

(No Model.)

2 Sheets—Sheet 1.

L. P. HALLADAY.
SAW SHARPENING MACHINE.

No. 466,411.

Patented Jan. 5, 1892.

Fig. 1.

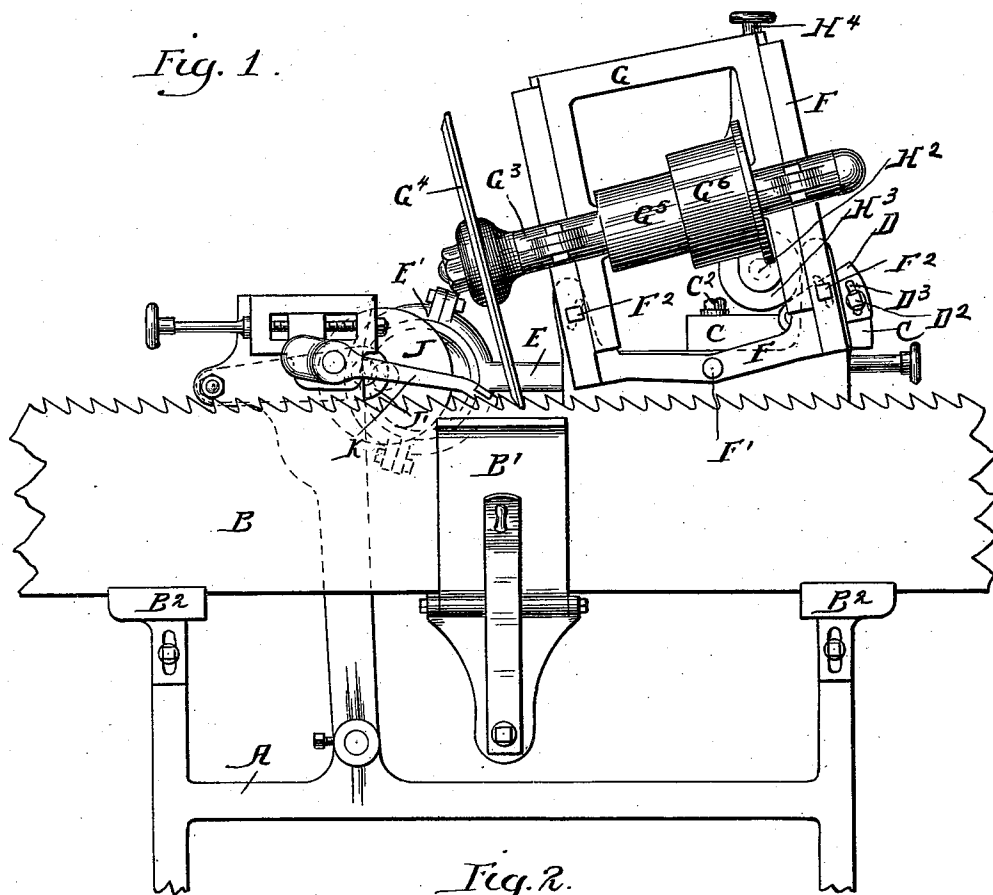
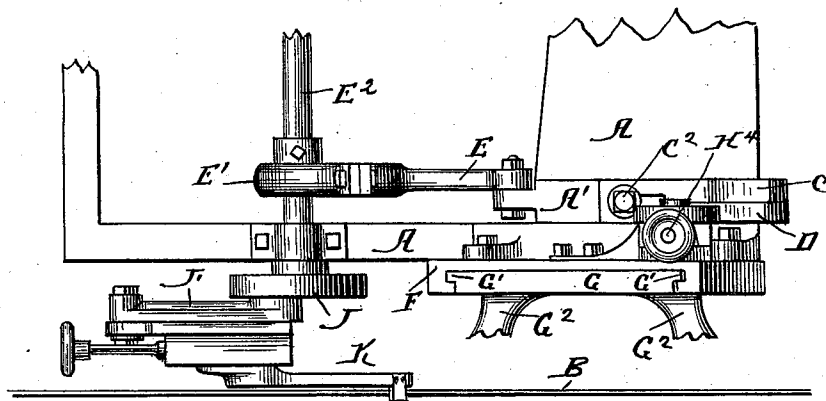


Fig. 2.



Witnesses:

Charles P. Chapman

Harriet M. Hay.

Inventor:
L. P. Halladay
by Francis W. Parker,
Attorney.

(No. Model.)

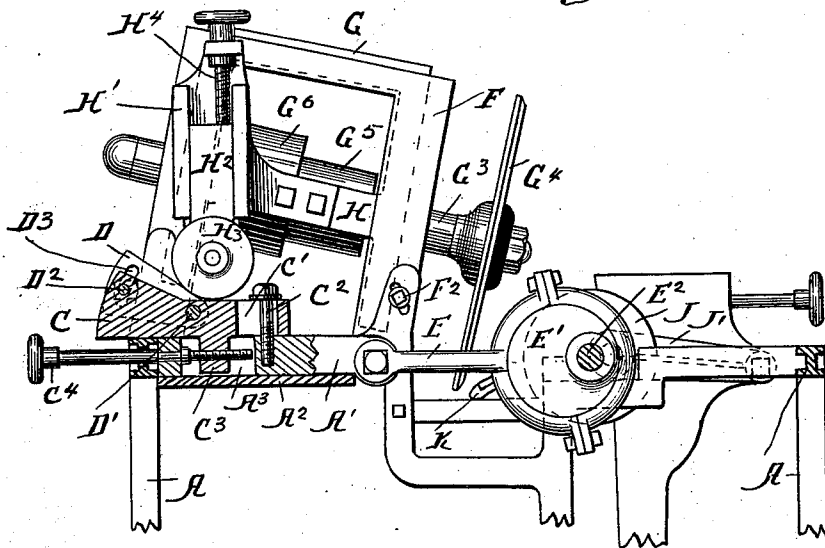
2 Sheets—Sheet 2.

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Fig. 3.



Witnesses:

Celeste R. Chapman.
Harriet M. Day.

Inventor:

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by

Frank W. Parker,
Attorney.

UNITED STATES PATENT OFFICE.

LEWIS P. HALLADAY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MARION CYCLE COMPANY, OF MARION, INDIANA.

SAW-SHARPENING MACHINE.

SPECIFICATION forming part of Letters Patent No. 466,411, dated January 5, 1892.

Application filed March 11, 1891. Serial No. 384,667. (No model.)

To all whom it may concern:

Be it known that I, LEWIS P. HALLADAY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Saw-Sharp-
5 ening Machines, of which the following is a specification.

My invention relates to saw-sharpening machines, and has for its object to provide simple and convenient means for adjusting. It is illustrated in the accompanying drawings, wherein—

Figure 1 is a front view of the machine;
15 Fig. 2, a plan view of a portion of the machine;
Fig. 3, a rear view with parts removed.

Like parts are indicated by the same letters in all figures.

A is the supporting-frame; B, the saw; B', the
20 saw-clamp; B² B², guiding-lugs; A', a slide supported upon the table A² and the frame A and carrying the part C, which is provided with the slot C', through which passes the bolt C² into the slide A'. The part C has a lug C³,
25 which projects into a slot A³ in the slide A' and which receives the screw end of the adjusting screw-bolt C⁴.

D is a cam pivoted to the piece C by the bolt D' at one end and adjustably secured at
30 the other by the bolt D², which passes through the slot D³. The slide A' is pivoted to the pitman E, which is driven by the eccentric E' of the driving-shaft E².

Adjustably secured upon the frame A and
35 rising therefrom is the rectangular frame F, in which is a guide, in which moves the vertical sliding frame G. This frame is fitted with the ledges G' G', as shown, and carries upon one side the arms G² G², whereby the arbor
40 G³, with the grinding-wheel G⁴ and driving-pulleys G⁵ G⁶, are supported. The frame is pivoted at F' and adjustably secured by bolts and slots at F² F². The sliding frame has a
45 bar from which, on the side opposite to the saw-arbor, projects the guide H', in which is the sliding block H², carrying at its lower end the wheel H³ and at its upper end an adjustable setting-bolt H⁴.

J is an eccentric on the outer extremity of
50 the driving-shaft, from which leads the pit-

man J', which is connected so as to operate the feed-finger K.

The use and operation of my machine are as follows: When the driving-shaft is set in operation in the usual manner in saw-sharpening machines, a reciprocating motion is given to the slide A'. The piece D, having been set upon its supporting-piece C at the desired angle and the supporting-piece C having been fixed by means of the screw-bolt C⁴ at the desired position, it is evident that the wheel H³, being engaged by the surface of the cam D as it reciprocates, will rise and fall, thus carrying with it the sliding frame G and the arbor and grinding-wheel. This operation
65 is evidently capable of various adjustments, as just indicated, by operating the screw-bolt H⁴ and by setting the frame F, as desired. The feed-finger is driven in like manner, and the pitman is operated by the driving-shaft E², so
70 that the grinding-wheel and saw move simultaneously with or in proper relation to each other. The frame G, being capable of vertical reciprocation on the frame F and carrying the shaft or arbor of the grinding-wheel G⁴,
75 will of course raise and lower the same, and this raising and lowering may be adjusted so as to give the proper motion to the grinding-wheel to form the front and back of the teeth. Manifestly this motion must vary with the
80 variations in the character and condition of the saws to be sharpened, and of course the raising and lowering must be intermittent and related to the movement of the feed-finger in the usual manner. On the driving-shaft, there-
85 fore, I have placed an eccentric and pitman and connected the same with the reciprocating part A'. This part carries the lifting-block, having the inclined surface or cam, and this latter inclined surface in such process of
90 reciprocation is so disposed as to engage the roller H³ and cause the same, together with the frame G and the grinding-wheel G⁴, to rise. It will of course rise to the proportion and extent at which the cam is applied. I have
95 therefore pivoted the cam D so that it may be raised or lowered to make the surface higher or lower. I have also arranged the adjusting-screw C⁴, by means of which the distance of the surface from the shaft may be varied. By these
100

two adjustments I am able to give a wide range of variation to the rising-and-falling movement of the grinding-wheel. Moreover, it will be observed that by the arrangement of parts
5 the grinding-wheel, which must be lifted so as to remain in its normal plane, is lifted by the pressure of the wheel H^3 against the surface or cam, which pressure will be applied almost parallel to that plane. Hence very little
10 power is required to raise and lower the grinding-wheel.

The feed-finger devices illustrated are designed to render the adjustment of the feed-finger easy and its motion smooth and satisfactory.
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Having thus described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

1. In a saw-sharpening machine, the com-

bination of a grinding-wheel, a support there- 20
for capable of reciprocations to and from the saw, and a reciprocating block having an inclined surface adapted to be applied to the grinding-wheel support to move the same up
25 and down.

2. In a saw-sharpening machine, the combination of a grinding-wheel, a support there-
for capable of reciprocations to and from the saw, and a reciprocating block having an inclined surface adapted to be applied to the
30 grinding-wheel support to move the same up and down, and means for moving said inclined surface toward the grinding-wheel in the process of lifting the same.

LEWIS P. HALLADAY.

Witnesses:

CELESTE P. CHAPMAN,
HARRIET M. DAY.