

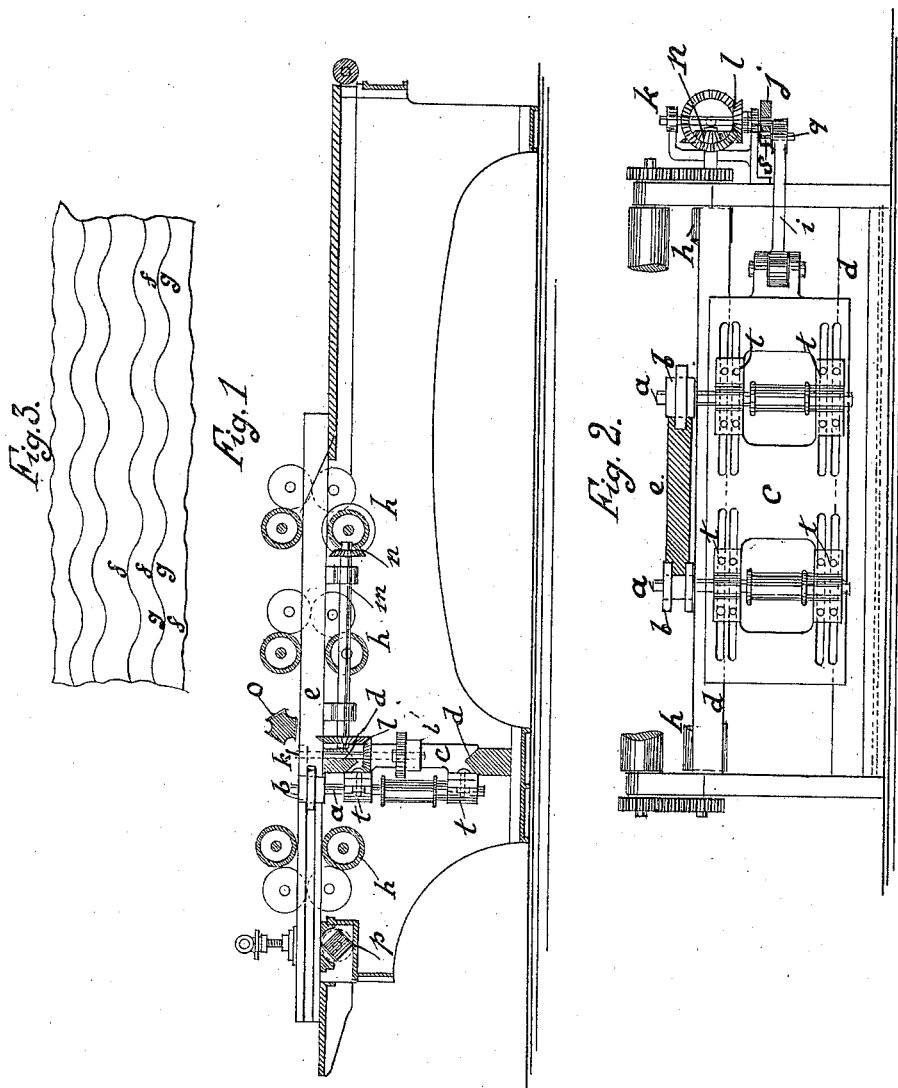
(No Model.)

C. F. RITCHEL.

PLANING AND MATCHING MACHINE.

No. 344,867.

Patented July 6, 1886.



WITNESSES -

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INVENTOR:

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UNITED STATES PATENT OFFICE.

CHARLES F. RITCHEL, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE RITCHEL WAVED FLOORING AND WAINSCOTING COMPANY, OF NEW YORK.

PLANING AND MATCHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 344,867, dated July 6, 1886.

Application filed January 15, 1884. Serial No. 117,672. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. RITCHEL, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Planing and Matching Machines, of which the following is a specification.

My invention consists of a contrivance of the matching-cutters of a machine for planing and matching flooring, wainscoting, and the like material, for dressing the edges of the said material in wave-lines, for making wave-joints of the same when laid and joined in the floor or other structure, for ornamental effect, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is partly a longitudinal section and partly a side elevation of the essential portions of a planing and matching machine with my improved contrivance of the matching-cutters. Fig. 2 is a transverse section of the machine, and Fig. 3 is a plan view of a small section of flooring having wave-lines of the matched edges as I propose to make it.

I take any approved form or construction of planing and matching machine, or it may be a machine for matching only—that is to say, a tonguer and groover—and mount the mandrels *a* of the matching-cutters *b* on a bearing-block, *c*, of any approved form or kind, fitted on ways or in guides *d*, to reciprocate transversely to the course along which the flooring or other strips, *e*, to be matched are fed through the machine, and I gear the bearing-block in any approved way and with any suitable part of the operative mechanism of the machine, to be slowly and continuously shifted forward and backward suitable to make cavities *f* and projections *g* in wave-like form along the edges, taking care that the cavities and projections shall be of uniform length, so that the projections of one strip will fit in the cavities of the other and make close joints. I prefer to arrange both the cutters on one block, so that when one cutter shifts inward on one edge of the strip to form a cavity the other cutter will shift outward to form a projection,

in which case the edges of both sides of the strip will be parallel; but if it may be desired to make the cavities opposite to each other and the projections also, then the cutters will be mounted separately and will be geared to shift simultaneously in opposite directions. The length and depth of the waves may be gaged to suit the judgment or taste of the constructor, and the sliding block *c* will be geared so that the length of its movements may be varied at will. A good proportion for narrow stuff will be a length of three inches and a depth of one-quarter of an inch; but any other desired dimensions may be had. In this example I have geared the sliding block with one of the lower and permanently-located feed-rollers, *h*, by the connecting-rod *i*, disk *j*, shaft *k*, bevel-wheels *l*, shaft *m*, and the bevel-wheels *n*, as a simple way of gearing said shifting block so as to work in due relation to the travel of the boards along the matchers; but the said shifting block may be geared with any other suitable part of the working gear of the planer.

It will of course be preferred to employ this improved wave-matcher together with the surface-planers *o* and *p*, for planing the sides and matching the edges at the same time, for economy in cost of machines and in labor; but said wave-matchers may be used separately, as before stated, if desired.

The other parts of the planing-machine will be the same as used with the ordinary matching attachment, including guides for the edges of the stuff, for causing it to pass in a straight line and without divergence between the planers and matchers.

The connecting-rod *i* is fitted to a crank-pin, *q*, that is adjustable radially in a slot, *s*, of the disk, for adjusting the travel of the matchers to set them for the required depth of the wave-cavities.

The boxes *t* of the matcher-mandrel are mounted adjustably on the sliding block *c*, to set them for wider and narrow strips.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a tonguer and groover for matching flooring and wainscoting, the matching-cutters

having one sliding support common to both, arranged to reciprocate transversely to the line of the feed-movement of the lumber, and geared with a feed-roll or equivalent operative part of the machine, on which support said cutters are both mounted to move together and alike in the same direction at the same time, and thereby make parallel wave-edges of the lumber, substantially as described.

- 10 2. In a planing and matching machine, the combination of a pair of matching - cutters and surface - planers, the matching - cutters having one sliding support common to both, arranged to reciprocate transversely to the

line of the feed-movement of the lumber, and geared with a feed-roll or equivalent operative part of the machine, on which support said cutters are both mounted to move together and alike in the same direction at the same time, and thereby make parallel wave-edges of the lumber, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHAS. F. RITCHEL.

Witnesses:

W. J. MORGAN,
S. H. MORGAN.