No. 752,658. PATENTED FEB. 23, 1904.

S. E. DART.

GRINDING MACHINE.

APPLICATION FILED OCT. 2, 1903.

NO MODEL.

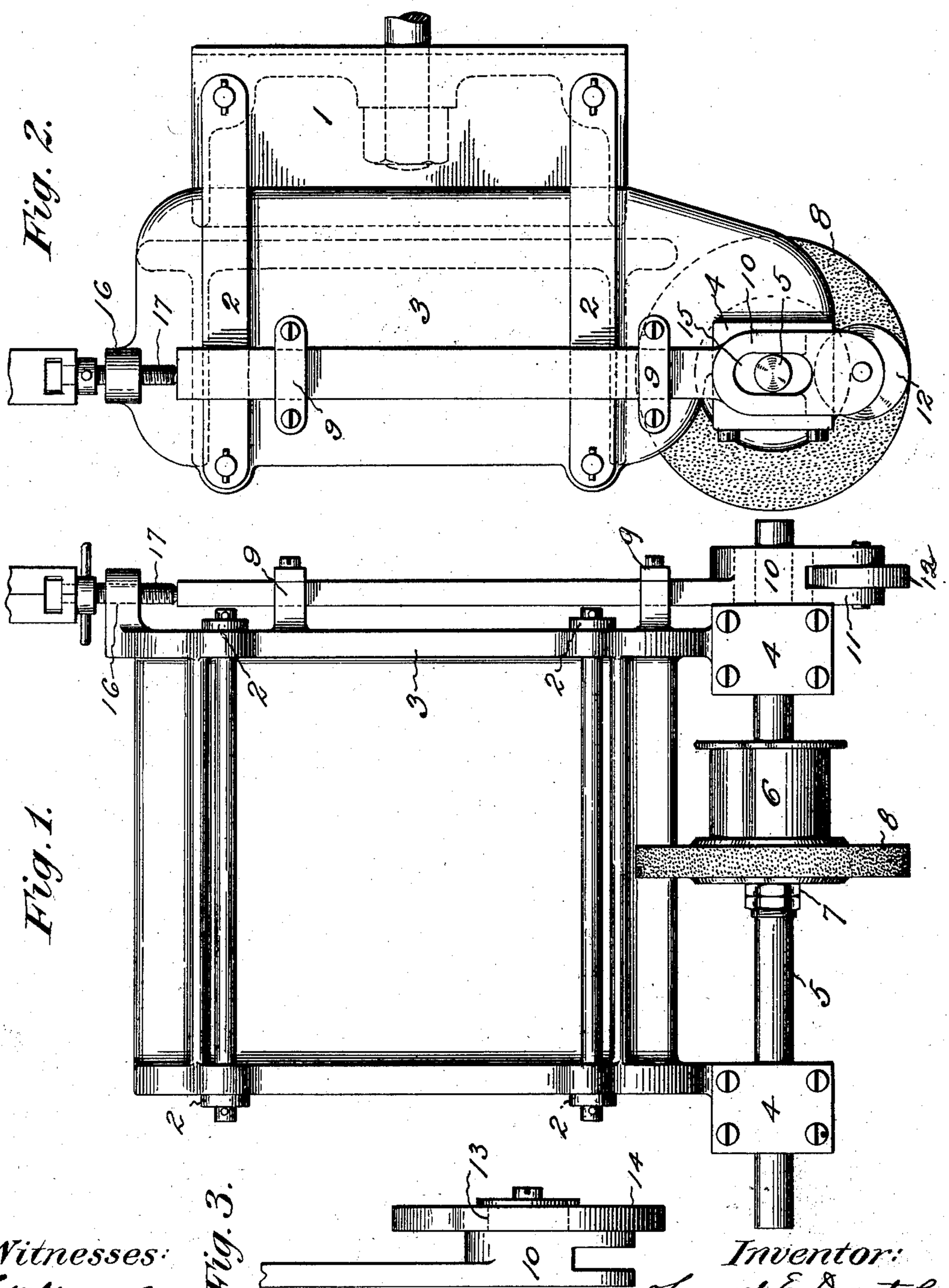

Fig. 2.

Fig. 1.

Fig. 3.

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UNITED STATES PATENT OFFICE.

SAMUEL E. DART, OF SOUTH MANCHESTER, CONNECTICUT.

GRINDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 752,658, dated February 23, 1904.

Application filed October 2, 1903. Serial No. 175,408. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL E. DART, a citizen of the United States, residing at South Manchester, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Grinding-Machines, of which the following is a specification.

This invention relates to a grinding-machine which is designed to be attached to the cross-head of a planer or similar machine having a traveling table for the purpose of grinding a surface of a piece attached to and traveling back and forth with the planer-bed exactly the same as a pattern-surface which is attached to the planer-bed at the side of the piece to be ground.

The object of this invention is to provide a simple machine which can be easily and quickly attached to or removed from the cross-head of a planer or similar machine and which will grind a long flat curved or otherwise irregular surface exactly like the pattern-surface.

The embodiment of the invention that is illustrated by the accompanying drawings has a bracket which is adapted to be bolted to the cross-head of a planer and a frame that is connected with the bracket at the top and bottom on each side by links which allow the frame a vertical movement. At the lower end the frame has bearings which hold a shaft with a pulley and a grinding-wheel. Mounted so as to be movable vertically on one side of the frame is a carrier with a pattern-roll at its lower end and its upper end engaged by an adjusting-screw, that is carried by a part of the frame.

Figure 1 of the views shows a front elevation of the machine. Fig. 2 shows a side elevation, and Fig. 3 shows an edge view of a modified pattern-wheel carrier.

The bracket 1 is adapted to be fastened to the cross-head of a planer or similar machine by bolts passing through the back plate. Links 2 at the top and bottom on each side pivotally connect the frame 3 with the bracket. The inner edges of the sides of the frame overlap the outer edges of the sides of the bracket and hold the frame straight as it moves up and down. At the lower edge of each side of the frame is a box 4. These boxes hold a shaft 5, fastened to which is a pulley 6. Clamped between one face of the pulley and nuts 7, which are screwed upon a thread on the shaft, is an emery or similar grinding wheel 8.

On the outside of one side of the frame are boxes 9. Supported by these boxes is the carrier 10, that at the lower end has a fork 11, which holds a small pattern-roll 12. This carrier may have a hub 13, upon which may be placed a large pattern-roll 14, as shown in Fig. 3. If the shaft extends through the carrier, the lower end must have a slot 15, as shown in Fig. 2, so that the carrier with the pattern-roll may be adjusted vertically with relation to the frame and the grinding-wheel.

In a lug 16 at the top of one side of the frame is an adjusting-screw 17, which is arranged to abut against the upper end of the pattern-roll carrier.

The bracket is fastened to the cross-head of the planer or other machine, and the piece to be ground is fastened to the traveling bed beneath the grinding-wheel. The pattern is also fastened to the bed at the side of the piece to be ground. The frame, with the grinding-wheel, is raised or lowered as the pattern moves with the bed under the pattern-roll. The relative levels of the lower edge of the pattern-roll and the grinding-wheel are fixed by turning the adjusting-screw at the top of the frame.

If a large pattern-roll—one approximately the same size as the grinding-wheel—is used, the surface ground will of necessity exactly correspond with the surface of the pattern, for the frame will rise and fall vertically, according to the pattern, and the pattern-roll and grinding-wheel, having the same arcs, will act exactly the same on the pattern and piece being ground. With this machine pieces the full length of the bed of a planer, such as the long beds of polishing-machines, may be accurately ground to the desired shape.

The invention claimed is—

1. A grinding-machine having a stationary bracket, a frame hinged to the bracket so as to have practically a vertical movement, a shaft bearing a pulley and grinding-wheel supported by the frame, and a pattern-roll

mounted at one side of and adjustably connected with the frame so as to rotate in a plane that is parallel with the plane of rotation of the grinding-wheel and having the lowest portion of its periphery practically in the same horizontal plane with the lowest portion of the periphery of the grinding-wheel, substantially as specified.

2. A grinding-machine having a stationary bracket, a vertically-movable frame, links connecting the frame with the bracket, a shaft supported by the frame, a pulley and grinding-wheel borne by the shaft, a carrier adjustably mounted on one side of the frame, and a pattern-roll held by the carrier and having the lowest portion of its periphery practically in the same horizontal plane with the lowest portion of the periphery of the grinding-wheel, substantially as specified.

3. A grinding-machine having a bracket, a vertically-movable frame connected with the bracket, a shaft supported by the frame, a pulley and grinding-wheel borne by the shaft, and a pattern-roll of substantially the same diameter as the grinding-wheel adjustably mounted on one side of the frame and having its axis substantially coincident with the axis of the grinding-wheel, substantially as specified.

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