

UNITED STATES PATENT OFFICE.

JAMES H. McCONNELL, OF SPRINGFIELD, ILLINOIS.

IMPROVEMENT IN THE MANUFACTURE OF PAPER, CORDAGE, TWINE, &c.

Specification forming part of Letters Patent No. **111,661**, dated February 7, 1871.

To all whom it may concern:

Be it known that I, JAMES H. McCONNELL, of Springfield, in the county of Sangamon, and in the State of Illinois, have discovered a new and useful fibrous quality in the plant called "*Abutilon avicennae*" for the manufacture of cordage, twine, paper, and textile fabrics; and do hereby declare that the following is a full, clear, and exact description thereof.

The plant, the application of the fibrous qualities of which is the subject of my discovery or invention, is called by botanists "*Abutilon avicennae*," and is known in Central Illinois by the common names of "Indian Mallow," "Velvet Leaf," and "Stamp-Weed." It grows upon any land that is suitable for the culture of Indian corn, and varies in Central Illinois from six to fourteen feet in height. Its leaf is orbicular cordate, slightly dentate, abruptly acuminate at the apex, and upon its upper side is velvety, whence it derives one of its common names above given. Its stalk has a central core of pith, surrounded by a woody layer, and this in turn covered by a fiber of extraordinary length, strength, and brilliancy of color, which is enveloped by a thin and delicate skin.

In the application of this plant for the purposes before named it is cut down near the ground when it is fully grown, the leaves removed, and the stalks submitted to the water-rotting process usual in the treatment of hemp. It will be found to yield more readily, and in a shorter space of time, to this treatment than hemp will under the same conditions. The stalks may, however, be crushed between

rollers or broken by any suitable means, when the fiber may be readily stripped by hand from the pith and woody matter, in which condition it is fit for use in coarse matting, rough cordage, and the like. For use for finer cordage, twine, and weaving purposes, the fiber should be submitted to the process of water-rotting, and, when required, should be hatched in the ordinary way.

For use for white paper the fiber should be heated with boiling water, in which is placed a little quicklime, and bleached with soda-ash and pure water, in the usual method of treating vegetable fiber.

It will be seen by inspection that this fiber has a remarkable length, strength, evenness, and brightness of color, and from the abundance in which it is found growing in Illinois it is believed to be a very valuable addition to the class of fibrous substances which has been brought into public notice.

Having thus described the nature of my discovery and its treatment, what I claim therein as my invention or discovery is—

The application of the fiber of the plant *Abutilon avicennae* to the manufacture of cordage, twine, paper, and textile fabrics, as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of December, 1870.

JAMES H. McCONNELL.

Witnesses:

GEO. O. MARCY,
C. S. ZANE.