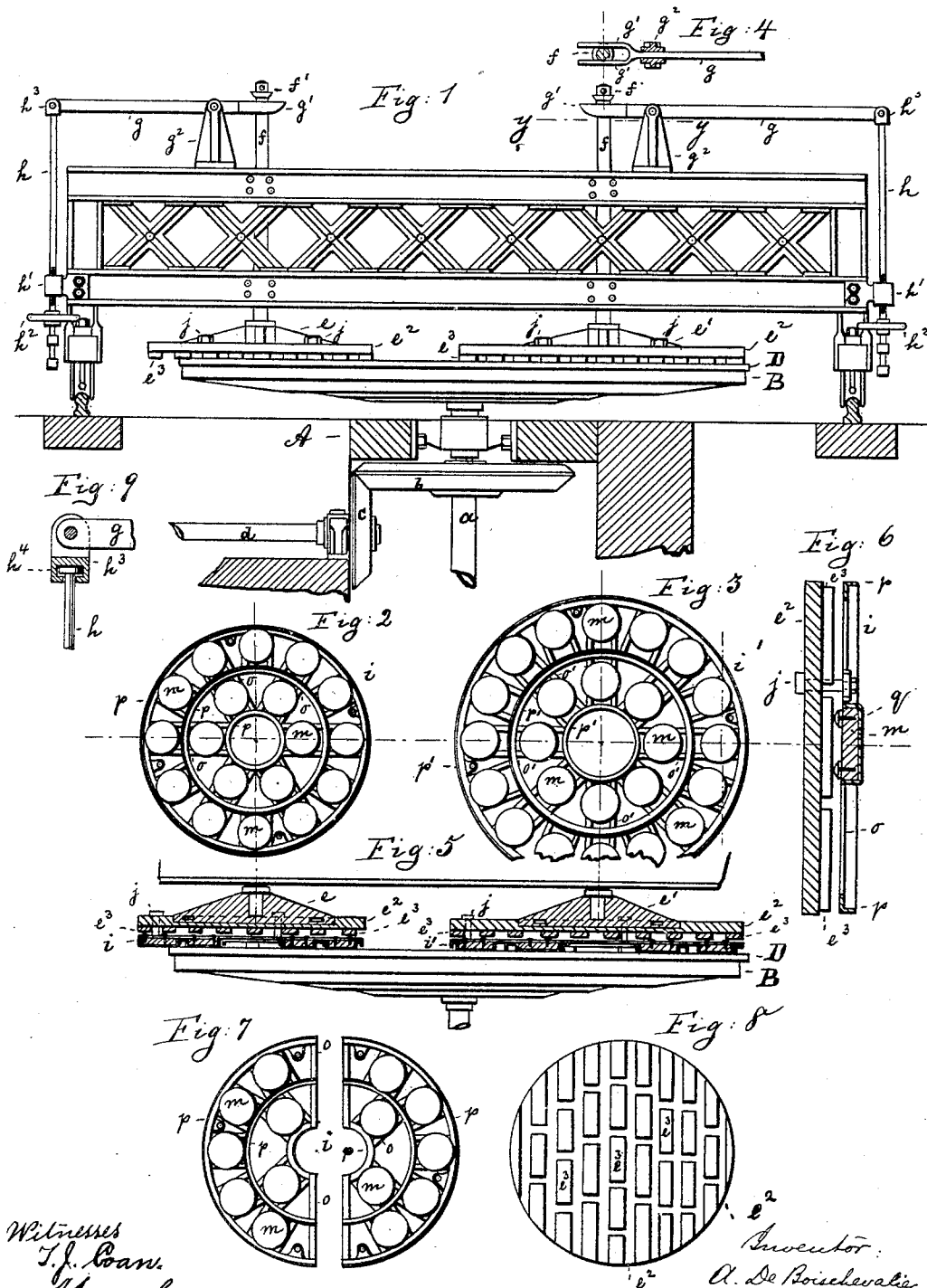
2 Sheets—Sheet 1.

A. DE BOISCHEVALIER.

MACHINE FOR POLISHING GLASS.

No. 460,941.

Patented Oct. 13, 1891.



Witnesses
T. J. Coan.
A. Poughman

Inventor:
A. De Boischevalier
by his attorney
Kodet & Pines

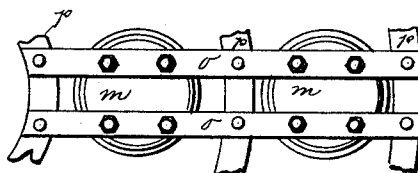
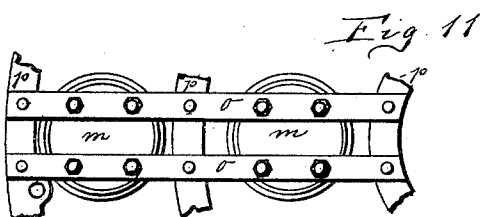
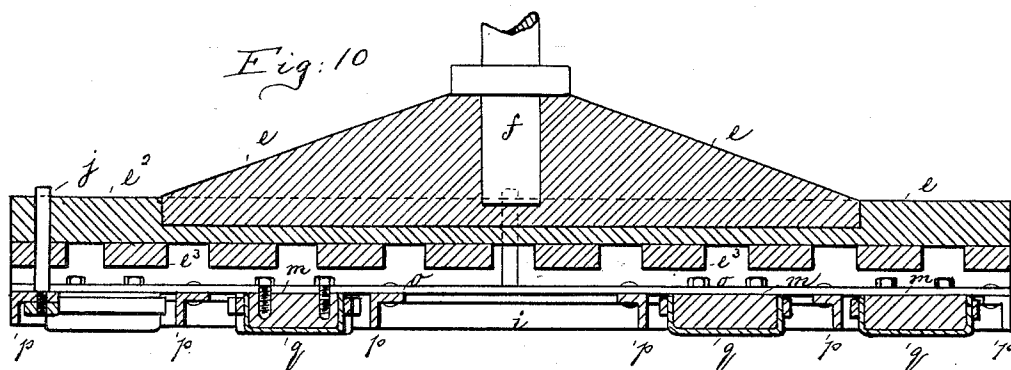
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2 Sheets—Sheet 2.

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MACHINE FOR POLISHING GLASS.

No. 460,941.

Patented Oct. 13, 1891.



Witnesses:

A. Jonghman.

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Inventor:

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UNITED STATES PATENT OFFICE.

ABEL DE BOISCHEVALIER, OF DÜSSELDORF, GERMANY.

MACHINE FOR POLISHING GLASS.

SPECIFICATION forming part of Letters Patent No. 460,941, dated October 13, 1891.

Application filed July 30, 1890. Serial No. 360,374. (No model.) Patented in England January 12, 1886, No. 494.

To all whom it may concern:

Be it known that I, ABEL DE BOISCHEVALIER, a citizen of France, residing at Düsseldorf, Germany, have invented certain new and useful Improvements in Machines for Polishing Glass and other Substances, (for which I have obtained an English patent, No. 494, dated January 12, 1886,) of which the following is a specification.

This invention relates to an improved machine for grinding and smoothing or polishing glass.

It consists in the various features of improvement more fully pointed out in the claim.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved machine without the disks *i i'*. Figs. 2 and 3 are bottom views of the disks *i i'*; Fig. 4, a cross-section on line *y y*, Fig. 1. Fig. 5 is a vertical central section through the disks and the runners; Fig. 6, a detail vertical section through a part of a disk, showing the rubbing-tool *m* and its felt bottom *q*; Fig. 7, a bottom view of a modification of disk *i*, showing it made in two halves; Fig. 8, a bottom view of runner *e*, and Fig. 9 a detail section through cap *h*³. Fig. 10 is a vertical longitudinal section through one of the disks and runners; Fig. 11, a top view of a part of one of the disks. Figs. 10 and 11 are drawn on a larger scale than the remaining figures.

The letter A represents the frame of the machine, and B the platform for supporting the work D. This platform is mounted on a shaft *a*, which, by bevel-gear *b c*, is revolved from the work-shaft *d*.

e e' are the runners or grinding-tools, preferably of different size and consisting of a wooden disk *e*², to the lower face of which are secured by screws or otherwise a number of iron blades or blocks *e*³. The blades *e*³ rub upon the glass, sand or emery and water being interposed between the runners and the work. The revolution of the work causes the runners to revolve, such motion of the runners being obtained by frictional contact with the work and because the friction is stronger at the circumference than toward the center. The shafts *f* of the runners are provided

with the heads *f'*, and are embraced beneath said heads by the forked ends *g'* of lever *g*, pivoted to bearings *g*² that project upwardly from the machine-frame. An upright screw-rod *h* is engaged by the threads of a tapped fixed socket *h'* on such frame. This rod enters with its upper headed end *h*⁴ a flanged socket *h*³, pivoted to the end of lever *g*. At its lower end the rod *h* is provided with a hand-wheel *h*². It is clear that when the hand-wheel is revolved it will revolve the rod *h* within cap *h*³ and cause the lever *g* to turn on its pivot. Thus the fork *g'* is raised to bear against the head *f'* of shaft *f* and to thus raise the runner off the work. After the grinding operation has been finished the runners are thus raised and rigid polishing disks or rubbers *i i'* are secured to their lower faces. The runners should be raised to such a height that the disks *i i'* do not touch them, Fig. 5, and that the disks rest only with their own weight upon the work. To this effect the rubbers, as well as the runners, are perforated vertically for the reception of pins or bolts *j*. These bolts merely hold the disks *i i'* to the runners *e e'*, but permit a vertical motion of the disks.

I prefer to make the disks *i i'* of unequal size, so that the larger disk *i'* may reach the center of the work, while the smaller disk *i* projects over the edge of the work, as shown in Fig. 1. The disks may be made in one or more pieces and consist of radial arms *o o'*, connected to rigid concentric rings *p p'*, and holding the rubbing-tools *m*, that are bolted to the radial arms. These tools have a felt bottom *q*. It will be seen that the disks *i i'* are perfectly rigid and that the rubbing-tools *m* will always remain in the same plane of rotation, even if they project over the edge of the work. The work being rotated as described, the disks will also be rotated by frictional contact while the grinding-runners act as fly-wheels.

It will be seen that in my machine the work need not be removed from the machine between the grinding and polishing operations and that the polishing-disks act evenly upon the entire surface of the work.

What I claim is—

The combination of disks *i i'*, composed of concentric rings *p p'* and radial arms *o o'*, with rubbing-tools *m*, secured to such arms,
5 and with disks *e e'* and bolts *j*, upon which the disks *i i'* are vertically movable, substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ABEL DE BOISCHEVALIER.

Witnesses:

F. H. THOMAS,

HEINR. FRIEDRICH.