

No. 667,715.

Patented Feb. 12, 1901.

F. KRAUS.  
CUTTING KNIFE FOR MACHINES.

(Application filed Mar. 6, 1900.)

(No Model.)

Fig. 1.

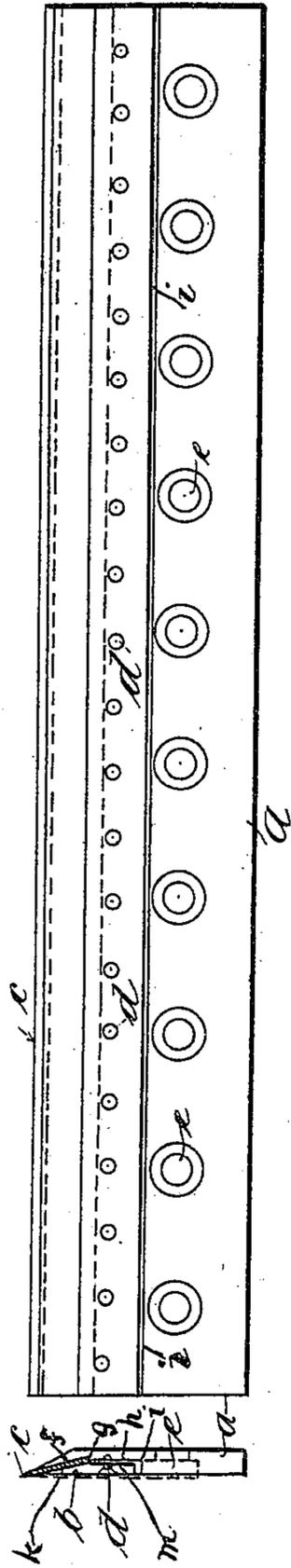
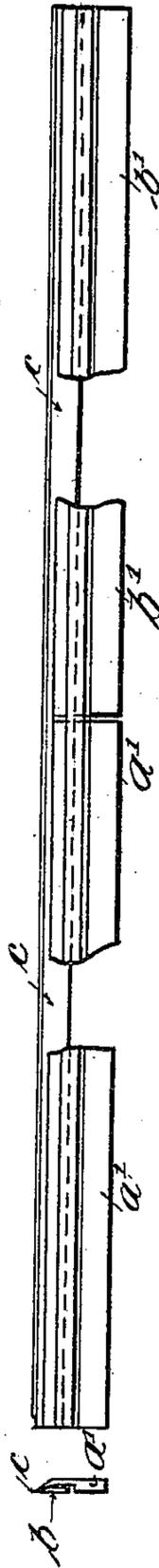


Fig. 2.



Witnesses:-  
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# UNITED STATES PATENT OFFICE.

FRIEDRICH KRAUS, OF MEMEL, GERMANY.

## CUTTING-KNIFE FOR MACHINES.

SPECIFICATION forming part of Letters Patent No. 667,715, dated February 12, 1901.

Application filed March 6, 1900. Serial No. 7,615. (No model.)

*To all whom it may concern:*

Be it known that I, FRIEDRICH KRAUS, director of a fabrik, a subject of the German Emperor, residing at Memel, Germany, have invented certain new and useful Improvements in Cutting-Knives for Machines; and I do hereby 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.

In the manufacture of cutting-knives for cutting wood, paste, tobacco, &c., much difficulty is encountered in attempting to temper them to an equal hardness, and above a certain length and thickness this causes no inconsiderable trouble and greatly-increased cost. If the length of the knives exceeds a certain limit, the cost grows rapidly, and at the length of 1.50 millimeters it is impossible for the manufacturer to give a guaranty for durability and usefulness. Moreover, the long cutting-knives require that a great deal of expensive material must be renewed when broken, because if patched or repaired the repaired parts rarely equal in quality the unbroken parts.

The object of this invention is to obviate such difficulties; and it consists in a knife, which is provided with a thin layer of steel band, which serves as the cutter and is fastened in other metal in a convenient manner. The knife which is formed in this manner is as effective as a knife formed of the solid material and has the advantage that its length is unlimited, because the steel bands are manufactured by a continuous-rolling process and are of great equality of temper, &c.

The accompanying drawings show in Figure 1 a side and end view of a complete knife constructed in accordance with my invention, and in Fig. 2 a side and end view of details of construction referred to hereinafter, parts being broken out.

In the drawings, *a* indicates the main body of the knife, which may be made of suitable tough metal and of a length for a knife, or it may be composed of sections *a' b'*, as shown in Fig. 2. In either case it is beveled off on its outer edge and provided in its inner face with a suitable longitudinal groove, recess, or seat to receive the blade or cutter proper, *c*, which is made of thin band-steel and always

of the whole length of the knife. The blade *c* is secured in this groove or seat by a cover or clamp-plate *b*, always of the full length of the blade and secured to clamp the blade by means of screws *d*, passing through plate *b* and into the main body *a*.

The seat formed on the inside of the body *a* (or the body-sections *a' b'*) comprises a wall *f*, inclined slightly to the outer inclined edge of the body, a shoulder *g* at the inner edge of this face, a wall *h*, beginning at this shoulder and parallel with the outer face of the body, and a shoulder *i* at the inner edge of the wall *h*. The clamp-plate *b* has faces *k* and *m* at a slight angle to each other, and when it is brought against the body the walls *k* and *f* are parallel and at a sufficient distance apart to receive the blades *c* between them, with its back edge resting on shoulder *g*, while walls *m* and *h* are parallel when forced together, and the back edge of plate *b* rests on shoulder *i*. The whole structure may be secured to any suitable support by means of screws passed through holes *e*. By this means I am enabled to provide a complete cutting-knife for the purposes enumerated which will be cheap to construct, easy to sharpen, either with or without removing the blade, and will not require the expensive replacement of the whole structure when the cutter or blade is broken.

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

1. A cutting-knife comprising a body *a* having its outer edge beveled and provided in its inner face with a seat comprising a wall *f* inclined slightly from said beveled outer edge, a shoulder *g* at the inner edge of wall *f*, a wall *h* beginning at shoulder *g* parallel with the outer face of the body, and a shoulder *i* at the inner edge of wall *h*, in combination with a clamp-plate *b* having walls *k* and *m* on its inner face at a slight angle to each other whereby when wall *m* is forced against wall *h*, the back edge of the clamp-plate will rest on shoulder *i* and walls *f* and *k* will be parallel and at a distance apart to afford space for a blade, the blade *c* seated in said space with its edge projecting beyond the edges of the body and clamp-plate and its back resting on shoulder *g*, and the clamping-screws *d* pass-

ing through plate *b* into the body *a*, substantially as described.

2. A cutting-knife comprising a body *a* composed of sections *a'*, *b'*, in line with each other,  
5 each section having its outer edge beveled and provided on its inner face with a seat comprising a wall *f* inclined slightly from said beveled outer edge, a shoulder *g* at the inner  
10 edge of wall *f* a wall *h* beginning at shoulder *g* parallel with the outer face of the body, and a shoulder *i* at the inner edge of wall *h*, in combination with a clamp-plate *b* having  
15 walls *k* and *m* on its inner face at a slight angle to each other whereby when wall *m* is forced against wall *h*, the back edge of the

clamp-plate will rest on shoulder *i* and walls *f* and *k* will be parallel and at a distance apart to afford space for a blade, the blade *c* seated in said space with its edge projecting  
20 beyond the edges of the body and clamp-plate and its back resting on shoulder *g*, and the clamping-screws *d* passing through plate *b* into the body *a*, substantially as described.

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

FRIEDRICH KRAUS.

Witnesses:

HEINRICH HAYMANN,  
JACOB ADRIAN.