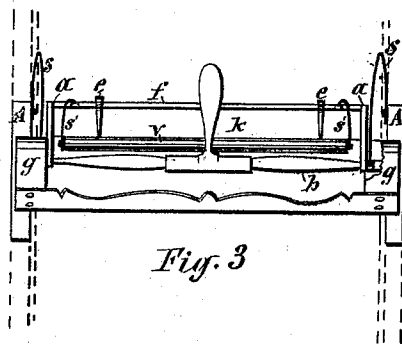
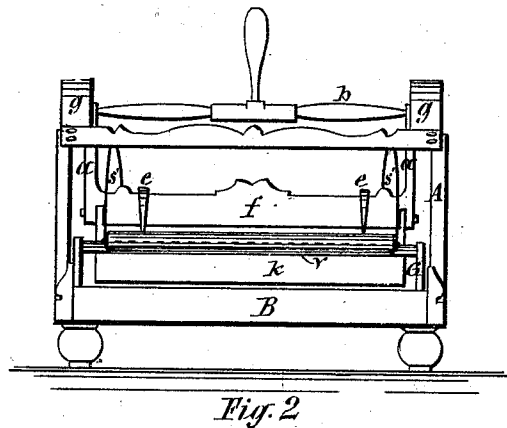
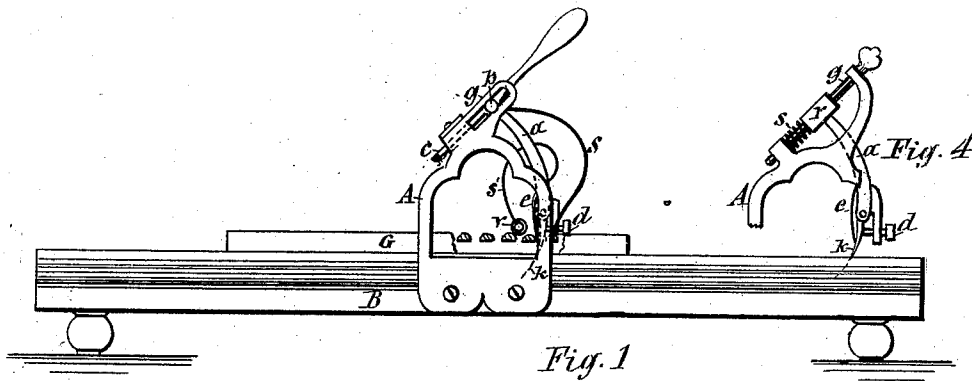


C. FICHTER.
Plaiting-Machine.

No. 199,813.

Patented Jan. 29, 1878.



WITNESSES:

E. Bendixen
J. F. Laaps

INVENTOR:

Conrad Fichter
by E. Laass his Atty.

UNITED STATES PATENT OFFICE.

CONRAD FICHTER, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF HIS
RIGHT TO JOHN LIGHTON, OF SAME PLACE.

IMPROVEMENT IN PLAITING-MACHINES.

Specification forming part of Letters Patent No. **199,813**, dated January 29, 1878; application filed
December 22, 1877.

To all whom it may concern:

Be it known that I, CONRAD FICHTER, of the city of Syracuse, in the State of New York, have invented new and useful Improvements in Plaiting-Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to devices for plaiting cloth by forcing the same through the interstices between the bars of a grate; and it consists in a novel construction and combination of the plaiting-knife and devices for reciprocating it through the grate, whereby the operation of forming plaits is greatly expedited and facilitated.

In the accompanying drawings, Figure 1 is a side elevation of my invention; Fig. 2, an end elevation; Fig. 3, a plan view of same detached from the bed-piece and grate, and Fig. 4 a view illustrating modifications admitted of in the detail construction of my invention.

Similar letters of reference indicate corresponding parts.

G represents the plaiting-grate, arranged to slide longitudinally on the bed-piece B. To the sides of the latter are attached vertical limbs or standards A, which are provided at their top with obliquely-arranged guides *g*, the detail construction of which admits of many variations and modifications, two forms of which are illustrated in Figs. 1 and 4 of the drawings.

In Fig. 1 the guides are represented in the form of two parallel planes, between which slides the end of the bar *b*, which is extended across the machine, and provided on its ends with a rigid shank, *c*, fitted to the guide to prevent the bar *b* from turning, and thus maintain it in its proper angle relative to the grate.

In Fig. 4 the guide is shown as constructed of a rod, upon which slides a sleeve, *r*, attached to or formed on the ends of the bar *b*. The said bar *b* is provided with fixed downwardly-projecting arms *a*, which are united at their lower extremity by a bar, *f*, and thus form a rigid frame. To this frame is hinged or pivoted the plaiting-knife *k*, pendent therefrom. This knife is braced at the rear by a

set-screw, *d*, connected with the bar *f*, and thus rendered adjustable in its pitch or relative angle. Springs *e e*, also connected with the bar *f*, press the knife yieldingly rearward against the set-screw, as best shown in Fig. 4 of the drawing.

The knife is held in its elevated position by suitable springs *s*, connected with the bar *b*, and by bearing upon the said bar it is caused to slide down on the oblique guides *g*, and carry with it the knife *k* in an inclined or oblique direction parallel with the incline of the guides. By this forward movement of the knife during its descent it draws the grate forward the distance from center to center of two adjacent interstices of the grate. To prevent the grate from retrograding during the ascent of the knife, and also for the purpose of preventing the plaited cloth from being drawn out of the grate while forming the succeeding plait, a bar, *v*, is held in front of the knife, at a proper distance from the lower edge thereof, by springs *s'*, connected with the knife-carrier, so that when the knife enters the grate the bar *v* will be caused to spring into the interstice containing the plaited cloth immediately in front of the knife, and thus bear upon the cloth, and prevent it from drawing out of the grate while the knife descends and forms the succeeding plait. By the pressure of the bar *v* upon the grate the latter is prevented from being drawn back by the ascent of the knife, which, by its spring-support *e*, is allowed to yield to the forward pressure of the grate-bar at its rear.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement, with the grate G, of a frame arranged to slide bodily in an oblique direction toward the grate, and carrying with it the plaiting-knife, substantially as described.

2. In combination with the plaiting-grate G and bed-piece B, the standards A, provided with oblique guides *g*, a frame composed of the bar *b*, adapted to slide on guides *g*, and having fixed arms *a*, united at their lower extremity by bar *f*, and the knife *k*, hinged to bar *f*, and

having an adjusting back support and a yielding rearwardly pressing device, substantially as and for the purpose specified.

3. In combination with a plaiting-knife arranged to move in an oblique direction through the interstices of a grate, the bar *v*, held in front of the knife by a spring connected with the knife-carrier, substantially in the manner and for the purpose described.

4. In a plaiting-machine, the combination and arrangement of the standards *A*, provided with obliquely-arranged guides *g*, a knife-carrier, supported in its elevated position by spring *s*, and adapted to slide bodily on said guides,

the plaiting-knife *k*, hinged to its carrier, the set-screw *d* at the rear, and springs *e* in front of the knife, and the bar *v*, connected with the knife-carrier by springs *s'*, all constructed and arranged to operate substantially as shown and described.

In testimony whereof I have hereunto set my hand in the presence of two attesting witnesses this 18th day of December, 1877.

CONRAD FICHTER.

Witnesses:

E. BENDIXON,
I. C. LAASS.