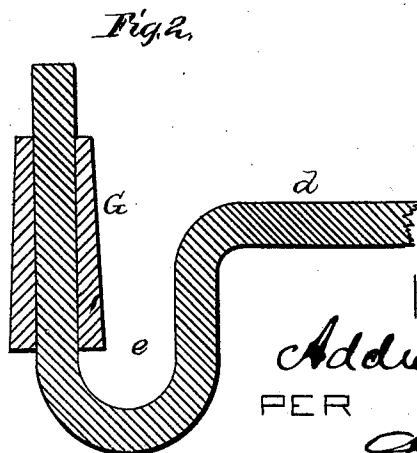
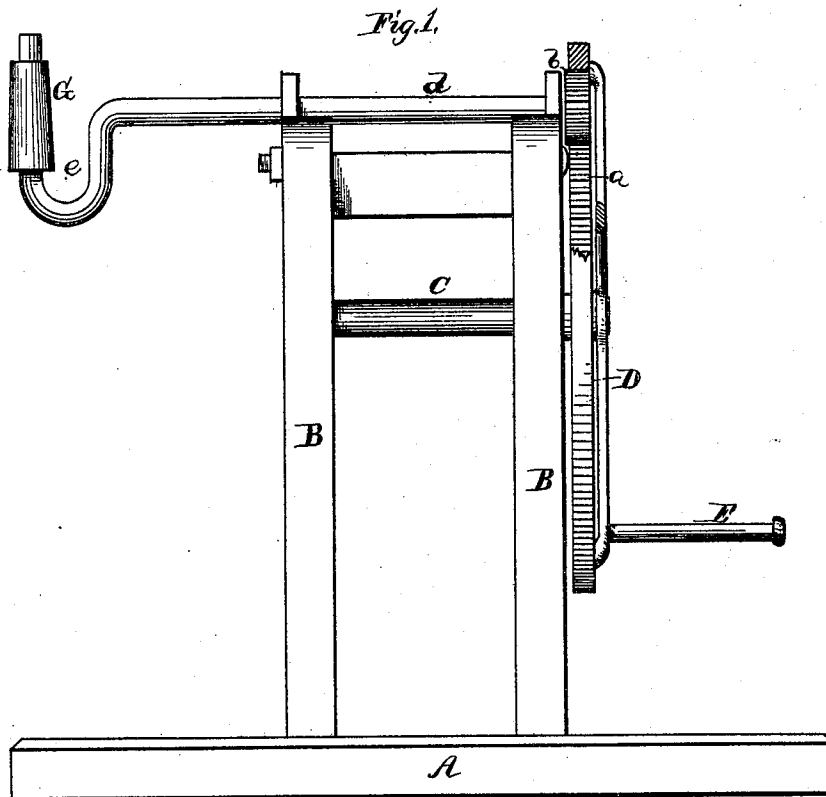


A. A. WELLS.
MACHINE FOR TWISTING HAY OR STRAW.

No. 171,709.

Patented Jan. 4, 1876.



WITNESSES

Jas. F. Duhamel.
Thomas. Byrne.

INVENTOR

Addison. A. Wells

PER

H. J. Abbot.

ATTORNEY,

UNITED STATES PATENT OFFICE.

ADDISON A. WELLS, OF IOWA FALLS, IOWA.

IMPROVEMENT IN MACHINES FOR TWISTING HAY OR STRAW.

Specification forming part of Letters Patent No. **171,709**, dated January 4, 1876; application filed August 12, 1875.

To all whom it may concern:

Be it known that I, ADDISON A. WELLS, of Iowa Falls, county of Hardin and State of Iowa, have invented certain new and useful Improvements in Machines for Twisting Hay or Straw, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a machine for twisting hay, straw, and prairie-grass for feed and fuel, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a front elevation of my machine. Fig. 2 is a section of the main or bent shaft, with the sleeve thereon.

A represents a suitable bed or base of my machine, upon which are two upright standards, B B. In these standards, in suitable boxes or bearings, is placed a horizontal shaft, C, upon one end of which is secured a large wheel, D, provided with a crank, E, as shown. The wheel D is provided, further, with exterior or interior cogs *a*, which mesh with and operate a pinion, *b*, secured on one end of a shaft, *d*, which has its bearings in the upper ends of the standards B B. The other end of the shaft *d* is bent to form a U-shaped crank, *e*, on which is placed a conical or tapering sleeve, G. The hay, straw, or grass to be twisted is passed around the sleeve G, and

the ends held close together, when by revolving the wheel D the crank *e*, with its sleeve, is made to perform one or more revolutions, twisting the material more or less, as desired. The twisted material, with the sleeve, is then removed from the crank *e*, and the sleeve forced out of the twist, when the ends of the material are passed through the loop thus formed. As the material now partially untwists the ends thereof are held firmly, the whole forming a convenient bundle or package to be used as feed for stock, or as fuel if made of prairie-grass.

This machine is simple, cheap, and durable, and the twists formed by it can be packed and shipped, if desired, in considerably less bulk than the material itself.

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

1. The combination, with the rotating shaft *d*, of the U-shaped crank *e* and removable conical or tapering sleeve G, substantially as and for the purposes herein set forth.

2. The combination of the standards B B, shaft C, wheel D, having interior cogs *a*, shaft *d*, with pinion *b*, and U-shaped crank *e*, and the conical or tapering sleeve G, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature.

ADDISON A. WELLS.

Witnesses:

E. S. ELLSWORTH,

J. K. SENTER.