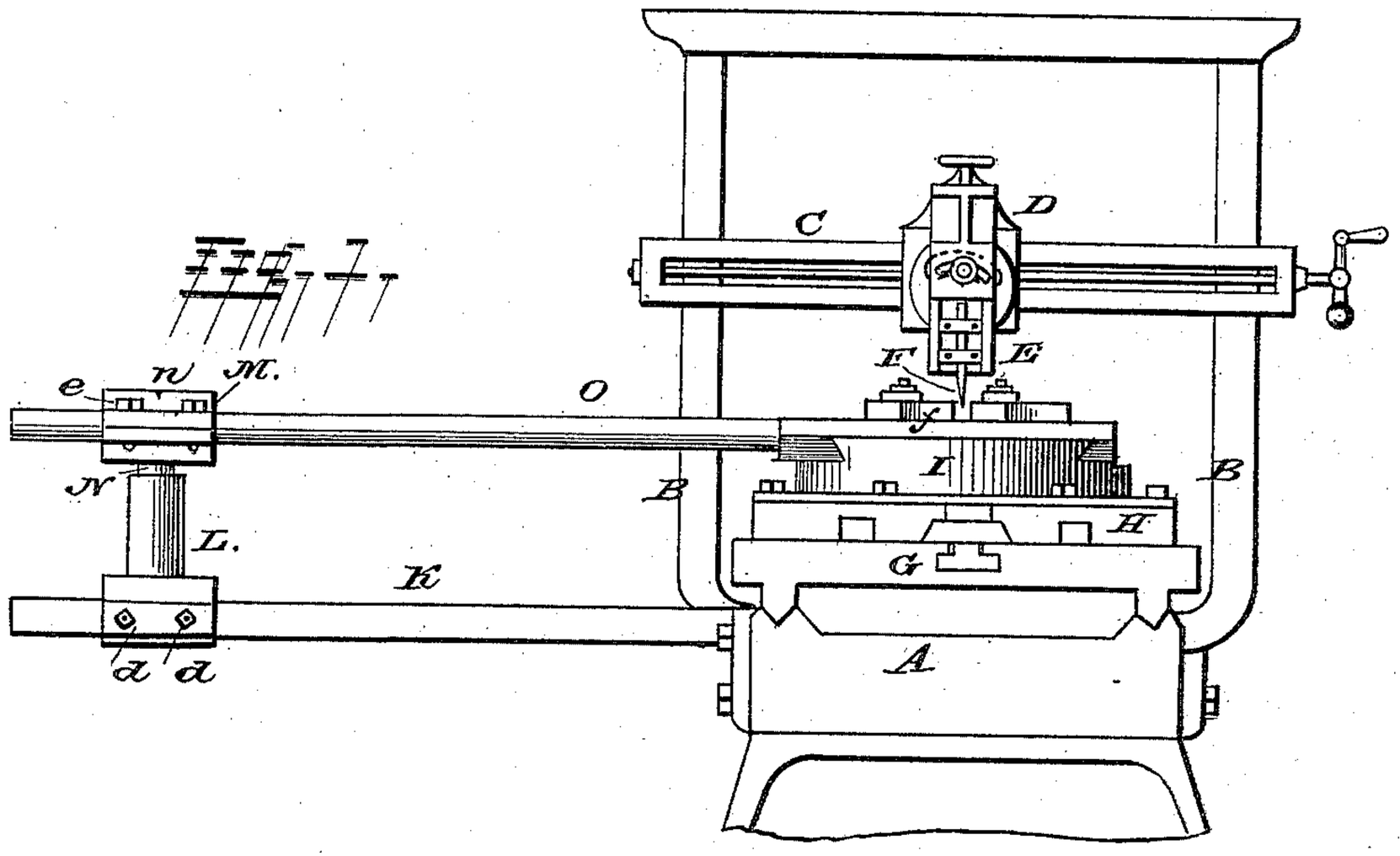
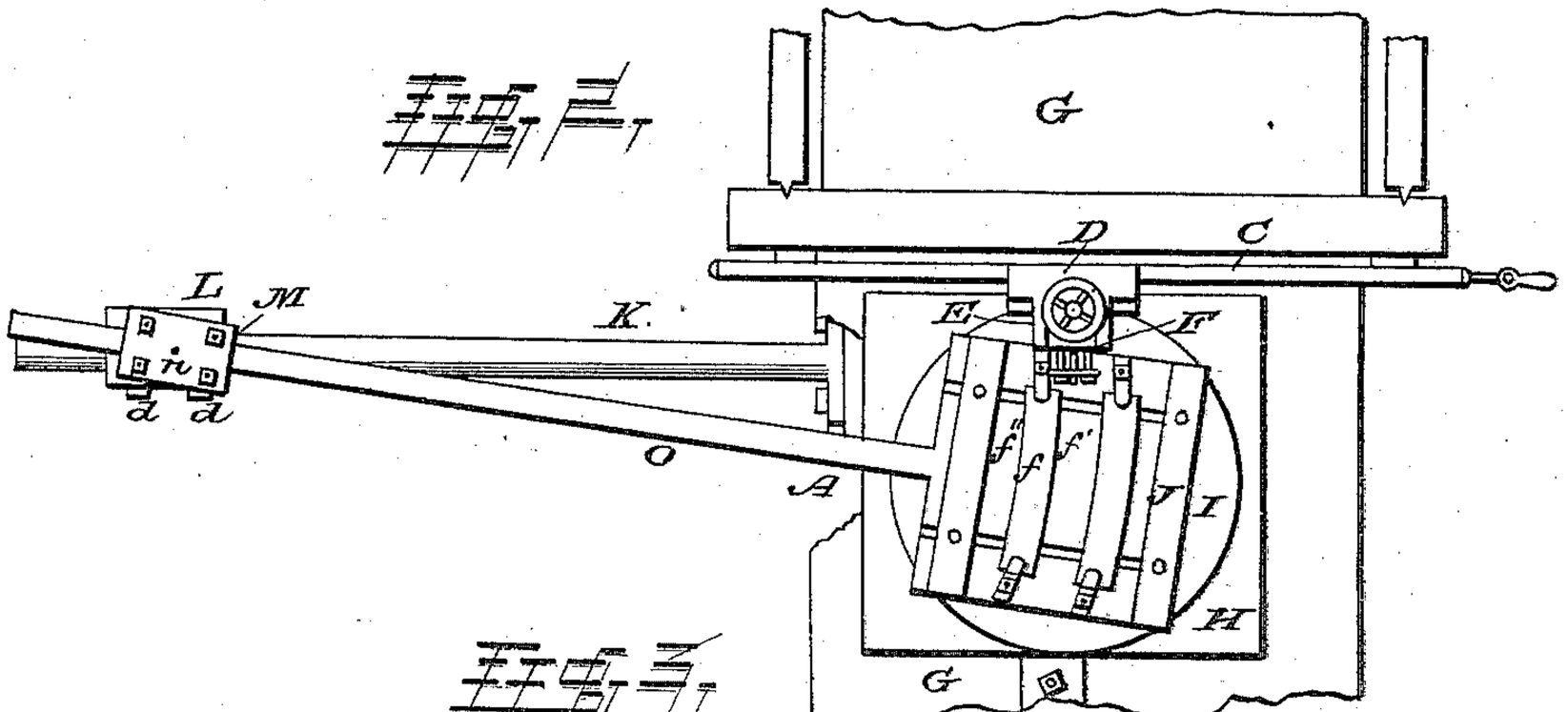
(No Model.)

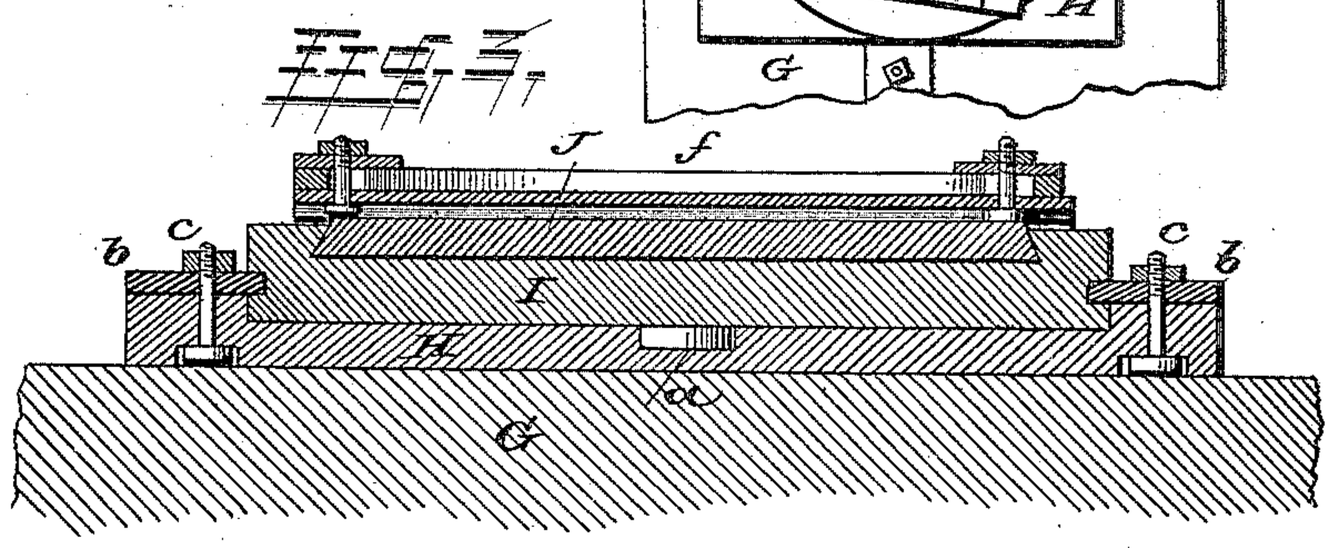
T. H. PAUL.

PLANER CHUCK.

No. 330,261. Patented Nov. 10, 1885.







WITNESSES:

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THOMAS H. PAUL, OF FROSTBURG, MARYLAND.

PLANER-CHUCK.

SPECIFICATION forming part of Letters Patent No. 330,261, dated November 10, 1885.

Application filed March 26, 1884. Renewed May 28, 1885. Serial No. 166,947. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. PAUL, a citizen of the United States, residing at Frostburg, in the county of Alleghany and State of Maryland, have invented certain new and useful Improvements in Planer-Chucks, of which the following is a description.

This invention relates to that class of devices used upon metal-planers to hold the work. It has for its object to plane arcs of circles, and is especially designed to plane the edges of locomotive-links.

To this end my invention consists in the construction and combination of parts forming a planer-chuck, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of a portion of a planer with my chuck attached. Fig. 2 is a plan view of the same, and Fig. 3 is a longitudinal vertical section of the chuck.

A represents the planer-bed or ways, to which the uprights B are attached to support the cross-head C, on which the tool-carriage D traverses across the planer.

E is the tool-block, giving vertical and angular traverse to the tool F, which it carries.

G represents the platen of the planer, which reciprocates longitudinally, carrying the work against the tool F, which is stationary at that time; but it may be fed either transversely, vertically, or angularly during the return-stroke of the platen.

So far I have described nothing more than the usual iron planer.

H is the base-piece of my chuck, which I secure rigidly to the platen by means of the usual bolts or wedges.

I is the bed-piece, pivoted to rotate horizontally on the base by any usual means—such as a central pivot, *a*, a circular flange, *b*, and straps or screw-clamps *c*—to hold the bed-piece upon the base-piece with any degree of firmness required, but yet to leave the piece I free to oscillate on its pivot.

J is the body of the chuck, to which the work is to be fastened by any usual means—such as by end straps or vise-jaws—leaving both edges of the work free to be planed. The body J is gibbed to the bed-piece I for a transverse sliding motion.

K is an arm rigidly secured laterally to the bed A at a point opposite to the tool F.

L is a block fitted to slide along the bar K, and to be rigidly secured at any point thereon by means of set-screws or clamps *d*.

M is a similar block journaled upon block L at N to oscillate horizontally.

n is the center of the journal N.

O is a bar projecting rigidly from the chuck-body J, and fitted to pass through the block M, the latter being provided with set or clamp screws *e* to secure the rod at any point in the block.

The operation is as follows: Let us suppose that a piece of metal, *f*, is to have one of its edges, *f'*, planed to the arc of a circle whose radius is thirty inches. First fasten the piece onto the chuck-body J. Then loosen the set-screws which bind blocks L and M to their respective bars K and O, and move the blocks to a point where the center *n* is thirty inches from a point in the piece *f* where the finished edge *f'* is to be. Then fasten both blocks to their bars. Now, if the platen be set in motion, it will be found that the body J and the piece *f* held thereby will revolve about the axis N, causing the body J to slide radially in its gibbed bearing across the bed-piece I, and this bed-piece will be oscillated on its own pivot in the base-piece H. Then, if the tool F be set to touch the piece *f*, it will make a cut thereon in the arc of a circle. By means of the usual vertical feed-screw the tool may be gradually fed down until the edge *f'* is finished at one or more times across. Now, if the opposite edge, *f''*, of the piece *f* be required to be made exactly parallel radially to the edge *f'*, you have but to run the tool-carriage D across on the bar C until a tool, F, will cut the piece *f* to the required width.

In locomotive-links the inner edges of two pieces are required to be radially parallel and part circular. Such two pieces should be both fastened at once upon the body J in their proper relation to each other and be planed one after the other without removal. Then a piece swinging upon a center of the same radius may fit between the two throughout their arc.

By this device a gib and a gibway may be planed to fit exactly together, or a groove

may be planed in the arc of a circle, or the plane face of a circular segment may be planed with cuts in arcs of circles. The bed-piece I might be pivoted directly to the platen G, thus dispensing with the base-piece H; and the central pivot, *a*, might be dispensed with if the circular flange were neatly fitted to a bearing.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with a planer-platen, of a bed-piece pivoted to oscillate thereon, a chuck-body fitted to slide transversely on the said bed-piece, and a radial bar fixed to the chuck-body and pivoted to a stationary portion of the planer to one side of the platen, substantially as and for the purpose specified.

2. The combination, with a planer-platen, a bed-piece pivoted thereon, a chuck-body fitted to slide transversely on the said bed-piece, and a radial arm fixed to the said chuck-body, of an arm laterally fixed to a stationary portion of the planer and a pivot connecting the said arms, substantially as shown and described.

3. The combination, with a planer-platen, a bed-piece pivoted thereon, a chuck-body fitted to slide transversely on the said bed-piece, a radial arm fixed to the said chuck-body, and an arm laterally fixed to a stationary portion of the planer, of a block and means for adjusting it longitudinally on the said fixed arm, another block and means for adjusting it longitudinally on the said radial arm, and a pivot connecting the two blocks, substantially as and for the purpose specified.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

THOMAS H. PAUL.

Witnesses:

W. X. STEVENS,

SOLON C. KEMON.