

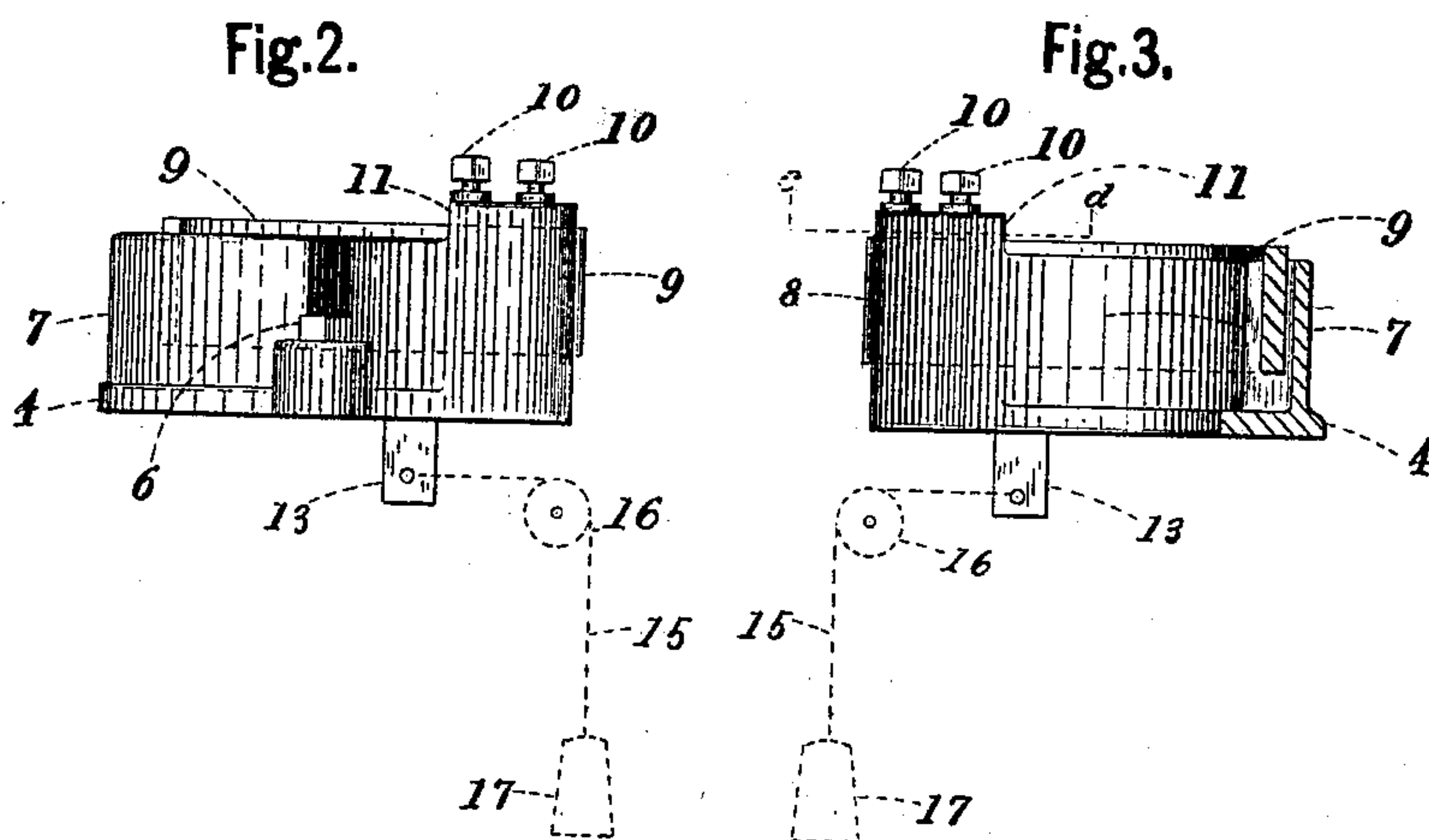
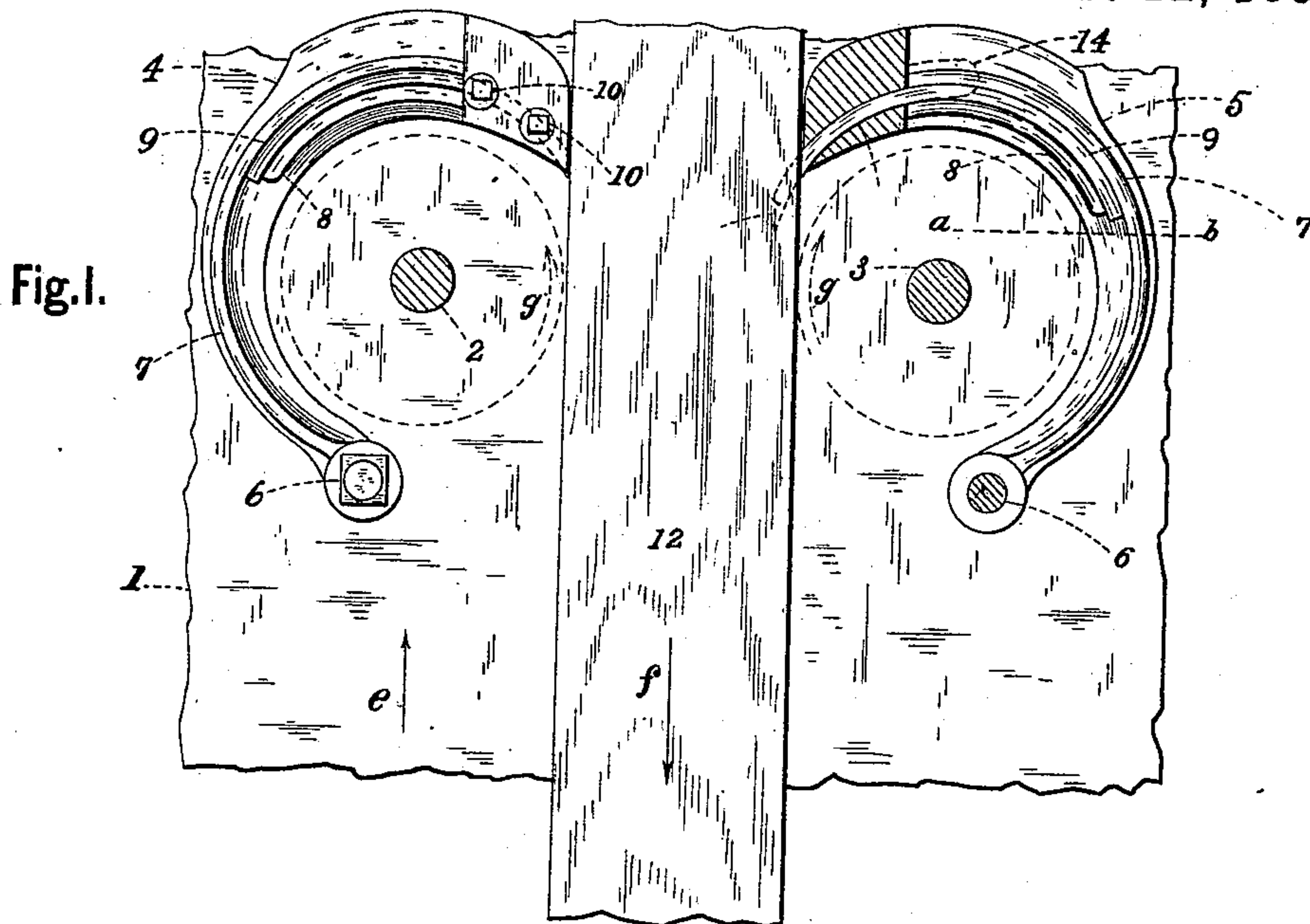
(No Model.)

F. H. CRAFTS.

CHIP BREAKER.

No. 397,834.

Patented Feb. 12, 1889.



Witnesses.

Arthur Sangster
Frank A. Fox

Inventor.

Francis H. Crafts
By James Sangster
att'y.

UNITED STATES PATENT OFFICE.

FRANCIS H. CRAFTS, OF BUFFALO, NEW YORK, ASSIGNOR TO E. & B. HOLMES,
OF SAME PLACE.

CHIP-BREAKER.

SPECIFICATION forming part of Letters Patent No. 397,834, dated February 12, 1889.

Application filed November 17, 1887. Serial No. 255,385. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS H. CRAFTS, a citizen of the United States, residing in Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Chip-Breakers, of which the following is a specification.

My invention relates to certain improvements in "chip-breakers" for surfacing and matching machines, and will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan or top view showing a portion of a machine to which the chip-breaking devices are connected, showing also a top view of two chip-breakers and their curved holding-bars in their proper position for working, a portion of one of the curved holding-bars being cut away, so as to show the whole of one of the curved chip-breakers. A piece of board to be operated on is also shown between them. Fig. 2 is a side elevation looking in the direction of the arrow *e* in Fig. 1. Fig. 3 represents a section in line *ab*, Fig. 1.

Heretofore chip-breakers have been made of cast-iron, the curved holding-bars and chip-breaking portion all being formed in one piece, so that when the chip-breaking portion was worn the whole had to be thrown away and a new one substituted.

The object of my invention is to avoid this objection by using an adjustable curved steel chip-breaker capable of being adjusted when worn until nearly the whole may be used, so that the chip-breaker only when worn out is required to be replaced by a new one.

In said drawings, 1 represents a portion of the top of the machine to which the device is connected.

2 3 are the vertical shafts to which the rotary cutters are attached; but as my invention is designed to be applied to any of the well-known surfacing and matching machines such as are in common use a further description here of such machine is not required.

4 5 represent the curved chip-breaker holders, which are made right and left, as shown,

and are secured to the top of the machine by the bolts 6, so as to swing horizontally thereon.

7 is a circular or curved vertically-projecting rib, forming the outside rib, and 8 is a shorter inner rib, the two leaving a curved groove into which the curved chip-breakers 9 are nicely fitted, so that they may easily move in said groove for adjustment, and then be rigidly secured by the set-screws 10 at any point to which they may be adjusted. These chip-breakers 9 are preferably made of cast-steel hardened or tempered. The set-screws 10 pass through the top portion, 11, which may be either formed in one piece with the curved holding-bar or rigidly attached to it in any well-known way.

Chip-breakers are usually attached to a machine, as shown in Fig. 1, by bolts 6, so as to turn easily on them, and are drawn toward each other, so as to rest against the edges of the board 12, by means of a lug, 13, which projects down into an opening in the top of the machine to which it is attached. This opening is shown by dotted lines in Fig. 1 and designated by the number 14. To the lugs 13 is a cord, 15, which passes over a grooved friction-roller, 16, and having a weight, 17. (Shown in dotted lines in Figs. 2 and 3.)

In operating with this device the board 12, moving in the direction of the arrow *f* and in opposition to the movement of the cutters, (which move in the direction of the arrow *g*), wears away the point of the chip-breaker, and when sufficiently worn it may easily be adjusted forward and secured as often as may be required until nearly all used up; or, when necessary, it may be taken out and reground and then inserted and adjusted.

I claim as my invention—

1. In a chip-breaker, the combination of a pivoted curved holding-bar provided with a curved groove, a curved adjustable chip-breaker adapted to fit in and be moved around in said groove to adjust it as it wears away, and bolts for securing it at any point when so adjusted, substantially as and for the purposes described.

2. In a chip-breaker, the combination of a pivoted curved holding-bar having a curved

groove, a curved adjustable chip-breaker adapted to fit in and be moved around in said groove to adjust it as it wears away, bolts for securing it at any point when so ad-
5 justed, and a means for holding it up to its work, consisting of a weight connected with a cord passing up and over a grooved friction-

roller and secured to a lug, 13, substantially as described.

FRANCIS H. CRAFTS.

Witnesses:

FRANK A. FOX,
JAMES SANGSTER.