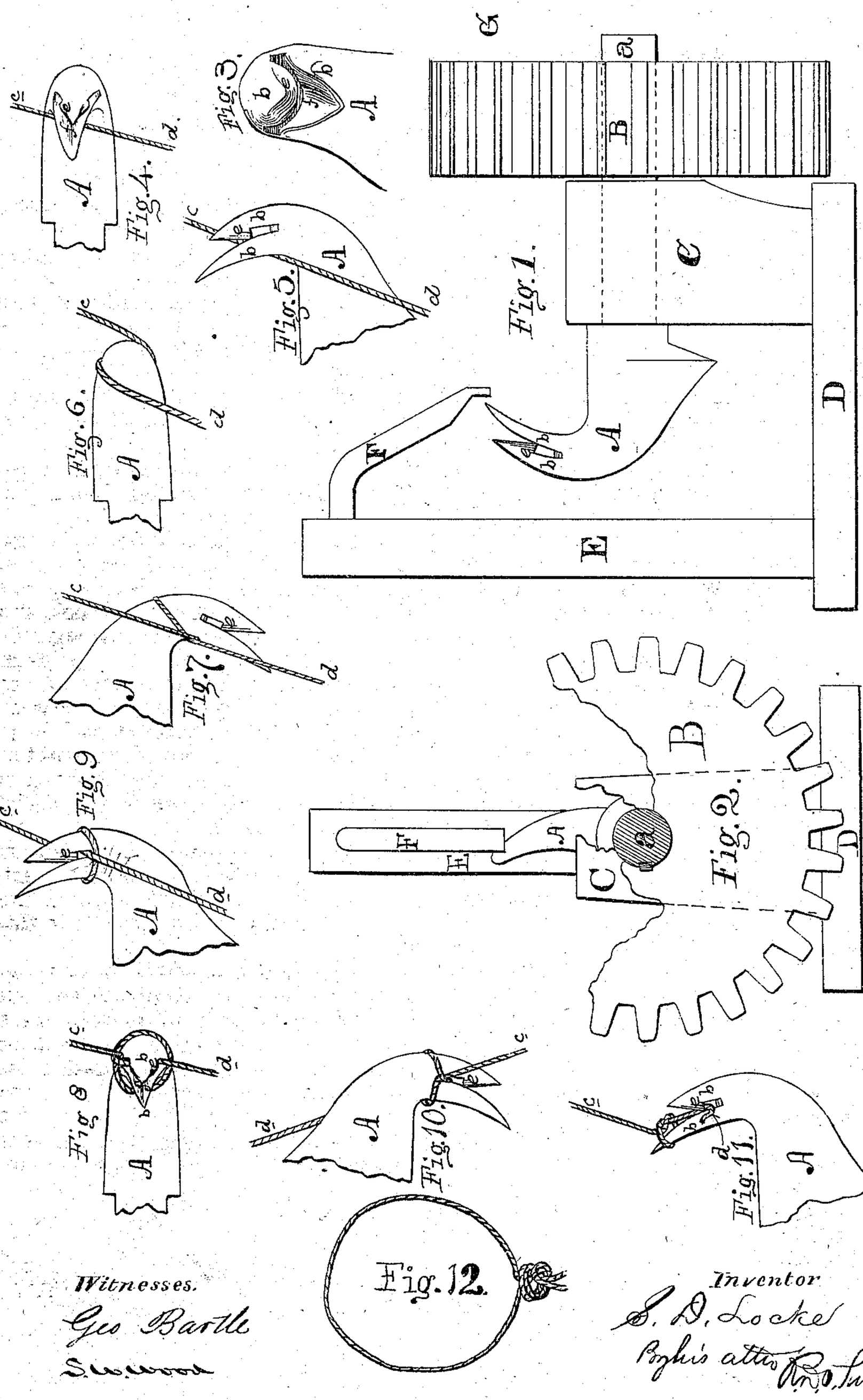
S. D. LOCKE.

Grain-Binders.

No. 135,826. Patented Feb. 11, 1873.



Witnesses.
Geo Bartle
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UNITED STATES PATENT OFFICE.

SYLVANUS D. LOCKE, OF HOOSICK FALLS, NEW YORK.

IMPROVEMENT IN GRAIN-BINDERS.

Specification forming part of Letters Patent No. **135,826**, dated February 11, 1873.

To all whom it may concern:

Be it known that I, SYLVANUS D. LOCKE, of Hoosick Falls, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Knotting-Hooks for Grain-Binders; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation of my device as mounted and in operative position. Fig. 2 is an end elevation of the same. Fig. 3 is a front view of the knotting-hook, looking directly into the jaws thereof. Fig. 5 is a side view of the same. Figs. 4, 5, 6, 7, 8, 9, 10, 11 represent the hook in different positions, showing the successive stages of the process of tying the knot. Fig. 12 exhibits the cord as it is around a sheaf and knotted.

This improvement relates to the invention for which Letters Patent were granted to me December 19, 1865, No. 51,600, to which reference is hereby made for a more particular description of its general construction and mode of operation. In the knotting-hook described and claimed in my said patent the cord is retained between the rigid jaws of the hook by a spring-latch, which, being necessarily slight, is liable to derangement.

My present improvement consists in forming one of the jaws of the knotting-hook with a permanent retaining-shoulder, projecting into an interior concavity in the other jaw of said hook, with a sufficient intermediate space to permit the passage of the cord, whereby said cord may be easily drawn into said jaw, but will be retained therein without wedging and without any springs or joints. In the drawing said shoulder is shown as a part of the upper jaw.

That others may fully understand my improvement, I will particularly describe it.

A is the knotting-hook, mounted at the end of the short shaft *a*, which revolves in a box at the top of a standard, C. Motion is transmitted to said shaft *a* by means of a pulley or cog-wheel, B, in gear with the prime mover, and keyed fast to said shaft *a*, or in any other suitable manner. D is the base-plate or part of the frame of the machine upon which the binder is located. *e* is the permanent shoulder, and *f* the concavity in the lower jaw.

In Fig. 1 the hook A is represented in position to receive the binding-cord. The shield F prevents the cord *c d* from entering the jaws *b b* in the first instance, and causes it to be laid obliquely across the neck of the hook, as shown in Figs. 4 and 5, when a half revolution of the said hook causes the said cord to be wound once around the neck of the hook, as shown in Fig. 6.

Fig. 7 shows the hook and cord at three-fourths of a revolution, the cord being just about to enter the jaws *b b*.

Fig. 8 represents the cord and hook at the termination of one revolution, at which time, as it will be perceived, a complete loop has been formed around the neck of the hook, and one part, *d*, of the cord is drawn through the jaws in front of said loop, so that it is evident, if said loop should be drawn forward off the hook, the part *d* of the cord detained between the jaws would be drawn through said loop, and a true knot would be formed without further revolution of the hook; the severing of the cord *d* effects this result, as shown in Fig. 11.

Those parts of my apparatus by means of which the cord *c d* is carried around the sheaf, laid across the hook, and finally severed, are not shown, as the same do not enter into this invention.

In the above description, and in the annexed drawing, but one cord, *c d*, is represented; but it must be understood that, in practice, there are two cords—that is to say, the two ends or parts of the cord are brought together, as shown in Fig. 12, after passing around the sheaf, and are together operated upon by the hook A, and when released therefrom the knot shown in Fig. 12 unites the two ends of said cord.

Having described my invention, what I claim as new is—

A rotating hook constructed with two rigid jaws having a concave throat and solid retaining-shoulder, substantially as described.

Witnesses:
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S. D. LOCKE.