(No Model.)

B. KIPPELS & W. ZELLER.

PLAITING MACHINE.

No. 564,893. Patented July 28, 1896.

Fig. 1.

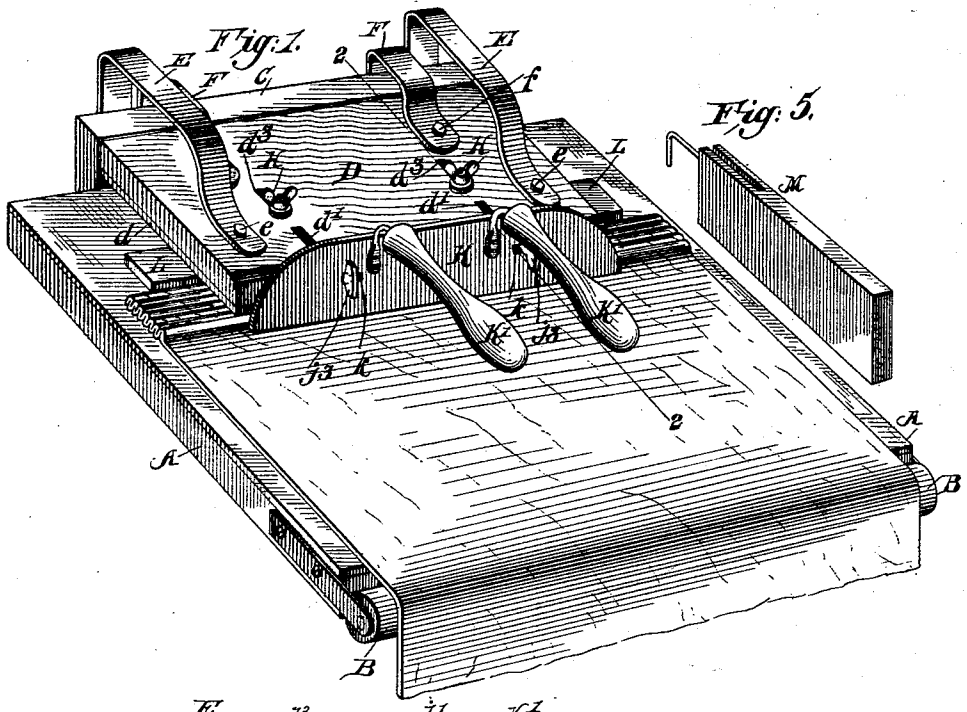


Fig. 5.

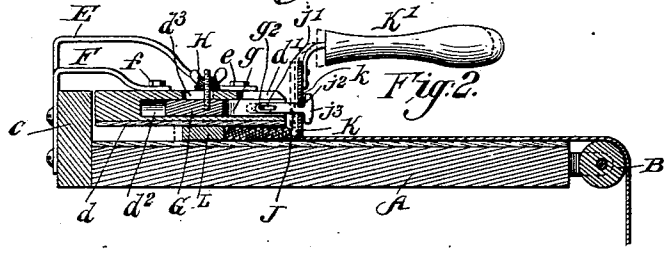


Fig. 2.

Fig. 4.

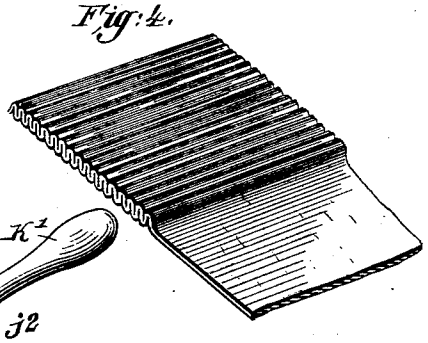


Fig. 3.

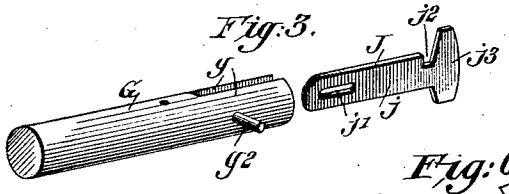
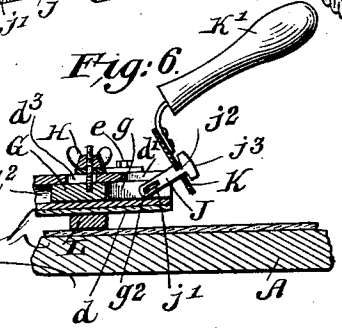


Fig. 6.



WITNESSES:

Fred G. Dieterich

Jos. A. Ryan

INVENTORS

Bruno Kippels and
William Zeller

BY Munn & Co.

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

BRUNO KIPPELS AND WILLIAM ZELLER, OF MOORHEAD, MINNESOTA.

PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 564,893, dated July 28, 1896.

Application filed March 30, 1895. Renewed December 10, 1895. Serial No. 571,716. (No model.)

To all whom it may concern:

Be it known that we, BRUNO KIPPELS and WILLIAM ZELLER, residing at Moorhead, in the county of Clay and State of Minnesota, have invented a new and Improved Plaiting-Machine, of which the following is a specification.

Our invention relates to an improved machine for forming coifs such as are used for neckwear by the Benedictine Sisters; and it has primarily for its object to provide a machine of this character of a simple and inexpensive construction, which can be easily manipulated and which will effectively serve for its intended purposes.

With other objects in view, which hereinafter will appear, the invention consists in such novel features of construction and peculiar combination of parts, as will be first described in detail and then specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of our machine, showing the manner in which the coif is formed. Fig. 2 is a longitudinal section thereof, taken practically on the line 2 2 of Fig. 1. Fig. 3 is a detail view of one of the slide-joints of the plait-forming member, and Fig. 4 is a view of a section of the coif or plaited body formed by our invention. Fig. 5 is a perspective view of a tool used in connection with this machine. Fig. 6 is a longitudinal section illustrating the action of the plaiting-blade.

In the practical construction of our invention we employ a base member A, the upper face of which to prevent friction has a smooth surface formed, preferably, of glass, on the outer end of which is journaled a friction or guide roller B, while the opposite end has an upwardly-projecting flange C, as most clearly shown in Fig. 2.

D indicates what we term a "presser-plate," the lower face of which has a smooth surface *d*, also preferably of glass, and such plate is held down against the base-plate by spring-pressure. For this purpose and to equalize the pressure we employ a pair of long pressure-brackets E, fixedly joined at one end to the flange C and connected by means of set-screws *e e* with the presser-plate D near the front end, and also a pair of short bracket-arms F, which are fixedly joined to the flange C and connected to the presser D by set-screws *f* near the rear end, as shown, it being manifest that by applying a compound spring-pressure to the said member D the bearing-down pressure of such member D will be uniform. The front end of the member D has a pair of slots d', which merge at the lower end into sockets d^2, which extend rearward and communicate with the slots d^3. (See Fig. 2.)

G G indicate plug members in the sockets d^2, which are adjustably held therein by the set-screws H, which pass down through the slots d^3.

By referring now to Fig. 3 it will be seen the members G G have their front ends bifurcated, as at *g g*, and in such ends are held to slide the shanks *j* of the plungers J, which shanks are slotted, as at j', to receive the cross-pins g^2, passed transversely through the front ends of the members G. The outer ends of the plungers have shoulder portions j^2 and heads j^3, which shoulders and head portions are so arranged as to provide a simple means of detachably fastening the plungers J to the plaiting-blade K, which plait has keyhole-slots *k k* to receive the outer ends of the plungers, as clearly shown. The blade K has a pair of handle members K'.

L indicates a slide-bar which is held between the base A and the member D and serves as a moving abutment member against which the end of the cloth abuts as the coif is being formed.

The manner in which our improved machine works is best explained as follows: The slide L is first adjusted to a point near the outer end of the member D. The cloth is then placed on the base A with one end held against the outer edge of slide L and the other hung over the roller B. The operator then manipulates the blade K, which, owing to the peculiar manner in which it connects with plugs J, has a vertically swinging and reciprocating motion relatively to the member D. It will thus be seen that as the blade is raised from the fabric it can be pulled forward and lowered to engage the muslin or other thin fabric at a point in advance of the last plait, it being obvious that as the blade is then shoved rearward another plait will be formed, which as it and the blade bears against the proceeding plaits forces the

plaited portion between the base and the member D and against the slide L, which as the plaited portion accumulates or increases slides toward the flange member C, such member D serving to hold the plaited portion compactly together.

M indicates a picker-like implement which we employ to pull out the plaits from under the member D.

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

1. An improved plaiting-machine comprising a base member, a spring-pressed clamp member held thereon, a plaiting-blade having a sliding connection with the clamp member, whereby it is adapted to swing upward and move inward and outward therefrom and a slidable abutment held under the clamp member all arranged substantially as shown and for the purposes described.

2. As an improvement in plaiting-machines, the combination with the base member, and a spring-pressed clamp member held thereon, of a plaiting-blade having link-arms pivotally connected with the outer end of the clamp member, said arms being slotted and thus adapted to slide lengthwise on their pivots which pass through slots in the arms, substantially as and for the purpose described.

3. In a plaiting-machine, the combination with a base member and a clamp member under which the plaits are forced as they are made, of a plait-forming blade pivotally joined to the outer end of the clamp member and held for reciprocal movement to or from such end and handles attached to the blade and projecting laterally therefrom, substantially as shown and for the purpose described.

4. An improved plaiting-machine, the combination with the base A, having a flange C, the spring-pressed member D and plug members G adjustably secured in the front end of the member D, said plugs having their front ends slotted, of the blade K having plunger members J, said members having a pivotal and slidable connection in the slotted ends of the plugs, all arranged substantially as shown and for the purposes set forth.

BRUNO KIPPELS.
WILLIAM ZELLER.

Witnesses:
GEO. E. PERLEY,
DUNCAN MCNAIR.