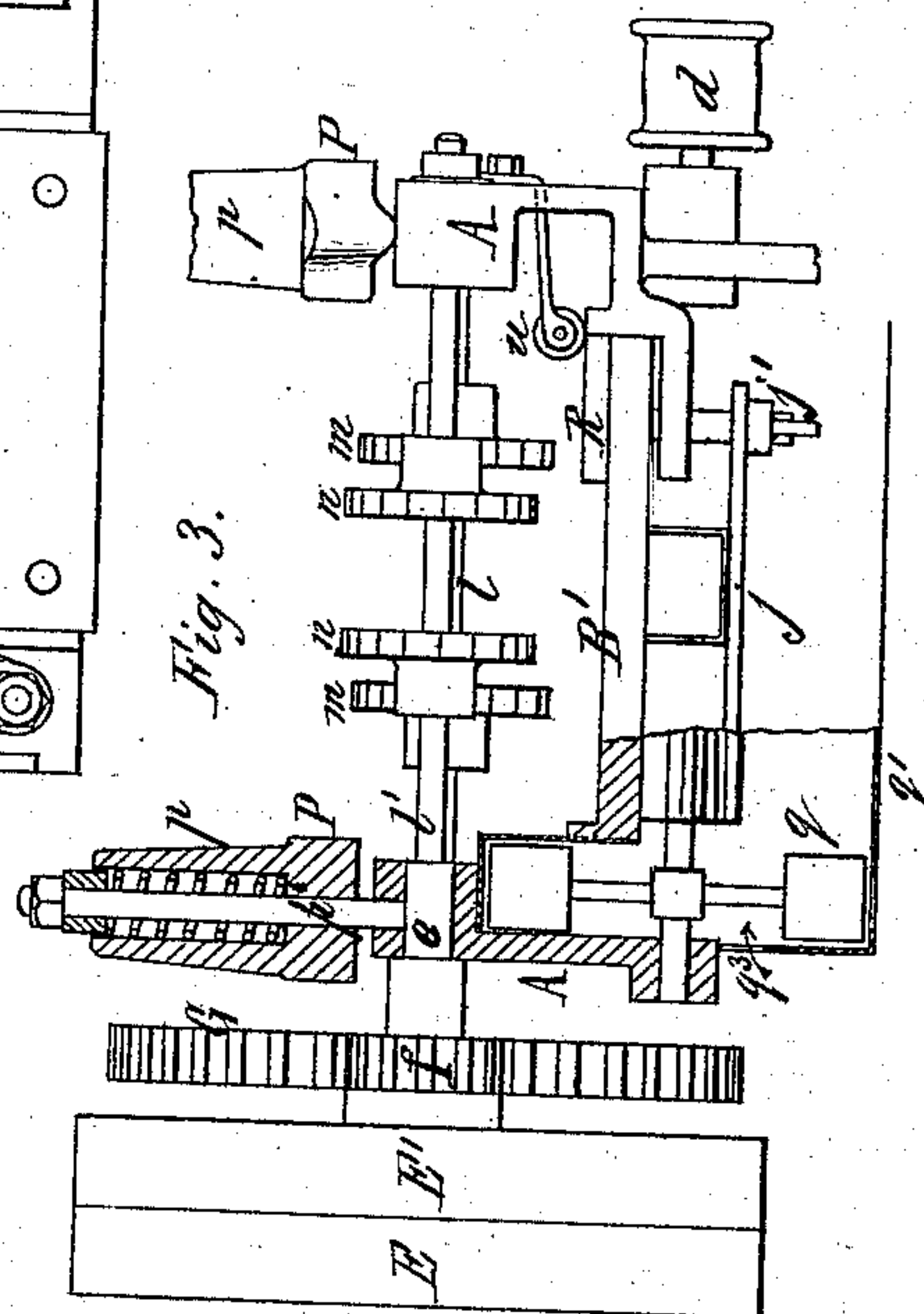
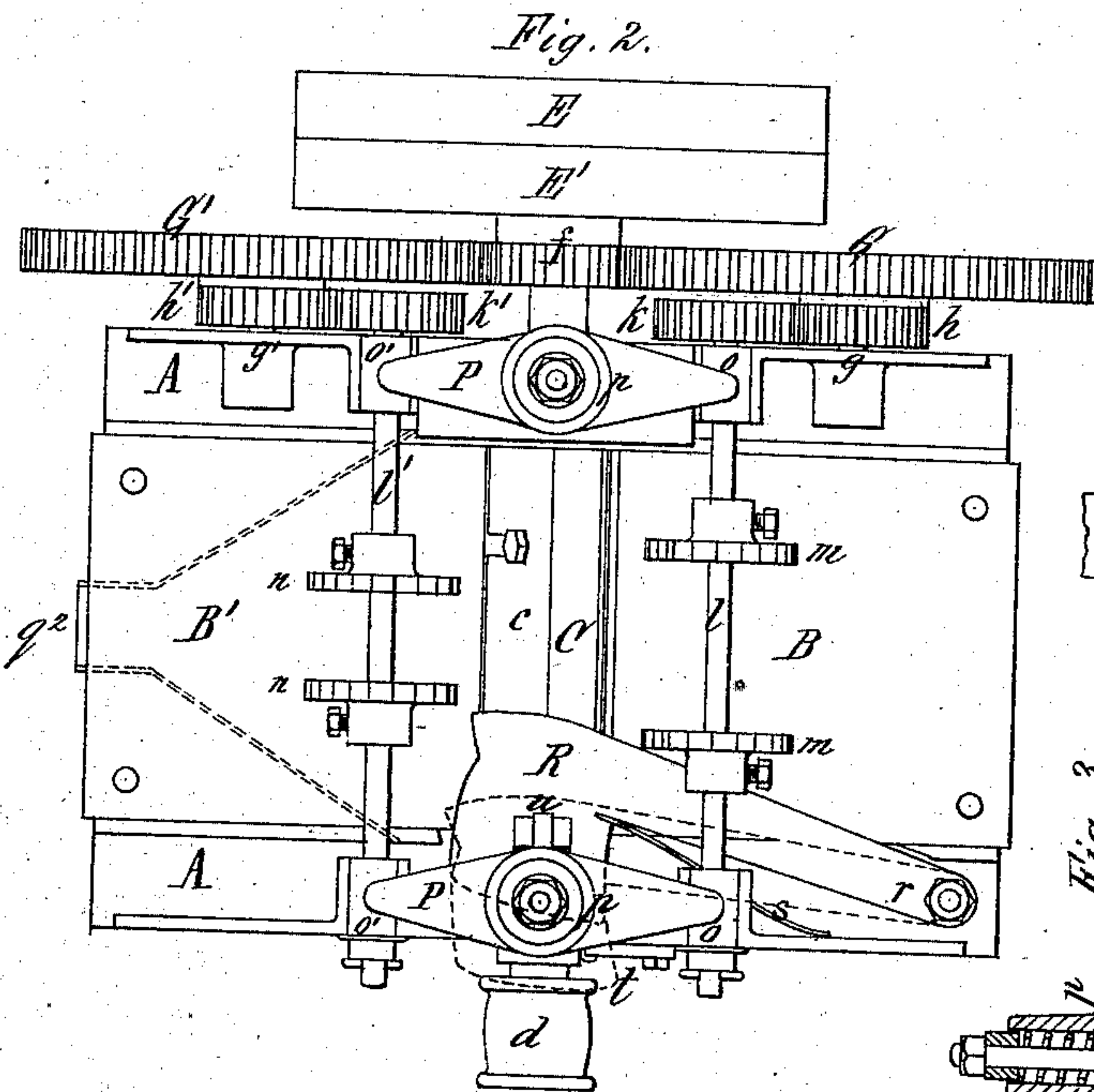
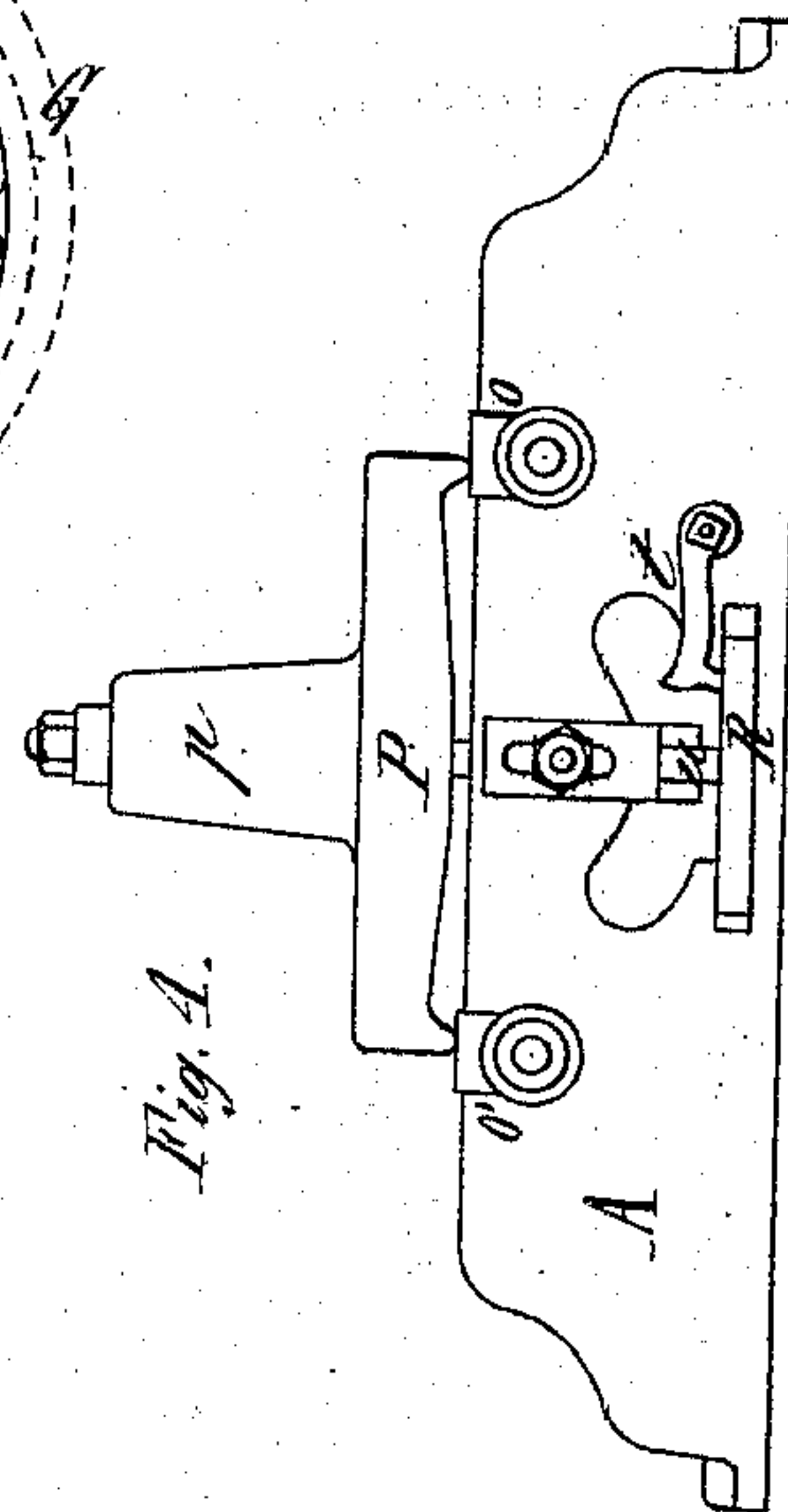
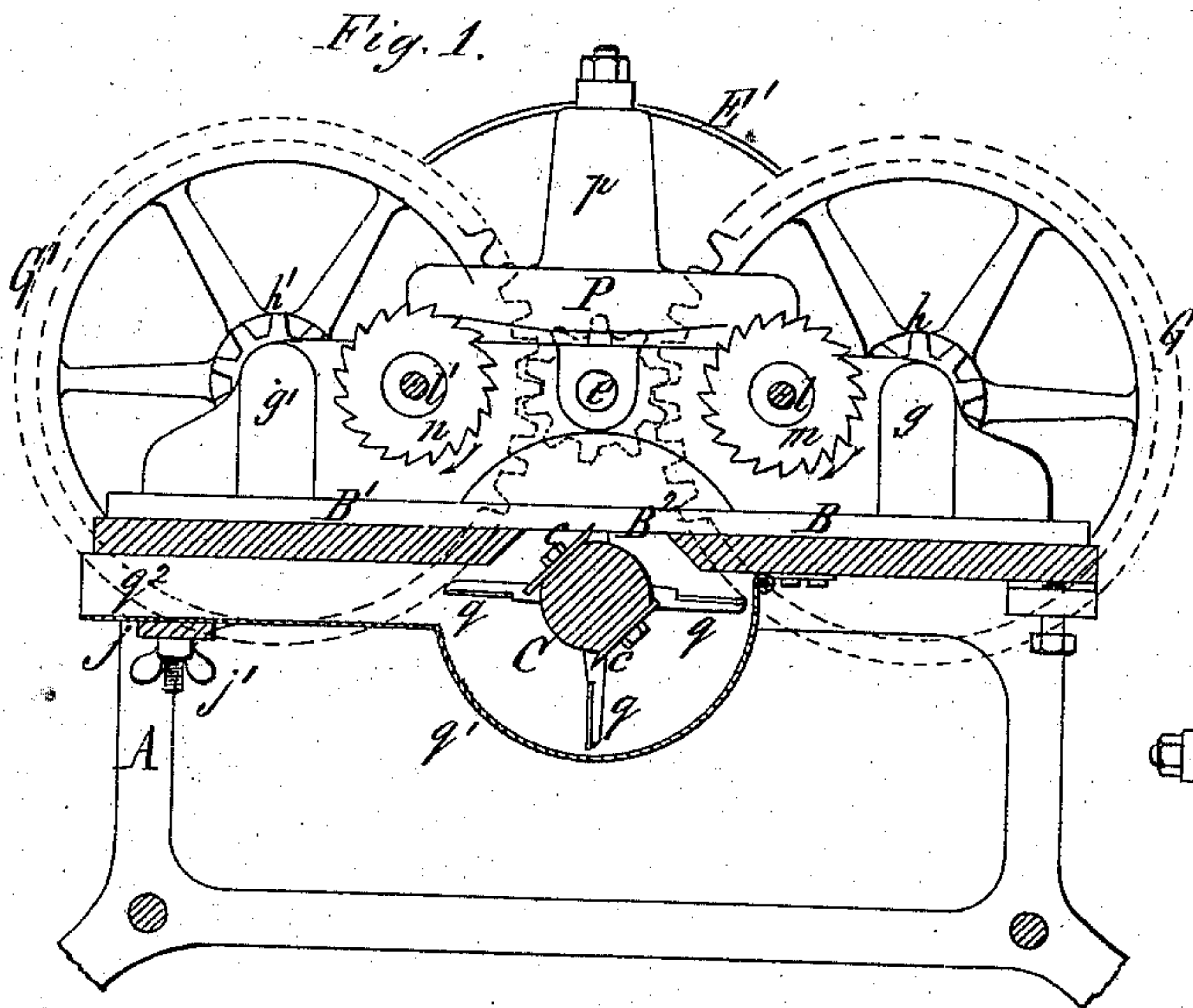


E. & B. HOLMES.
Machines for Planing Barrel-Heads.
 No. 158,213. Patented Dec. 29, 1874.



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UNITED STATES PATENT OFFICE.

EDWARD HOLMES AND BRITAIN HOLMES, OF BUFFALO, NEW YORK.

IMPROVEMENT IN MACHINES FOR PLANING BARREL-HEADS.

Specification forming part of Letters Patent No. 158,213, dated December 29, 1874; application filed August 7, 1874.

To all whom it may concern:

Be it known that we, EDWARD HOLMES and BRITAIN HOLMES, both of the city of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Machines for Planing Barrel-Heads, of which the following is a specification:

Our invention consists in the combination, with the bed and revolving cutter-head, of fan-blades and a fan-case, for creating an air-current, by which the shavings are carried off; also, in the relative arrangement of the two pairs of feed-disks; and, lastly, in the combination, with the slotted bed-plate, of an adjustable shield or gate for preventing undue admission of air to the fan-case.

In the accompanying drawing, Figure 1 is a longitudinal section, Fig. 2 a plan view, and Fig. 3 a partly sectional rear end elevation, of a machine provided with our improvements. Fig. 4 is a side elevation of the upper portion of one of the side frames and connecting parts of the machine.

Like letters of reference designate like parts in each of the figures.

A A represent the upper portions of the side frames of the machines, the legs not being shown in the drawings. B B¹ are the two portions of the bed-plate, arranged so as to leave a transverse open space or slot, B², between them in the middle of the machine, through which project the cutters *c*, attached to the revolving head C. *d* is the pulley by which the cutter-head is rotated. All of these parts are old and well known. *f* is the driving-pinion of the feed-motion, arranged centrally on one side of the machine, and connected with tight and loose pulleys E E', which turn on a stud, *e*, secured in one of the side frames A. The pinion *f* meshes with two gear-wheels, G G', turning on studs *g g'*, secured in one of the side frames A, on opposite sides of the stud *e*. *h h'* are two gear-pinions, cast, respectively, on the inner side of the wheels G G', and engaging with gear-wheels *k k'*, mounted on the feed-shafts *l l'*. The latter are arranged above the beds B B¹, on opposite sides of the cutter-head C. *m m* are two serrated or toothed feed-wheel disks mounted on the shaft *t*; and *n n*, two similar feed-wheels mounted on the shaft *l'*, which are adjustable

longitudinally upon their respective shafts. The wheels *m m* are preferably arranged near the sides or edges of the bed-plate, and the wheels *n n* near the longitudinal center line of the machine, for a purpose presently to be explained. The shafts *l l'* turn, respectively, in boxes *o o'*, capable of vertical movement between suitable guides or jaws of the side frames A. P is a bridge-piece, bearing with its ends on the boxes *o* and *o'* on the same side of the machine, and provided with a centrally-arranged hollow sleeve, *p*, projecting upwardly, and containing a spiral or other suitable spring, tightened by a screw-bolt, *p'*, and a suitable nut and washer, so that each end of each of the feed-shafts *l l'* can be adjusted independently.

By this means the feed-disks *m n* adapt themselves to any inequalities in the thickness of the stuff passed through the machine, which is very important in planing barrel-heads which are composed of several pieces differing in thickness. The peculiar arrangement of the feed-disks *m n* shown in the drawing enables the same to bear upon the barrel-heads at four different points, whereby the same are firmly held down to the bed and cutter.

q represents four blades secured by arms to the shaft of the cutter-head C, near one end thereof, and *q¹* the fan-case, inclosing the fan-blades *q* and the cutter-head C. *q²* is the discharge-spout of the fan-case, arranged under one of the beds B B¹, and conducting the shavings to any convenient place. Air is admitted to the fan-case *q¹* through an opening, *q³*, around the shaft of the cutter-head on the side away from the fan. The lower half of the fan-case *q¹* is hinged to a cross-piece arranged on the under side of the bed-plate B, so as to be readily swung open and permit access to the cutter-head. It is secured in place by a cross-bar, *j*, and screw-nuts *j'*, arranged under the discharge-spout *q²*, as clearly shown in Figs. 1 and 3. The air drawn in through the opening *q³* by the action of the fan carries the shavings with it until they reach the fan *q*, when they are removed by the blast through the spout *q²*. R is an adjustable gate or shield, resting on the bed-plate, and hinged to one of the side frames A, as shown at *r*, Fig. 2, so as to close a portion of the opening B². The

shield R is provided with a suitable spring, *s*, retaining it in its inwardly-projecting position, as shown in Fig. 2.

In operating upon heads, or other articles of less width than the bed-plate of the machine, the shield R bears against one side thereof, and by covering that portion of the opening B² which is not closed by the articles being planed, prevents the admission of air to the fan-case through said opening while the machine is operating upon the article. The cover R is readily drawn aside, when not desired to be used, and locked in this position by a hook, *t*, as shown by dotted lines in Fig. 2. *u* is a pressure-roller, held in a bracket attached to one of the side frames, A, and bearing upon the free end of the cover R to retain it in close contact with the bed-plate.

What we claim as our invention is—

1. The combination, with the bed and re-

volving cutter-head C, provided with fan-blades *q*, of the fan-case *q*¹, substantially as and for the purpose hereinbefore set forth.

2. In a machine for planing barrel-heads, the combination, with the bed and cutter-head C, of the shafts *l l'*, having adjustable bearings, and each provided with a pair of adjustable feed-wheels, *m n*, arranged and operating substantially as and for the purpose hereinbefore set forth.

3. The combination, with the fan, cutter-head, and bed-plate, of the shield R, substantially as and for the purpose hereinbefore set forth.

EDWARD HOLMES.
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Witnesses:

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