

No. 751,390.

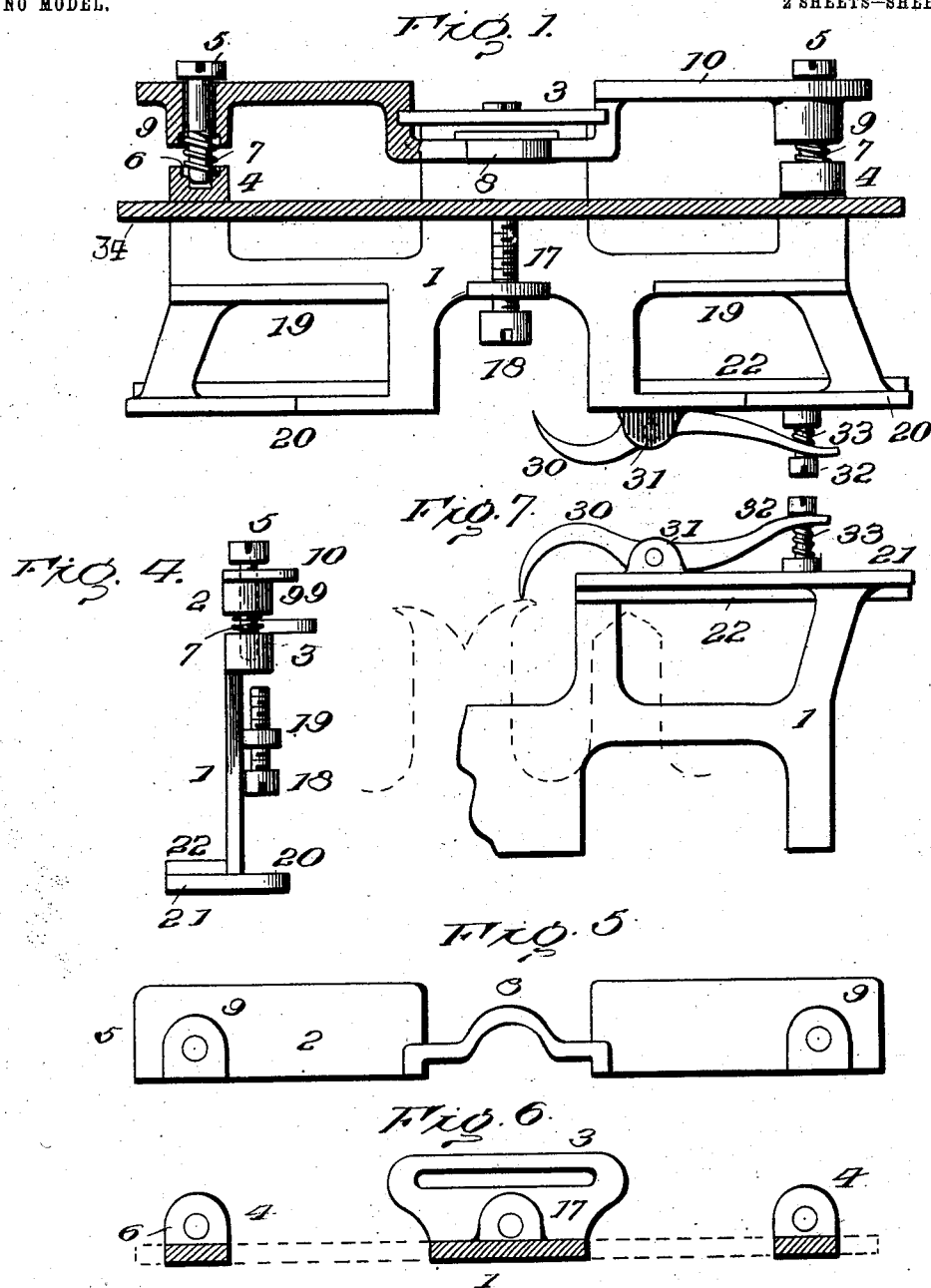
PATENTED FEB. 2, 1904.

C. F. FRAZEE.  
COMBINED JOINTER AND RAKER GAGE FOR SAWS.

APPLICATION FILED APR. 9, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

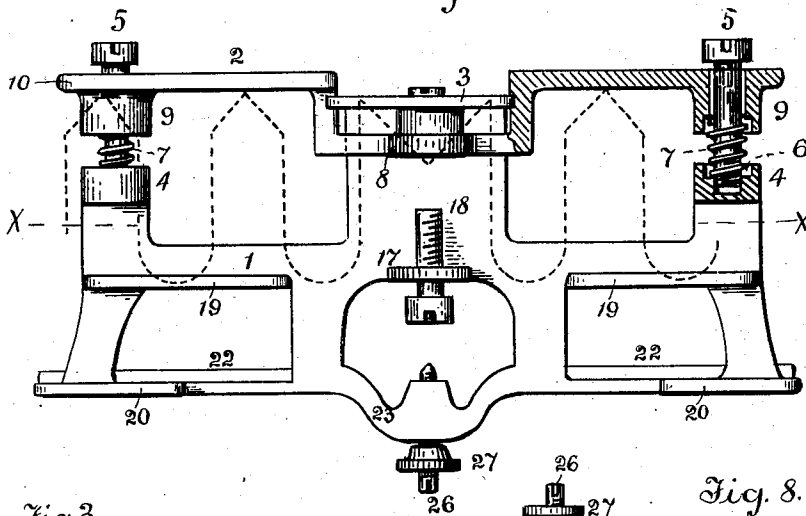


Fig. 3.

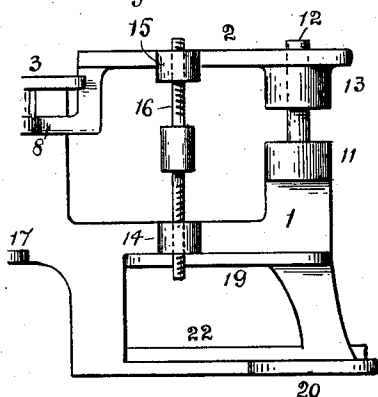


Fig. 8.

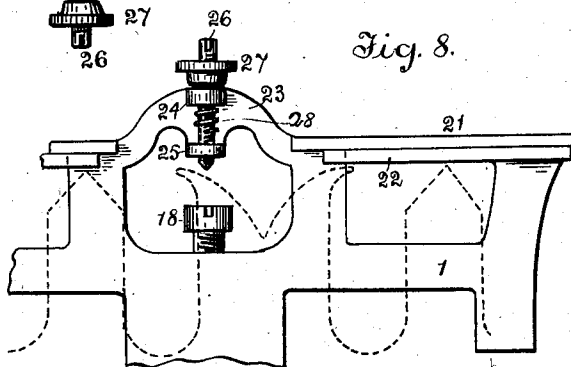


Fig. 9.

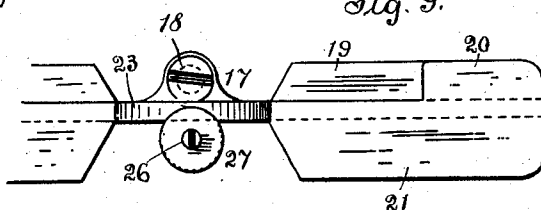


Fig. 10.



Witnesses:

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# UNITED STATES PATENT OFFICE.

CASSIUS FREMONT FRAZEE, OF PORTLAND, OREGON.

## COMBINED JOINTER AND RAKER-GAGE FOR SAWS.

SPECIFICATION forming part of Letters Patent No. 751,390, dated February 2, 1904.

Application filed April 9, 1903. Serial No. 151,931. (No model.)

*To all whom it may concern:*

Be it known that I, CASSIUS FREMONT FRAZEE, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Combined Jointer and Raker-Gage for Crosscut-Saws, of which the following is a specification, reference being had to the accompanying drawings as constituting a part thereof.

The object of my invention is to combine with the implement or tool called a "jointer" means for gaging the raker; furthermore, to make the construction of the gaging attachment such that it may be properly adjusted as conveniently as possible, and that such adjustment may be made while the tool is in position on the saw.

I accomplish my object by the device illustrated in the drawings, in which—

Figure 1 shows a front elevation of my device, partly in section, and illustrates the use of the same as a mere jointer. Fig. 2 is a like elevation illustrating the operation of my device as a gage for determining the proper height of the raker-tooth. Fig. 3 is a like partial elevation of my device, showing a different construction of the means for adjusting the raker-gage from that shown in the preceding figures, the part not shown being a duplicate of that shown. Fig. 4 is an elevation of the left end of my device. Fig. 5 is a plan of the under side of the top part or section of my device, also illustrating the intermediate yoke or bridge connecting the two portions of such top section. Fig. 6 is an inverted plan section on the line *xx* of Fig. 2, showing particularly the horizontally-projecting slotted plate 3, through which the raker-tooth projects when using my device as a raker-gage. Fig. 7 is a rear side elevation of the right-hand portion of my device inverted and illustrates the construction and operation of a device for gaging the swage of the raker. Fig. 8 is an inverted partial elevation of the rear side of my implement, illustrating the construction and operation of a modified, and by me preferred, device for gaging the swage of the raker. Fig. 9 is a partial plan of the un-

der side of my device, showing the same details of construction as are seen in the preceding figure; and Fig. 10 is a perspective detail of the set-screw 26 and the nut 27 thereon.

The numerals designate the parts referred to.

One of the characteristic features of my implement is that the slotted horizontally-projecting plate 3, in which is inserted the raker-tooth, as illustrated in Fig. 2, for the purpose of determining its height relatively to the cutting-teeth, is a fixed portion of the main body, and such plate requires no independent adjustment. The height of the raker is gaged by means of the movable section or part 2, united with the body by adjustable connections. Two forms of such connections are illustrated by me. One of these is seen by referring to Fig. 1. The body is provided with lugs 4 4, having threaded holes to receive set-screws 5 5, and annular recesses 6, constituting sockets in which seat the coil-springs 7. The adjustable section 2 comprises two parts (see Fig. 5) connected by an intermediate bridge 8. Such adjustable section 2 is also provided with apertured lugs 9 9, through which the set-screws 5 extend. The coil-springs 7, also seated in the lugs 9, as in the lugs 4, lift the movable part 2 against the heads of the set-screws 5. Thus by the adjustment of the set-screws 5 the movable section 2 is moved up or down with respect to the body. When, therefore, the height of the raker is to be gaged, the points of the cutting-teeth are set against the under side of the projected rib 10, as shown in Fig. 2, and the movable section 2 is then adjusted until the top of the slotted plate 3 properly marks the height of the points of the raker. Thereupon such points may be filed down, as required.

The other form of adjustable connection between the body 1 and movable sections 2 is shown in Fig. 3, of which the omitted portion is a duplicate of that shown. In this case the lugs 11 hold stud-pins 12, projecting through holes in the lugs 13. The body 1 is provided with lugs 14 and the movable section 2 with lugs 15, all having threaded holes in which are inserted the ends of the right

and left screws 16. By manipulating the latter the movable part 2 may be adjusted the same as described above.

The body considered by itself is designed to operate as a jointer. It is provided with a projecting lug 17, holding a set-screw 18, to removably clamp a file 34 against the lugs 4, and projecting ribs 19 20 are provided, which bear and slide against the side of the saw-blade while filing even the points of the cutting-teeth.

To use my implement as a gage of the raker-tooth, the same is inverted. Opposite to the ribs 20 are ribs 21. On the inner face of the latter are affixed glass plates 22. The device considered by me the preferable form of gage for the swage of the raker is shown in Figs. 8 and 9, its operation being illustrated in Fig. 8. The same consists of a bridge 23, provided with two projecting perforated lugs 24 25. In these is inserted a set-screw 26, provided with milled nut 27. The screw is movably held in the lugs 24 25, but is drawn down and held in its normal place by means of a coil-spring 28, one end of which bears against the lug 24 and the opposite end being secured in a hole 29 in the screw 26.

The operation of the gage is as follows: The point of the screw 26 is so set as to gage the points of the raker-tooth while being swaged in order to make such raker-tooth of proper length relatively to the point of the cutting-teeth. My gage being now applied to the saw-teeth in such manner as to cause the cutting-teeth to bear against the glass plates 22, and the point of the screw 26 being centrally positioned with respect to the raker-tooth, the gage may now be moved back and forth. If now the swaged point of raker being gaged should lift the screw 26 against the spring 28, then as soon as the raker has been moved still farther in the same direction the point of the screw 26 would drop in front of the raker and obstruct the same. This would indicate that the swage on the point of the raker being then operated upon required lowering, and such gaging and adjusting of the respective points of the raker-tooth is continued until both points are in condition to just pass back and forth under the point of the screw 26 without lifting the same. With the raker-gages heretofore in use the measuring of the length of the swage of the raker was not conveniently done. The eye had more or less to be depended upon. With my gage this is rendered entirely unnecessary. Besides the advantages above set forth, the making of the gage for the swage of the raker-tooth so as to adapt the same to be springy—that is to say, so that the screw 26 will give or lift while drawing the gage from between the two points of the raker-tooth over in front of one of them—has the material advantage of preventing any wear or injury of the cutting edge of such raker-tooth.

In the drawings the point of the screw 26 appears conical. It may be deemed preferable, however, to have the same flat. The length of the raker-tooth is of course in the first place gaged slightly above the desired height of the finished swage of the raker. The swage being now formed in the usual way the swage-gage is applied. A mere moving of the implement back and forth over the cutting-teeth will then tell whether the swaged points of the raker have been properly set or require to be further hammered down.

In Figs. 1 and 7 is illustrated the construction of swage-gage, differing somewhat from the gage just described. The operation of the modified structure is, however, substantially the same. It consists of a finger 30, pivoted to a lug 31. The back end of such finger has a slot through which loosely extends a set-screw 32, whereby the finger is adjusted against a coil-spring 33, and, as illustrated in Fig. 7, if the points of the raker have been properly swaged down the raker can be freely moved back and forth under the point of the finger 30. If, however, such points had not been properly swaged down, then the point of the finger 30 would interfere with the raker in the same manner as would the set-screw 26.

The slotted plate 3 is separately made, having to be chilled, and is affixed to the body 1 by a screw.

To avoid inaccurate adjustment of the movable part 2, the operator has but to gage the relative position of the projecting ribs 10 on both sides of my implement to the plate 3.

Having fully described my invention, what I claim is—

1. In a tool of the character described, the combination with a jointer, of a fixed, slotted plate 3, a movable section 2 comprising two portions united by an intermediate integral bridge or yoke 8; lugs 4, having vertical, threaded holes, on the body; lugs 9 having vertical holes, on said movable section set-screws 5 extending through the lugs 9 and adjustable in the lugs 4; and a coil-spring on each set-screw which spring holds the movable section against the leads of the set-screws, substantially as set forth.

2. In a tool of the character described the combination with a jointer provided with projecting ribs 21, and a suitable facing for the same, for the points of the saw-teeth to bear against, of a swage-gage comprising a member vertically movable in bearings therefor provided on the jointer-body, a spring restraining said member in its normal position, and means for vertically adjusting such member, so as to gage the relative length of the raker-tooth, substantially as described.

3. In a tool of the character described the combination with a jointer provided with projecting ribs 21, and a suitable facing for the same, for the points of the saw-teeth to bear

against, of a swage-gage comprising a bridge  
or yoke 23, on the jointer-body, perforated  
lugs 24 25, on such yoke, a set-screw loosely  
seated in said lugs; a coil-spring 28 restrain-  
5 ing said set-screw in its normal position, and  
a nut on the set-screw, to vertically adjust the  
same, so as to gage the relative length of the  
raker-tooth, substantially as described.

In testimony whereof I have hereunto af-  
fixed my signature, in the presence of two wit- 10  
nesses, this 16th day of December, 1902.

CASSIUS FREMONT FRAZEE.

Witnesses:

T. J. GEISLER,

J. B. ANDERSON.