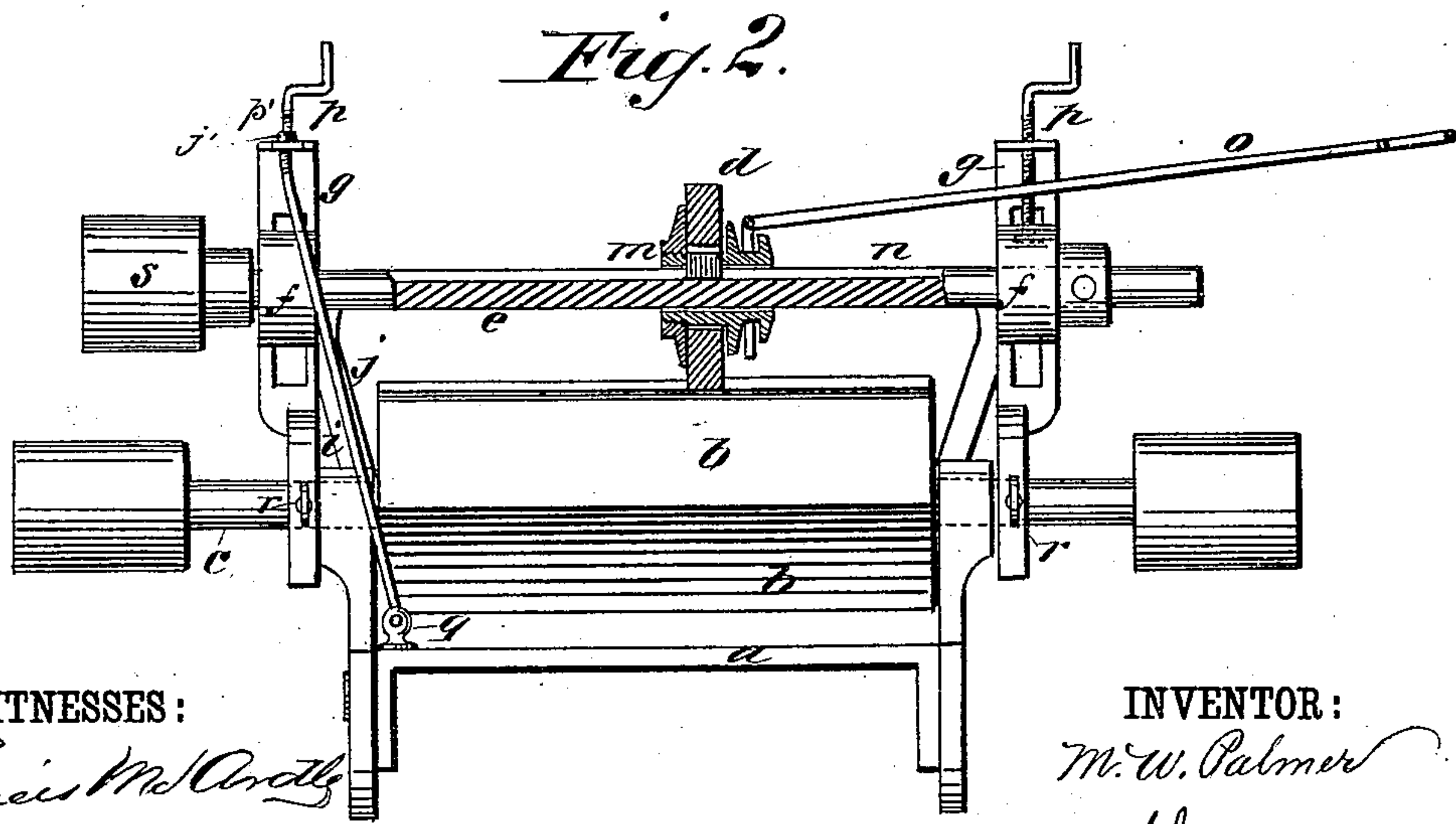
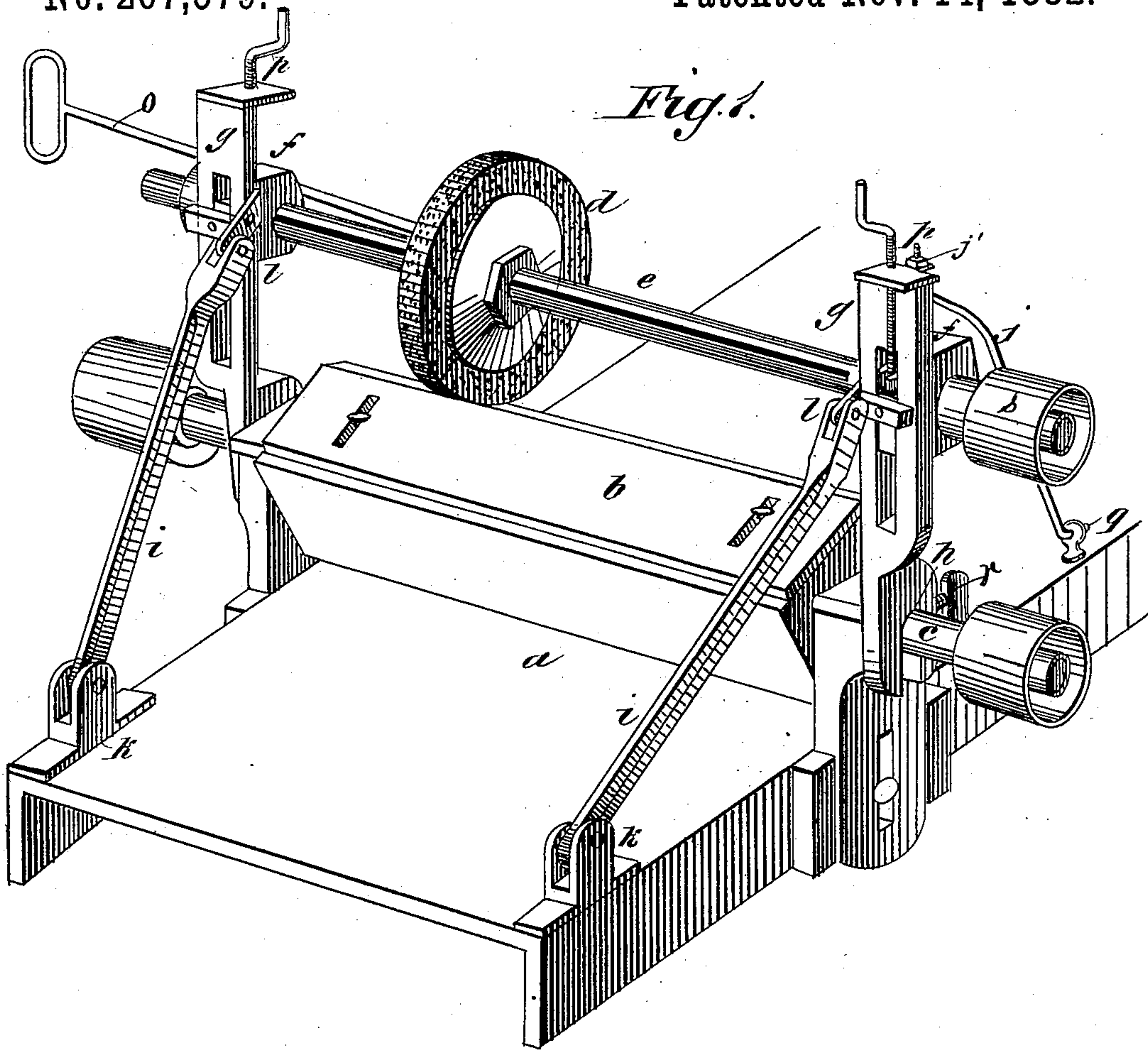


(Model.)

M. W. PALMER.
PLANER KNIFE GRINDER.

No. 267,579.

Patented Nov. 14, 1882.



WITNESSES:

Francis McCord
C. Sedgwick

INVENTOR:

M. W. Palmer

BY

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UNITED STATES PATENT OFFICE.

MERRITT W. PALMER, OF HOLLAND, ASSIGNOR OF ONE-HALF TO CHARLES R. BROWNELL, OF HAMILTON, MICHIGAN.

PLANER-KNIFE GRINDER.

SPECIFICATION forming part of Letters Patent No. 267,579, dated November 14, 1882.

Application filed August 16, 1882. (Model.)

To all whom it may concern:

Be it known that I, MERRITT W. PALMER, of Holland, in the county of Ottawa and State of Michigan, have invented a new and Improved Planer-Knife Grinder, of which the following is a full, clear, and exact description.

My invention consists of an attachment to be temporarily applied to wood-planing machines for grinding the cutters or knives on the machine as set for work, and without removing or disturbing them, whereby I am enabled to grind them more accurately and with much less time and labor than in the common way, the attachment being more readily applied to the planing-machine than the knives can be removed and applied again, all as hereinafter fully described.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of a portion of a wood-planer with my improved knife-grinder attached, and Fig. 2 is partly an end elevation of the machine and partly a transverse section.

a represents the bed of the planer, and *b* the cutters or knives, the latter being attached to the arbor *c*, the same as in use.

d represents an emery or other rotary grinder, fitted so as to revolve with and traverse on the mandrel *e*, whereon it is mounted, and said mandrel is mounted in vertically-adjustable boxes *f* on upright supports *g*, which are notched at the lower end to be temporarily placed on the planer knife-arbor *c*, as shown at *h*, whereon they are supported by braces *i* and the rod *j*, adjustable by nut *p'*, working on thread *p*, the braces being jointed to brackets *k*, permanently attached to the planer-bed, and also jointed to projections from the uprights at *l*, the connections with the brackets *k* being readily detachable.

j' is a nut on the upper end of the rod or counter-brace *j*, to hold it firmly to the top of support *g*.

The grinder is fitted to the mandrel *e* by a

feather, *m*, and groove *n*, so as to be shifted along it from end to end by a leading-rod, *o*. The boxes *f* are suspended from the screws *p*, which work in threads in the tops of supports *g*, so that the grinder-mandrel *e* may be adjusted with respect to the knife-holder on shaft or mandrel *c*.

The brackets *k* are attached to the bed *a*, where they will not be in the way of the regular operations of the machine, and therefore do not have to be removed, the braces *i* being connected to and disconnected from them when the attachment is applied to and removed from the machine.

The stud *q*, by which the adjusting-rod *j* is secured, is also permanently attached. Said rod *j* is tightened up by a nut when the attachment is applied to take up the slack of the joints of the braces *i*. The boxes *f* are then adjusted and the set-screws *r* are tightened on the arbor *c*. The attachment is then ready for work, and is to be set in motion by a belt on the pulley *s*, for revolving the grinder, and by shifting the grinder along the mandrel by hand, with the rod *o* traversing it forward and backward thereon, fast or slow, as may be required, until the grinding is completed of the cutter set to the grinder. The screws *r* are then slackened, the arbor *c* shifted, and another cutter adjusted to the grinder, as before, and so on until all are ground.

The difficulty of resetting the cutters after being removed for grinding in the common way is thus wholly avoided, and much better work is secured. I do not limit myself to the particular construction and arrangement of the attachment herein represented, for it is obvious that it may be modified in some of the details.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a support, *g*, having a notched seat, *h*, of the arbor *c*, the braces *i*, pivoted at *k* and to a projection from said support, and a rod, *j*, whereby said support may be held in position, as described.

2. The combination of the rod *j* with the up-

right supports *g*, adjusting-boxes *f*, arbor *e*, grinder *d*, and braces *i*, substantially as described.

3. The upright supports *g*, having notched
5 seats *h*, fitted to arbor *e*, and provided with adjusting-boxes *f*, braces *i*, rod *j*, arbor *e*, and grinder *d*, in combination with the planer-arbor *e* and cutters *b*, substantially as described.

4. The binding-screws *r*, in combination with arbor *e* and the upright supports *g*, having 10 notched seats *h*, and supporting the mandrel *e* and grinder *d*, substantially as described.

MERRITT W. PALMER.

Witnesses:

FRANK DALTON,
ISAAC FAIRBANKS.