

(No Model.)

R. FRIEDEL.
GLASS GRINDING MACHINE.

No. 474,119.

Patented May 3, 1892.

Fig. 1.

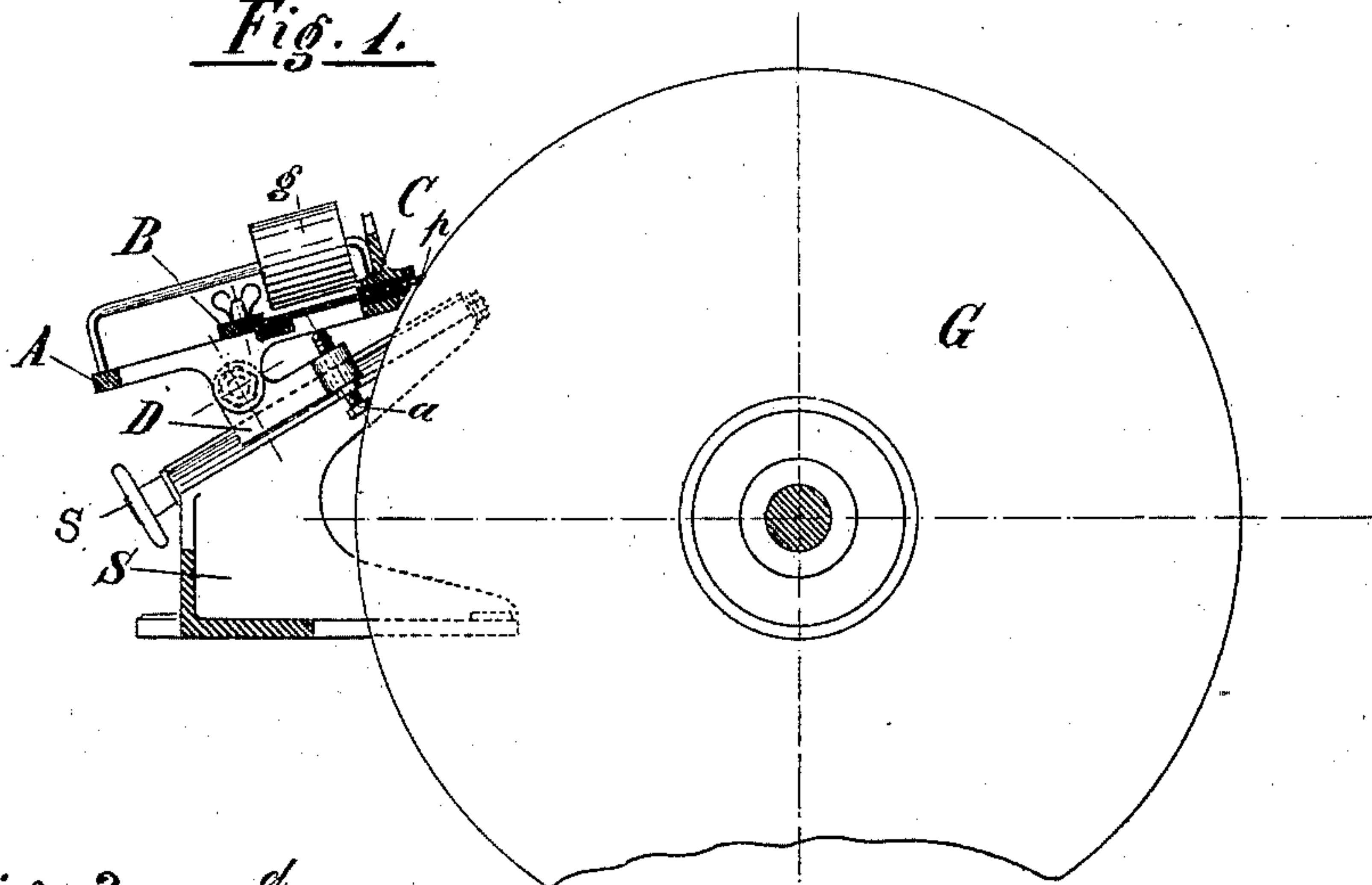
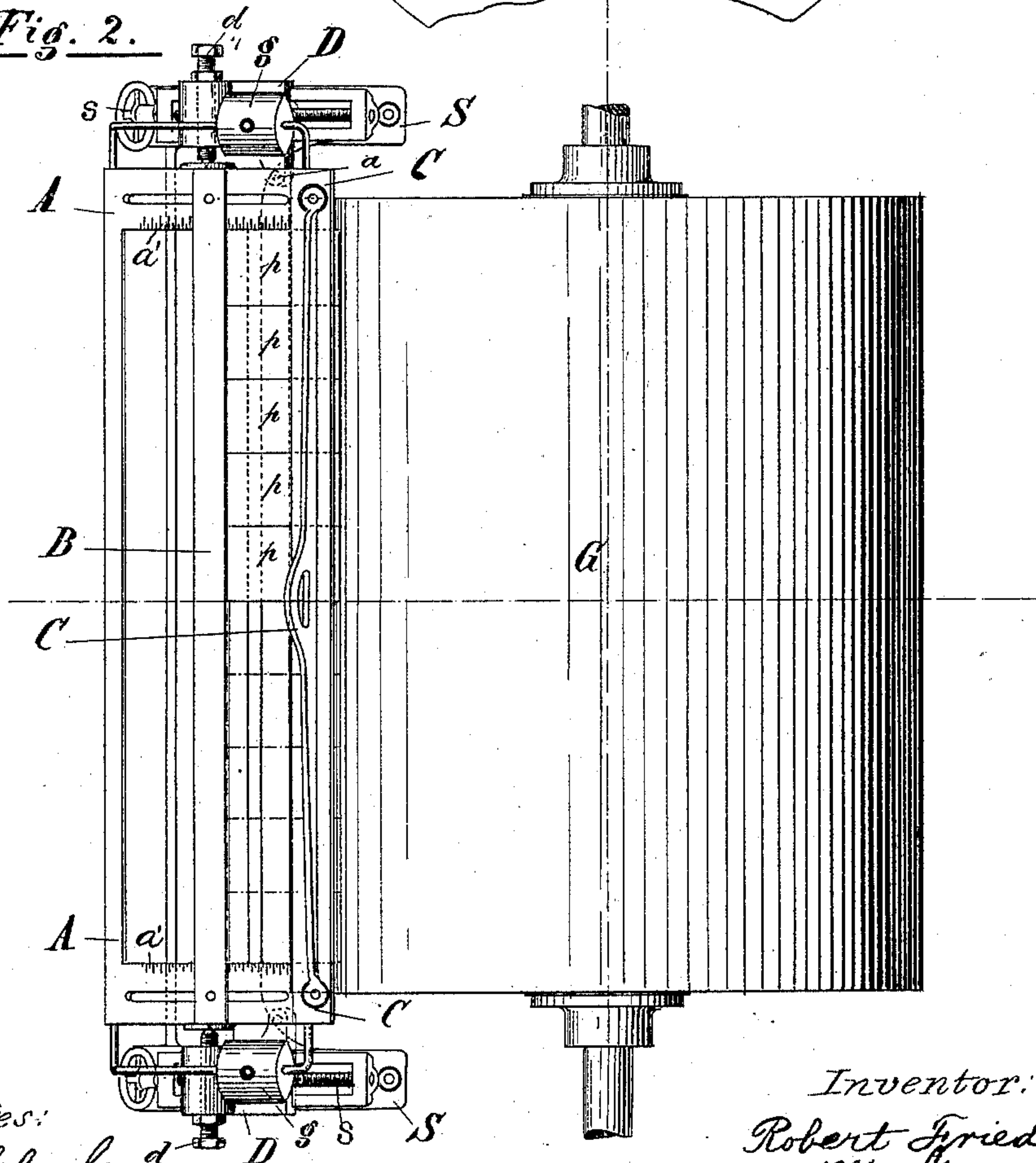


Fig. 2.



Witnesses:

E. B. Clark
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by Max Georgi
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UNITED STATES PATENT OFFICE.

ROBERT FRIEDEL, OF STUTTGART, GERMANY.

GLASS-GRINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 474,119, dated May 3, 1892.

Application filed May 2, 1891. Serial No. 391,359. (No model.)

To all whom it may concern:

Be it known that I, ROBERT FRIEDEL, a citizen of the Kingdom of Württemberg, residing at Stuttgart, Württemberg, Empire of Germany, have invented a new and useful Improvement in Glass-Grinding Machines, of which the following is a specification.

The object of my present improvement is to support and grasp a large number of quadrangular glass plates at once and to grind them simultaneously.

The accompanying drawings represent, in Figure 1, a vertical section, and in Fig. 2, a plan, of a machine embodying my said invention.

The glass plates *p* are placed side by side and closely together into the clamping-frame A, and are held tightly at the side or edge to be ground by the clamping-strip C. At their rear edges these plates rest upon the back-stop, preferably in the shape of a shouldered strip B, which is adjustable in the slots of the clamping-frame, whereby by means of the scale *a'*, formed on the frame, the length and breadth to which the plates are to be ground may be accurately determined. It will be noted that the strip C and the back-stop B extend entirely across the machine and each consists of a single continuous strip. The back-stop is, moreover, provided with a straight-edge or shoulder against which the glasses to be ground rest. This arrangement enables me to simultaneously grind a large number of glasses of the smallest size desired. It will be noted, moreover, that the clamping-strip C and back-stop B are separate and independently mounted, removable, and adjustable. By this arrangement I am enabled to first accurately align the glasses with respect to the back-stop before clamping the same by the clamping-strip C.

The clamping-frame A is pivoted in the points of the screws *d* or their pivots. These pivots or pivot-screws are in turn supported or journaled in carriages D, and adjustable in the supports S by means of an adjusting-screw *s*, journaled in the supports S and threaded in the carriages D. The frames A, as shown, may thus be brought into a more or less inclined position with respect to the abrading-wheel or grindstone G, whereby the angle of the bevel to be imparted may be varied at pleasure.

The carriages D, as well as their supports S

and the adjusting-screws *s*, it will be observed, are separate for each side of the machine. By this arrangement each end of the glass-clamping frame can be independently adjusted with relation to the abrading-wheel. The clamping-frame can consequently be at all times accurately adjusted to its proper position of parallelism with relation to the abrading-wheel, which would not be the case if the said clamping-frame were mounted in one carriage only and adjustable at one point only.

The two sliding weights *g* on the clamping-frame serve to regulate the pressure of the plates *p* on the grindstone. The set-screw *a* on the carriage D is adjusted so that when the desired bevel has been attained the clamping-frame A strikes against the said set-screw, thereby preventing any further pressure of the frame A with the glass plates *p* against the grindstone.

Those surfaces of the clamping-frame A, the shouldered strip B, and the clamping-strip C which come into contact with the glass plates are covered with rubber.

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

1. In a grinding-machine, a clamping-frame, in combination with a clamping-strip, as C, and a shouldered back-stop, as B, both the back-stop and clamping-strip extending entirely across the frame, substantially as set forth.

2. In a grinding-machine, the combination, with an abrading-wheel, of separate supports, as S, separate carriages supported thereon, and separate means for adjusting the carriages toward or away from the abrading-wheel, and a clamping-frame mounted on the carriages, substantially as set forth.

3. In a grinding-machine, the combination of an abrading-wheel and supporting-frames, as S, with carriages and adjusting-screws, as *s*, a pivoted clamping-frame, and stops mounted in the carriages for limiting the downward motion of the pivoted clamping-frames, substantially as set forth.

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

ROBERT FRIEDEL.

Witnesses:

AUGUST B. DRANTZ,
ANT. HERRMANN.