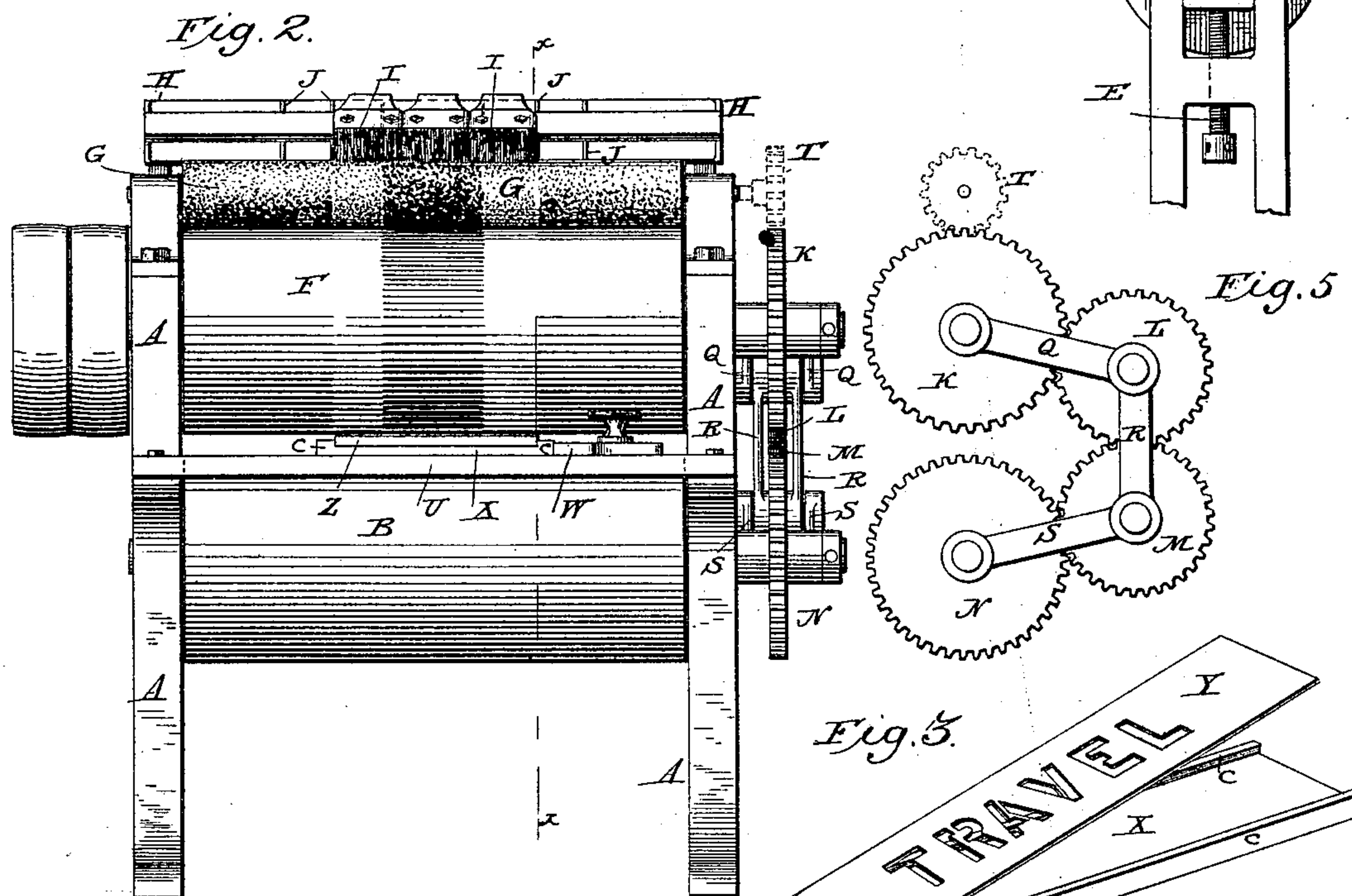
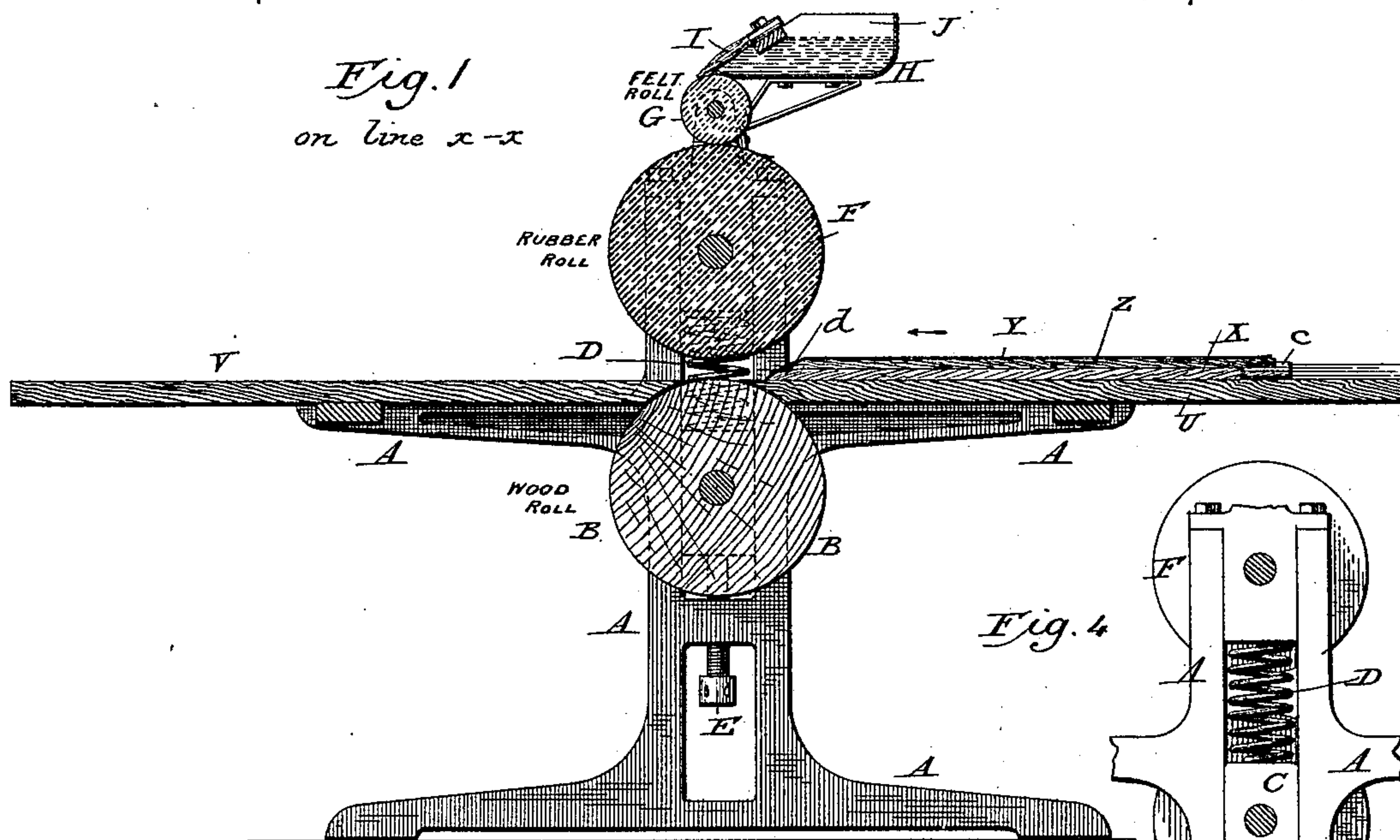


(No Model.)

C. L. TRAVIS.
STENCILING MACHINE.

No. 353,520.

Patented Nov. 30, 1886.



Attest.

Sidney P. Hollingsworth
Wm. L. Kennedy

Fig. 3.

Inventor.
C. L. Travis.
By his Atty.
Phil. T. Dodge.

UNITED STATES PATENT OFFICE.

CHARLES L. TRAVIS, OF MINNEAPOLIS, MINNESOTA.

STENCILING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 353,520, dated November 30, 1886.

Application filed February 25, 1886. Serial No. 193,253. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. TRAVIS, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain Improvements in Stenciling-Machines, of which the following is a specification.

The aim of my invention is to provide means whereby signs may be produced on boards or other rigid bodies cheaply and in duplicate. To this end it consists in a machine and appliances of novel construction for applying the paint or ink through a stencil-plate to the wood or other surfaces.

In the accompanying drawings, Figure 1 represents a longitudinal vertical section of my machine on the line xx of Fig. 2. Fig. 2 is a front elevation of the same. Fig. 3 is a perspective view of the guide or holder in which the board to be painted is placed, together with the stencil-plate applied thereto. Fig. 4 is an end elevation showing the devices for adjusting the journals of the lower roll. Fig. 5 is an end view showing the gears by which the rolls are driven.

A represents a rigid main frame, which may be of any suitable construction, provided it contains uprights or standards at its sides to receive the roll-bearings, hereinafter described.

B is a horizontal roll located in the base of the frame, its journals mounted in bearing-blocks C, which are arranged to slide vertically in slots or in guides in the frame, subject to the influence of depressing-springs D, by which the roll is prevented from rising accidentally, and lifting-screws E, by which the roll may be adjusted to boards of different thicknesses, as plainly represented in Fig. 4.

F represents a painting-roll overlying the roll B and constantly out of contact therewith. This roll F consists of a central bore or shaft having a surface or body of rubber or equivalent elastic material applied thereto, its surface being ordinarily smooth and of true cylindrical form.

G represents a third roll, having an external surface of felt or like material, arranged to ride on top of the paint-roll F, for the purpose of delivering paint thereto.

H represent the paint-fountain, consisting of a trough extending transversely of the machine, with its lower edge immediately above

the distributor roll or rider G. This fountain has a brush or a series of brushes, I, extended lengthwise across its mouth, as shown in Fig. 1, so that the body of paint can escape only by flowing slowly and gradually between the bristles to the surface of the roll G.

When the different lines of the sign are to be painted in different colors, or when the letters in any line are to be printed in two or more colors, I provide the fountain with transverse partitions J, as represented in the drawings, by which it is divided into a series of compartments, each adapted to receive a distinct color. In this connection I use a distributor-roll having a surface of felt, it being found in practice that the felt will deliver the colors continuously to the painting-roll, maintaining sharp lines of division between them, or, in other words, without causing them to blend.

The shaft of the roll F is provided with fast and loose pulleys, through which it may receive a driven belt from a suitable motor. This shaft is also provided with a pinion, K, which, through intermediate pinions, L and M, communicates motion to a pinion, N, fixed on the shaft of the lower roll, B. The shafts of the several pinions are connected by links Q, R, and S, as shown in Fig. 5, in a manner familiar to every mechanic, so that the lower roll may be adjusted vertically without interfering with the action of the gear.

Motion may be communicated to the distributor-roll G by means of a pinion, T, applied to its journal and engaging the pinion K, as shown in the drawings, or in any other appropriate manner.

In advance of the rolls B and F, I locate a horizontal table, U, to support and guide the blank and the stencil in their passage between the rails, and in rear of said rolls I locate a second table, V, to receive said parts as they are delivered from between the rolls. On the table U, I mount a longitudinal guide-bar, W, secured by thumb-screws or equivalent devices to admit of its lateral adjustment.

Having thus provided the machine, I next provide a gage or holder, X, to contain the boards to be painted. This holder X is provided with longitudinal lips or shoulders c , to retain the sign-board in position thereon, and its forward end is tapered or reduced in width,

as shown at *d*, in order that it may enter readily between the rolls.

In preparing to operate with the machine, I first provide a stencil-plate, Y, of sheet metal or other suitable material, having the desired characters cut therethrough in the ordinary manner. This plate I commonly secure by tacks or otherwise at one end to the forward end of the holder X, as plainly represented in Fig. 3.

In commencing operations the fountain H is supplied with paint and the machine set in motion, whereupon the paint delivered from the distributor-roll G is in turn applied by the latter uniformly to the entire surface of the roll F. The operator, taking a blank board of suitable size, places the same in the top of the holder X beneath the stencil-plate Y, which is held snugly thereon. The holder containing the board is then advanced over the surface of the table U, between the rolls F and B, which, biting thereon, cause it to advance between them to the table V. During this action the upper roll, F, by reason of its elasticity, holds the stencil down firmly upon and in intimate contact with the surface of the blank board Z, and at the same time delivers paint through the openings of the stencil to the board thereunder, the result being the application of the required characters sharply and cleanly to the board. The stencil is now lifted, the sign-board removed, and the operation repeated.

It will be seen that by properly locating the partitions of the fountain H in reference to the path traversed by the stencil the different colors may be applied in annular belts or strips to the roll F, and applied by the latter through the openings of the stencil in such manner as to paint the different letters or characters in different colors, or to paint any one or more lines each in two or more colors.

The principal feature of my invention is the employment of an elastic roll and means for supplying the same with paint, in combination with a stencil-plate and means for guiding or directing the stencil-plate and an underlying board against the surface of the roll, so that the roll may serve the double purpose of holding the stencil in contact with the board and of delivering paint through the stencil to the board.

It will be manifest that the details of construction may be modified at will without departing from the spirit of the invention in this regard. The roll adjusting and driving gears may be modified, and the stencil-plate, instead of being permanently attached to the holder, may be removably connected therewith; or it may be laid loosely upon the board in the holder. The roll B may be replaced by feed devices of any other known character adapted to advance the board and the stencil beneath the painting-roll.

I am aware that it is old in wood-graining machines to combine with supporting and feeding rolls an overlying printing-cylinder which

receives paint from a distributor-roll, the painting-cylinder being provided with an engraved or embossed periphery in counterpart of the grain to be imitated, and to such construction I lay no claim. It is to be noted as a peculiarity of my invention that my painting-roll has a smooth, unbroken surface, and that the proper design or configuration on the surface to be printed is secured by interposing a stencil-plate between the roll and said surface. Under my system it is not necessary to provide different rolls for different designs. The machine remains unchanged, and it is only necessary to provide different stencils, which may be produced rapidly and cheaply.

Having thus described my invention, what I claim is—

1. In a stenciling-machine, the combination of a supporting and feeding roll, B, an elastic painting-roll, F, having a smooth and unbroken surface, and a roll for supplying the latter with paint, whereby the machine is adapted to deliver paint through a stencil-plate to the surface thereunder.

2. In a stenciling-machine, the combination of a supporting and feeding roll, a smooth elastic painting-roll located directly thereover and held constantly out of contact therewith, and connecting-gears, substantially as described, for driving said rolls at equal surface-speeds, whereby the painting-roll is caused to serve the additional purpose of advancing the board thereunder.

3. In a stenciling-machine, the combination of a supporting and feeding mechanism, an elastic painting-roll, a holder or carrier for the board to be painted, and a stencil-plate overlying said holder, whereby the stencil and the board may be advanced in contact with the surface of the painting-roll.

4. In a stenciling-machine, a guide or holder, X, to receive the board to be painted, and a stencil-plate, Y, secured at one end thereto, substantially as described.

5. The blank-holder for a stenciling-machine, consisting of the board X, having the side guide or ledge and the tapered end, in combination with the stenciling-sheet attached thereto.

6. In a stenciling-machine, the combination of a smooth elastic painting-roll, F, a distributor-roll, G, acting thereon, and a paint-fountain, H, divided transversely into distinct compartments, whereby paint of different colors may be laid in distinct annular bands upon the painting-roll.

7. In a machine for producing signs by the stenciling process, the combination of a support for the blank to be painted, a stencil to overlie said board, an elastic painting-roll, and a mechanism, substantially as described, for delivering paints of different colors to the painting-roll at various points in its lengths, whereby a sign may be painted in two or more colors at one operation.

8. In a stenciling-machine, the elastic paint-

ing-roll and the paint-fountain divided transversely into two or more compartments, the intermediate distributer-roll having a surface of felt, whereby it is enabled to apply different colors to the painting-roll without causing them to blend.

In testimony whereof I hereunto set my hand,

this 13th day of February, 1886, in the presence of two attesting witnesses.

CHARLES L. TRAVIS.

Witnesses:

JOHN T. ARMS,

SIDNEY P. HOLLINGSWORTH.