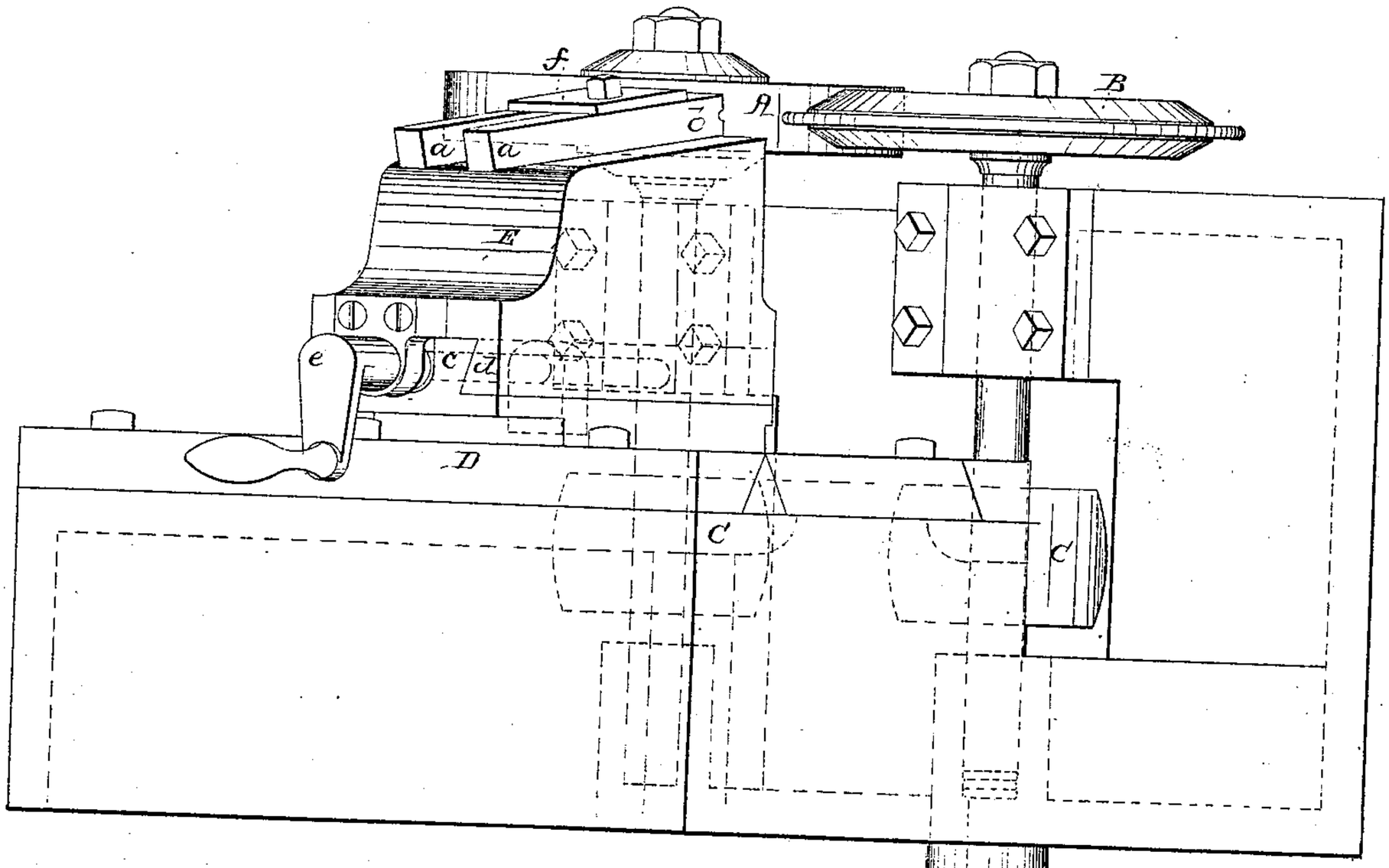
Wiggin & Hoard,

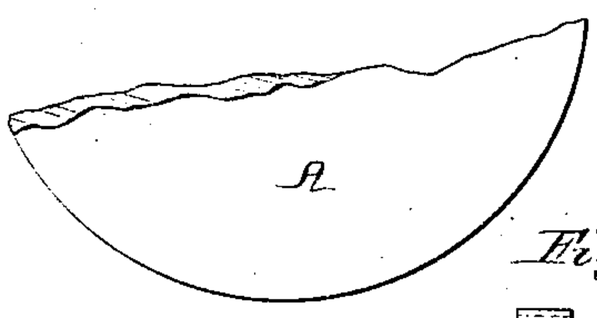
Grinder for Nail-Machine Dies.

No. 37,657. Patented Feb. 10, 1863.

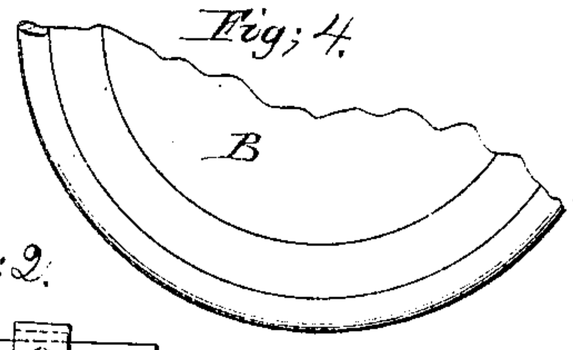
Fig; 1.



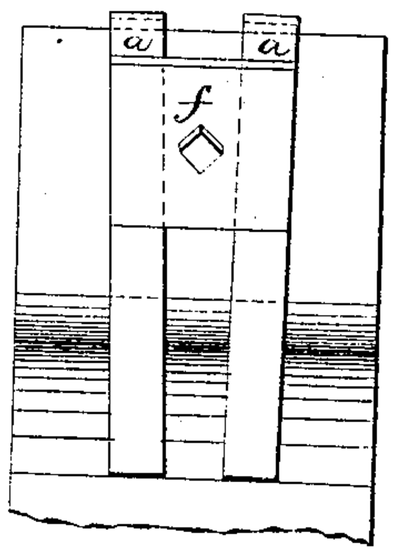
Fig; 3.



Fig; 4.



Fig; 2.



Witnesses;
Benj F. Thurston
John D. Thurston

Inventors;
Geo B Wiggin
J M Hoard

UNITED STATES PATENT OFFICE.

GEORGE B. WIGGIN AND J. W. HOARD, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN GRINDING DIES FOR NAIL-MACHINES.

Specification forming part of Letters Patent No. **37,657**, dated February 10, 1863.

To all whom it may concern:

Be it known that we, GEO. B. WIGGIN and J. W. HOARD, both of the city and county of Providence, in the State of Rhode Island, have invented a new and useful improvement in machines for grinding the dies used for grasping the nail in a nail-machine while it is being headed; and we do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is front view. Fig. 2 shows the position of the dies with reference to each other when adjusted in the nail-machine. Figs 3 and 4 are fragments of the grinding-wheels.

In the accompanying drawings, *a a*, Fig. 1, represent a pair of dies used in a nail-machine. These dies are placed in the machine at the same angle as shown in the grinding-machine, and are also placed on an angle of inclination as respects each other as shown in Fig. 2. The face of each die has a groove or score in it, as shown at *b*, Fig. 1, for the purpose of receiving the nail. After the nail has been cut from the plate, it is gripped between dies of the character shown, placed opposite to each other, and held between them while it is headed. It is material that the faces as well as the groove should be truly and accurately ground, and that the dies should stand at an angle with reference to each other, as otherwise the grip of the dies would indent the nail-blank, which is wider at the head end than at the point, and injure the appearance of the nail.

In order to effect the result which we have in view, we arrange two upright grinding-wheels, A, and B, in a frame, with suitable bearings, and communicate motion to each of them by means of a driving-belt running around pulleys on the shaft of the wheels, one of which is shown at C. The wheel A has a broad face for grinding the faces of the dies, while the wheel B has a bead around its periphery in form the reverse of the score to be cut. In front of the shafts of the wheels and parallel to a line drawn through their centers is placed a pair of guides, one of which is shown at D. The carriage E is fitted to slide upon these guides and to be controlled by them. The carriage itself is made in two parts, the upper portion being fitted to slide upon the lower portion by means of a dovetailed slide and tongue, *c* and *d*, so that the upper portion of the carriage can be moved toward or away from the grinding-wheels, and is controlled in this movement by means of a feed-screw, the handle of which is seen at *e*, and which runs through the dovetail *c*, and works into a nut fixed in the upper portion of the carriage. The dies are placed, as shown, upon the platform of the carriage, which is inclined upon the same angle as that at which the dies will stand when fixed in the nail-machine, and are secured thereto by a clamp, *f*.

It is obvious than when motion has been communicated to the grinding wheels that if the carriage E is moved from right to left the faces of the dies will be brought in contact with the grinding-faces of each wheel in succession, and thus the score or groove *b*, as well as the faces of the dies, will be accurately ground.

In order that the position of the score may be changed if desired, a means of adjusting the wheel B is shown in Fig. 1, consisting of a screw, *g*, placed at the foot of the shaft, by means of which the height of the wheel may be adjusted at pleasure.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination and arrangement of the two grinding-wheels A and B with the movable carriage E, substantially as described, for the purposes specified.

GEO. B. WIGGIN.
J. W. HOARD.

Witnesses:
BENJ. F. THURSTON,
JOHN D. THURSTON.