

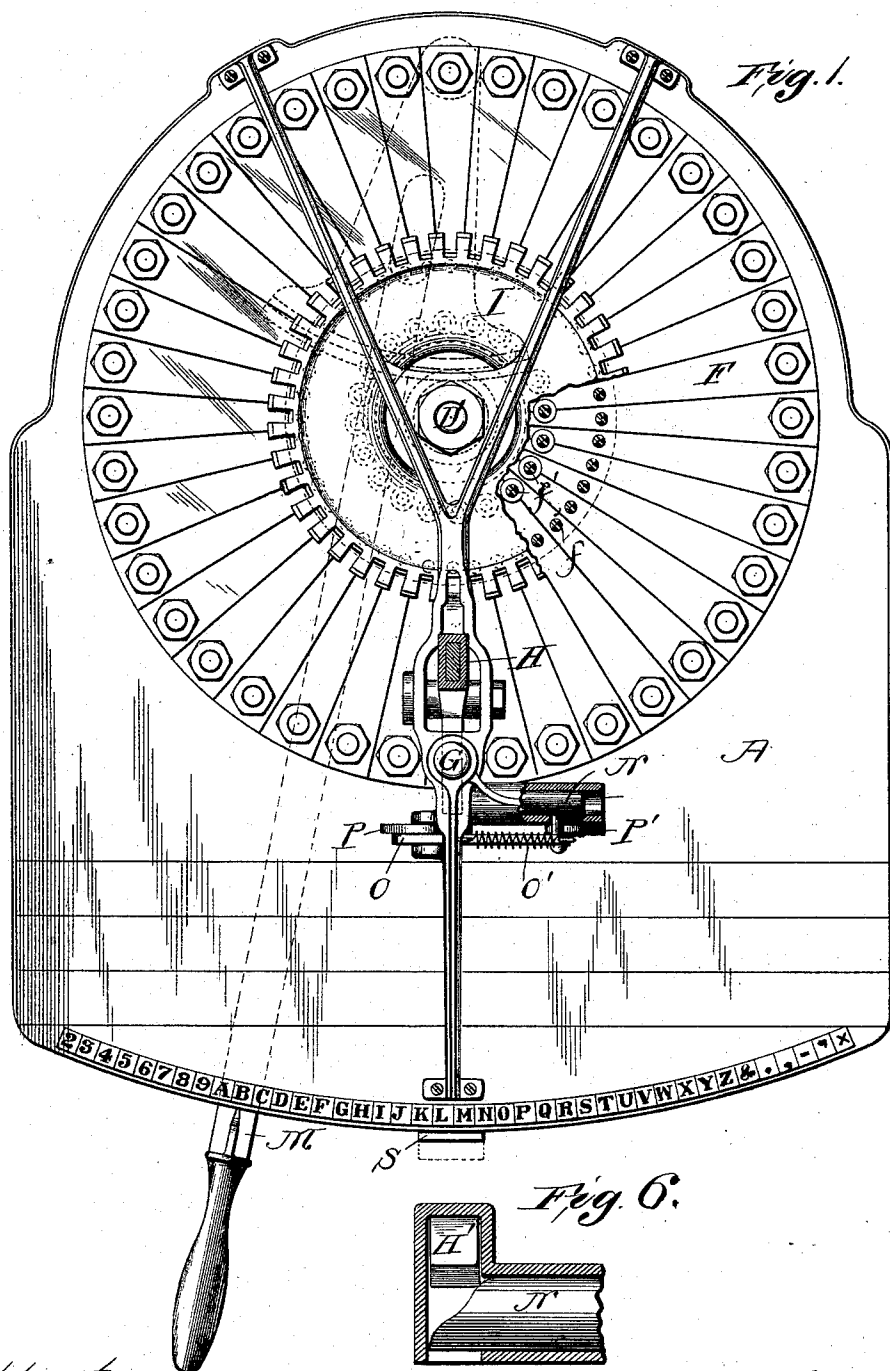
(No Model.)

2 Sheets—Sheet 1.

J. A. HOFF & J. W. MUNSON.
STENCIL CUTTING MACHINE.

No. 573,841.

Patented Dec. 22, 1896.



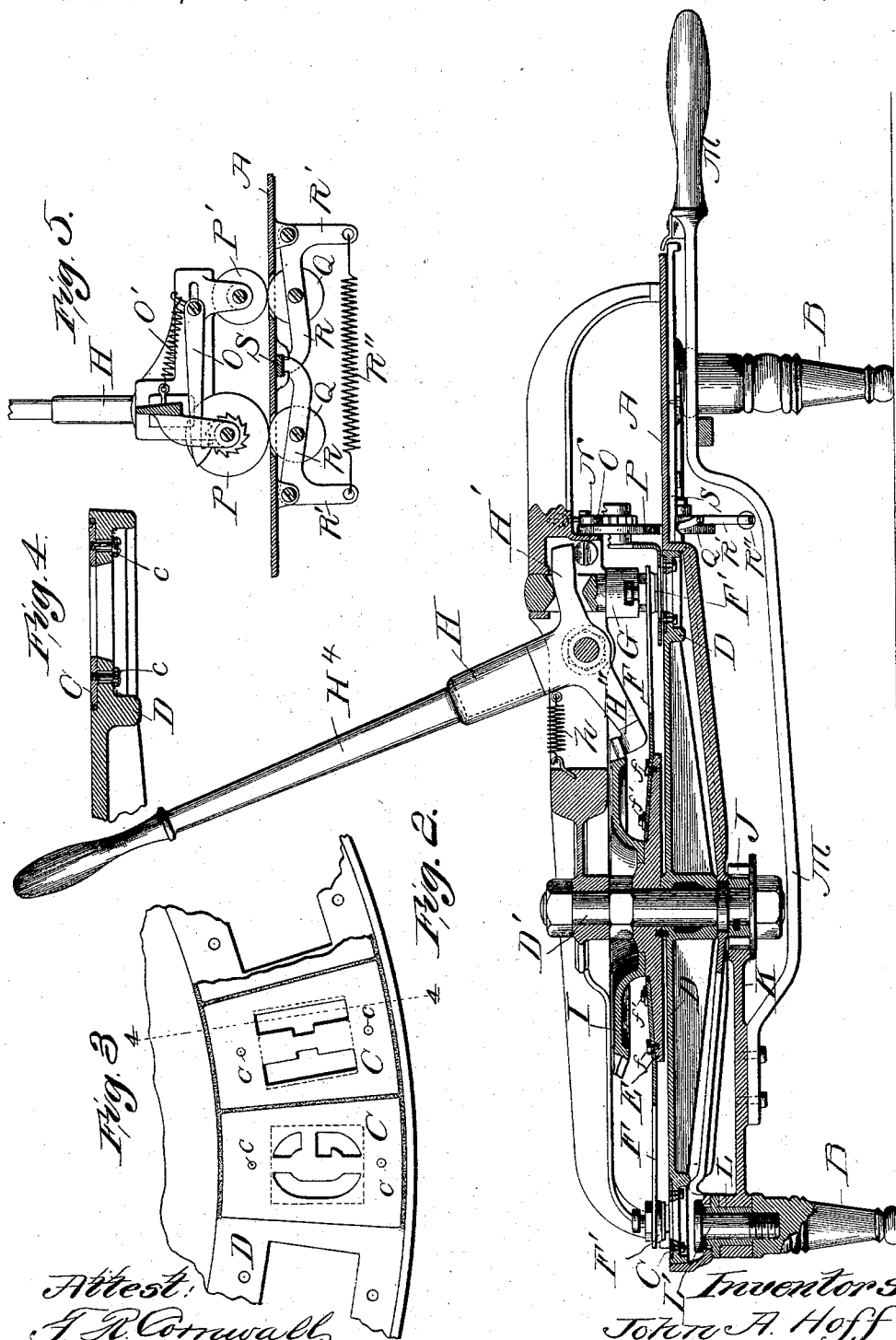
Attest:
J. R. Cornwall
Hugh H. Wagner

Inventors
John A. Hoff
John W. Munson
by Paul Bakewell
their atty.

J. A. HOFF & J. W. MUNSON.
STENCIL CUTTING MACHINE.

No. 573,841.

Patented Dec. 22, 1896.



Attest:
J. R. Cornwall,
Hugh K. Wagner.

Inventors
John A. Hoff
John W. Munson
By Paul Bakewell
their atty

UNITED STATES PATENT OFFICE.

JOHN A. HOFF AND JOHN W. MUNSON, OF ST. LOUIS, MISSOURI.

STENCIL-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 573,841, dated December 22, 1896.

Application filed May 20, 1895. Serial No. 549,942. (No model.)

To all whom it may concern:

Be it known that we, JOHN A. HOFF and JOHN W. MUNSON, citizens of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Stencil-Cutting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a top plan view. Fig. 2 is a longitudinal vertical sectional view. Fig. 3 is an enlarged detail of the matrix-plates, showing the manner of mounting the same. Fig. 4 is a sectional view on line 4 4, Fig. 3. Fig. 5 is an elevational view of the feed mechanism, and Fig. 6 is an enlarged detail view of the means for operating the feed mechanism.

This invention relates to a new and useful improvement in stencil-cutting machines; and it consists in the construction, arrangement, and combination of the several parts of our improved machine, all as will hereinafter be described, and afterward pointed out in the claims.

In the drawings, A indicates the frame, which is preferably mounted upon suitable legs B.

The matrix-plates C are mounted in a skeleton wheel D, which is upon a stud D', and are preferably in the shape of segments.

Conjoined to the wheel D is a limb E, carrying yielding arms F, upon the outer ends of which are mounted the patrices F' in line with the matrices in plates C. These arms are secured to the hub portion by screws, one of which, as *f*, passes through a hole, of larger diameter than the screw in the arm, and into the hub, and the others, *f'*, being arranged in juxtaposition to the inner ends of the arms. By this means the arms are adjustably mounted relative to each other and to the hub. These patrices are forced down by a plunger G, operated by an extension H' on a handle H, provided with a removable extension H⁴. Extending rearwardly from this arm is a spacing-finger H'', which coöperates with teeth on a spacer-wheel I.

To revolve the wheel D and its associate parts, we arrange a pinion on the lower end of

the stud, which engages with a segment K, pivoted upon a suitable bearing at the rear of the frame. This bearing, as shown, consists of a sleeve L, inserted in an opening of larger diameter in the frame A. A binding-bolt L' holds the sleeve in an adjusted position relative to the frame A, and in this manner lost motion between the segment and its pinion can be taken up. This adjustment could be accomplished in other ways, but the construction shown is convenient and ample, the only purpose being to adjustably pivot the segment relative to the pinion, or vice versa.

Extending forwardly from the segment is an operating-handle M, whose forward end is preferably provided with a pointer or indicator to indicate the symbol or character in line with the plunger, corresponding symbols or characters being arranged in scale form at the front end of the machine.

The plunger G, which operates the patrices, is formed with a laterally-disposed T-slot in its lower face, through which pass heads, extending upwardly from the patrices. When the handle M has been operated and the indicator points to the proper symbol on the scale, the head on the patrice of a corresponding symbol is in the T-slot of the plunger. Handle H is now operated and forces the patrice down through the sheet to be stenciled and matrix. A spring *h* returns the handle to its original position and the plunger withdraws from the patrice to its normal position. Handle M is now moved to the next symbol to be stenciled, and so on.

We will now describe the mechanism for feeding the sheet or strip beneath the plunger.

The arm H', which operates the plunger, extends beyond said plunger, and arranged in the path of this extension is a block N, formed with a cam-face on its end, with which the arm H' contacts, and through this medium the block is forced to slide in its seat. Pivoted on a lateral extension at the other end of the block is a dog or detent O, whose free end engages teeth on a ratchet-wheel conjoined to the feed-wheel P. A spring O' is connected to one side of the pivot-point of dog O and performs the dual function of normally keeping the free end of the dog in con-

tact with the ratchet-wheel and at the same time returning the block after actuation by the arm H'. When the handle H is actuated to operate the plunger, the arm H' comes in
 5 contact with the cam-face of the block N and forces the same to one side. This movement causes the dog to rotate the ratchet-wheel, and feed-wheel P feeds the strip to be stenciled the proper distance across the machine
 10 before the plunger contacts with the strip. The block has not made its full movement and bears against the side of the arm, during which time the plunger completes its stroke. Upon release of the handle, spring h returns
 15 it to its normal position, permitting spring O' to bring the block inwardly and causing the dog to ride over one or two teeth, as the case may be, depending upon how far the handle
 20 of the handle will not operate the plunger its full stroke, but will move the strip only a short distance to form an unstenciled space.

In order to relieve the strip of the feed-wheels when it is desired to remove the strip,
 25 we arrange beneath said wheels, both positive, as P, and idle, as P', rollers Q, which are mounted in pivoted arms R, whose inner ends rest against the lower face of a slide S, of different thicknesses. When slide S is
 30 pulled out, its greater thickness forces the arms R downwardly and the rollers Q away from the feed-rollers. When said slide is pushed in, the arms will rest against a thinner portion of the slide, and in order to ele-
 35 vate the rollers Q and cause the arms to follow the varying thicknesses of the slide we arrange a spring between angular projections R' of the arms. In this manner the strip is held or released, depending upon the position
 40 of slide S.

It is well known that in machines of this class the matrices will not generally keep in alinement with the patrices, and any slight disarrangement will cause considerable trouble.
 45 In order to make the alinement of the matrices permanent, we first adjust the plates C in the wheel D by screws c, which pass through holes in the wheel, of greater diameter than the screws, and into the plates. In this
 50 manner the plates may be arranged loosely in position and alined with the patrices by operating the latter with the plunger. When the patrices are in their depressed position, the screws c are tightened and the plate is
 55 then in its proper position. This adjustment is continued until all the plates are adjusted, when the wheel D and its adjusted plates are taken out and the spaces between the edges of the plates and the supporting-wheel are
 60 filled with some plastic material, such for instance as silicate of soda, which will set and firmly and positively maintain the plates on the wheel. Upon taking the wheel out of its
 65 bath it may be wiped to remove all surplus material. This we consider an important fea-

ture of our invention, as the relation between the patrices and matrices is unvarying and constant.

We are aware that many minor changes in the construction, arrangement, and combina- 70
 tion of the several parts of our machine may be made and substituted for those herein shown and described without in the least departing from the nature and principle of the invention. 75

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a stencil-cutting machine, the combination with the frame, the matrix-wheel and 80
 its shaft, of a pinion on the shaft, a segment for operating the pinion, a bearing-sleeve on which said segment is pivoted, working in a slot in the frame and having a shoulder engaging the frame, a clamping-bolt for said 85
 bearing-sleeve passing through the latter and the slot in the frame, and adapted to adjustably secure the sleeve to the frame, substantially as described. 75

2. The combination with the plunger-operating handle, of a slide-block having thereon 90
 a cam-face adapted to be engaged by said handle to operate said block, a dog on the slide-block, a feed-wheel which is operated by the dog, and a spring for holding the dog in its 95
 proper relation to the feed-wheel, and returning the block; substantially as described.

3. The combination with the feed-roller, of idle-rollers arranged therebeneath, arms in 100
 which said rollers are mounted, means for normally holding said rollers in operative relation to the feed-roller, and a slide engaging said arms and adapted to move the latter with the rollers away from the feed-roller, substantially as set forth. 105

4. The combination with the feed-rollers, of rollers arranged therebeneath, pivoted arms in which said rollers are mounted, and a spring 110
 attached to both arms, for holding the last-named rollers in an operative position; substantially as described.

5. In a stencil-cutting machine, the combination of the stationary frame, a reciprocating plunger mounted in the frame, a lever 115
 mounted in the frame for operating said plunger, a matrix, a rotary hub, a yielding arm secured to said hub, means for moving said hub to bring said arm in the path of movement of said plunger, a patrice carried by 120
 said arm, means carried by the arm adapted to be positively engaged by the plunger for reciprocating the patrice, a feed mechanism, means for actuating the same comprising a 125
 spring-actuated block having a cam-face, and an extension on the lever for moving the block, substantially as described.

6. In a stencil-cutting machine, the combination of a stationary frame, a movable matrix, and movable patrice, a plunger mounted in said frame, a spacer moving with said pa- 130

trice, a feed mechanism, comprising a sliding
block provided with a cam-face, and feed-
wheels, and a lever for operating the plunger
pivoted to said frame, having a spacing-finger
5 adapted to cooperate with said spacer-wheel,
and a projection arranged to engage the block,
substantially as and for the purposes set forth.

In testimony whereof we hereunto affix our

signatures, in presence of two witnesses, this
9th day of March, 1895.

JOHN A. HOFF.
JOHN W. MUNSON.

Witnesses:

F. R. CORNWALL,
HUGH K. WAGNER.