

C. B. & G. GILBERT.

Machines for Filing Carriage-Spring Heads.

No. 133,432.

Patented Nov. 26, 1872.

FIG. 1.

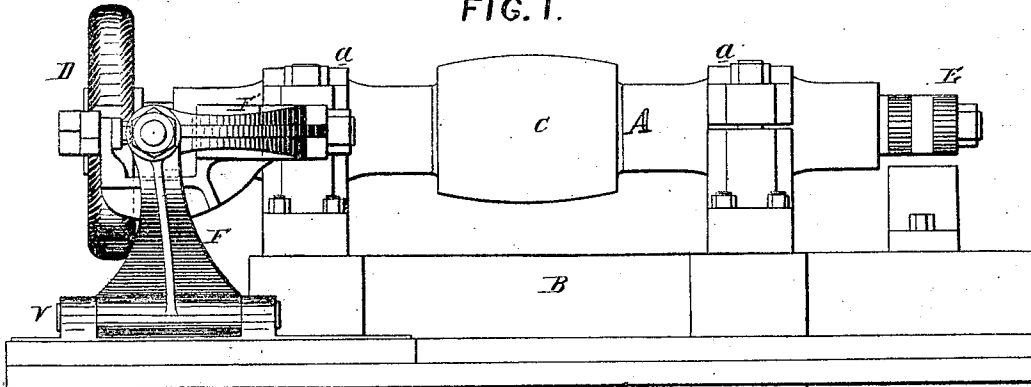


FIG. 2.

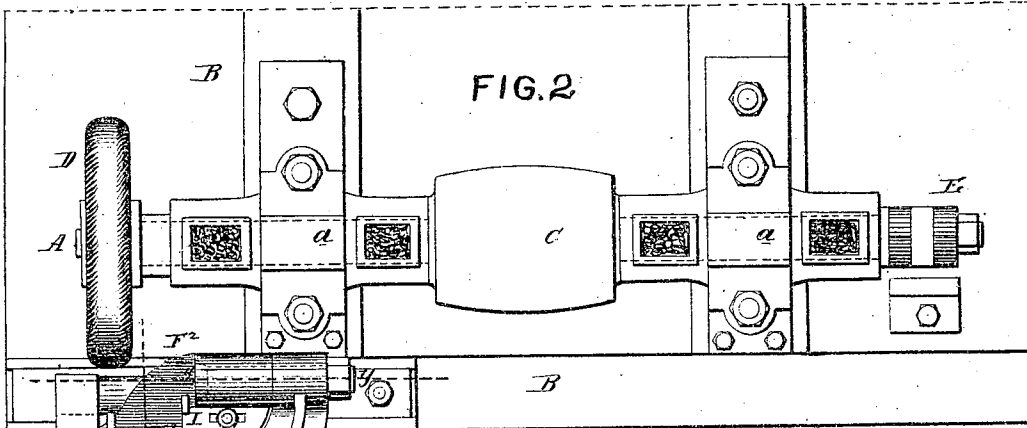


FIG. 4.

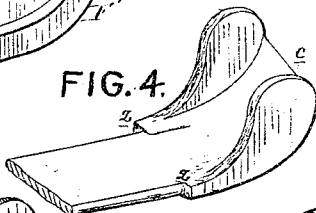


FIG. 5.

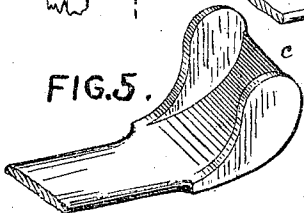


FIG. 6.

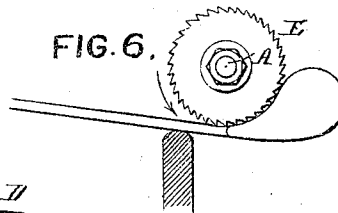
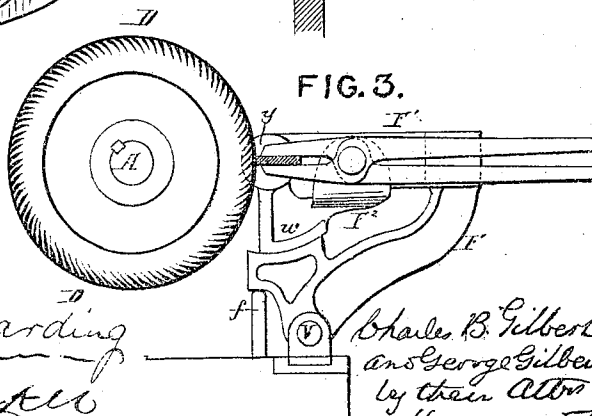


FIG. 3.



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Ing. B. Harding
John Carter

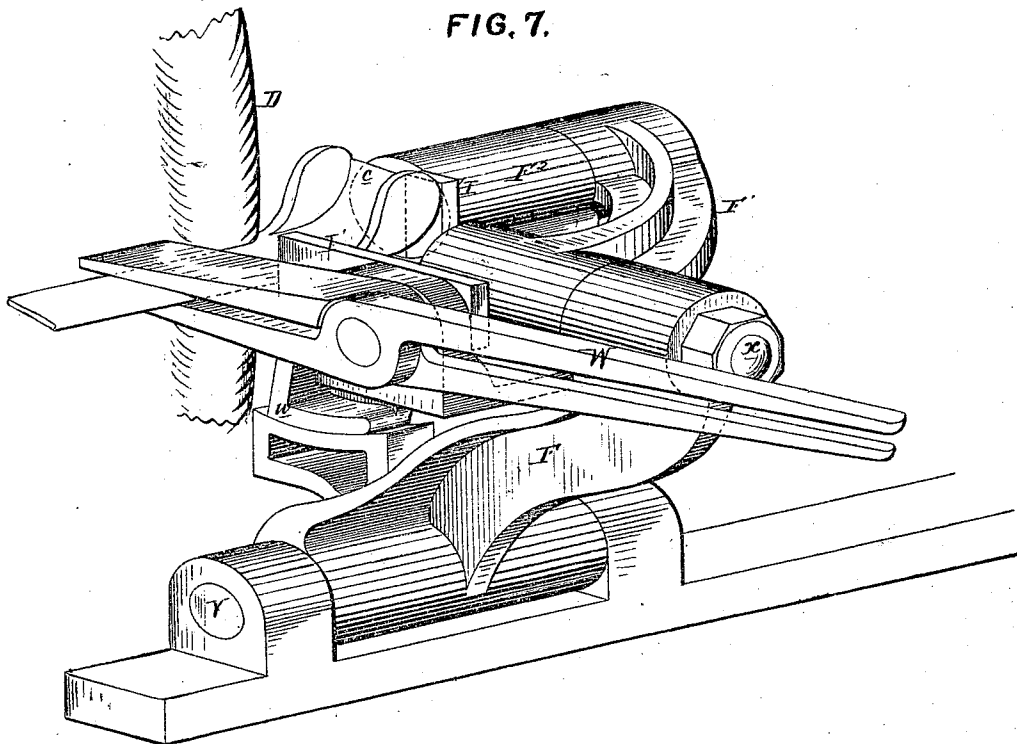
Charles B. Gilbert
and George Gilbert
by their Attn
Howard and Son

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WITNESSES {

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UNITED STATES PATENT OFFICE.

CHARLES B. GILBERT AND GEORGE GILBERT, OF PHILADELPHIA, PENN.
SYLVANIA, ASSIGNORS TO WILLIAM AND HARVEY ROWLAND, OF SAME
PLACE.

IMPROVEMENT IN MACHINES FOR FILING CARRIAGE-SPRING HEADS.

Specification forming part of Letters Patent No. 133,432, dated November 26, 1872.

To all whom it may concern:

Be it known that I, CHARLES B. GILBERT and GEORGE GILBERT, both of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improved Filing-Machine, of which the following is a specification:

Our invention consists of mechanism, too fully explained hereafter to need preliminary description, for truing and rounding the ends of steel bars used in the manufacture of springs for cars and other vehicles.

Figure 1 (drawing No. 1) is a front view of our improved filing-machine; Fig. 2, a plan view of the same; Fig. 3, an end view; Fig. 4, a perspective view of the object to be operated on by the machine; Fig. 5, a perspective view of the object as it appears after it has been operated on; Fig. 6, a detached view of part of the machine; and Fig. 7, (drawing No. 2,) a perspective view illustrating the operation of the machine.

A is a horizontal shaft turning in suitable bearings *a a* on the base-plate or frame B, the shaft being provided in the middle with a pulley, C, for receiving a driving-belt, and at one end with a rotary cutter, E, and at the opposite end with a filing-disk, D, for a purpose explained hereafter. A rocking frame, F, is hinged to the base at V, adjacent to the filing-disk D, and to this frame is pivoted a second frame, F¹, by the pin *x*, and to this second frame is pivoted, by a pin, *y*, a rest, F², a segmental portion, *w*, of which is supported by the rocking frame F, as best observed in the perspective view, Fig. 7. On the rest F² are two adjustable gages, for a purpose explained hereafter.

The work to be accomplished by the machine will be best understood by reference to Figs. 4 and 5, the former of which represents the unfinished end of a bar of steel forming part of a spring, Fig. 5, showing the finished end of the same bar. In forging the ends of these bars ragged shoulders are formed at *z*, and these corners, as well as the opposite edges of the bar, have to be smoothed and rounded to the condition shown in Fig. 5—an operation which has hitherto been accom-

plished by hand, but which, by the aid of the above machine, can be performed with rapidity and accuracy.

Immediately after the ears have been welded to the end of the bar, and while the latter is still hot, the operator places the bar between the jaws of a pair of tongs, one leg of which is connected to the rest F², the operator so adjusting the bar on the rest that the end *c* will be in contact with the adjustable gage I, while the outer edge of the strip is in contact with the gage I¹, the opposite edge being thus presented to the filing-disk D.

The operator, with the tongs grasped in one hand and the outer end of the bar in the other, applies the edge of the bar to the filing-disk in the following manner: The rocking frame F, hinged at V, enables the operator to move the bar, by the aid of the tongs, nearer to or further from the filing-disk, the forward movement, however, being restricted by a stop, *f*, Fig. 3. By moving the legs of the tongs up and down, and thereby causing the rest F² to turn on the pin *y*, the edge of the steel bar will be rounded by the rotary filer; and by using the outer end of the bar as a lever, and rocking it up and down, the frame F¹ will vibrate on the pin *x*, and the shoulder *z* will be rounded. Thus, by the manipulation of the tongs and bar the end of the latter is reduced at one edge from the condition shown in Fig. 4 to that seen in Fig. 5. After completing one edge of the bar the latter is reversed, and the opposite edge rounded in the manner described. The end of the strip is then applied to the rotary cutter E, in a manner which will be readily understood without explanation, so as to dress off the ears of the bar.

Part of the above effect could be produced by dispensing with the joint at *x* and using the remaining two joints only, in which case the bar would be under the control of the tongs alone.

We claim as our invention—

1. The combination, with a filing-disk, of the swinging frame F, having an arm, F¹, which is jointed or rigidly connected to the frame, and a rest, F², jointed to the arm, so

that the edge of an article carried by the rest may be rounded, substantially as described.

2. The combination, with the said rest F^2 , of the tongs W, the arms of which project beyond the frame, as and for the purpose described.

3. The combination of the rest F^2 with the frame F, having a jointed or fixed arm to which the rest is hung, and a segmental sup-

port for the said rest, substantially as described.

In testimony whereof we have signed our name to this specification in the presence of two subscribing witnesses.

CHAS. B. GILBERT.

GEO. GILBERT.

Witnesses:

WM. A. STEEL,

JOHN K. RUPERTUS.