

(No Model.)

2 Sheets—Sheet 1.

W. W. KRUTSCH.
WOOD ENGRAVING MACHINE.

No. 398,336.

Patented Feb. 19, 1889.

Fig. 1.

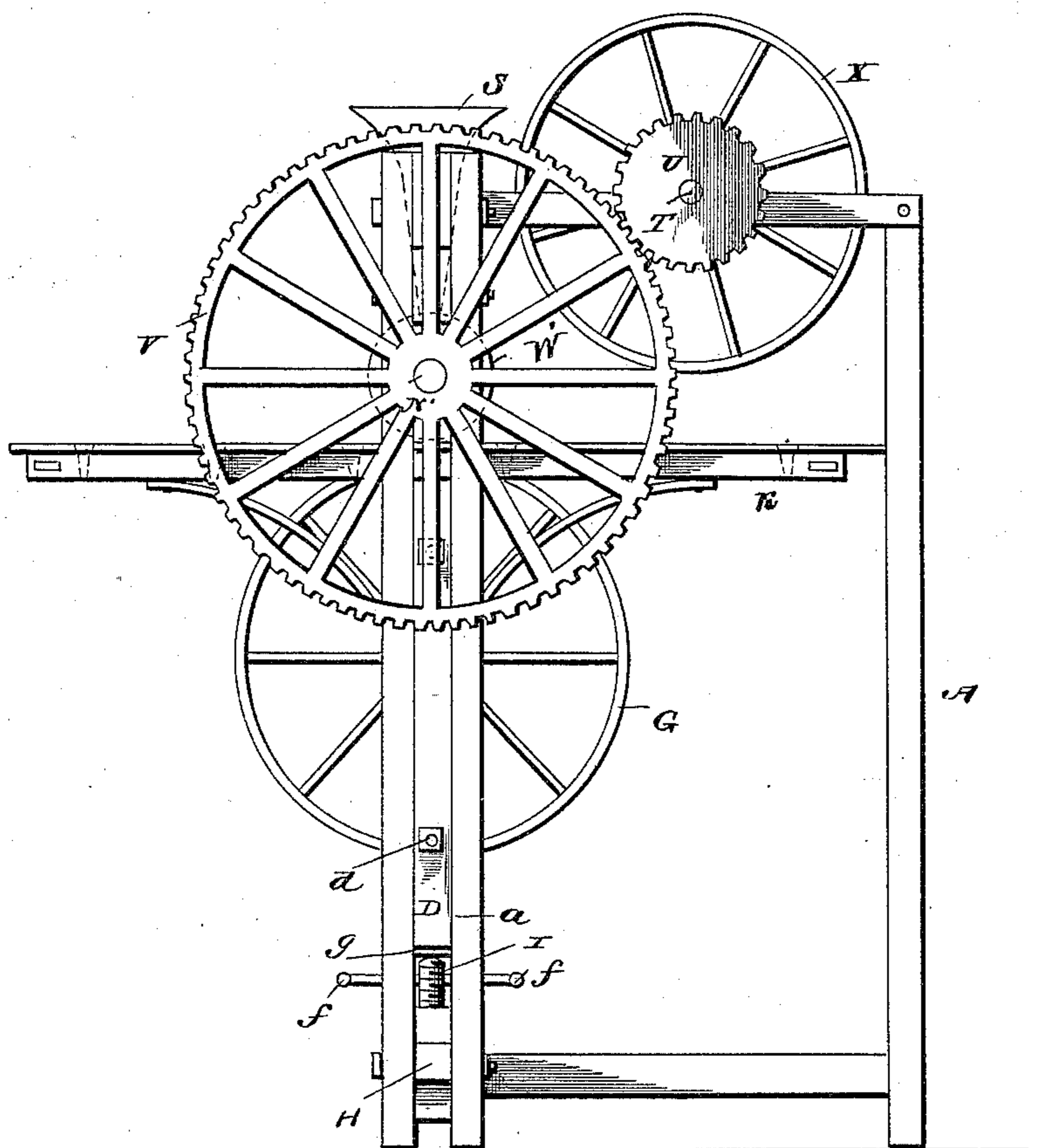
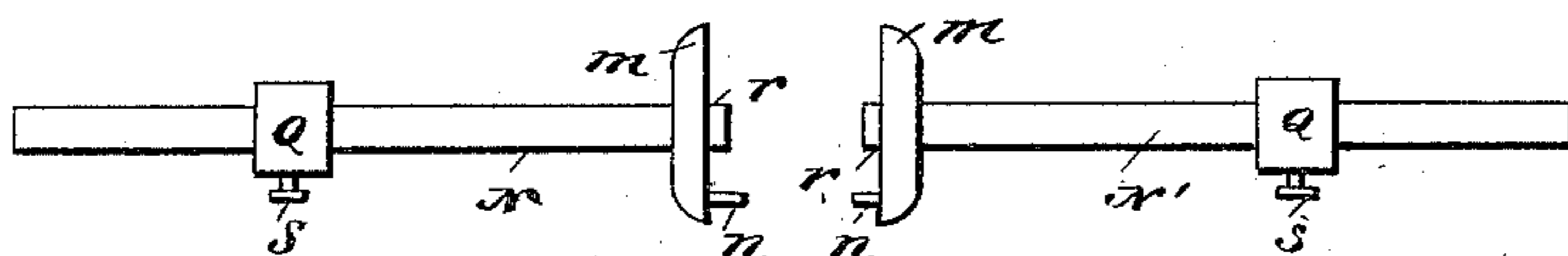


Fig. 4.



Witnesses:

D. E. Turpin
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Inventor.
Willis W. Krutsch.

By *James J. Sheehy*
Attorney.

(No Model.)

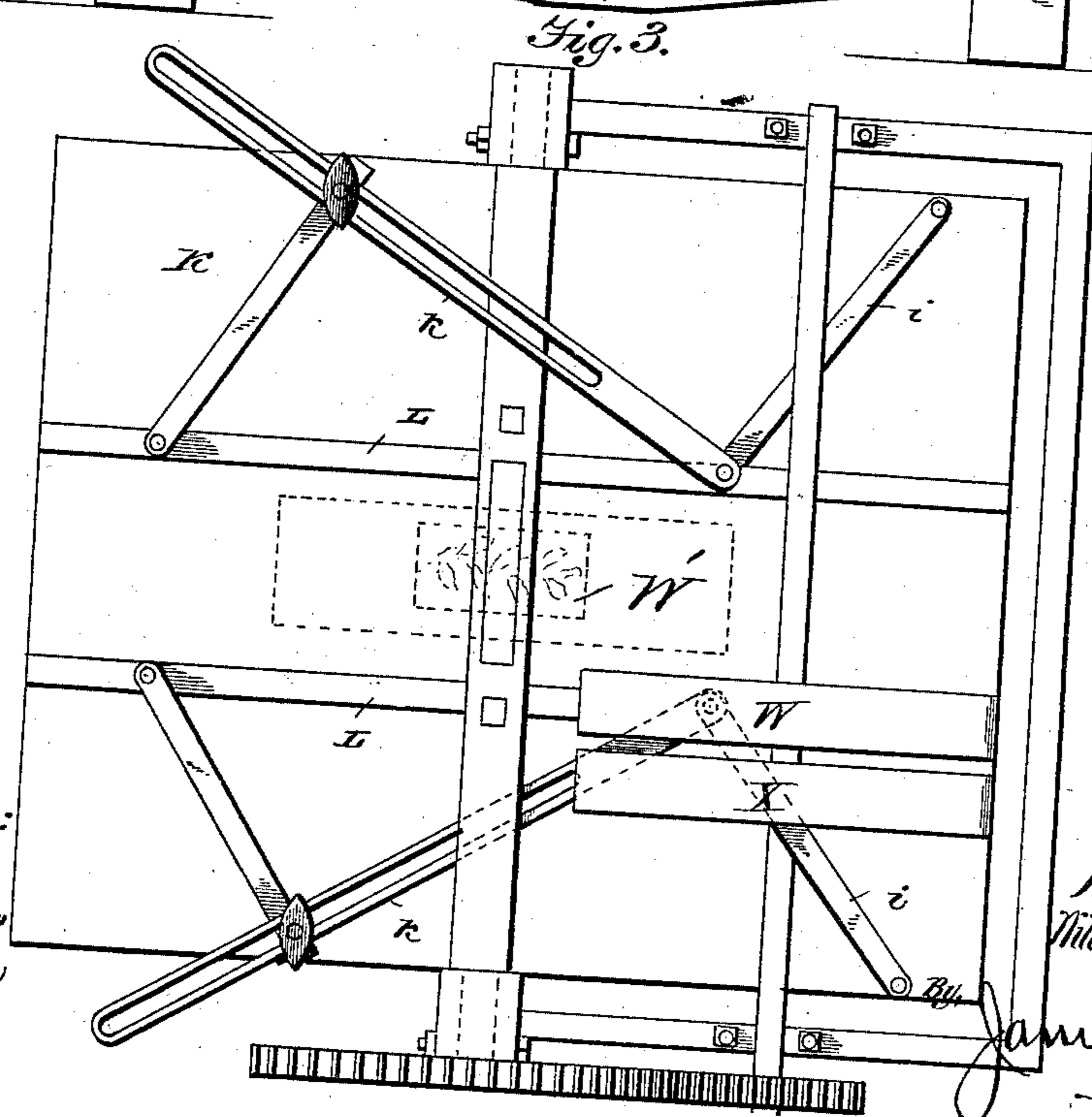
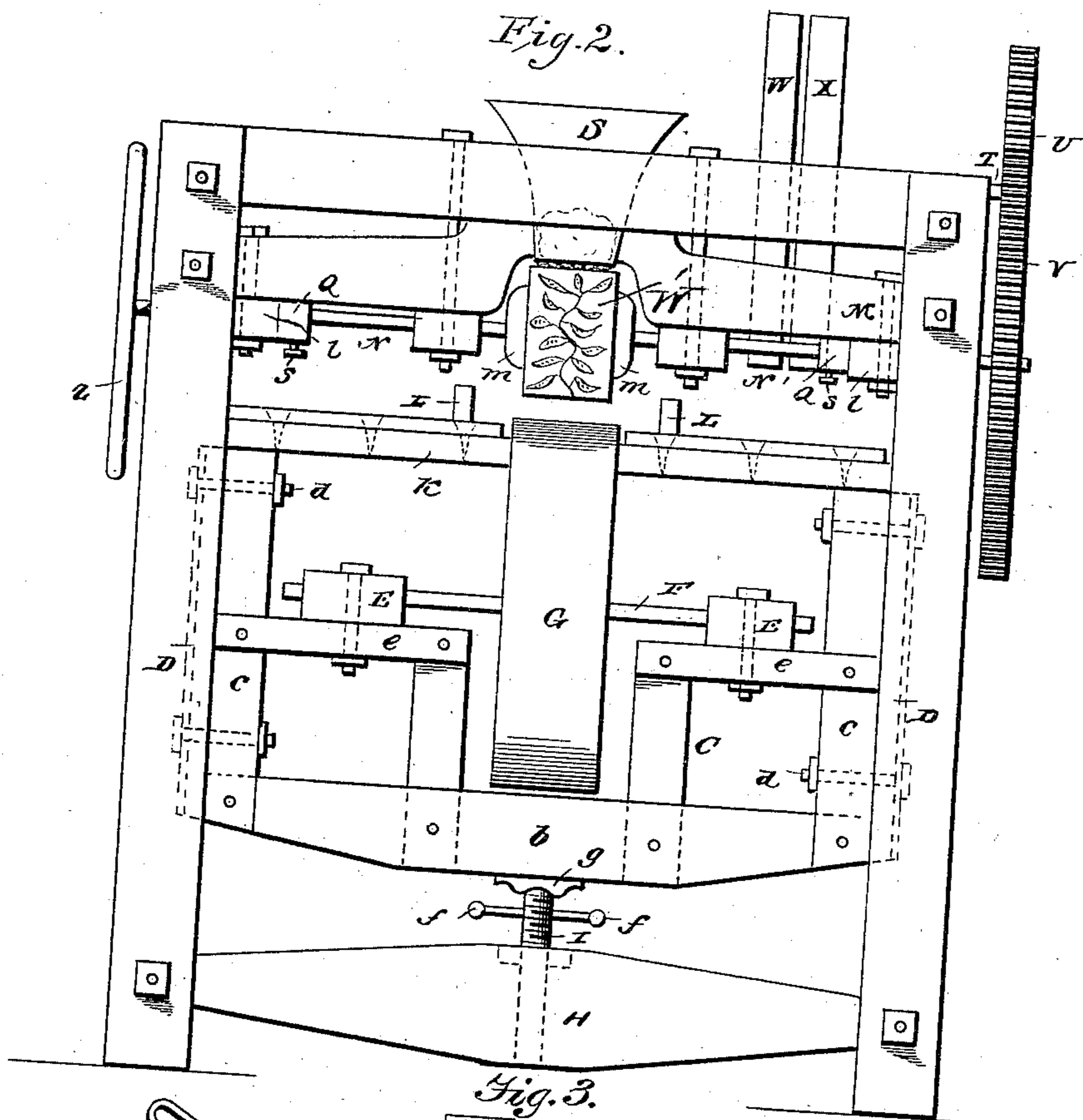
2 Sheets—Sheet 2.

W. W. KRUTSCH.

WOOD ENGRAVING MACHINE.

No. 398,336.

Patented Feb. 19, 1889.



Witnesses:

A. Schieffelin
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Inventor:
Willis W. Krutsch.

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UNITED STATES PATENT OFFICE.

WILLIS W. KRUTSCH, OF FORT SCOTT, KANSAS, ASSIGNOR OF ONE-HALF
TO SAMUEL A. VAN BUSKIRK, OF SAME PLACE.

WOOD-ENGRAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 398,336, dated February 19, 1889.

Application filed October 8, 1888. Serial No. 287,453. (No model.)

To all whom it may concern:

Be it known that I, WILLIS W. KRUTSCH, a citizen of the United States, residing at Fort Scott, in the county of Bourbon and State of Kansas, have invented certain new and useful Improvements in Wood-Engraving Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to machines for engraving wood such as used on window-casings, door-casings, door-panels, wainscoting, plinth-blocks, and the like, and the novelty will be fully understood from the following description and claims, when taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a machine constructed according to my invention. Fig. 2 is a similar view taken in the plane at right angles to Fig. 1. Fig. 3 is a plan view of the table, showing the engraving-wheel and the feed-wheel in dotted lines, and the means for adjusting the lateral guides for the stop. Fig. 4 is a view of the sectional shaft which carries the embossing-wheel.

Referring by letter to the said drawings, A indicates the main frame, which is preferably of a rectangular form, properly braced in position to support the various working parts of my machine. The main frame is provided with vertical guideways *a*, so as to receive the opposite ends of a movable frame, hereinafter more fully explained.

C indicates the vertically-movable frame, which is composed of a lower cross-bar, *b*, and uprights *c*, firmly secured to the said cross-bar, and to the outer faces of these uprights *c* are bolted, by means of bolts *d*, metal plates D, which latter are shown in dotted lines in Fig. 2 of the drawings. These uprights have also secured to them horizontal bars *e*, which are designed to receive and support bearings E for the horizontal shaft F of the squeezing-roll G. This movable frame C, which supports the squeezing-roll G, will be truly guided and prevented from lateral displacement in its vertical movements by means of the ways *a*.

H indicates a cross-bar, which is firmly

bolted to the main frame at the base of the vertical ways. In this cross-bar is arranged an adjusting screw or rod, I, which is seated in a threaded bearing therein, and has its upper end arranged so as to bear against the under side of the movable frame C, so as to raise the same when desired. This adjusting-screw I is preferably provided with handles *f* for the grasp of the operator, although it may be turned by any suitable means, and the horizontal lower bar, *b*, of the said movable frame may have a metallic plate, *g*, on its under side to receive the upper end of the adjusting-screw I. By this construction it will be seen that I have a means whereby the squeezing-roll may be raised or depressed by manipulation of the screw I, and the distance between the engraving-roll and the squeezing-roll regulated so as to accommodate the same for the different thicknesses of stock.

K indicates the table, which is arranged horizontally beneath the engraving-roll and has its support upon the uprights *c* of the movable frame C, so that it may move therewith. This table K is provided with an elongated slot for the reception of the squeezing-roll, the same being allowed to pass through the slot and a sufficient distance above the upper surface of the table.

L indicates guide flanges or strips, which are arranged parallel upon the face of the table and at opposite sides of the slot therein. These strips are laterally adjustable and are designed to guide the stock as it is passed between the engraving-roll and the squeezing-roll. These guide-strips L are moved laterally by means of pivoted arms *i* and a slotted lever or arm, *k*, which is connected at one end with the said strips and its opposite end adjustably connected to one of the arms *i* by means of a screw and turn-button, as shown. It will thus be seen that by manipulating this button and the slotted lever *k* the strips L may be moved uniformly at any desired distance apart.

M indicates a cross-beam arranged at the top of the main frame, and is designed to furnish a means of attachment and support for the bearings or journal-boxes *l* of the shaft of the engraving-roller W'. The engraving-

roller shaft is of a peculiar construction, being formed in two sections, N and N'. These sections have fixed to their adjacent ends collars *m*, carrying studs or pins *n*, and have the ends of the shafts extended slightly from the said collars, as shown at *r*, to receive the journal-apertures of the engraving-roll. The engraving-rollers should have, in addition to the central journal, apertures to receive the journal *r* of the sectional shaft, and an eccentrically-arranged aperture on opposite sides to receive the studs or pins *n*. By this means it will be seen that rollers may be used interchangeably upon the shaft, and this is very desirable, so that the various designs may be had without altering the construction or removing the shaft from its bearings, the squeezing-roll being readily adjusted, together with the table, according to the size of engraving-roll to be used.

Q indicates sleeves, which are arranged one each upon the shafts N and N'. These sleeves have a threaded aperture to receive a set-screw, *s*, the object of which is to prevent lateral displacement of the shaft-sections by abutting against the bearings *l*. It will be seen that when it is desirable to remove the engraving-roll these set-screws are first loosened, so as to allow the sleeve to slide upon the shaft, when the shafts may be drawn in opposite directions and allow the engraving-roll to drop out. When another roll has been placed in position, the shafts are moved in opposite directions, so as to embrace the roll and the collars properly secured to the shafts thereof.

S indicates a hopper, which is arranged in a position above the engraving-roll and is designed to carry a stain or any coloring-matter to be used upon the finished article. In practice I place a sponge in this hopper, as shown in Fig. 2 of the drawings, so that it may bear upon the engraving-roll, thereby conducting the coloring-matter to the said roll, which will be carried to the stock and applied during the operation of engraving.

T indicates a horizontal shaft, which has its bearings upon the main frame. This shaft is provided at one end with a gear wheel or pinion, U, designed to mesh with a gear, V, which is fixed to the outer end of one section of the shaft of the engraving-roll. This shaft T is furthermore provided, as shown, with a fixed pulley, W, and an idler, X.

Motion may be given to this machine by means of an endless belt or the like applied to the fixed pulley on the shaft T, when it will be communicated through the medium of the gear U and V to the shaft of the engraving-roller, and consequently the engraving-roller.

I provide one end of the engraving-roller shaft with a balance-wheel, Z.

It is obvious that in the adjustment of the shaft N for the engraving-roll the gear V must also be adjusted so as to mesh with the gear U. Consequently while the said gear V must be fixed to its shaft, yet it must be removably fixed, so that when adjusting the shaft to the engraving-roll to be used the gear may be also adjusted to mesh with the upper gear, U. This may be accomplished by any suitable means—such, for instance, as a key or pin—whereby the gear may be moved to any point on the shaft and then fixed, so as to rotate therewith.

I am aware that it is not new in leather-finishing machines to provide above a number of rollers carrying coloring-matter to be applied to the leather.

Having described my invention, what I claim is—

1. In a machine for the purpose described, the combination, with an engraving-roll having central journal-apertures and eccentrically-arranged apertures, of the sectional shaft for the said roller, having journals to enter the aperture and studs or pins to fix the said roller with respect to the shaft, substantially as specified.

2. In a machine for the purpose described, the combination, with the main frame, of the horizontal beam M, carrying journal-bearings, the sectional shaft having fixed collars near its adjacent ends, and studs or pins on the said collars to receive interchangeably engraving-rolls, the sliding sleeves on the said collars, shaft, and thumb-screws for fixing the sleeves to the shaft, so as to prevent lateral displacement of the latter, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIS W. KRUTSCH.

Witnesses:

W. C. BRAINARD,
A. J. WATERHAZE.