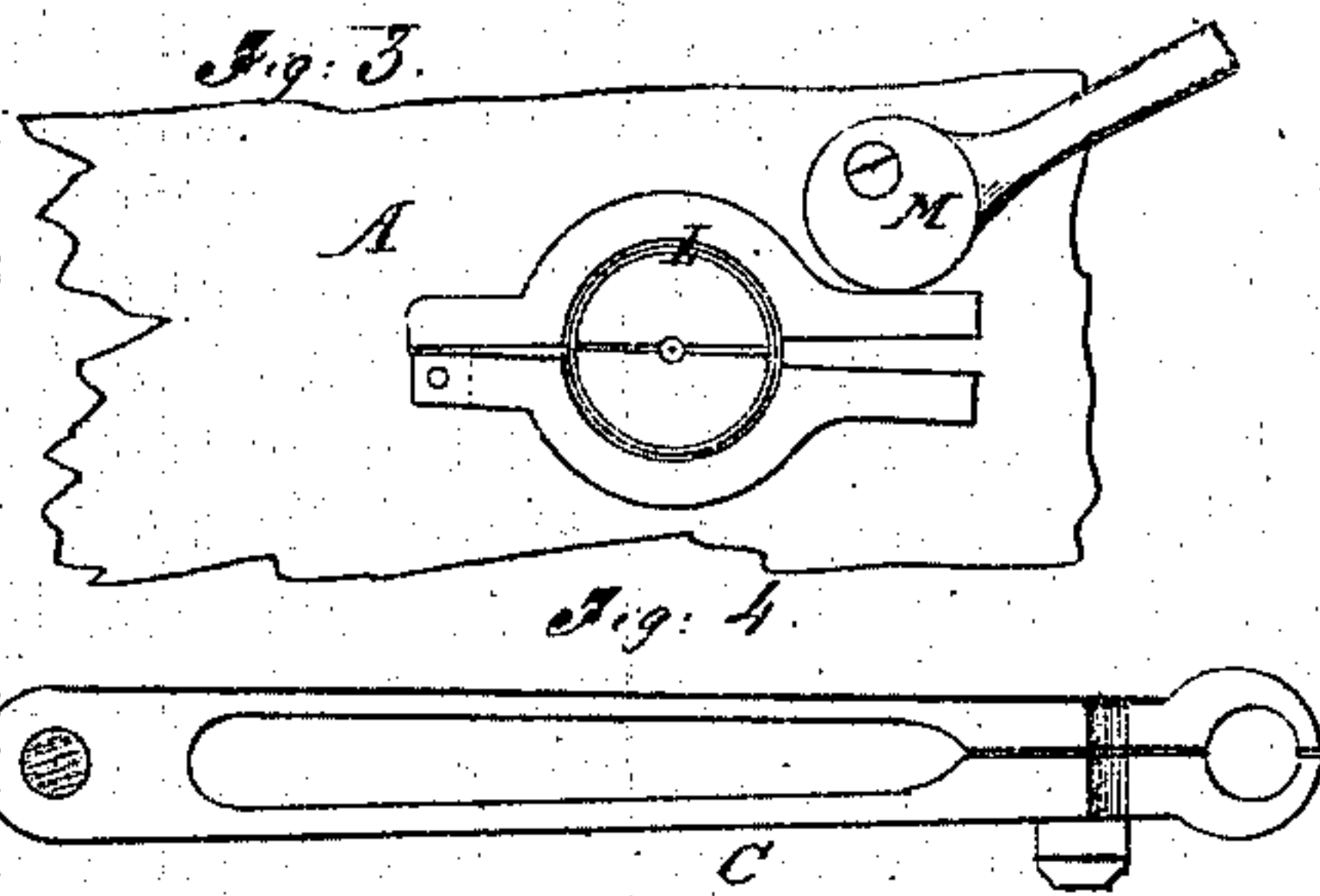
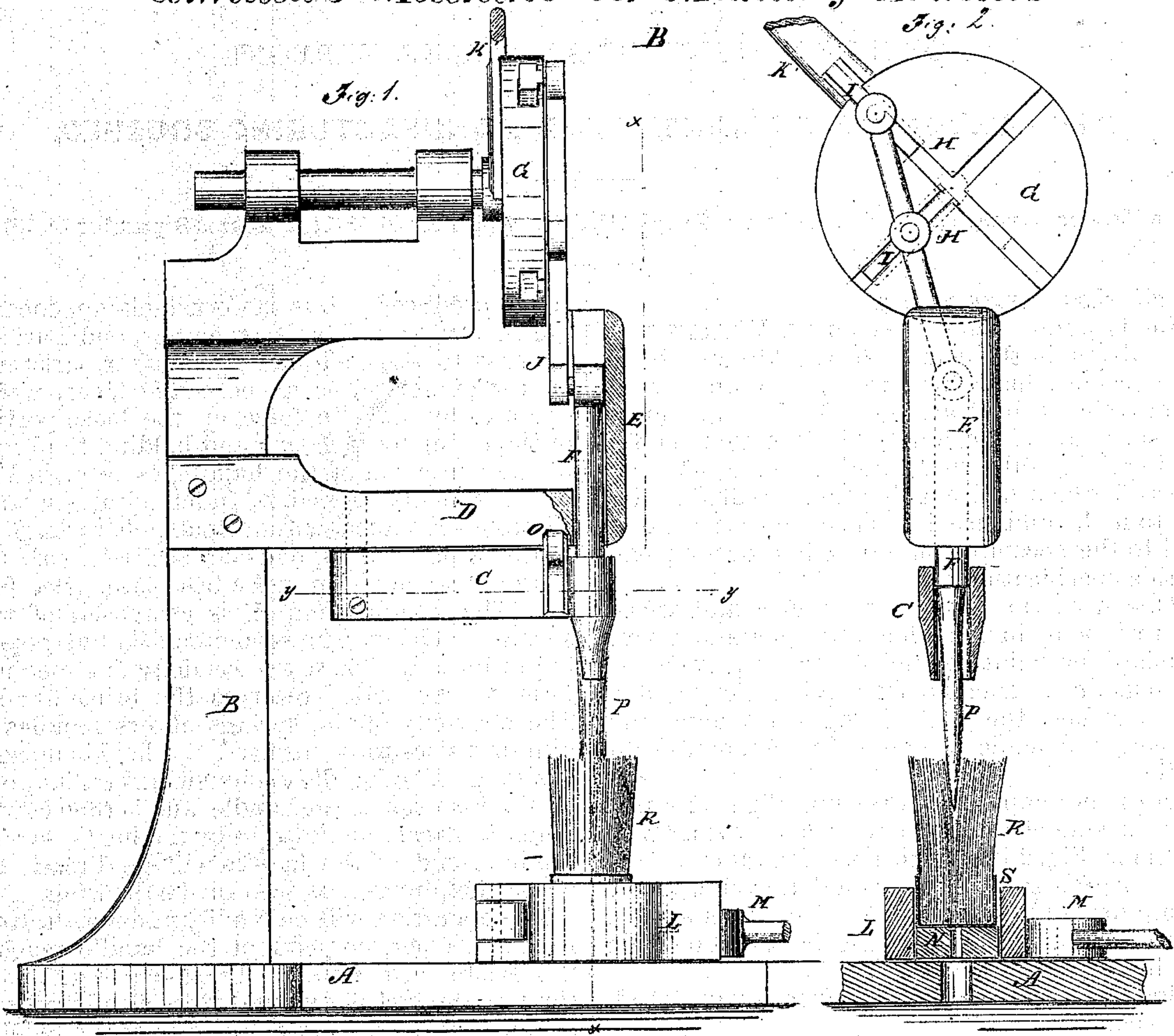


[17.] No. 119,440. Patented Sep. 26, 1871.
G. Willett's Machine for Manuf'g Brushes.



Witnesses:

Chas. Nida.
Wm H. B. Smith.

Inventor:
G. Willett.

PER *Mumfelle*
 Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE WILLETT, OF ST. ALBANS, VERMONT.

IMPROVEMENT IN MACHINERY FOR MANUFACTURING BRUSHES.

Specification forming part of Letters Patent No. 119,440, dated September 26, 1871; antedated September 14, 1871.

To all whom it may concern:

Be it known that I, GEORGE WILLETT, of St. Albans, in the county of Franklin and State of Vermont, have invented a new and useful Improvement in Machinery for Manufacturing Brushes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to a new and useful improvement in machinery for manufacturing brushes for painting and other purposes; and consists in a machine for driving the handles into brushes, the parts being constructed, arranged, and made to operate as hereinafter described.

In the accompanying drawing, Figure 1 represents a side elevation of the machine, partly in section. Fig. 2 is a vertical section taken on the line *xx* of Fig. 1. Fig. 3 is a detail view of the clamp for holding the brush. Fig. 4 is a section of the clamp for holding the handle, taken on the line *yy* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a bed piece or platform. B is a stand rigidly attached to the bed piece A, which stand supports the guide for the plunger, and also the driving-wheel. The handle-clamp C is pivoted to the under side of the arm D, which arm supports the plunger-guide E. F is the plunger. G is the driving-wheel, the face of which is provided with dovetail or covered cross-grooves H H, containing slides I I, to which the connecting-rod J is attached by pivots, as seen in Fig. 2. The connection of the rod J with the top of the plunger F is seen in dotted lines in Fig. 2, and at K in Fig. 1. K' is a lever attached to the wheel G, by means of which the latter is turned and the plunger operated. I am aware that the grooved wheel movement is not in itself new, as it is one of the well-known modes of converting rotary into rectilinear motion, but its application to this particular purpose is new and exceedingly useful, as by one-fourth of a revolution of the wheel I obtain a stroke of the plunger equal to one-half of its diameter. With the hand-lever K this motion or movement of the plunger is very

easily produced. L is the brush-clamp, consisting of two parts hinged together, one part being fast to the bed-plate; the other part turns on the hinge. M is an eccentric lever, which operates by hand to force up the loose portion of the clamp for inclosing and holding the brush for the insertion of the handle, as seen in Fig. 2. N is an elastic bed, of India rubber or other suitable substance, with a small hole through its center which corresponds in position with the center of a hole through the bed-plate. (See Fig. 2.) The handle-clamp C is composed of two springs, each having a semicircular tubular opening in its end. These two semicircular openings form a tube which receives the brush-handle. The elasticity of the springs allows handles of different sizes to be inserted and held in upright position. The handle-clamp swings on its pivot for the insertion of the handle, and is then moved under the arm and stopped by the lug O, so that the butt end of the handle will be directly beneath the plunger, as seen in the drawing.

The operation will be readily understood from Fig. 2. When the point of the handle reaches the elastic bed N in the brush-clamp the hole through the bed, by virtue of its elasticity, will expand or adjust itself to the size of the handle. P represents the brush-handle, and R the brush. S is the ferrule around the brush. This machine takes the brush after this ferrule has been put on, and the handle is inserted thereby in the most accurate and expeditious manner.

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

1. The brush-clamp L, with the elastic bed N and eccentric lever M, arranged to operate substantially as and for the purposes described.

2. The handle-clamp C, constructed and arranged to operate substantially as and for the purposes described.

3. In combination with machinery for making brushes, the wheel G and mode of operating the plunger F, substantially as shown and described.

4. The combination of the clamps C and L, plunger F, and wheel G, substantially as and for the purposes herein shown and specified.

GEORGE WILLETT.

Witnesses:

HOEL G. LEE,
M. J. HILL.