

No. 840,238.

PATENTED JAN. 1, 1907.

L. J. NELSON.
CHIP BREAKER.

APPLICATION FILED SEPT. 25, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

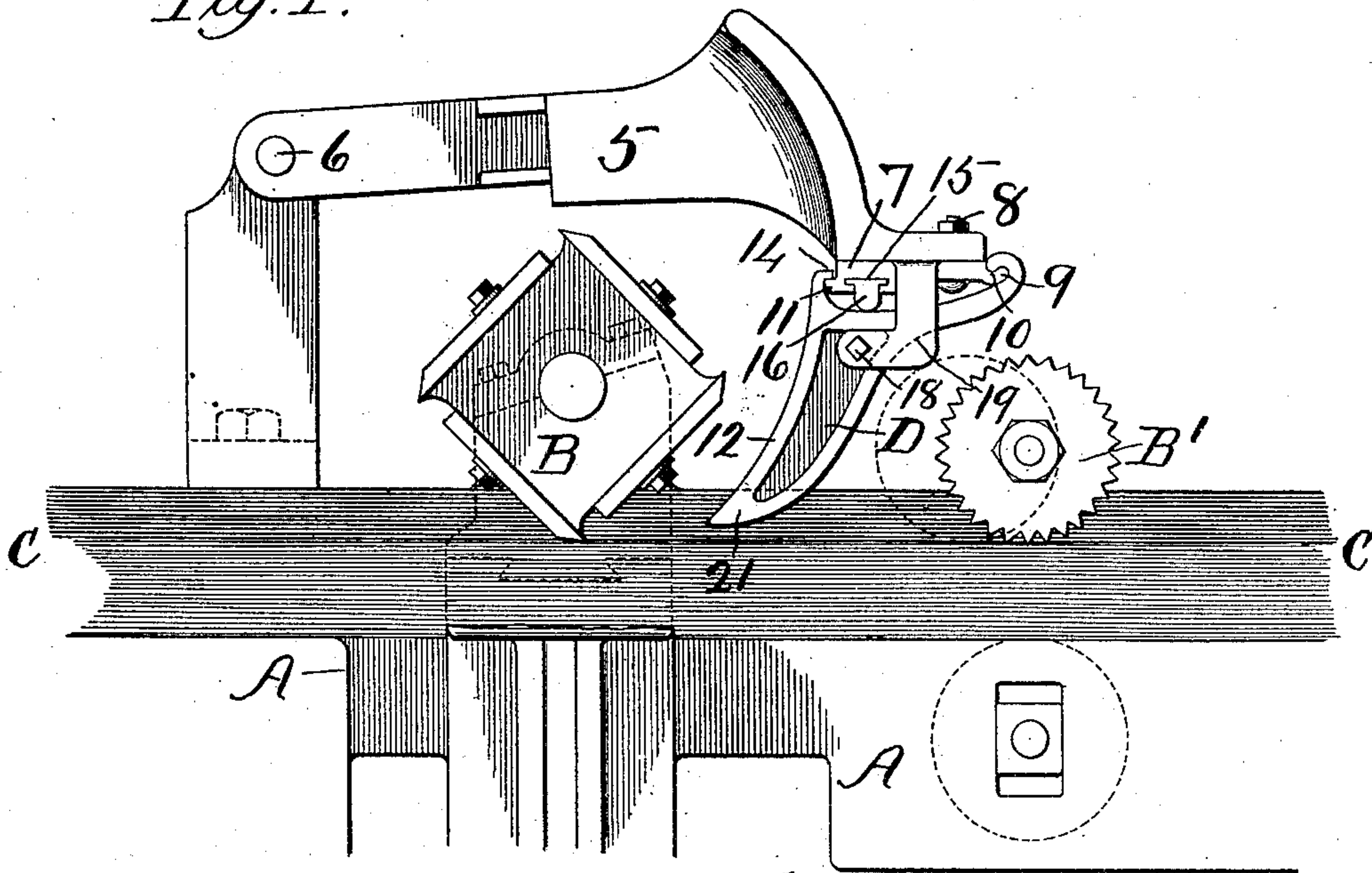
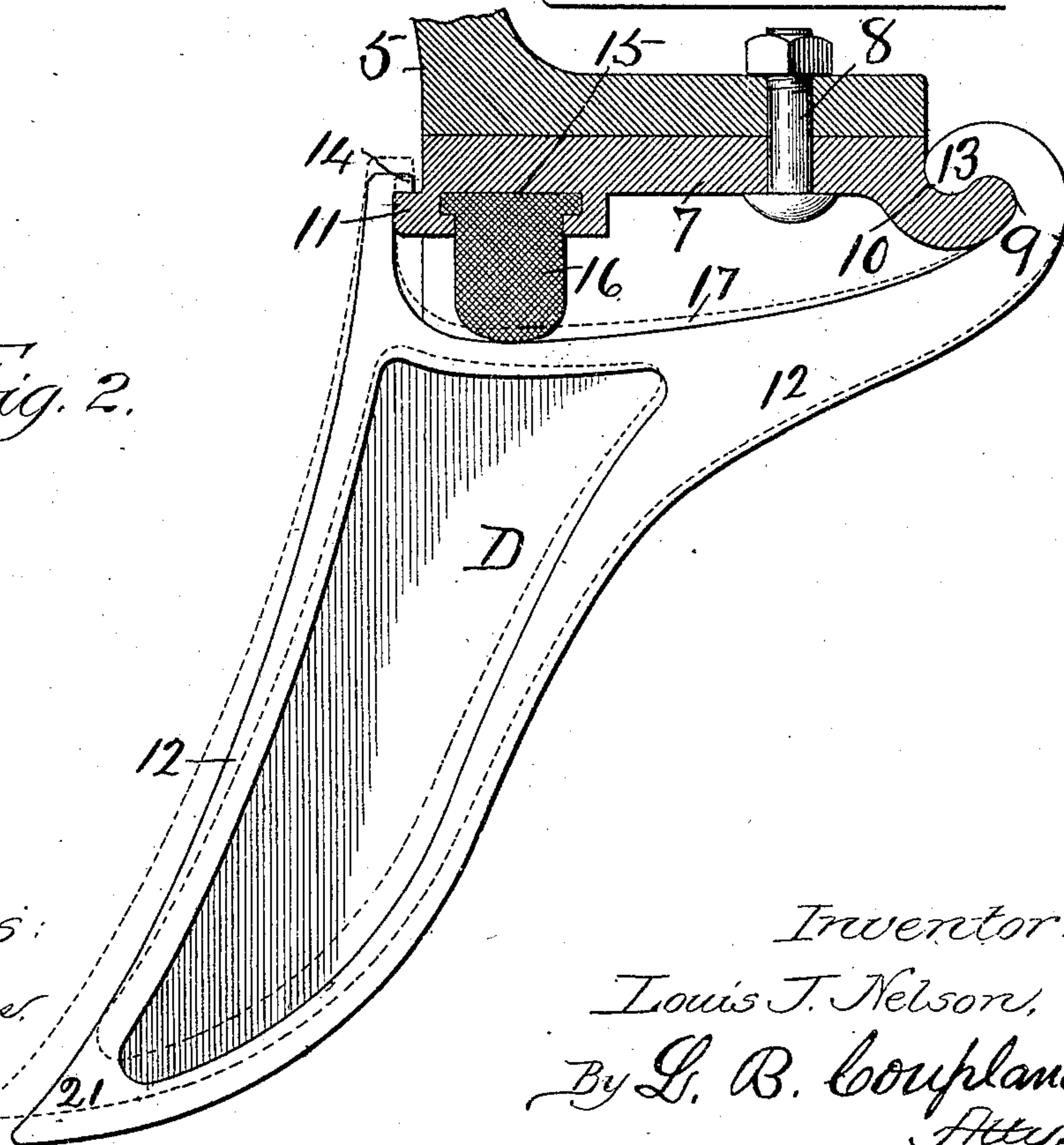


Fig. 2.



Witnesses:

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Chas. H. Buell.

Inventor:

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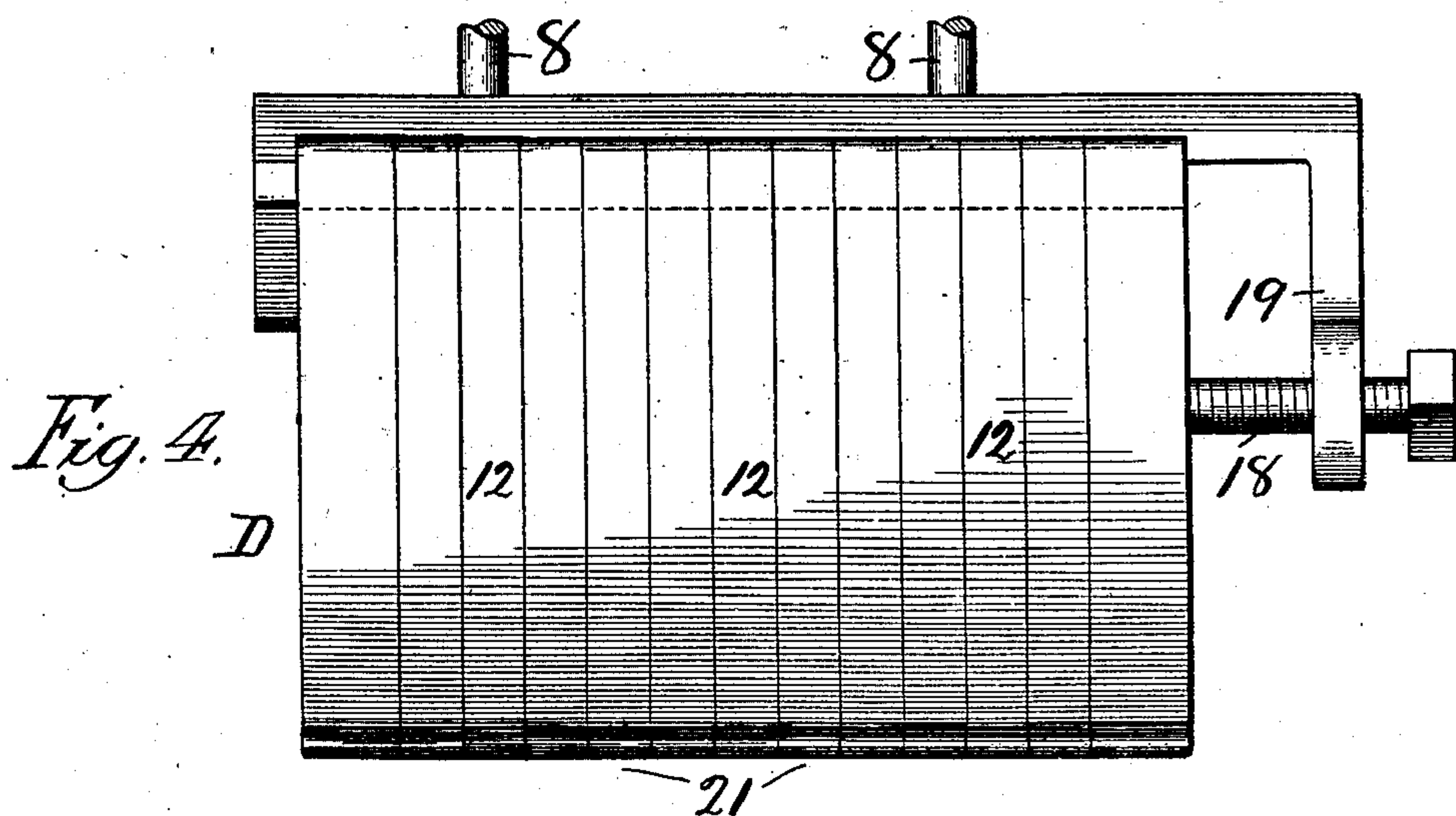
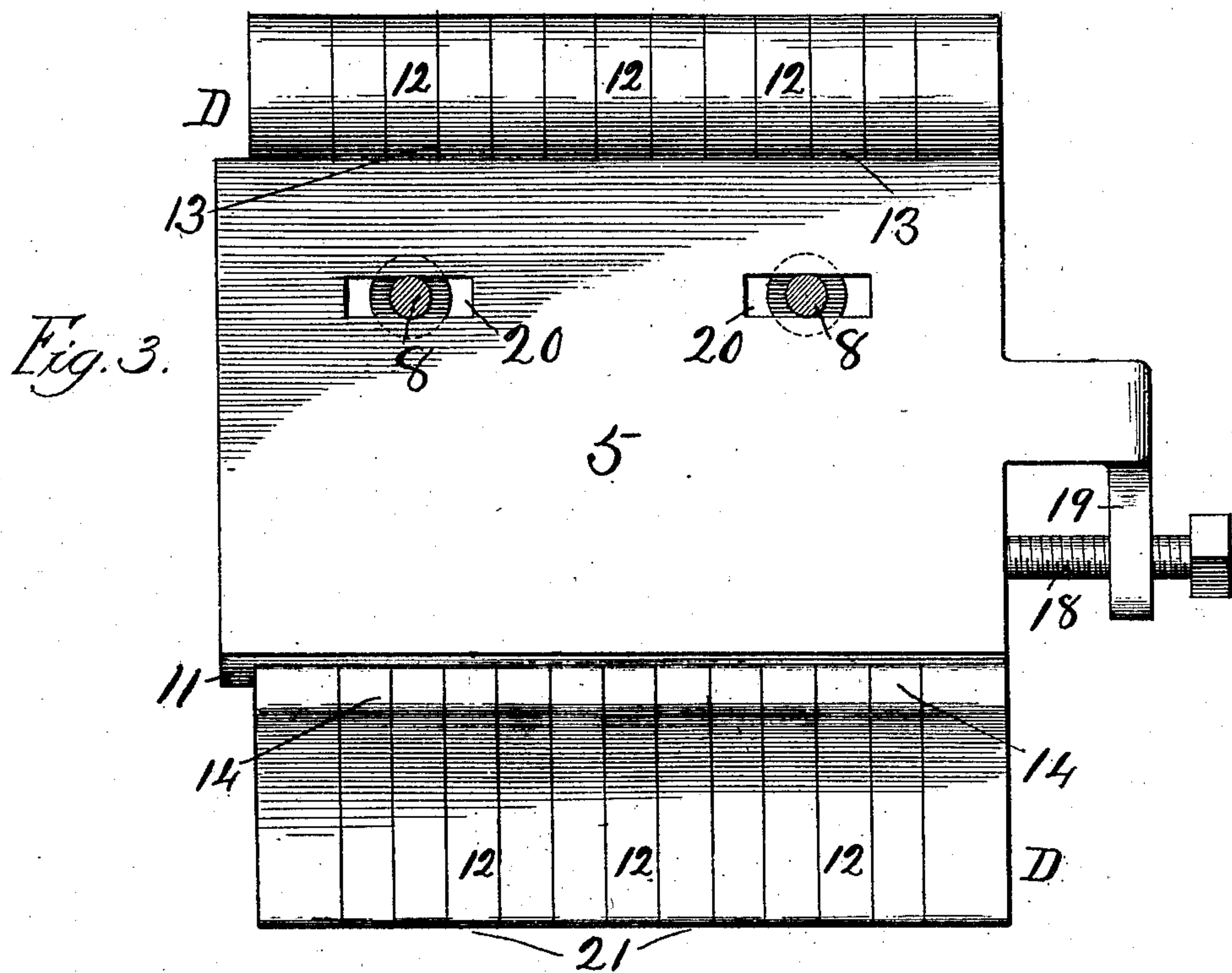
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

LOUIS J. NELSON, OF CHICAGO, ILLINOIS.

CHIP-BREAKER.

No. 840,238.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed September 25, 1905. Serial No. 280,016.

To all whom it may concern:

Be it known that I, LOUIS J. NELSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Chip-Breakers, of which the following is a specification.

This invention relates to an improved chip-breaker attachment for planing, sticking, and analogous woodworking machines, and has for its object to provide a device composed of a number of sectional units loosely assembled together, but each having an independent action or movement with reference to the other and operating with the minimum of friction and noise and in the most reliable and efficient way. To this end the said invention consists in the construction and combination of parts hereinafter more particularly set forth and claimed.

In the drawings, Figure 1 is a front elevation showing part of a planing-machine embodying the improved features. Fig. 2 is a sectional elevation of the device proper. Fig. 3 is a plan, and Fig. 4 is a front elevation of the same.

A may represent parts of the machine-frame; B, the cutter-head; B', a feed-roll, and C the feed-table supporting the work on its way through the machine, all of which are of the usual construction, and therefore will not be described in detail.

The chip-breaker or presser-foot D is supported on the free end of an arm 5 and is located between the cutter-head and the feed-roll. The opposite end of the arm 5 has a pivotal bearing 6, so that the same may be raised or lowered, as required.

A head-plate 7 is rigidly secured to the free end of the arm 5 by a number of bolts 8. This plate is held in a horizontal position and is provided at the rear side with a curved-up edge 9, forming a concave channel 10 parallel thereto, and on the front edge with a rib 11, as best shown in Fig. 2.

The breaker proper consists of a number of sections 12, which are of the foot-shaped contour shown in Fig. 2. The upper rear heel end of the breaker-sections are each provided with an inturned curved terminal edge 13, which corresponds to the curved edge 9 of plate 7 and seats loosely in the channel 10 formed therein, and thus provides a hinge connection for a slight swinging or rocking movement when in action. The upper front ends of the sections are each provided with a

lug 14, which rests loosely on rib 11, formed on the front edge of plate 7, and provides a support and stop for the down movement of the breaker-sections.

The head-plate 7 is provided in the under side longitudinally with a recess or groove 15, into which is fitted an elastic or spring bar 16, preferably of some india-rubber product. This bar has a continuous bearing on the upper hollowed-out part 17 of each of the breaker-sections and serves the dual purpose of assisting gravity in exerting a downward pressure thereon and at the same time prevents the section from springing upward loosely and dancing on the surface of the work. This elastic bar will readily permit of the sections being raised, as indicated by dotted lines in Fig. 2, from the upward pressure of the work passing underneath.

The breaker-sections are assembled loosely, so that each has an independent automatic movement from that of the other in conforming to the requirements of the work. The sections are retained against lateral displacement by means of a screw-bolt 18, threaded in a bracket 19.

The free end of arm 5 is provided with slots 20, Fig. 3, through which the clamping-bolts 8 extend in securing the head-plate of the breaker in place. These slots permit of a lateral adjustment of the breaker when necessary in bringing the same into a proper working position.

Ordinarily the greater proportion of work put through this class of machines is narrow stuff, so that the greater wear comes on the first four or five inside sections and which when worn off too short for use may be readily replaced without having to put in an entire breaker.

In practical working the breaker will be so positioned that the toes 21 of the sections will normally rest in the path of the work and will be raised upward from the pressure of the work, each section having an independent yielding action.

Having thus described my invention, what I claim is—

1. In a chip-breaker for planing-machines and analogous mechanism, a head-plate having a concave channel 10 formed along its upper side parallel and in proximity to one edge and a rib formed at its other edge, in combination with a series of breaker-sections arranged side by side but free to rise independently of each other, each breaker-

section being provided with a part resting on said rib and a rounded part 13 curved over to fit in the said channel substantially as set forth.

5 2. In a chip-breaker for planing-machines and analogous mechanism, the combination of a head-plate with a pivoted arm, means for attaching said plate thereto and adjusting it thereon, and a series of parallel breaker-
10 sections, arranged side by side and carried by said head-plate, each section having two parts which rest on parts of said plate, these parts of said sections and plate being arranged and adapted to permit said sections
15 to tilt up on one side individually substantially as set forth.

3. In a planing-machine or analogous mechanism, a head-plate having at one edge a projecting rib and in proximity to the
20 other edge, which is convex, a concave channel 10, in combination with a series of breaker-sections arranged side by side and pivoted independently, each section being provided with a part which rests on said rib
25 and another part which is curved to fit over said convex edge of the head-plate and into said channel, the contiguous parts of said head-plate and said breaker-sections constituting the pivots for said sections substantially as set forth.
30

4. In a planing-machine or analogous mechanism, a head-plate having a flanged

groove in its under side, a rib at one edge and a channel parallel and in proximity to its other edge, in combination with a series of
35 breaker-sections arranged side by side, each section being provided with two parts which overlap respectively the edges of said head-plate, and a bar of resilient material fitted into said flanged groove and held by the
40 flanges at the mouth thereof and bearing against the upper edges of said sections, each of the latter being adapted to pivot independently on the channeled edge of the said head-plate substantially as set forth. 45

5. In a planing-machine or analogous mechanism, a head-plate having a rib at one edge and a channel near the other, in combination with a series of breaker-sections arranged side by side and adjustable means for
50 preventing their lateral displacement each of said sections being provided with two parts, one of which overlaps the said rib, the other part overlapping the other edge of said head-plate, fitting into said channel and affording
55 a pivotal bearing for said breaker-section substantially as set forth.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

LOUIS J. NELSON.

Witnesses:

L. B. COUPLAND,
G. E. CHURCH.