# W. WELLS.

## Planing-Machine.

No. 167,145. Patented Aug. 24, 1875.

*Fig. 1.*

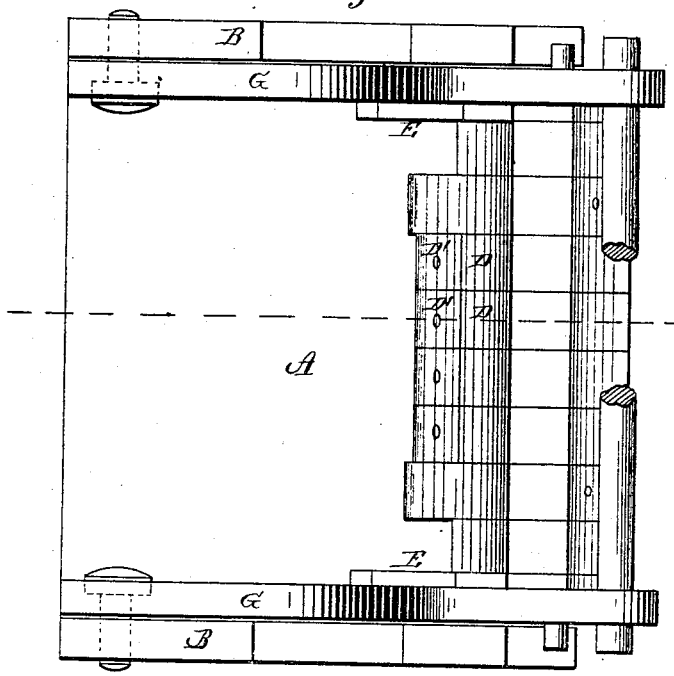



*Fig. 3.*

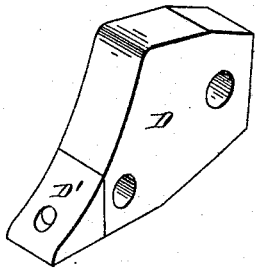
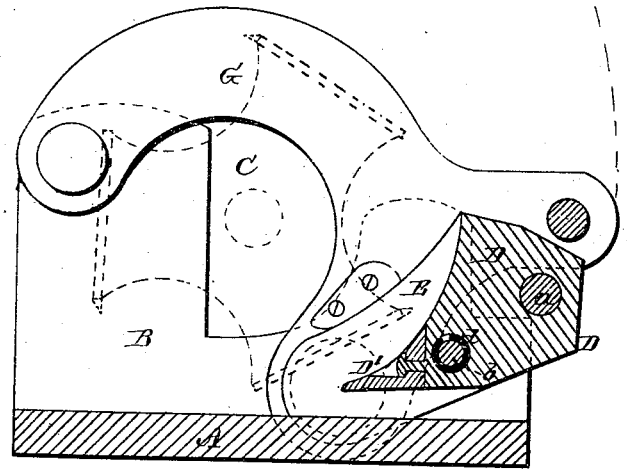



*Fig. 2.*




WITNESSES

Henry N. Miller

C. L. Evert

By

INVENTOR

William Wells.

Alexander Thrasher

Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM WELLS, OF SALEM, MASSACHUSETTS.

## IMPROVEMENT IN PLANING-MACHINES.

Specification forming part of Letters Patent No. **167,145**, dated August 24, 1875; application filed June 19, 1875.

*To all whom it may concern:*

Be it known that I, WILLIAM WELLS, of Salem, in the county of Essex and in the State of Massachusetts, have invented certain new and useful Improvements in Planing-Machines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of chip-breakers for planing-machines which are made in sections, to adjust themselves to inequalities in the lumber; and the nature of my invention consists in a series of chip-breakers hinged on a rod or shaft which passes through them, and has its bearings in side arms, and these arms hung at their front ends below the cutters. It also consists in providing each section of the chip-breaker with a swiveled toe, and in the combination of parts, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a perspective view of the chip-breaker.

A represents the bed of the planing-machine, and B B are sides or standards at the sides thereof, in which the cutter-head C has its bearings. D D represent a series of chip-breakers, hung upon a rod or shaft, *a*, which passes through their upper portions, as shown in Fig. 2. This rod or shaft has its bearings in side pieces or arms E E, which are pivoted at their front ends, below the cutters. Through the inner portions of the chip-breakers is passed a rod, *b*, which is surrounded by a rubber sleeve, *d*. The front ends of the arms E E are pivoted in the lower ends of two curved arms, G G, which extend over the cutter-head journals, and their upper ends pivoted to the standards B B. The parts should be so arranged that the pivots of the arms E will be below the cutter-head, and the toes or points of the chip-breakers on a line with said pivots. Now, when the cutters strike the lumber passing under the chip-breakers, the lifting tendency of the cutters or knives is counteracted by the leverage exerted by the arms G and E, and the chip-breakers D, so that the lumber will not be raised by the cutters from the bed. This is a very important feature in a planing-machine, and one which is not accomplished when the arms E are hung or pivoted above the cutters. Each chip-breaker yields sufficiently independent of the others by means of the rubber sleeve *d* on the rod *b*, to compensate for uneven surfaces of the lumber. The front end or toe D′ of each chip-breaker is made separate from it, and pivoted or swiveled thereto, so that the toe will the better accommodate or adjust itself to curved or uneven surfaces of the lumber.

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

The chip-breaker, formed of a series of independently-moving sections D, each section of which is provided with a pivoted toe-piece, D′, in combination with the spring-rod *d*, pivot-bar *a*, and levers G, all substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of June, 1875.

WILLIAM WELLS.

Witnesses:

WILLIAM A. SKINKLE,

H. A. HALL.