

N. B. REYNOLDS.
MACHINE FOR SHEARING METAL.

No. 62,154

Patented Feb. 19, 1867.

Fig. 1.

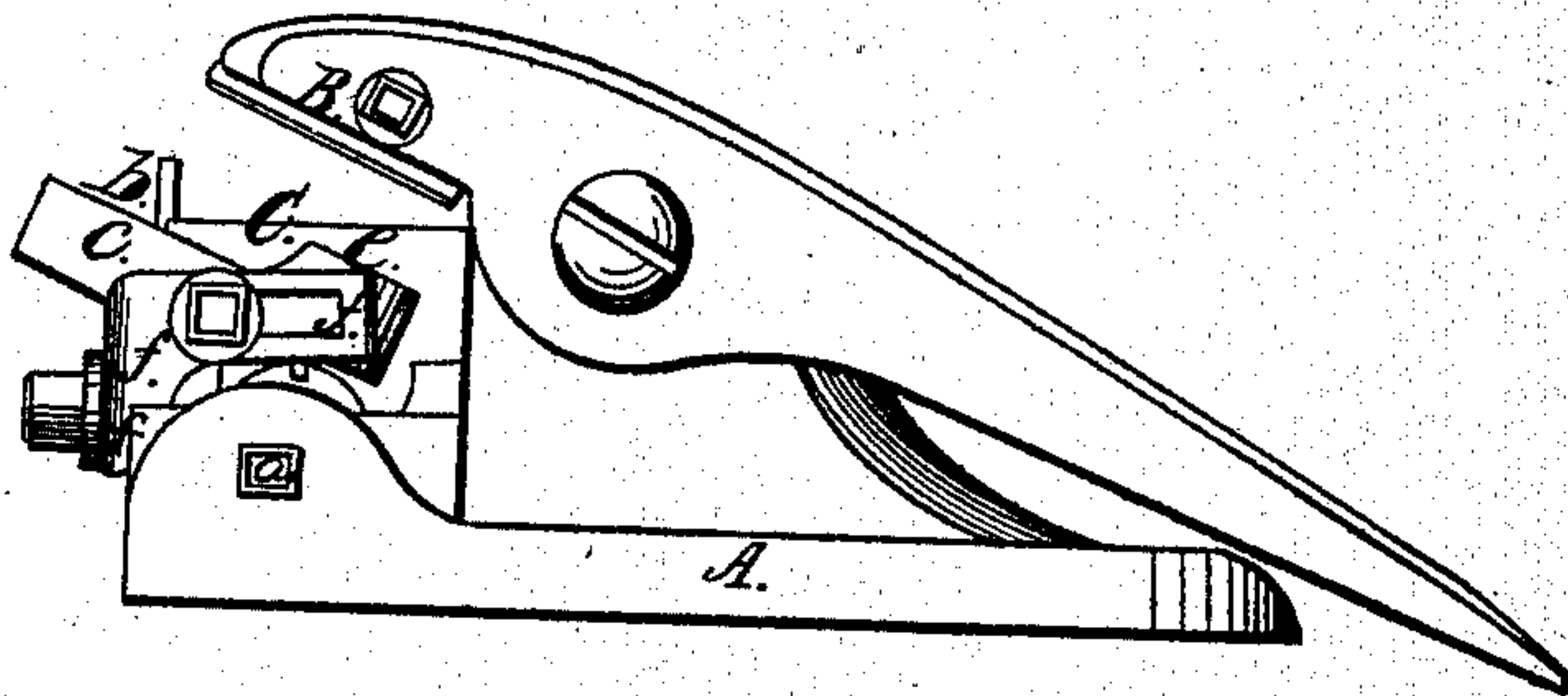
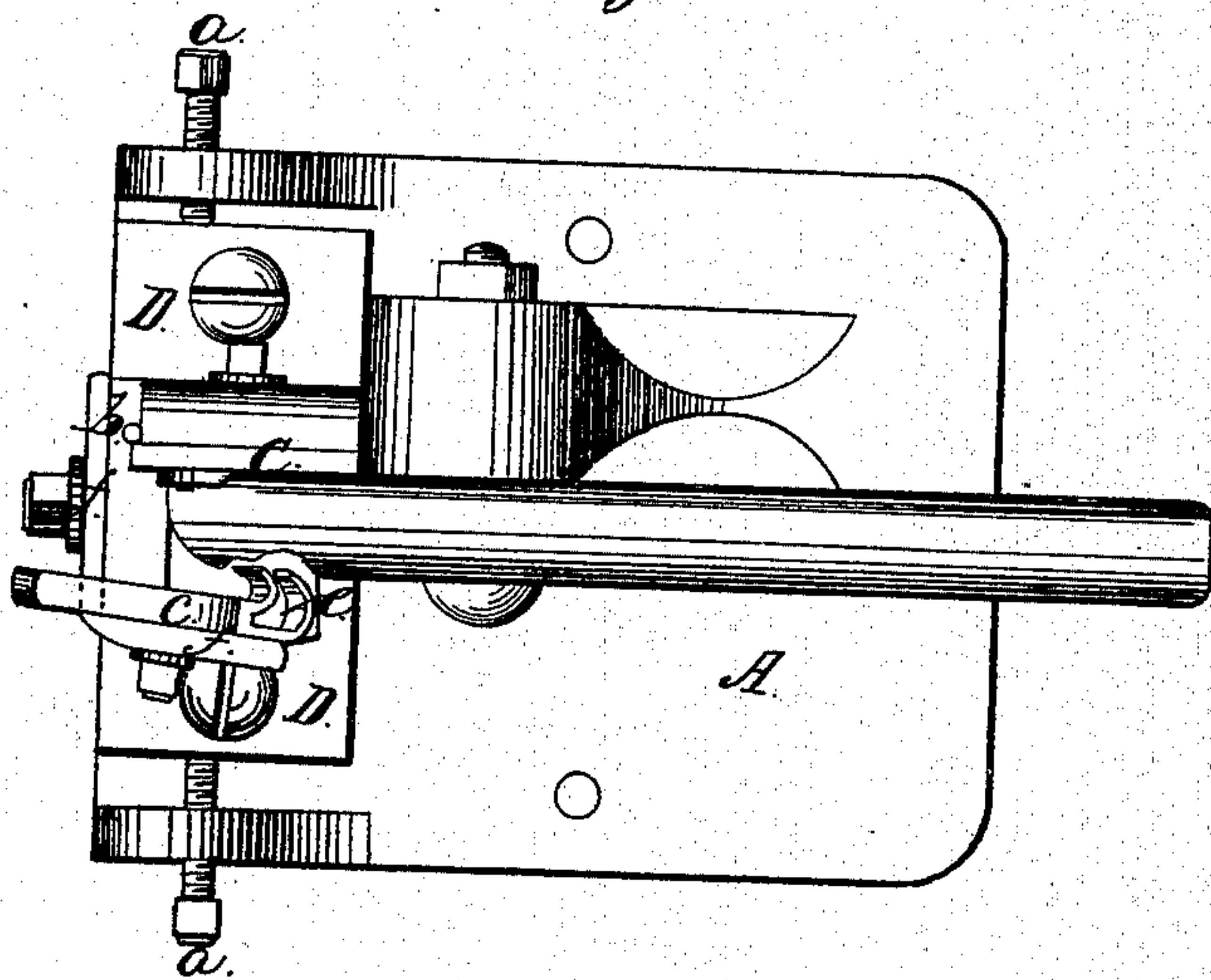


Fig. 2.



Witnesses:

J. D. Patten
W. Chamberlain

Inventor:

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United States Patent Office.

NAPOLEON B. REYNOLDS, OF AUBURN, NEW YORK.

Letters Patent No. 62,154, dated February 19, 1867.

IMPROVED MACHINE FOR SHEARING METAL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, NAPOLEON B. REYNOLDS, of Auburn, in the county of Cayuga, and State of New York, have invented certain new and useful improvements in Machines for Shearing Metals into Designated Shapes, Forms, or Patterns, and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents an elevation of the shears from one of its sides; and

Figure 2 represents a top plan of the same.

Similar letters of reference, where they occur in the separate figures, denote like parts of the machine in both of the figures.

This machine is designed more especially for cutting sickle sections or knives from sheets or strips of steel. And as these sections or knives are of an irregular form, mainly triangular, but really rhomboidal, and having six sides, and as many angles, some of which are parallel and equal; and as they must be of very exact form where used in a series capacity, as they invariably are, the cutting of them into these shapes and sizes requires a nicely adjusted and regulated machine to hold the strip firmly against the action of the shearing cutters.

I am aware that machines have been made for cutting glaziers' tags into a triangular form from strips, but the lightness of the material from which the tags are cut, and the exactness of their shape or form, only so that they are pointed, being so immaterial, I do not regard such machines as involving my invention, which consists in cutting the sections into exactly uniform sizes and forms, as the machine may be adjusted for, and making the gauges not only guides, but holding devices for holding the strip of steel against the action of the shears.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a bed or frame to which both the movable shear B and the stationary (though adjustable) one C, are attached. The movable shear may be operated in any of the usual well-known ways. The stationary shear is arranged on a bed-plate, D, that is, made adjustable by the set-screws *a a*, to adapt its shear-blade to the movable one. In the bed-piece D there is fixed a gauge-pin, *b*, against which the edge of the strip from which the sections are to be cut is pressed and held by the action of the shear-blades, which tend to push the strip in that direction. Upon the other side of the blades there is a gauge, *c*, composed of two jaws, or of a slot or opening, *e*, into which the angular corner of the strip of steel is placed, and held whilst the shears sever a section from said strip. The strip is turned over every time a section is cut off, and the corner of the strip each time placed in the slot *e*, and its edge against the pin *b*, which defines the angle or obliquity of the cut, and at the same time holds the strip of steel firmly against the action of the shear-blades. The gauge *c* is susceptible of two adjustments, independent of the adjustment that it receives from the bed-piece D, to which it is ultimately attached, as follows: The gauge *c* is fastened to and adjusted on an arm or rest *f*, which arm or rest is adjustable on the bed-piece D, and the bed-piece is adjustable on the frame A, so that the greatest accuracy is attained in cutting the sections to a uniform size and shape and given obliquity to the sides of the section that are to make its two cutting edges. The sections may be cut with two parallel sides and two sides not parallel, or in the shape of a triangle with the apex cut off parallel with the base; or of a trapezoidal, rhomboidal, or any other irregular form, such as is used in making sections for reaping machines, the capacity and adjustment being adequate to such varied forms either in whole or in part.

Having thus fully described my invention, what I claim, is—

In combination with a shearing machine for shearing stiff metals, the guides and gauges *b c*, constructed, arranged, and operating for cutting off angular sections to adjusted shape, form, and size, substantially as herein described and represented.

N. B. REYNOLDS.

Witnesses:

JOHN S. CLARY,

FREDERICK VAN PATTEN.