

(No Model.)

A. G. PHILLIPS.
SAW FILER.

No. 494,487.

Patented Mar. 28, 1893.

Fig. 1.

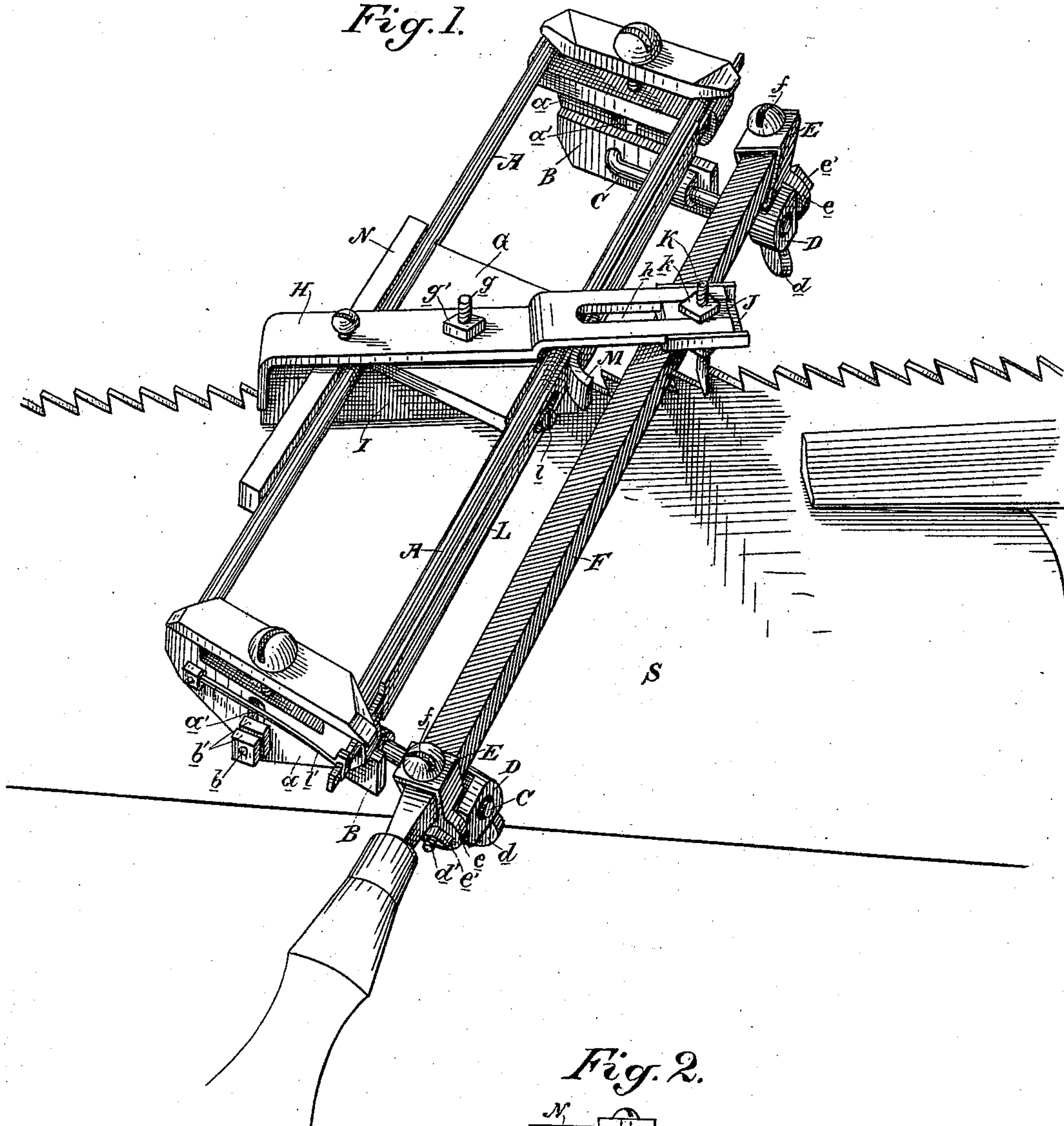
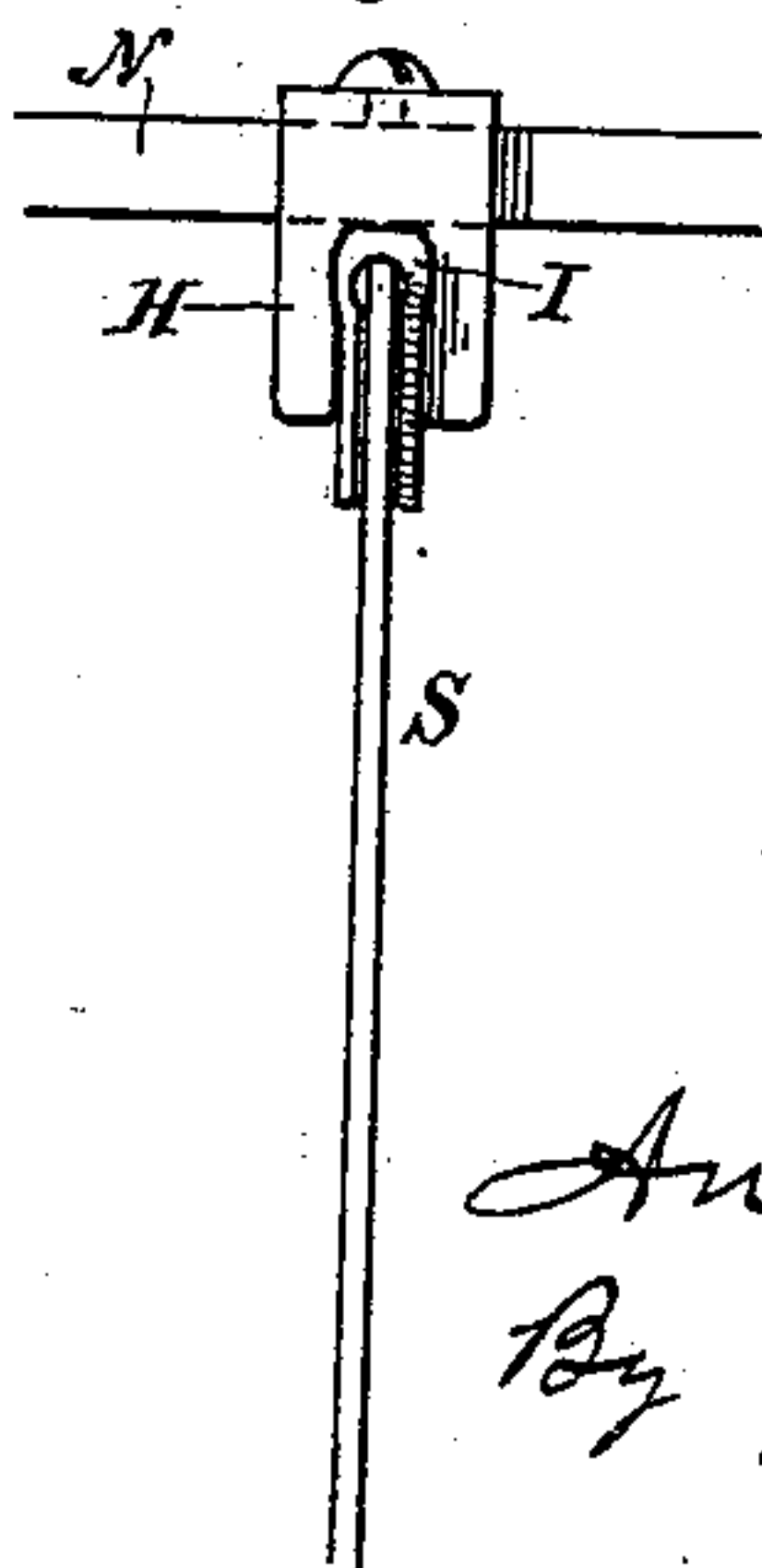


Fig. 2.



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UNITED STATES PATENT OFFICE.

ANDREW G. PHILLIPS, OF SAN FRANCISCO, CALIFORNIA.

SAW-FILER.

SPECIFICATION forming part of Letters Patent No. 494,487, dated March 28, 1893.

Application filed August 19, 1892. Serial No. 443,510. (No model.)

To all whom it may concern:

Be it known that I, ANDREW G. PHILLIPS, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Saw-Filers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of saw-filers in which a suitably guided reciprocating frame carries an adjustably connected file.

My invention consists in the novel constructions, arrangements and combinations of parts hereinafter fully described and specifically pointed out in the claims.

The object of my invention is to provide a saw-filer, the frame of which can be adjusted, in order to place and guide the file at the desired angle, said file being so mounted that it can itself be adjusted vertically and lengthwise, and to the desired pitch, being regulated in its operation by suitable gages and indicating devices, to cut each tooth equally and to the proper angle and depth.

Referring to the accompanying drawings for a more complete explanation of my invention,—Figure 1 is a perspective view of my saw filer. Fig. 2 is a view showing the slotted guide I fitted over the saw.

A is the frame of the filer, composed of two parallel side rods united at their ends by cross pieces. These cross pieces have downwardly projecting feet *a* in which vertical slots *a'* are made. To the feet *a* are fitted bars B by means of bolts *b* passing through the slots of the feet and receiving nuts *b'*. Thus the bars B may be vertically moved and fixed in place wherever adjusted. Extending outwardly from these bars are fixed horizontal shafts C, upon the outer ends of which are journaled the sleeves D, adapted to be set in position by set screws *d*. The sleeves have horizontal pins *d'* extending from their sides, and upon these pins are journaled the lower ends *e* of the vertical holder sockets E, said sockets being fixed in position by nuts *e'* on the pin ends. The file F is fitted in these sockets and is fixed therein by set screws *f*.

Between the parallel rods of the frame A is fitted a block G, by which said frame freely slides. To the top of this block is secured by

a bolt *g* and nut *g'* an arm H which extends over and back of the frame A, and to the rear end of which is secured a slotted guide I, which extends under the frame and block and parallel with the arm. The forward end of the arm is provided with a slot *h* and is fitted with a slide J. Passing vertically through this slide is the gage standard K, the lower end of which is shaped to fit down into the saw teeth, and its upper end is threaded to receive nuts *k* whereby the slide is clamped in the position to which it is set on the slotted arm, and the gage standard is itself vertically adjusted.

Beside and parallel to one of the rods of frame A is a slide bar L connected to said rod by slot and pin *l* and having its ends suitably guided in the end cross pieces of the frame whereby it may have a longitudinal movement. Its forward end projects beyond the frame and is held projected by a spring *l'* acting on its rear end. To the side of this bar is secured a contact lug M.

The operation of the device is as follows:— S is the saw suitably supported in a holding clamp. Its teeth are first stripped to reduce their points to a straight line. The slotted guide I is then fitted over and rests upon the teeth, while the foot of the gage standard K rests in the first tooth, which has previously been reduced to the required depth. The vertical adjustment of the gage standard to suit the required depth of tooth, is regulated by setting said standard up or down, and the tooth in which it shall rest is determined by setting the slide J forward or back in arm H. The angle of the frame A and its parallel file F, with respect to the line of the teeth, is determined and then by loosening nut *g'* said frame and file may be turned on bolt *g* to the proper angle with the saw and with the arm H and guide I which are parallel with said saw. The height of the file, with respect to the slotted guide and gage standard whereby the depth of the cut is determined, is regulated by setting up or down the bars B. The file is leveled lengthwise by turning the sleeves D on the shafts C whereby the pins *d'* of said sleeves are raised or lowered, said pins thereby raising or lowering the holder sockets E in which the file is mounted, and the pitch or an-

gle of its cutting face is regulated by adjusting its holder sockets E on the pins *d'* of the sleeves. The file being properly adjusted rests in the tooth, and the whole frame A is thus supported above the slotted guide I and can work down to said guide. The operator then places one hand on the file handle and the other upon the forward end of the frame, with the finger lying in gentle contact with the projecting end of the slide bar L. He now reciprocates the file and frame A, the latter sliding freely by the block G, with its attached arm H and guide I. The file then cuts down into the interdental space to the depth permitted by the gage standard which is the depth of previously cut teeth, and this is immediately indicated by the contact of the lug M of slide bar L against the top edge of the saw, said contact moving the bar, the movement of which is at once perceived by the finger of the operator which is resting on its forward end. The operation is then repeated by the operator moving the tool along to the next tooth.

It will be seen that every necessary adjustment is provided for, and each saw can be filed with regularity and precision, thereby putting it in perfect condition. To the top of the slotted guide I is secured a horizontal bar N which lies parallel with and beside the outer rod of frame A. This bar by being always horizontal will serve to indicate by its juxtaposition to the frame whether said frame in operation is being held level or not.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a saw filer, the combination of a frame for carrying a file, a slotted guide adapted to fit over and rest on the saw, said guide passing under the frame, an arm connected with said guide and passing over the frame whereby a space is formed between said guide and arm in which the frame may move vertically and longitudinally, and a gage standard connected with the top arm and adapted to rest between the saw teeth previously filed, substantially as described.

2. In a saw filer, the combination of a file carrying frame having the parallel side rods, the block seated freely between said rods, the arm H pivotally secured to the top of said block and adapted to be set by a nut, and the slotted guide I secured to the arm and passing under the file carrying frame, substantially as herein described.

3. In a saw guide, the combination of the frame A having the parallel side rods and adapted to carry a file on one side, the block seated freely between said side rods, the arm H adjustably secured to the top of said block and extending over the frame and beyond the plane of the file, the slotted guide secured to the rear end of the arm and passing under the frame, and the vertical gage standard carried by the forward end of the arm beyond

the plane of the file, substantially as herein described.

4. In a saw guide, the combination of the frame A having the parallel side rods and adapted to carry a file on one side, the block seated freely between said side rods, the arm H adjustably secured to the top of said block and extending over the frame and beyond the plane of the file, the slotted guide secured to the rear end of the arm and passing under the frame, and the vertical gage standard carried by the forward end of the arm beyond the plane of the file, said standard being vertically adjustable in said arm, substantially as herein described.

5. In a saw guide, the combination of the frame A having the parallel side rods and adapted to carry a file on one side, the block seated freely between said side rods, the arm H adjustably secured to the top of said block and extending over the frame and beyond the plane of the file, the slotted guide secured to the rear end of the arm and passing under the frame, and the vertical gage standard carried by the forward end of the arm beyond the plane of the file, said standard being vertically adjustable in said arm, and adapted to be moved forward and back therein, substantially as herein described.

6. In a saw filer, the combination of the slotted guide with its gage standard, the reciprocating frame connected with the guide by a sliding connection, the vertically adjustable bars B at the ends of the frame having horizontal shafts, the sleeves pivotally mounted on said shafts and file holder sockets carried by the sleeves, substantially as herein described.

7. In a saw filer, the combination of the slotted guide with its gage standard, the reciprocating frame connected with the guide by a sliding connection, the vertically adjustable bars B at the ends of the frame having horizontal shafts, the sleeves pivotally mounted on said shafts, said sleeves having horizontal pins, and the file holder sockets pivotally mounted on said pins, substantially as herein described.

8. In a saw filer, the combination of a frame adapted to carry a file at one side, and the slide bar L carried by the frame and having a lug adapted to come in contact with the saw top when the file has cut the required depth, substantially as herein described.

9. In a saw filer, the combination of a frame adapted to carry a file at one side, the slide bar L carried by the frame and having its forward end projecting from the end of the frame, the spring acting on the other end of the bar to keep its forward end projected, and the lug on the bar adapted to come in contact with the saw top when the file has cut the required depth, substantially as herein described.

10. In a saw filer, the combination of the frame adapted to carry a file at one side, the slotted guide and connected gage standard,

said guide being connected with the frame by an adjustable sliding connection, the indicating slide bar carried by the side of the frame and the lug on the bar adapted to come in
5 contact with the saw top when the file has cut to the required depth, substantially as herein described.

11. In a saw filer, the combination of a reciprocating file carrying frame, the stationary
10 slotted guide over which the frame moves

and the horizontal bar N on the guide lying beside the frame whereby its horizontal position is indicated, substantially as herein described.

In witness whereof I have hereunto set my
hand.

ANDREW G. PHILLIPS.

Witnesses:

S. H. NOURSE,
WM. F. BOOTH.