W. W. SPAFFORD.

Planing Metal.

No. 9,996.

Patented Sept. 6, 1853.

Fig: 1.

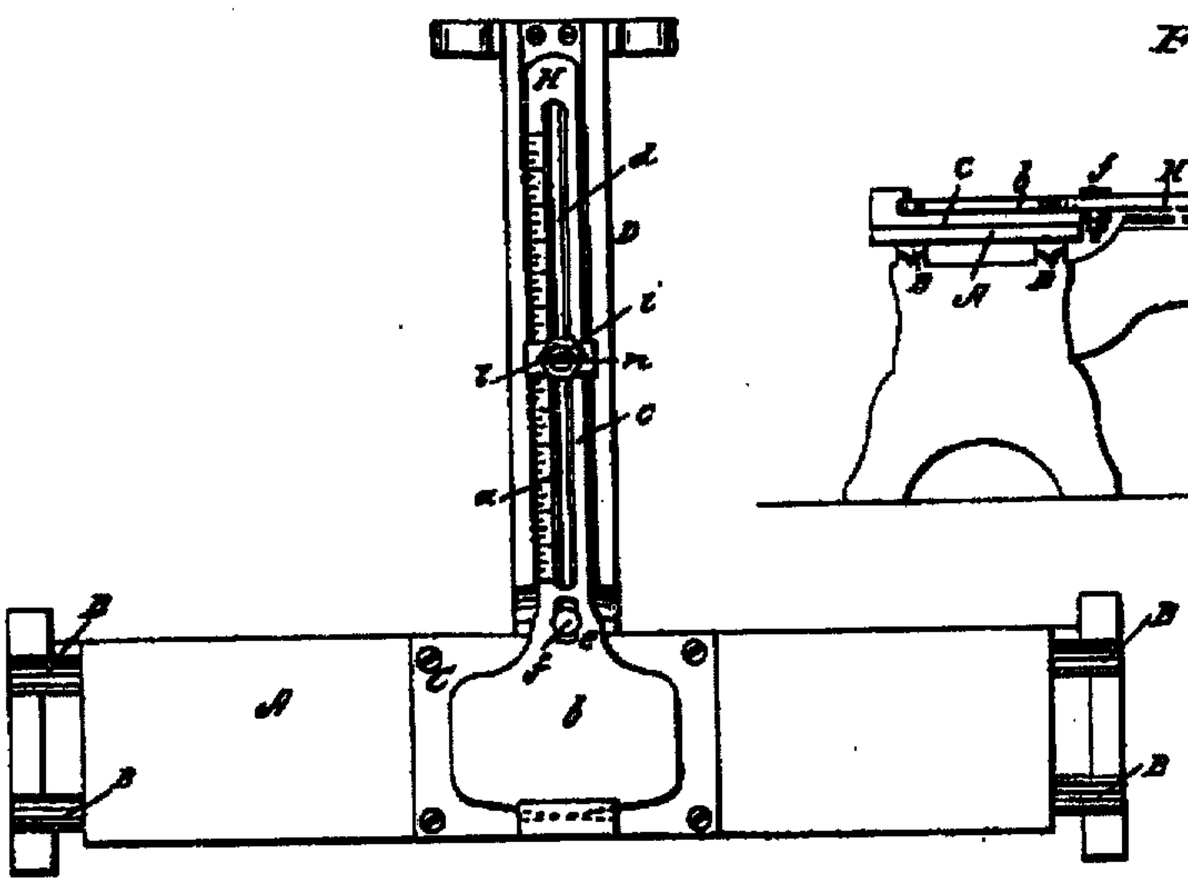


Fig: 2.

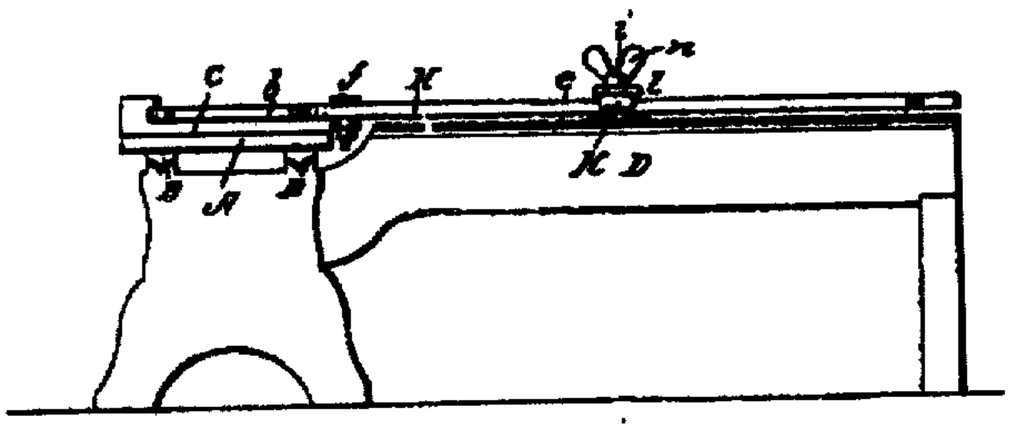


Fig: 3.

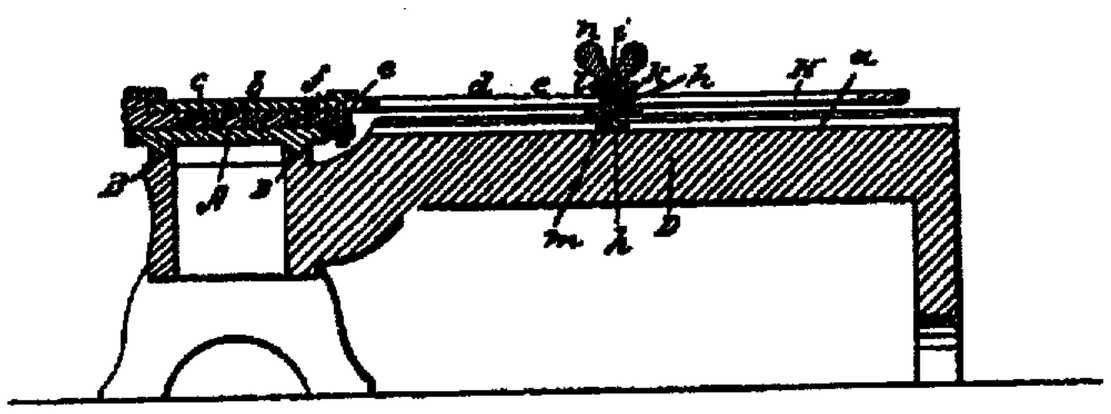
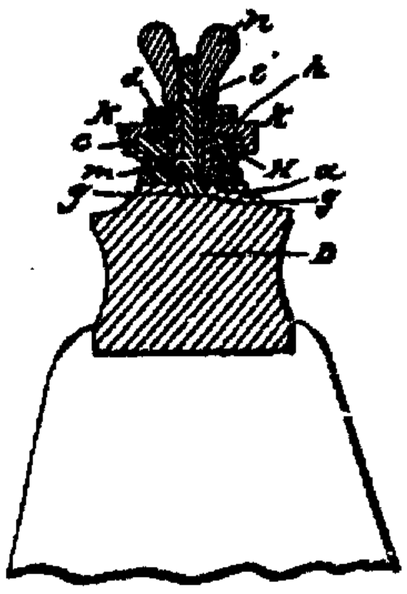


Fig: 4.



UNITED STATES PATENT OFFICE.

WM. W. SPAFFORD, OF BOSTON, MASSACHUSETTS.

MACHINERY FOR PLANING METALS.

Specification of Letters Patent No. 9,996, dated September 6, 1853.

To all whom it may concern:

Be it known that I, WILLIAM W. SPAFFORD, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Machinery for Planing Articles of Metal; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, represents a top view of the bed and rails of a common planing machine with my improvement applied to it. Fig. 2, is an end elevation of it. Fig. 3 is a transverse and central section of it.

My improvement is applicable to the common planing machine for planing metal and is for the purpose of enabling it to be used to plane in curved lines of any desirable radii as well as to plane in straight lines as heretofore.

In the drawings, A, represents the main carriage or bed of a planing machine, which carriage rests and is moved longitudinally on bed rails or a bed frame, B, B, in the usual way. I have not deemed it necessary to exhibit the cutting tools and machinery for holding and moving it, as such differ in no essential respect, in form, construction or arrangement from what is in common use in planing machines of this character.

From the main frame of the planing machine, I extend at right angles, what I term the brace D, through the top of which is a long dovetail slot *a*. Over this brace and resting on a metallic plate C, fixed to the top of the planing table, I apply what I term the radiating arm H. This radiating arm consists of a flat plate, *b*, and a long arm, *c*, extending from it, and having a long slot, *d*, made through it, as seen in Figs. 1, and 3. There is also a shorter slot, *e*, made through the arm between the long slot and the plate *b*, which slot receives a pin *f*, that projects upward from the plate, C, that is fastened on the top of the planing table. A center pin, *i*, extends upward from the slot of the brace, D, the head of such pin being made to extend laterally underneath the sides of the slot, as seen at *g*, *g*, in Fig. 4, which is a cross section of the brace, D, and parts over it as taken through said center pin. Said center pin has a screw cut on its upper end, and is made to pass up through a tube, *m*, that extends through another center pin, *h*, which rests on the top of the brace, D, and has a screw cut on its shank. The center pin, *h*, extends upward through the slot of the radial bar, and has a diameter equal to the width of said slot. It also passes through a washer or clamp plate, *k*, and receives a screw nut, *l*, which is screwed upon it, and down upon the clamp plate so as to confine it, (the said center pin) to the radial bar. A thumb nut, *n*, is placed on the top of the center pin, *h*, and screws downward against the tube, *m*, so as to confine said center pin firmly in position on any part of the brace. The length of the tube, *m*, is a little greater than that of the external screw pin, *i*, in order that while the said tube is fixed firmly in position, the said external screw pin may be freely revolved on the tube.

From the above it will be seen that by the clamping contrivances, applied to each screw pin, it may be fastened in any desirable position in its slot. Thus, the distance of the common center or axis of the two screw pins, from the plate, *b*, of the radial arm, may be regulated at pleasure and so as to cause the center of, or any other point in such plate, when the main carriage A, is put in movement to describe a circular arc, of any required radius within certain limits. Thus if a piece of metal is affixed on the top surface of the plate, *b*, it may be planed in curved lines instead of straight lines, as it would be, were it placed or fixed directly upon the table, A, in the usual manner.

The plate, C, may be attached to the table, A, by screws or any other suitable contrivances by which it may be removed from such table, when not wanted for curvilinear planing.

What I claim as my invention is—

The combination of the receiving table or plate, *b*, and its arm, *c*, (composing the radial arm, H,) the adjustable center pins (or their equivalents) and the brace, D, together with the main planing table, A, and its supporting frame, B, the same being made to operate substantially as specified and for the purpose of adapting the planing machine, to planing in curved lines essentially as herein before set forth.

In testimony whereof, I have hereto set my signature this twenty third day of May A. D. 1853.

WILLIAM W. SPAFFORD.

Witnesses:

R. H. EDDY,

FRANCES GOULD.