

# UNITED STATES PATENT OFFICE.

HENRY BODENSTEIN, OF STAATSBURG, NEW YORK.

## INSERTED TOOTH FASTENING FOR ICE-PLOWS.

SPECIFICATION forming part of Letters Patent No. 355,570, dated June 28, 1887.

Application filed March 18, 1887. Serial No. 231,402. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY BODENSTEIN, of Staatsburg, in the county of Dutchess and State of New York, have invented a new and  
5 Improved Inserted Tooth Fastening for Ice-Plows, of which the following is a full, clear, and exact description.

My invention relates to an improved inserted tooth fastening for ice-plows, and has  
10 for its object to provide a fastening that will accommodate itself to the various inclinations of the inserted teeth of an ice-plow and hold the same firmly and rigidly in position, yet admitting of ready adjustment.

15 The invention consists in the construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying  
20 drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a part of an ice-plow to which my improvement has been  
25 applied, parts being broken away; and Fig. 2 is a plan view thereof. Fig. 3 is a transverse vertical section through line  $xx$  of Fig. 1, and Figs. 4 and 5 are perspective views of the wedges. Fig. 6 is a transverse vertical  
30 section of a modification.

A represents the plow-beam, which is made in two parts, placed at such a distance apart as to receive between them the plow-plate sections B, and which are secured to each other  
35 and to the said plate-sections B by bolts C.

The forward edges of the plate-sections B are concaved upon the arcs of circles and beveled to receive the grooves B', formed upon the convex edges of the teeth D so as to hold  
40 the said teeth from lateral movement. The forward edge of each tooth D is concaved, and against it rests the rear edge of a stop-plate, F, which is made of such a thickness as to fit between the parts of the beam A. The rear  
45 edge surface of the stop-plate is provided with a centrally-concaved recess,  $f$ , whereby two end bearing-surfaces,  $f' f^2$ , are produced, the faces of which have an inclination outward, enabling the said plate to obtain a clear and  
50 even purchase upon the concave surface of

any tooth inserted, even though they vary in width. The outer or opposite edge,  $g$ , of the stop-plate is made convex, and at the lower end, upon one side or both, a projection,  $g'$ , is formed, to prevent the plate from dropping  
55 out from the beam when loosened and the plow reversed. The top of the plate F is provided with an integral T-head,  $g^2$ , which not only serves as a means for adjusting the plate in position, but also prevents the same from  
60 dropping through the frame from the top. The lower end of the side projection,  $g'$ , is beveled, so that it will not offer an obstruction to the ice-chips. The said projection may, however, be dispensed with, and a set-screw,  $b'$ , or  
65 rivet, as shown in Fig. 3, entered into the plate, the point entering a longitudinal groove,  $a$ , in the opposing beam-section.

H is a wedge-key, which is made straight upon its rear edge,  $h$ , the said straight edge  
70 being adapted to bear against the convex surface of the stop-pin. The forward edge of the wedge, which is made wider at the bottom than at the top, is provided with a central concaved recess,  $h^2$ , whereby two bearing-sur-  
75 faces,  $k k'$ , are produced, having a slight inclination inward to adapt them to the convexity of the section-plates B. One side edge is provided with a bevel,  $k^2$ , so that the least surface will be presented to the ice-chips, and  
80 the upper end of the wedge  $k^3$  is reduced and threaded, adapted to receive a conical washer,  $m$ , and nut  $m'$ .

In operation the stop-plate is placed between the plow-plates with the convex sur-  
85 face to the front. When the plow is assembled the teeth are then placed in position, a stop-plate facing each tooth. The wedge-key is then entered to a connection of its perpendicular edge with the convex edge of the plate, and  
90 the nuts are thereupon screwed down until the wedge-keys have driven the stop-plates in close contact with the teeth and the teeth in rigid contact with the plate-sections B.

It will be observed that, due to the peculiar  
95 formation of the stop-plate and wedge-key, an even and positive bearing-surface of the same upon each other and upon the teeth and plate-sections is obtained, and that when a new tooth is inserted of greater or less width the  
100



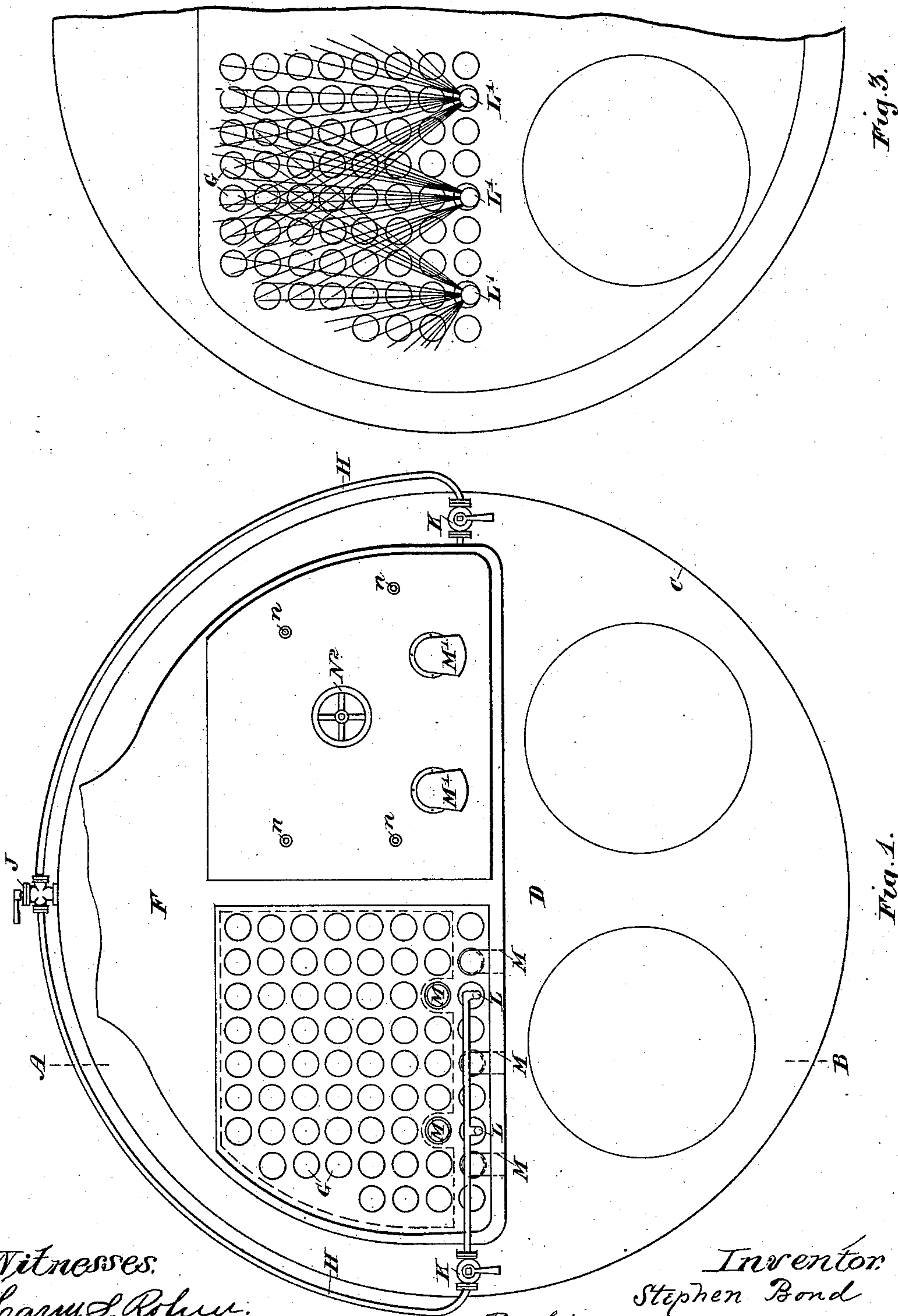
(No Model.)

3 Sheets—Sheet 1.

S. BOND.  
SMOKE CONSUMING FURNACE.

No. 365,571.

Patented June 28, 1887.



Witnesses:  
Harry S. Rohrer.  
Charles A. Kinsler

Inventor:  
Stephen Bond  
By his  
Attys.  
Harding & Tichenor

