

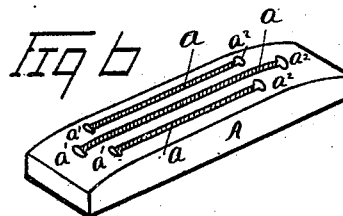
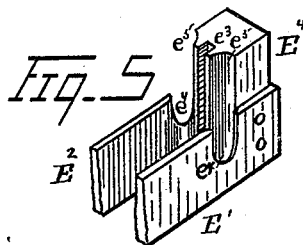
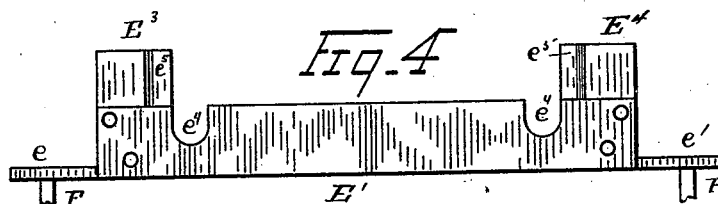
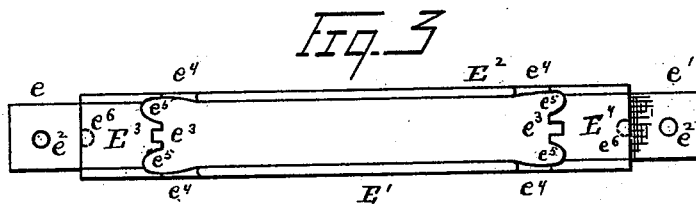
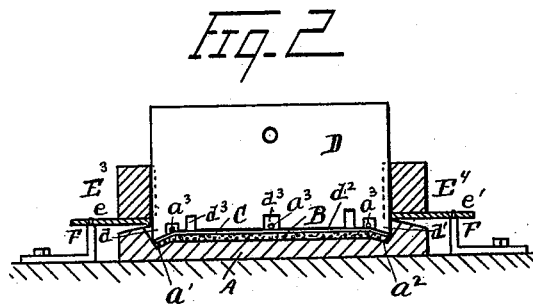
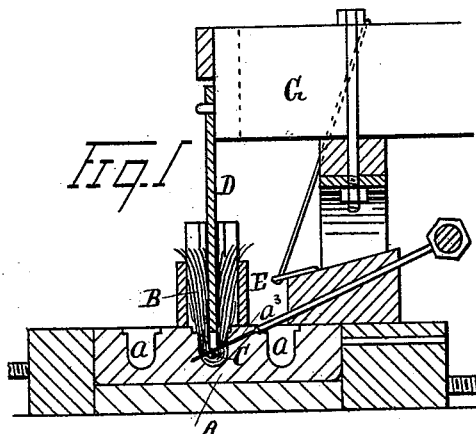
(No Model.)

L. STRICKEL.

APPARATUS FOR THE MANUFACTURE OF BRUSHES.

No. 421,531.

Patented Feb. 18, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS STRICKEL, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO
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APPARATUS FOR THE MANUFACTURE OF BRUSHES.

SPECIFICATION forming part of Letters Patent No. 421,531, dated February 18, 1890.

Application filed March 2, 1889. Serial No. 301,771. (No model.)

To all whom it may concern:

Be it known that I, LOUIS STRICKEL, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have
5 invented a certain new and useful Improvement in Apparatus for the Manufacture of Brushes; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the
10 art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My present invention relates to new and
15 useful improvements in apparatus for the construction of brushes, and has reference more particularly to the manufacture of brushes such as are embodied in a pending application filed by me August 24, 1888, Serial
20 No. 283,607.

To this end my invention consists of the devices and appliances, together with their combinations and arrangements, as more fully hereinafter set forth, and pointed out in
25 the claims, and as more particularly illustrated in the drawings submitted herewith, in which—

Figure 1 is a vertical section across the machine and brush, illustrative of my invention. Fig. 2 is a vertical longitudinal section
30 through the same. Fig. 3 is a plan view of the clamp. Fig. 4 is a side elevation thereof, and Fig. 5 is a view in perspective of one end of said clamp. Fig. 6 is a view of a brush-
35 head.

The brush described in the above-named application consists, essentially, of a head A, made in a single integral piece provided with one or more longitudinal grooves or sockets
40 a , terminating toward the extremities of the head with sockets a' a^2 deeper than the longitudinal socket a , and preferably extending at an angle or inclination thereto, as shown in Fig. 2. Into this groove a and end sockets
45 a' a^2 the stock B is forced, the stock being looped over and held by a binding-wire C, extending the length of the groove, the ends of the wire, with the stock, being forced also into the end sockets a' a^2 , nails a^3 being
50 driven into the head to hold the stock and binding-wire in place. The said end sockets

communicating with the longitudinal groove, it is evident that a single binding-wire will hold the stock therein.

I will now proceed to describe my present
55 invention, which I carry out as follows: To force the stock and binding-wire into the respective grooves, I employ a driving-plate D. The stock is looped or bent over the binding-wire C by forcing said plate with the stock
60 and longitudinally-extended binding-wire into a clamp E. This clamp consists, essentially, of the sides E' E^2 and end blocks E^3 E^4 , properly united, and with or without the extended base-plates ee' , which are perforated,
65 as shown at e^2 , to form an engagement of the clamp upon a suitable support, as upon pins F, Figs. 2 and 4. The end blocks are constructed with guide-recesses e^3 to receive the
70 driving-plate. In order that the stock and binding-wire may be properly driven into the end sockets a' a^2 , which are deeper than the longitudinal groove communicating therewith, it is evident that the driving-plate D
75 must be constructed with projected shoulders or points d d' , extended below the level of the intermediate edge d^2 of said plate, so that while the stock in the longitudinal groove is forced into place by the driving-edge d^2 at the same time the stock is also driven into
80 the end sockets by the extended points d d' , and as the binding-wire is to be bent over into the said end sockets the said points are constructed with an angular lower edge, as shown. The plate is provided with any de-
85 sired number of recesses d^3 , through which the nails may be driven into the head, still allowing the free removal of the plate when the stock and binding-wire are nailed into
90 place.

Another feature of my invention contem-
plates the bunching of the stock at the ends of the brush to make the brush thicker and heavier at its extremities. To accomplish
95 this result, I cut away the sides of the clamp adjacent to the end blocks, as shown at e^4 . The inner edges of the end block at either side of the guide-recesses e^3 are also cut back, as shown at e^5 , to allow the insertion and
100 bending over of an additional amount of stock at the ends of the brush.

In practice the stock may be bent or forced

into the clamp before the application of the same into the head in a separate operation, the clamp, with its contents forced thereinto, being brought into proper position to be driven into the groove of the brush-head in connection with the operation of nailing.

I do not limit myself to any particular means of forcing the driving-plate into the clamp and brush-head; but it may be accomplished by a driving-arm G, the same, however, forming no part of this application.

It will be understood that in the use of the apparatus herein described the fiber or stock is laid crosswise on the upper edges of the clamp, the binding-wire laid thereupon intermediate the ends of the fiber. The driving-plate is then forced into the clamp, driving the stock and looping it over the binding-wire. When the clamp with its stock and plate thus engaged therewith are located upon the grooved brush-head, a further pressure of the plate drives the stock and binding-wire into the longitudinal and communicating end grooves and bends the ends of the said wire into said end grooves. If the base-

plates *e e'* are not used, the end blocks may be recessed, as shown at *e⁶*, to engage the clamp in place. In this event the pins F are of course secured nearer together and may be made longer, so as to engage the recesses *e⁶*.

What I claim as my invention herein is—

1. The driving-plate D, provided with extended driving-points *d d'* and intermediate driving-edge *d²*, constructed with recesses *d³*, said driving-points projected beyond said driving-edge, substantially as set forth.

2. The combination, with a driving-plate provided with extended driving-points and an intermediate driving-edge constructed with recesses, of a clamp consisting of parallel sides having at their ends blocks, in which the side edges of the driving-plate slide, substantially as set forth.

In testimony whereof I sign this specification in the presence of two witnesses.

LOUIS STRICKEL.

Witnesses:

N. S. WRIGHT,
CHAS. F. SALOW.