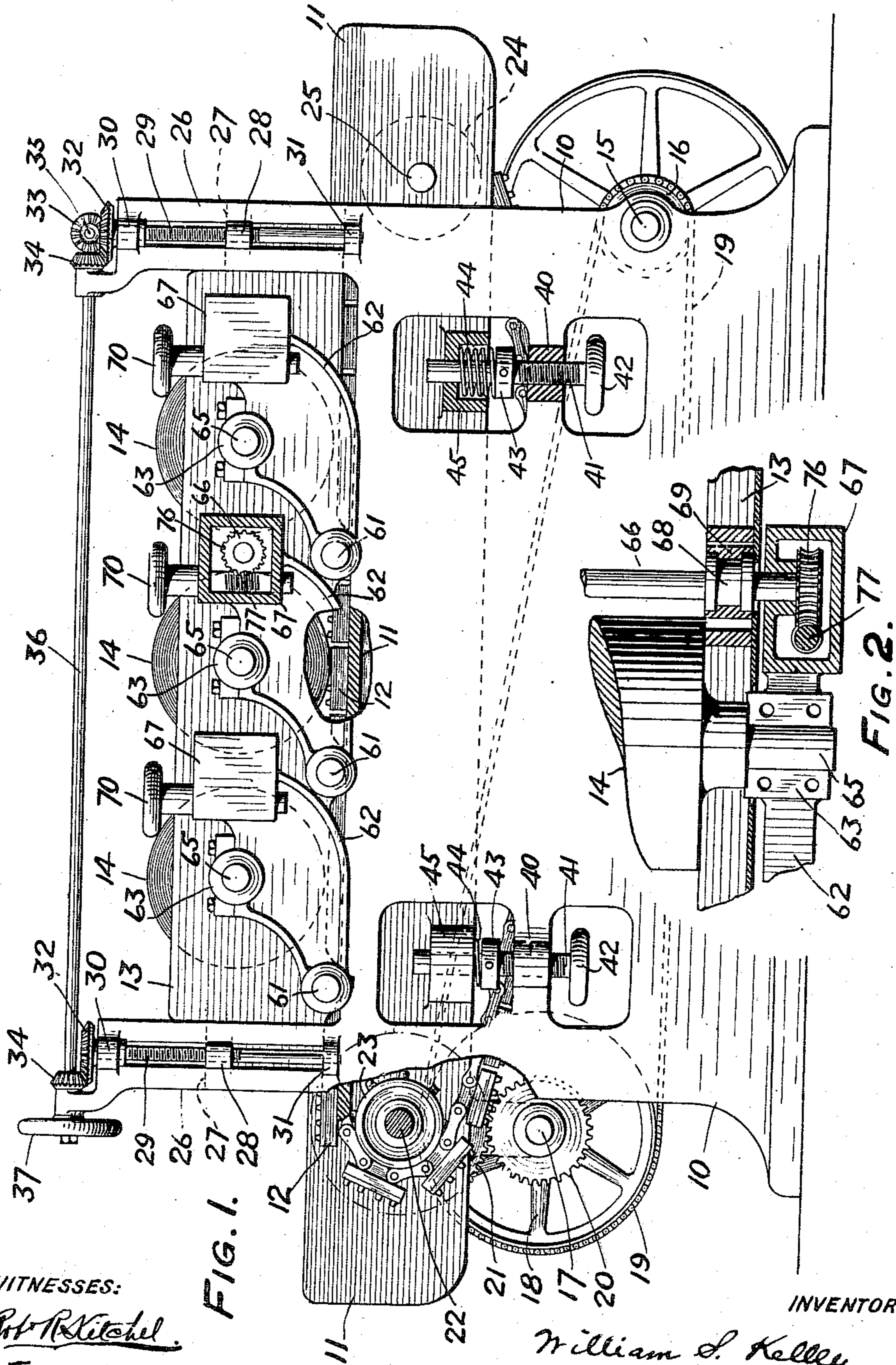


W. S. KELLEY.
SANDPAPERING MACHINE.
APPLICATION FILED SEPT. 6, 1910.

995,540.

Patented June 20, 1911.



WITNESSES:

W. R. Kitchel
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FIG. 1.

FIG. 2.

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WILLIAM S. KELLEY, OF MOUNT HOLLY, NEW JERSEY, ASSIGNOR TO H. B. SMITH MACHINE COMPANY, OF SMITHVILLE, NEW JERSEY, A CORPORATION OF NEW JERSEY.

SANDPAPERING-MACHINE.

995,540.

Specification of Letters Patent. Patented June 20, 1911.

Application filed September 6, 1910. Serial No. 580,640½.

To all whom it may concern:

Be it known that I, WILLIAM S. KELLEY, a citizen of the United States, residing at Mount Holly, county of Burlington, and State of New Jersey, have invented a new and useful Improvement in Sandpapering-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to provide new and improved means, applicable to that form of sander in which sanding drums overlie an endless carrier, for adjusting the relative positions of the carrier table and the drums.

In machines of this character, it is necessary in order to obtain the widest range and greatest flexibility of use, to provide for relative vertical adjustments, in a right line, of the carrier table and the drums and also to provide for leveling the table relatively to the drums which latter adjustment involves a plurality of separate contrivances capable of operating, to a degree, independently of the main vertical adjustment. Such a machine is disclosed in the Perry Patents, No. 657,357 of September 4, 1900, and No. 891,950, of June 30, 1908. In the machines of these patents, all the adjusting devices are applied to the table supporting the upper reach of the endless carrier, which involves the provision of specially designed adjusting contrivances capable of being manipulated respectively to effect adjustments in a right line and to level and so interconnected as to permit either of these two adjustments to be made without affecting the other adjustment. In the present application, means are provided whereby the two kinds of adjustments are effected by entirely independent sets of adjusting contrivances, whereby the same result may be effected, attended by the advantages arising from complete structural independence between the two sets of contrivances.

In the drawings, I have shown preferred embodiment of the invention, in which—

Figure 1 is side elevations, partly in section, of the machine. Fig. 2 is a detail transverse sectional view of the mechanism for raising and lowering one of the drums.

10 is the main frame of the machine, 11

the frame or table supporting the endless carrier, 12 the endless carrier, and 13 the frame for supporting the sanding drums 14, 14, 14.

15 is the main driving shaft rotating in bearings in the main frame.

16 is a sprocket wheel on the main driving shaft.

17 is a secondary driving shaft turning in bearings depending from the table 11.

18 is a sprocket wheel on the secondary driving shaft.

19 is a sprocket chain connecting sprocket wheels 16 and 18.

20 is a gear on the secondary driving shaft. The gear 20 drives a gear 21 on the immediate driving shaft 22 for the endless carrier. The shaft 22 rotates in bearings on the table 11 near one end of the latter. The shaft 22 has two sprocket wheels 23. A shaft 25 turns in bearings near the other end of the table 11 and has the similar sprocket wheels 24. The endless carrier 12 extends about the two pairs of sprocket wheels 23 and 24. The endless carrier comprises links and lags, the latter traveling over ways on the table. The specific construction of the carrier is set forth fully in the said Perry patents, and need not be herein further described.

Projecting upward from the main frame 10 are standards 26, one at each corner of the bed. The frame 13, on which the sanding drums are supported, is provided, at the four corners thereof, with projections 27 extending longitudinally and outwardly and fitting slidably within guides in the respective four standards 26. Projecting laterally from each projection 27 is fixed to it a nut 28, the corresponding standard 26 being cut away in a vertical direction to permit the nut to travel vertically and to accommodate the corresponding vertical screw shaft 29, which engages the nut 27 and turns in bearings 30 and 31 at the upper and lower ends respectively of the corresponding standard 26. On the upper end of each screw shaft 29 is a bevel gear 32. Each bevel gear 32 meshes with a bevel gear 34. Two of the bevel gears 32 at one end of the machine mesh with bevel gears 33. The two pairs of bevel gears 34 at opposite sides of the machine are on longitudinal

shafts 36, respectively. The two bevel gears 33 are on a transverse shaft 35. On one of the shafts 36 is a hand-wheel 37.

It will be understood that by turning the hand-wheel 37, the corresponding shaft 36 will transmit equal movements of rotation to the four upright screw shafts 29, which, having no vertical movement, will lift the four nuts 28 and the drum frame 13 carried thereby. The drum frame may thus be raised or lowered in a right line, thereby enabling the machine to be adjusted for varying thicknesses of work to be operated upon by the sanding drums. The wheel 37 may, of course, represent a pulley adapted to be driven by power.

To level the table, there is provided, near the four corners of the main frame 10, fixed nuts 40. Each nut 40 is engaged by an upright screw-shaft 41, provided with a hand-wheel 42. Each screw shaft 41 carries a fixed collar 43 surmounted by a spring 44 surrounding the screw shaft. The upper end of each screw shaft turns in a bearing in an inverted box 45, which is secured to the table 11 and surrounds and rests upon the spring 44.

By turning any screw shaft 41 in one direction, the corresponding collar 43 will be elevated, thereby, through the corresponding spring 44, elevating the corresponding corner of the table. By turning this screw shaft in the opposite direction, the collar 43 will be lowered, thereby permitting the corner of the table to drop to the extent permitted by the spring 44. Thus, all four corners of the table may be independently raised or lowered.

Means for driving the drums are not shown, as the same may be driven, by belts and compensating devices, in the ordinary way.

Known means may be provided to support the sanding drums 14 on the drum frame and to permit them to be raised and lowered independently to the slight extent necessary to regulate the depth of the cut. In the drawings, 61 are pins on opposite sides of the machine frame, there being a pair for each drum. On these pins are pivoted the arms 62. Between the ends of the arms are bearings 63 for the drum shaft 65. The outer end of one of these arms forms the journal for one end of a shaft 66, while the outer end of the other arm carries a box 67 in which the other end of shaft 65 is journaled, the shaft projecting into the box. The shaft has, near each end, an eccentric 68 which engages a block 69 slidable laterally on the drum frame. On the end of the shaft 66 which projects into the box 67 is a worm-wheel 76, and extending into the box, and engaging the worm-wheel is a worm 77. To raise or lower the drum, the worm 77 is turned by means of the handle

70, which turns the shaft 66. By reason of the eccentric bearing of the shaft 66 in the block 69, and the capacity of the block to move laterally but not vertically, the shaft 66 is either raised or lowered, thereby lifting the arms 62 and the drum. The means above described for independently adjusting the drums is the same as that disclosed in the said Perry Patent No. 891,950. This adjustment is not sufficiently great to impair the driving connections between the several drum shafts, in view of the direction of adjustment being tangential to the intermediate gears 60.

Having now fully described my invention, what I claim and desire to protect by Letters Patent is:

1. In a sand papering machine, the combination with the main frame, of a table supported on the main frame, an endless carrier supported on the table, a drum frame above the carrier, drums carried by the drum frame, supports on the main frame engaging the drum frame and including means operated from a single hand-wheel for vertically adjusting the drum frame bodily in a right line relatively to the main frame, table and carrier, and means for independently adjusting the several drums.

2. In a sand papering machine, the combination with the main frame, of an endless carrier, a table supporting the carrier and over which the carrier is adapted to travel, four supports on the main frame engaging the table near the four corners thereof and including means for independently adjusting the four corners of the table, a drum frame above the carrier, drums carried by the drum frame, supports on the main frame engaging the drum frame, and including a plurality of devices for vertically adjusting the drum frame on the main frame, means to operate the said last named adjusting devices simultaneously, whereby relative vertical adjustment, in a right line, between all the drums and the carrier, and the leveling of the carrier, are effected independently, and independent means to separately adjust the drums on the drum frame.

3. In a sand papering machine, the combination with the main frame, of a carrier table, means for supporting the table on the main frame and leveling the same, an endless carrier adapted to travel in ways on the table, a drum frame above the carrier, drums carried by the drum frame, means for supporting the drum frame on the main frame and for adjusting the drum frame vertically in a right line, and means to adjust the several drums independently to regulate the depth of cut or amount of contact.

4. In a sand papering machine, the combination with the main frame, of two frames between which the work is adapted to pass,

sanding drums carried by one of said last
named frames, supports on the main frame
engaging the lower frame near the four
corners thereof and including means for in-
5 dependently adjusting the four corners
thereof, supports on the main frame engag-
ing the upper frame and including a plu-
rality of devices for vertically adjusting the
upper frame on the main frame, and means
10 to operate the last named adjusting devices

simultaneously, whereby independent means
are provided to level the lower frame and
provide for different thicknesses of work.

In testimony of which invention, I have
hereunto set my hand, at Mount Holly, New 15
Jersey, on this first day of September, 1910.

WILLIAM S. KELLEY.

Witnesses:

ELTON ALLEN SMITH, Jr.,

GEO. A. LIPPINCOTT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
