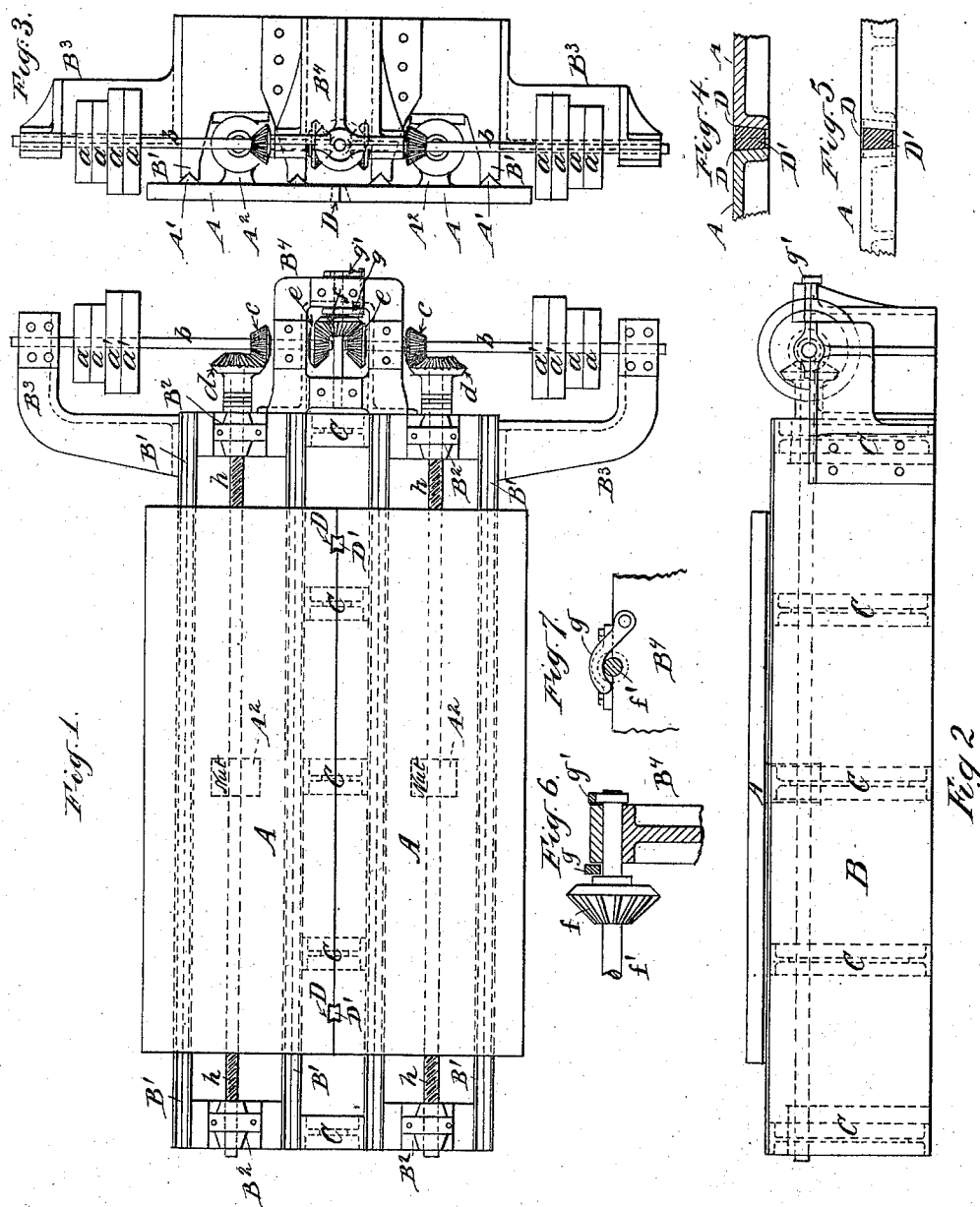


J. GILMOUR.
PLANER FOR DRESSING STONE.

Patented Jan. 12, 1897.



WITNESSES:

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PLANER FOR DRESSING STONE.

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To all whom it may concern:

Be it known that I, JOSEPH GILMOUR, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Planers for Dressing Stone, of which the following is a specification.

The invention relates to that class of stone-dressing machines in which the block to be shaped is mounted upon a reciprocating bed or platen and subjected to the action of suitable cutting-tools held stationary relatively thereto.

I have devised a novel form of platen consisting of parallel sections mounted side by side and joined by removable keys. Each is provided with reciprocating mechanism, which when coupled together reciprocates the sections as a whole. On removing the keys and uncoupling the mechanism each section may be reciprocated independently, if desired.

My invention also involves certain new and useful combinations or arrangements of parts and peculiarities of construction, all of which will be hereinafter described, and pointed out in the claims.

The accompanying drawings form a part of this specification and represent what I consider the best means of carrying out the invention.

Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is an end view. Fig. 4 is a transverse vertical section through one of the keys and the adjacent edges of the platen-sections. Fig. 5 is a similar view taken at a right angle to Fig. 4. Fig. 6 is a longitudinal section of a portion. Fig. 7 is a transverse section of the same.

Similar letters of reference indicate like parts in all the figures.

A A are the sections of cast-iron, rectangular in form, each equipped with slides A' on its under face finished to match to the V-grooves in the ways B', formed on the upper faces of the side frames B and carrying on its under face, near the mid-length, a nut A², tapped to receive the threads of a long screw b of quick pitch lying longitudinally of the section and serving to feed the latter as it is turned in the bearings B² B² at each end

supporting the screw and holding it against endwise movement.

I have shown two sections, each the counterpart of the other and similarly equipped. A description of one will suffice.

The forward end of the screw-shaft carries a bevel-gear d, meshing into a corresponding gear c on a driving-shaft b, arranged at a right angle to the screw and lying in the same plane. It is supported at the outer end in a bracket B³ and at the inner end in a forwardly-projecting portion B⁴ of the framing. Power is communicated by open and cross belts (not shown) running on two sets of fast and loose pulleys a a and a' a', the former being smaller and serving to run the platen back after a cut has been taken and the other larger to induce the slow and strong rearward movement against the tool.

So far as yet described each section A is independent and may be operated by its own reciprocating mechanism wholly free from the motion of the other section. Thus conditioned work may be done on either or both sections the same as on two disconnected planers. I will now describe the working of both sections as a single platen.

D D are notches or recesses formed in the adjacent edges of the sections A at equal distances from the ends of each, so that when the sections are side by side with their ends in line the notches will also coincide. They are preferably dovetailed in plan, as shown, and taper slightly vertically, being larger at the upper surface to correspond to the keys D' D', fitted thereto and adapted when driven home to lie flush with or a little below the upper surface of the sections and securely lock them together to serve as a single large platen reciprocated by the combined driving power applied to the pulleys a a' on the two shafts b. The latter are in the same axial line, the inner end of each overhanging within the space inclosed by the portion B⁴ of the framing and carrying each a bevel-gear e, cut to mesh with a single bevel-gear f, arranged on a longitudinally-sliding shaft f', mounted between the overhung ends of the shafts b in bearings in the frame B⁴. The bevel-gear f serves to transfer the motion from each shaft b to the other and cause both to revolve at

the same rate of speed, thereby turning both screws *h* equally and at a corresponding rate. The gear *f* is held in mesh by a swinging dog *g*, turning on a pin set in the framing, as shown, and engaging behind the boss of the gear. A similar dog *g'*, resting idly upon a collar *f'*, serves by engaging between such collar and the framing to hold the gear out of mesh with the gears *e e* when it is desired to run the sections again independently, the dog *g* in that case riding idly upon the boss.

C C are connecting portions of the framing, joining the frames *B B* and aiding to stiffen the whole.

The advantages of the invention lie in the adaptability of the planer and the facility with which it can be conditioned for operating upon a large stone requiring the combined platen or for using each section independently for treating smaller blocks. In the latter case each section may move back and forth entirely free from the other, the length of travel in both directions varying in accordance with the length of cut required by the work being performed on each block, or one of the sections may be in use alone while the other is standing idle or is being made ready.

The tapering keys *D'* form a simple, cheap, and effective joining means for the sections and are easily and quickly removed when required by driving from below.

It will be understood that all parts not particularly described, as the clamps, tool-holders, automatic belt-shifters, and other usual accessories, (not shown,) may be of any ordinary or approved construction and are omitted from this specification and drawings for brevity and clearness.

Modifications may be made within wide limits without departing from the principle or sacrificing the advantages of the invention.

Other forms of keys may be substituted for those shown, correspondingly altering the shape of the notches, or other fastenings, as sliding bolts, may be employed.

The means described of coupling the shafts *bb* may be varied. Any of the ordinary forms of friction or other clutches adaptable to this purpose may be employed. I prefer the whole as shown.

Although I have described the invention as applied to planers for dressing stone, it will be understood that it may serve in kindred machines in other arts.

I claim—

1. In a machine of the character set forth, a bed or frame having two sets of parallel ways, two sections forming the platen, arranged side by side in the same plane, to travel each on one of said sets of ways, and means for reciprocating said sections either separately or in unison, in combination with

means for joining the sections and locking them together when required to be reciprocated as a unitary whole, whereby either one large stone carried by the two sections as one may be planed, or two stones each on a section may at the same time be planed independently on said sections, all substantially as herein specified.

2. In a machine of the character set forth, two sections, composing a platen, arranged side by side to travel in parallel lines, and an independent reciprocating mechanism for each consisting of the nut *A*², screw *h*, gears *d* and *c* and the independently-driven shafts *b* for driving either section in either direction independently of the other, in combination with means for joining the sections and holding them locked relatively to each other while permitting them to be reciprocated together as a unitary whole, all substantially as herein specified.

3. In a planer or similar machine, a platen comprising two or more sections arranged to move side by side in parallel lines, and an independent reciprocating mechanism for each, in combination with tapering keys matching to corresponding notches in the adjacent edges of the sections for locking the latter together, all substantially as herein specified.

4. In a planer, the sections *A* having slides *A'* traveling in ways *B'* formed in the framing, arranged side by side and parallel to each other, the nut *A*², screw *h* and its driving means for each, in combination with the keys *D'* tapered as shown and matching the dovetailed notches *D* formed in the adjacent edges of the sections for locking the latter together, and means for coupling the said driving mechanisms together to act as one to reciprocate the sections as a unitary whole, all substantially as herein specified.

5. The sections *A* having slides *A'* traveling in ways *B'* formed in the framing, arranged side by side and parallel to each other, nuts *A*² on the under faces of the sections, screws *h* engaging said nuts and held against longitudinal movement, bevel-gears *d* on the screw-shafts, in combination with the shafts *b* and means for driving them, bevel-gears *c* and *e* thereon, the coupling-gear *f*, and its sliding shaft *f'*, arranged between said gears *e* to mesh with both and thereby transfer the motion from one to the other, and the dogs *g*, *g'* arranged to hold the said coupling-gear into or out of engagement, all substantially as herein specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

JOSEPH GILMOUR.

Witnesses:

ROBT. CONNOR,
WM. R. YOUNG.