

A. HIRTH.
GRAIN BINDING TOOL.
APPLICATION FILED MAY 21, 1913.

1,108,172.

Patented Aug. 25, 1914.

Fig. 1

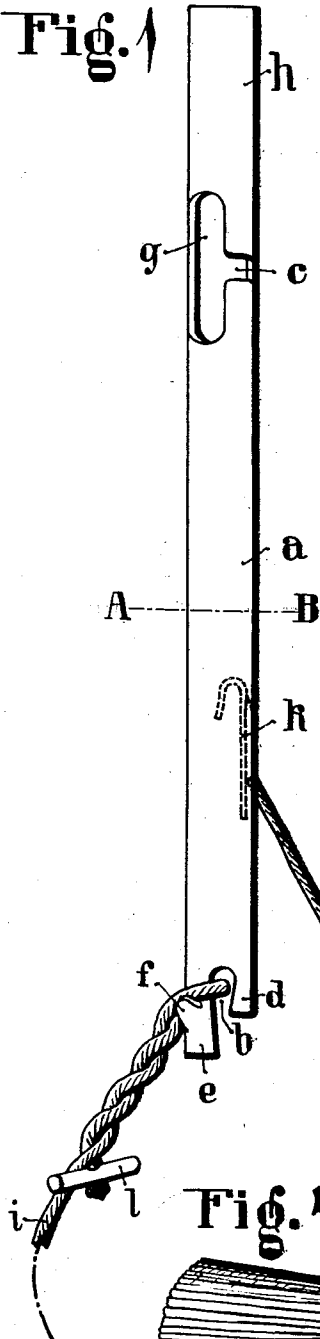


Fig. 6



Fig. 3

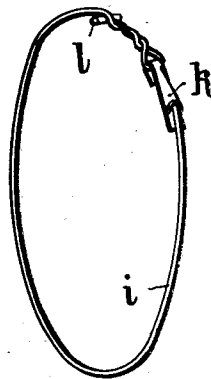


Fig. 5

Fig. 2

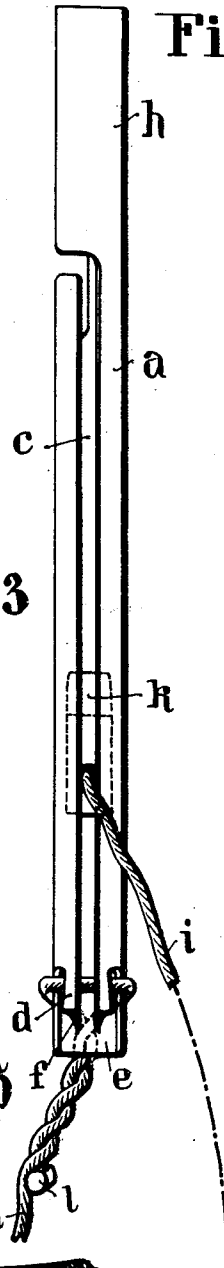
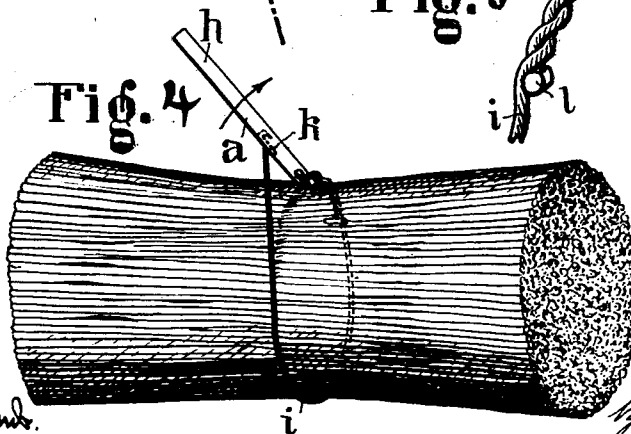


Fig. 4



Inventor:
Alphonse Hirth
By P. J. Dwyer
Attorney

Inventor:
Alphonse Hirth
By P. J. Dwyer
Attorney

UNITED STATES PATENT OFFICE.

ALPHONS HIRTH, OF OBERBURNHAUPT, GERMANY.

GRAIN-BINDING TOOL.

1,108,172.

Specification of Letters Patent.

Patented Aug. 25, 1914.

Application filed May 21, 1913. Serial No. 768,996.

To all whom it may concern:

Be it known that I, ALPHONS HIRTH, a subject of the Emperor of Germany, residing at Oberburnhaupt, in Alsace-Lorraine, Germany, have invented new and useful Improvements in Grain-Binding Tools, of which the following is a specification.

My present invention relates to an apparatus for the purpose of firmly binding bundles of any kind, by aid of a binder in the form of a cord or the like. This cord must have at one end a hook, while its other end is formed into a loop in the apparatus itself, in which loop the hook engages. The apparatus enables the hook to be automatically inserted in the loop in such a manner that the junction of these two parts is unconditionally assured. The apparatus forms moreover a prolongation of the holding means, which is correspondingly shortened by the engagement of the hook and the loop and thereby causes a close binding of the articles forming the bundle. The apparatus acts in the form of a lever and moreover the length of the lever increases correspondingly to the force to be used so that without great expenditure of force, a very firm binding can be effected.

The fastening means which is primarily in view is preferably a cord of hemp, jute or other suitable material which is provided at one end with a hook while the other end is preferably provided with a wood peg, such as is well known in the case of sheaf binders. This peg, however, is not absolutely necessary for the purpose of the invention.

The apparatus consists essentially of a hollow rod, to the end of which after the cord or the like has been passed around the bundle or sheaf, the loop is applied, while the end provided with the hook traverses the hollow rod and is brought by a corresponding turning movement upon the loop, and thus effects the junction, while at the same time the hollow rod passes out of it.

In the drawing: Figure 1 shows a front elevation of the hollow rod with the fastening material. Fig. 2 shows a side elevation of the same. Fig. 3 shows an elevation of the hook. Fig. 4 shows the application of the device to a sheaf. Fig. 5 shows an elevation of the fastening material in the secured position. Fig. 6 shows a section

through the hollow rod on the line A—B of Fig. 1.

The hollow rod *a* possesses at one end a slot *b* which separates two strips *d* divided one from the other by a longitudinal slot *c* from a strip *e*. On the strip *e* are formed projections *f* by bending out portions of the walls. The longitudinal slot *c* terminates in a wider aperture *g* at the opposite end of the rod *a*, the outermost part of which *h* serves as a handle. The cord *i* is attached at one end to the hook *k* and at the other end to a peg *l*.

For the utilization of the apparatus, the end of the cord *i* provided with the peg *l* is inserted in the slot *b* and the short and long part placed in the projections *f*. Whereupon, by a few turns of the rod *a* the two pieces of cord are twisted several times around one another. Preferably, the cord before this manipulation has been already passed around the sheaf, but this can obviously also be done afterward. The sheaf is now compressed in the usual manner, and the hook *k* is passed into the aperture *g*, in such a manner that it takes the position shown in Fig. 1. If now, the rod *a* be forced in the direction of the cord, the periphery of the circuit around the sheaf is diminished by the length of the rod and the sheaf is firmly girt as soon as the hook *k* engages in the loop of the cord. On further turning the rod escapes automatically from the loop.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

As an improved article of manufacture, a binding tool comprising a hollow, longitudinally slotted handle recessed at one of its ends at the slotted side thereof to form projections for retaining the knotted end of a binding cord and having an aperture at said slotted side near its opposite end for the reception of the other hooked end of said binding cord.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALPHONS HIRTH.

Witnesses:

SIEGFRIED H. AUR,
MILO A. JEWETT.