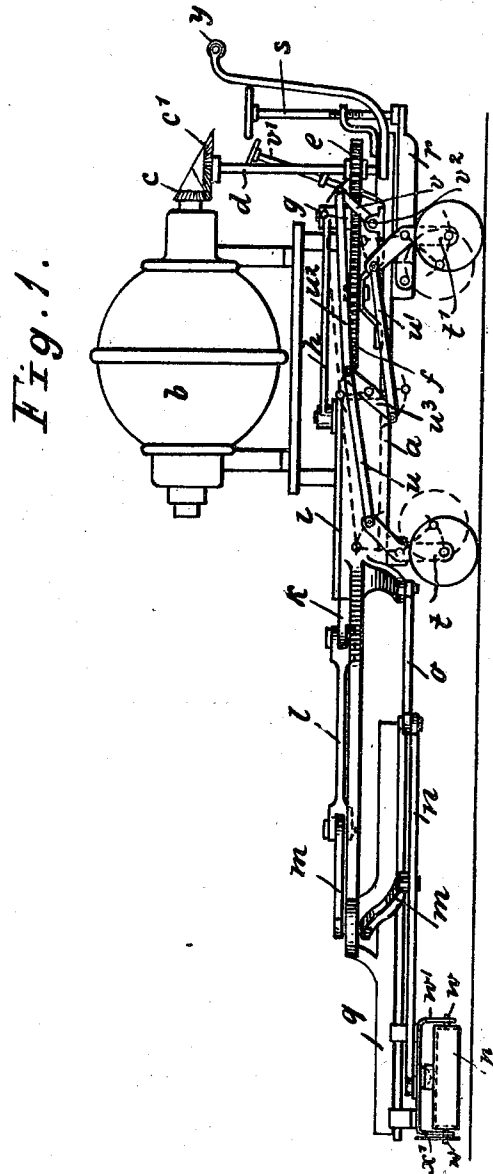


E. POST.
MACHINE FOR POLISHING FLOORS.
APPLICATION FILED MAR. 26, 1910.

979,798.

Patented Dec. 27, 1910.

3 SHEETS-SHEET 1.



WITNESSES:

A. H. Berrigan
John W. Hoising

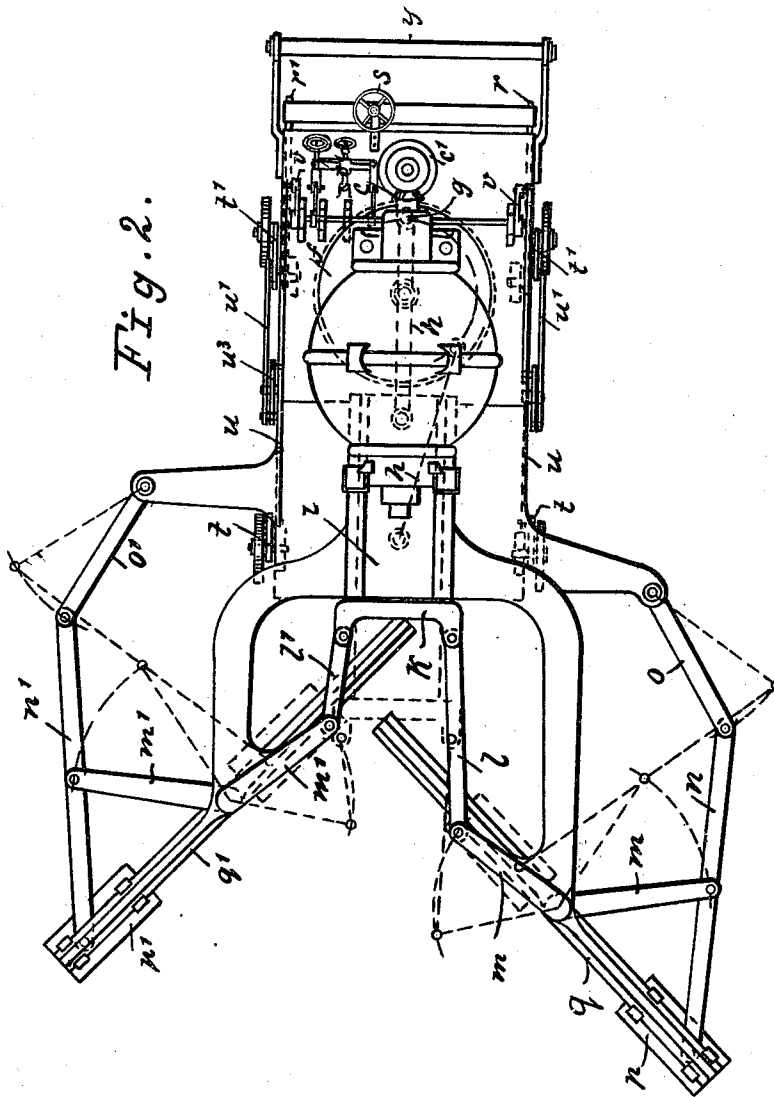
INVENTOR,
ERNST POST,
by *Ivan Oldin*
Attorney

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3 SHEETS-SHEET 2.



WITNESSES:

W. H. Berigan
John A. Hoving

INVENTOR,
ERNST POST,
by *Ivan Sedemmel*
Attorney

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3 SHEETS—SHEET 3.

Fig. 3.

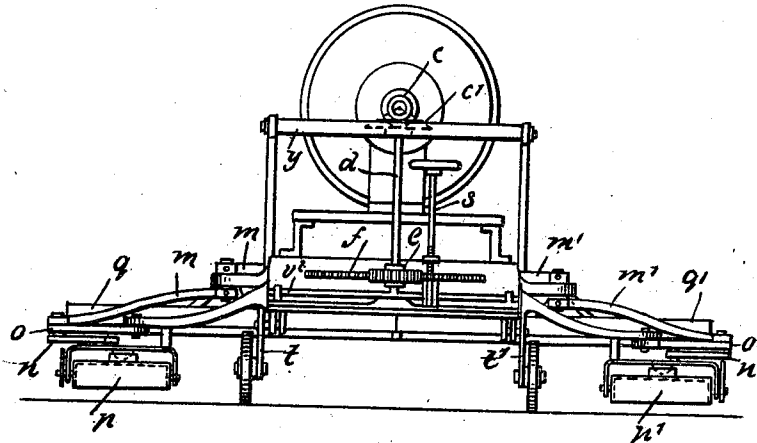


Fig. 4.

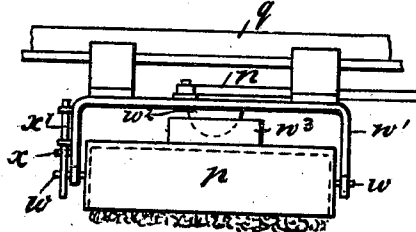
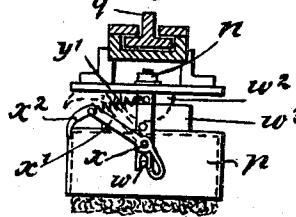


Fig. 5.



WITNESSES,

W. H. Derrigan
John N. Horing

INVENTOR,
ERNST POST,
by *Frank Denmeel*
Attorney.

UNITED STATES PATENT OFFICE.

ERNST POST, OF RUMMELSBURG, NEAR BERLIN, GERMANY.

MACHINE FOR POLISHING FLOORS.

979,798.

Specification of Letters Patent. Patented Dec. 27, 1910.

Application filed March 26, 1910. Serial No. 551,754.

To all whom it may concern:

Be it known that I, ERNST POST, a subject of the Emperor of Germany, and resident of Rummelsburg, near Berlin, Germany, have invented new and useful Improvements in Machines for Polishing Floors, of which the following is a specification.

My invention relates to machines, driven by a motor, designed for rubbing down and polishing parquet floors.

Polishing machines, in which the polishing tools were driven by a motor, and which treated always one strip of the floor at a time, suffered under the disadvantage that it was difficult to observe the exact direction of the strip to be treated, because the polishing means itself must work in the direction of the axis of the motor machine. This defect is remedied in my machine by arranging the two motor driven polishing tools at a right angle to each other, and causing them to work at an angle of 45° to the axis of the machine itself. In this way the line formed by joints of the strips lies in front and in a position to be seen. If the machine is then adjusted to the length of the single squares, each square will be, under any circumstances, treated along its whole length, a thing not at all possible, or with great difficulty, with existing machines, on account of not being able to follow the exact direction.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation, Fig. 2 a plan, Fig. 3, a rear elevation of the polishing machine, and Figs. 4 and 5 show the receptacles for holding polishing tools in front and side elevation.

Referring to the drawings, *a* is the base-plate, on which is arranged the electromotor *b* transmitting its motion by a pair of bevel-wheels *cc'* to the vertical shaft *d*, and driving a spur-wheel *e* which meshes with the wheel *f*. The wheel *f* has a crank-pin *g*, and is connected by means of the pitman *h* with the slide piece *i*, which is thereby reciprocated. To the fork-shaped end *k* of the slide-piece *i* are linked the two rods *l l'*, which are connected to the two-arm crank-levers *m, m'*, which with their outer ends engage the middle of lever *n, n'*, respectively. One end of each of these levers *n, n'* is movably connected to the levers *o, o'*, while the outer ends are fastened to the receptacles *p, p'*. These serve in the early stages of the

smoothing down process, for holding the coarser materials, such as steel filings, etc. When the rougher part of the rubbing down is finished, these are replaced with brushes, which, by the use of wax may put a hard smooth polished surface to the floor. These receptacles are, by the system of levers, just mentioned, moved along the guides *q, q'*, that is, under an angle of 45° to the longitudinal axis of the machine. This arrangement of the levers *l, m, n, o*, and *l', m', n', o'* enables an accurate straight guiding of the smoothing tool in the direction of the fibers of the wood of the squares mounted rectangularly to one another. Both guides *q, q'* are also arranged rectangularly to one another, so as to treat each square according to its position and over its whole length.

The machine rests on four wheels, the two rearmost of which are held by rails *r, r'*, the free ends of which may be pressed down by a screw *s*, provided with a hand-wheel. The machine is thereby inclined somewhat toward the front onto the axis of the front wheels so that the smoothing tools may be adjusted in a downward direction for treating hollow places which may exist in the floor. The machine may also be tilted to either side. For this purpose the levers *t, t'*, to which the wheels are fixed are connected by rods *u, u', u², u³*, to a one arm-lever *v*, fixed to the shaft *v²*. This lever is operated by turning the screw *v'*, so that one side of the machine is tilted or lowered in accordance with the movement of the levers *t, t'* (illustrated in Fig. 1 by dotted lines). At the other side of the machine there is a similar arrangement, and both sides may be shifted separately, or at the same time, so that one or both smoothing tools are lifted or lowered to meet the unevenness of the floor. Since, now, the steel turnings have to be often exchanged there is an arrangement on the receptacles *p, p'*, which allows the exchange to be readily made. This arrangement is illustrated in Figs. 4 and 5.

The hind wheels of the carriage are journaled in the lower end of the lower arm of the angular levers *t'* (Fig. 1). The angle levers *t'* are fulcrumed at the middle point of their length on the frames *r* one end of which is rotatably journaled about a pivot. The other end of the frames *r* (the right Fig. 1) can, by means of a spindle *s*, be lowered or raised so that the frame *r* turns upon a pivot (Fig. 1) situated at the

left of the angular lever t' ; consequently the fulcrum of the angular lever t' in the frame r and therewith also the hind wheels, can be lowered or raised. If, for example, the spindle s is so turned that the free right end of the frame r sinks, then the fulcrum of the angle lever t' in the frame r will sink, so that they lie somewhat lower than the fulcrum of the frame r . The result thereof is, that the entire hind portion of the machine frame, lying over the hind wheels, rises, while the forward portion of the same containing the steel turnings receptacles sinks. It consequently is brought lower, so as to treat possible hollows present in the floor. In order to be able to tip the machine sidewise to its longitudinal axis, the angle levers t, t' , on which the wheels are seated, are connected by driving-rods u, u', u^2 and u^3 with the one-arm lever v , whose one end is pivoted on the driving rod u^2 , while its other end is rotatably seated in the fixed pivots v^2 . The lever v is so connected with the spindle v' , that, on rotation of the spindle v' , the lever v is also rotated about its fixed pivot v^2 , consequently, its upper end connected with the driving rod u^2 , is raised or lowered. If, for example, the spindle v' is so rotated that the upper end of the lever v is turned upward (Fig. 1 dotted position) at the same time the upper arm of the angle lever t is rotated to the left, and the upper arm of the angle lever t' is rotated to the right (Fig. 1). The result thereof is that the lower arm of the angle lever t is rotated to the right, and the lower arm of the angle lever t' to the left, so that, consequently, the wheel axes seated in their lower arms rise, that is, the respective longitudinal side of the machine is lowered.

The holders p, p' carry pins w , which are movably arranged within slots of the depending arms w' of the brackets which support the receptacles p, p' . In the middle of the bracket r is a half-ball w^2 which engages a seat w^3 , in order to support the smoothing tool at one side, and on the other side, to enable the same to move freely in all directions. At one side of the arm w' is a lever x' which is rotatable around a pivot x , which lever has a hook for the pin w at its lower end. If now the free end x^2

of the lever x' is pressed down, the pin w falls downwardly, while the other pin w moves out of its bearing when the smoothing tool p is inclined downward. The insertion of another receptacle filled with steel turnings, or of a brush, is accomplished by inserting one of its bearing pins w into the journal therefor in the depending bracket arm w' , and the lever x' is shifted by pressure on the free end x^2 so far (Fig. 5) that the slot in one shank of the arm w is free, and the second pin w can now also be brought to its position. The end x^2 of the lever x' is free and drawn into the dotted position (Fig. 5), by the spring y , whereby the slot of the arm which is open at its lower end is covered, and the tool prevented from falling out. In the place of the receptacles filled with steel-turnings, which serve for cleaning and rubbing the floor, brushes may be put which, alone or in combination with wax, do the final smoothing and waxing. A handle serves for steering the machine.

Having now described the nature of my invention what I claim and desire to protect by Letters Patent is:—

1. In a machine of the type described, the combination of a base-plate, a driving motor supported by the base-plate, adjustable wheels carrying said base-plate, two holders running at an angle of ninety degrees to each other, toothed wheels transmitting the motion of the driving motor, a system of levers connecting the holders and the toothed wheels and impart motion to the holders, polishing tools on the holders and a steering-handle in the base-plate, as and for the purpose described.

2. In a machine of the type described the combination of, two holders running at an angle of 45° to the longitudinal axis of the machine, and guiding devices therefor arranged out of the central line of the machine for the purpose of enabling the polishing of the ends of the staffs of the floor lying at a right angle to one another.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ERNST POST.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.