(No Model.) 2 Sheets—Sheet 1.

T. W. GREEN.

ATTACHMENT FOR METAL PLANING MACHINES.

No. 534,827. Patented Feb. 26, 1895.

Fig 2

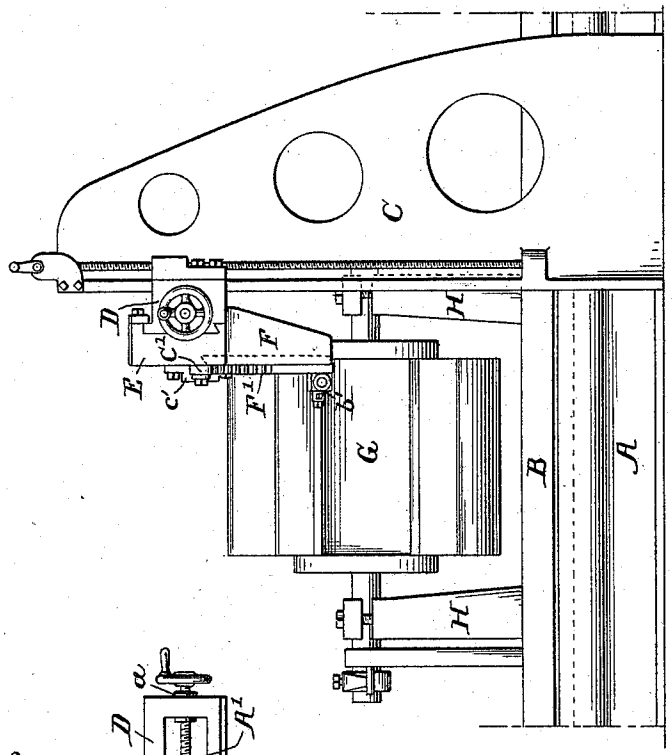
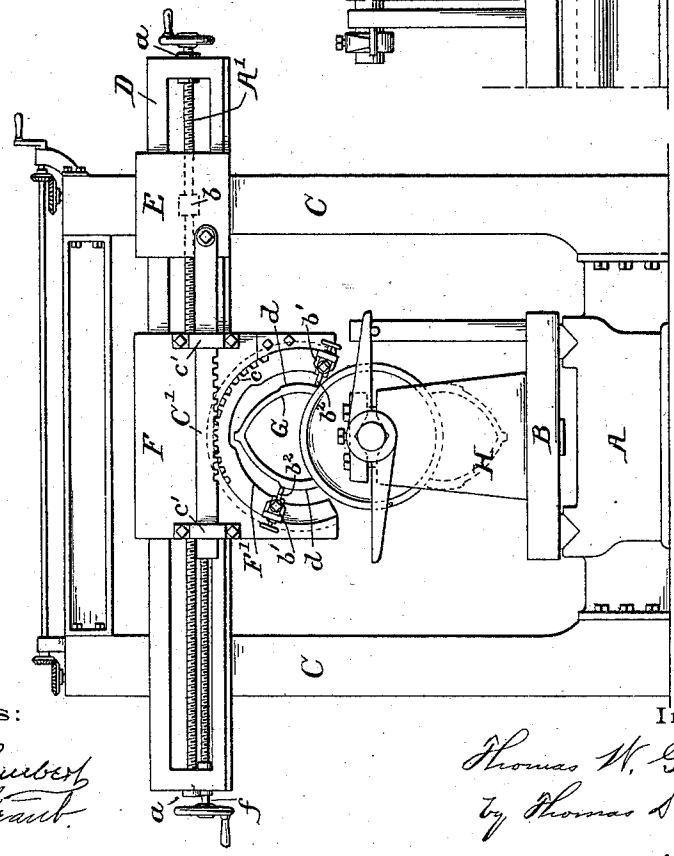


Fig 1



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(No Model.) 2 Sheets—Sheet 2.

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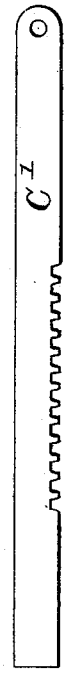

Fig. 6

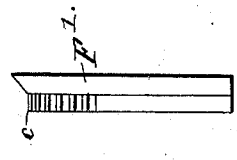

Fig. 5

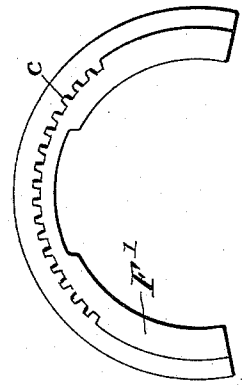

Fig. 4

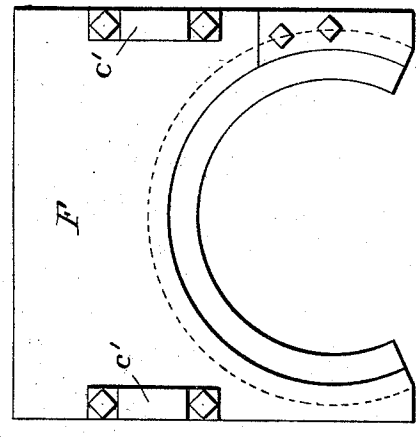

Fig. 3

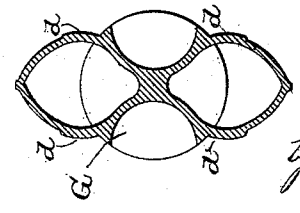

Fig. 1

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UNITED STATES PATENT OFFICE.

THOMAS W. GREEN, OF PHILADELPHIA, PENNSYLVANIA.

ATTACHMENT FOR METAL-PLANING MACHINES.

SPECIFICATION forming part of Letters Patent No. 534,827, dated February 26, 1895.

Application filed September 28, 1894. Serial No. 524,331. (No model.)

To all whom it may concern:

Be it known that I, THOMAS W. GREEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Attachments for Metal-Planing Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement to be attached to iron planing machines for the purpose of planing circular surfaces on iron and it is particularly adapted to planing the circular surfaces of the revolvers of an improved rotary blower for which I have made application for United States Letters Patent.

My improvement consists in attaching to the cross rail of the ordinary iron planing machine a tool holding device that can be moved in a circle and carry the cutting point of the planing tool in the arc of the circle to which it is desired to plane the iron.

In the accompanying drawings Figure 1, represents a front elevation of an ordinary iron planer having my improvement attached to the cross rail and working on a revolver of my rotary blower, that is mounted in the planer. Fig. 2, is a side elevation of the planer and attachment and revolver mounted therein. Fig. 3, is a front elevation of the attachment that slides on the cross rail of the planer. Fig. 4, is a front view of a semicircular tool holding plate fitting into a dove tail formed in the part shown in Fig. 3. Fig. 5, is a side elevation of Fig. 4. Fig. 6, is a front elevation of the toothed rack, that operates the tool holding plate shown in Figs. 4 and 5. Fig. 7, is a cross sectional view of a revolver of my improved blower.

A, represents the bed plate of an ordinary iron planing machine; B, the sliding table resting on the bed plate; C, the housing; D, the cross rail of the planer.

A′, is a screw extending the whole length of the cross rail and provided with collars *a*, on each end thereof.

E, is a movable cross head on the cross rail. This cross head is moved back and forward by means of the screw A′.

b, is a screw threaded nut secured in the sliding cross head E, and surrounding the screw A′.

F, is a movable attachment fixed on the cross rail of the planer. This attachment may be secured in the desired position by any convenient means, but it is preferably held in place by a screw *f*, extending through the cross rail.

F′, is a circular plate fitting into a dove tail formed in the plate F.

b′, *b*′, are two tool posts fitted upon and secured to the circular plate F′, exactly opposite to each other.

b^2, b^2, are the cutting tools secured in the tool posts.

c, *c*, are cogs or teeth cut in the top portion of the plate F′.

C′, is a toothed rack sliding in the straps *c*′, *c*′, and connected to the cross head E.

G, is an iron revolver, of a rotary blower. This revolver is shown mounted on the planer in Figs. 1 and 2, and in position for the planing tools to operate upon the two circular parts *d*, *d*, that it is desired to plane to the arc of a circle.

H, H, are the two supports used for holding the work up to the tool in the planer.

To operate my improvement the work is mounted on the table of the planer in the usual manner with the surfaces to be planed in the position shown in Figs. 1 and 2. The tools b^2, b^2, are adjusted to the work in the manner shown in Fig. 1. After a cut has been made from end to end of the revolver and the motion of the table reversed to bring the work back again into position, the cutting tools are moved in a circle by turning the screw A′. This movement of the screw A′, will operate the toothed rack C′, which operates the semicircular plate F′, moving it in a circle, and consequently the tools b^2, b^2, are also carried in a circle that corresponds with

the circle of the plate F′, thus planing the surfaces of the work to the arc of a corresponding circle.

While the special work for which my improvement is particularly adapted, has two circular faces that it is desirable to plane off and I have shown the device, operating on both faces at one and the same time, it is not necessary that two planing tools operate at the same time. The desired result can be obtained with one tool but more work can be done by using two or more planing tools, if there is sufficient surface to be planed.

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

1. In a metal planing machine the combination of the cross rail D having mounted thereon the plate F provided with a circular recess therein with the semicircular plate F′ fitting into the recess in the plate F and provided with cogs on the upper part thereof and having thereon a tool post *b′*, the sliding cross-head E having therein the screw A′, and a toothed rack C′ secured to the cross-head and meshing with the cogs on the top of the semi-circular plate F′, as set forth.

2. In a metal planing machine the combination of the adjustable plate F secured upon the cross-rail of the planer, and provided with a circular groove therein, and a single circular tool-holding device equal in length to one-half the circumference of a circle working in said groove, and having tool posts at or near each end thereof with the cross-head E secured upon the cross-rail and connected by suitable means with the tool-holding device F′, whereby the said piece F′ is adjusted as desired, as and for the purpose set forth.

3. In a metal planing machine the combination of the cross-rail D, having the adjustable plate F mounted thereon having a circular recess therein, and a screw *f* for adjusting said plate F, with the circular plate F′ fitted in the recess of the plate F, having tool-posts *b′*, *b′*, thereon, and provided with cogs on the upper portion thereof, the sliding cross-head E having the screw A′, and a toothed rack C′ secured to the cross-head and meshing with the cogs on the circular plate F′, as set forth.

4. In a metal planing machine the combination of the cross-rail D, the adjustable plate F mounted thereon, a recess having a circular dove-tail groove in said plate F, and a screw *f* for adjusting said plate F, with the circular plate F′ fitting in the dove-tail groove in the recess in the plate F having tool-posts thereon directly opposite each other, and provided with cogs on the top portion thereof, cross-head E, screw A′ for adjusting said cross-head, and a toothed rack C′ secured to the cross-head E and meshing with the circular plate F′, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS W. GREEN.

Witnesses:
THOMAS D. MOWLDS,
SAML. H. KIRKPATRICK.