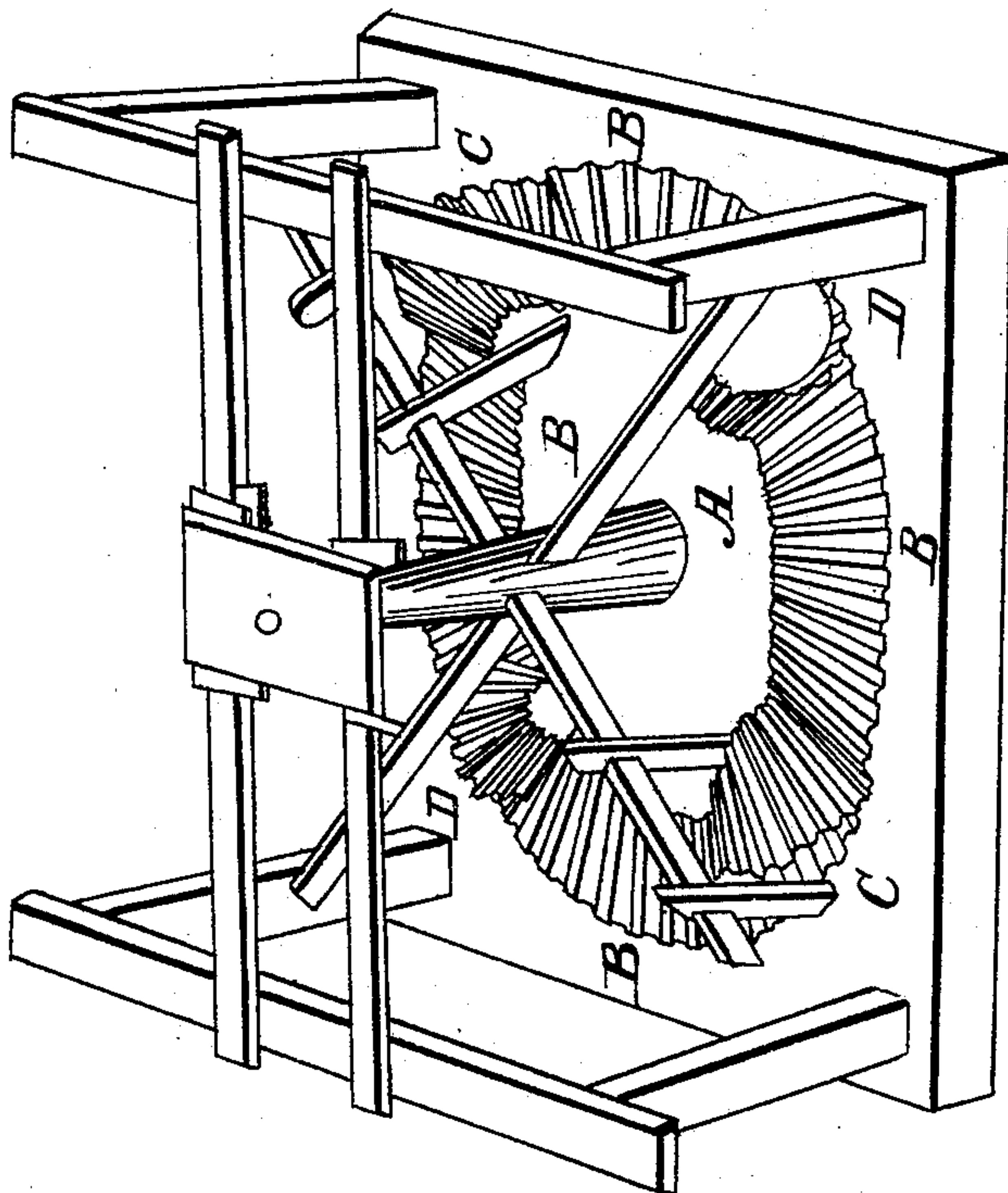


A. SMITH.
Hemp Brake.

No. 6,888.

Patented Nov. 20, 1849.



UNITED STATES PATENT OFFICE.

AUGUSTINE SMITH, OF MOBILE, ALABAMA.

IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. 6,888, dated November 20, 1849.

To all whom it may concern:

Be it known that I, AUGUSTINE SMITH, of the city of Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Machine or Mill for Crushing Hemp, Flax, &c.; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, which is represented by a perspective view.

A is the shaft through which the levers are placed, near the ends of which the rollers are suspended by their pivot-blocks, and to the end of which the horse-power is applied.

BBBB is the platform of bars running from the periphery toward the center, and in the drawing are represented as double size and twice the distance apart in proportion to the other part of the drawing, that they might appear more plainly. They may be elevated to a more convenient height to work at.

CC are the two full-length rollers, extending the whole length of the bars on the platform, with their supports or pivot-blocks depending from the levers, between which they turn as they roll around the platform.

DD are the two half-length rollers, extending only half of the length of the bars on the platform—one large for the outer circle, and the other small for the inner circle. Their pivot-blocks are not represented.

The machine for crushing hemp, flax, &c., is constructed with a horizontal circular platform, whose surface is irregular—that is, with bars and their interstices across the surface, extending from the periphery toward the center for any length required. Those bars have their sides formed by lines regularly diverging from the center to the periphery, and their thickness is a little less than their interstices. The corners of their edges are worked off to receive similar bars, which are across a conical roller. The conical rollers are formed by a series of bars of the same form of those on the platform, worked out on a circular block, the outer or larger circle forming the coarser brake, and the inner or smaller circle the finer brake. Thus, though the platform is perfectly horizontal, it presents the appearance of a bevel-wheel, and the rollers are really

beveled, though rolling over a level surface. Those rollers, two or more in number, are attached to levers projecting from the shaft in the center, and suspended from those levers by depending pivot-blocks. Upon their own pivots they turn as they are carried around the circle of the platform. At the end of those levers the horse-power is applied to carry those rollers around; but any other motive power may be applied to the shaft by the usual mode of gearing. The interstices are opened through, that the broken pieces of stock may fall when loosened by the crushing. The hemp or flax is laid along on this circular platform of bars, and the rollers, passing over and pressing it into the interstices, crush the stock at the outer part of the circle in the coarser brake, and then is removed to the inner part of the circle, where the finer breaking is done, which completes the operation. The length of the roller may be divided into two half-rollers—say a coarse and a fine roller—the largest or coarsest going over the hemp or flax first on the outer circle, and as it leaves each bundle the hemp or flax is put on the inner circle in time for the smaller or finer roller to crush it, those two half-rollers being attached to different levers. The hemp or flax may continue in the mill until it is completely crushed, without producing any injury to the fiber. With well-rotted hemp or flax in this machine the rind or outer bark gives to the first pressure of the roller, and as only one bar at a time is at full work the crushing is done without much rubbing of the lint or inner bark before it is severed from the wood or stock, and as the bar is then lifted by the progression of the roller, and the next bar comes in full work, there can be no rubbing, except what is actually necessary to be produced for the severance of the bark from the wood.

The peculiar usefulness which this machine is claimed to possess is that it is cheap and within the means of any small farmer who can grow the hemp or flax, for one horse is sufficient to roll around on a level a ton or more in weight; and it may be erected by what is called a "botch workman," or any one who can stock a common plow. The lever can also be lengthened, to give an advantage to a weak horse. On the top of levers a platform may be erected

to add to the weight of a wooden roller, if desired. The size of the bars may be varied, so that they can crush coarse or fine. The circle can be extended to suit the largest crop. The number of rollers may be increased, to dispatch the business more speedily, and the rollers may be of cast metal, for the weight is the principal merit of the machine, as it does away with friction of a sudden stroke of the beater-mill, and with a gentle force it carries the hemp beyond the angle or curve which its own resistance can sustain, and then it must break and crush; and as the bark and fiber is thus loosened from the stock, this stock, being hardest, protects the fiber from severe friction, as it is firmly held until the rolling lifts the bar. It is capable of turning out a vast amount of work if well attended, and with unrotted or badly-rotted hemp will excel any other machine.

What I claim as my own invention, and desire to secure by Letters Patent in the above-described circular indented platform mill with horizontal surface, is—

The circular indented platform, with the application of the bevel indented roller or rollers on the horizontal circular indented platform, which gives a coarser and a finer brake, to suit any thickness of stock, from the coarsest hemp to the finest and most delicate flax, and that it is capable of being extended to any diameter, to receive any number of rollers of any desired weight, and to do any amount of business by the application of any motive power; and the model is intended to show simply the form and position of the bars on the platform, and the form and application of the rollers—viz., it is only intended to show the principle, and not the mechanism or most convenient mode of application, as the mechanism and mode will vary in almost every instance.

AUGE. SMITH.

Teste:

JOHN F. INNESARITY,
GEO. G. PAYNE.