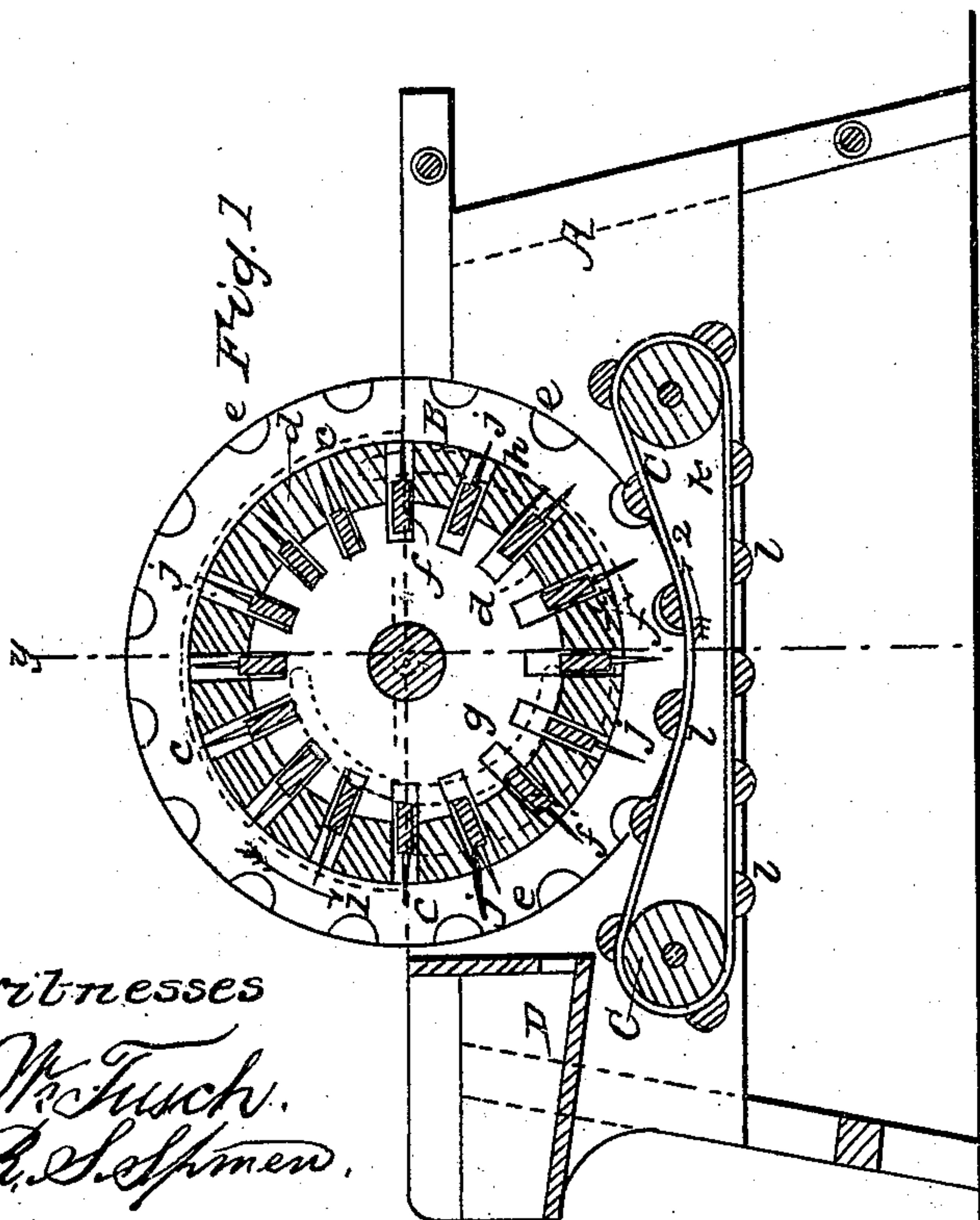
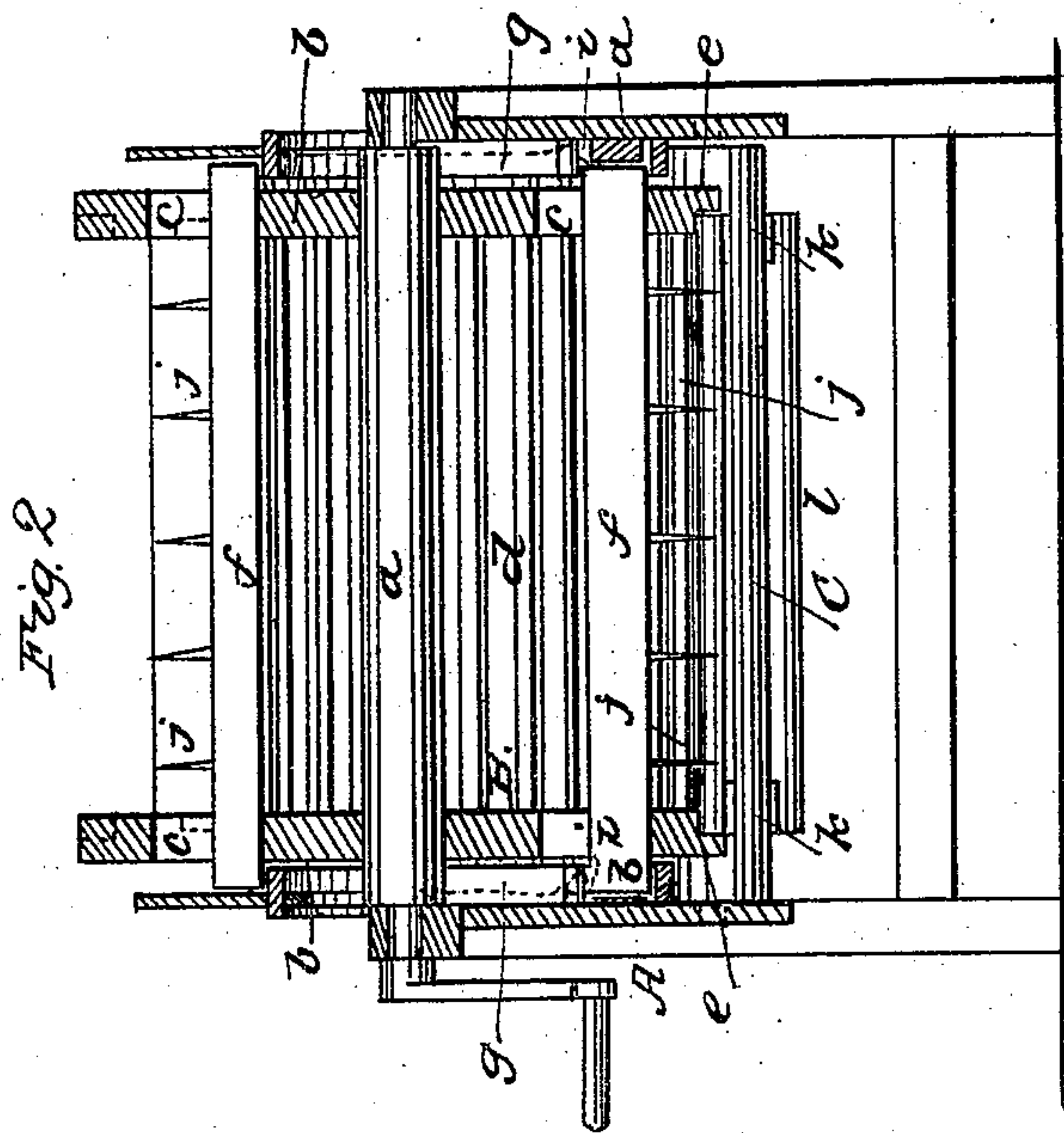


McCORMICK & BAKER.

Hackling Machine.

No. 31,181.

Patented Jan. 22, 1861.



witnesses

W. Tuck.
C. S. Lemen.

Inventor
John B. McCormick
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UNITED STATES PATENT OFFICE.

J. B. McCORMICK AND W. R. BAKER, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. 31,181, dated January 2, 1861.

To all whom it may concern:

Be it known that we, J. B. McCORMICK and W. R. BAKER, of St. Louis, in the county of St. Louis and State of Missouri, have invented a new and Improved Machine for Hackling and Scutching Hemp; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of our invention, taken in the line *x x*, Fig. 2; Fig. 2, a transverse vertical section of the same, taken in the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a framing, which may be constructed in any proper manner to support the working parts of the machine. B is a drum, the shaft *a* of which is fitted in suitable bearings on the framing. The drum B is formed of two heads, *b b*, keyed on the shaft *a*, one near each end, said heads being provided with radial slots *c*, between which longitudinal bars *d* are secured, the bars *d* being parallel with the shaft *a*. The slots *c* and bars *d* do not project out as far as the peripheries of the heads *b b*, sufficient space being allowed for semicircular recesses *e* to be made in the inner sides of the heads at their peripheries.

Between the bars *d* of the drum there are placed bars *f*, the latter being fitted loosely between the former, and having their ends passing through the radial slots *c* of the heads *b b*. The ends of the bars *f* are allowed to work loosely in the slots *c*—that is to say, in a direction toward and from the centers of the heads—the slots *c* being considerably longer than the depth of the bars *f*, to admit of a certain degree of play or movement of the latter. (See Fig. 1.)

To the framing A and at each end of the drum B there are attached two stationary cams, *g h*. These cams are simply curved projections, which have a spiral form, as shown by the dotted lines in Fig. 1.

To the framing A, at each side and below the journals of the shaft *a*, there are attached stationary zigzag cams, *i i*, one cam being at each side of the framing. The position of the cams *i* is shown in Fig. 2 and by dotted lines

in Fig. 1. The bars *f* are armed at their outer surfaces with spikes or teeth *j*, as shown in both figures.

In the framing A and at points below the drum B there are placed two rollers, C C. These rollers are parallel with the shaft *a*, and around them endless belts *k k* pass, to which slats *l* are attached at a suitable distance apart. The ends of the slats *l* gear into the recesses *e* in the peripheries of the heads *b b*, as shown in Fig. 1.

The operation is as follows: The drum B is rotated by any convenient power in the direction indicated by arrow 1, and the hemp is fed to the machine by hand, the hemp passing between the drum B and the endless belt of slats, the latter being moved in the direction indicated by arrow 2 in consequence of the heads *b b* of the drum engaging with the ends of the slats. The upper part of the endless belt of slats forms what may be termed a "concave," and the hemp is drawn in between it and the drum, and as the bars *f* of the drum approach the slats *l* the cams *g* force outward the bars *f*, the ends of the latter passing over the outer edges of said cams. By this arrangement the teeth *j* of the bars *f* are made to act upon the hemp, the teeth and bars being after such action drawn inward toward the center of the drum by the cams *h h*. The zigzag cams *i i* give a lateral or longitudinal movement to the bars *f*, the prominences *a'* of one cam being placed opposite the depressions *b'* of the other. (See Fig. 2.) This longitudinal or lateral vibrating movement of the bars *f* enables the teeth *j* to scutch the hemp and cleanse it thoroughly from all "boon" or woody matter, while they at the same time hackle the hemp perfectly and without producing an undue quantity of tow, the latter being discharged off the endless belt of slats or taken therefrom by any proper stripper. The withdrawing of the teeth *j* within the drum prevents them carrying any tow or particles of hemp around with the drum. The hemp, while being acted upon, is held at the ends by the hands of the attendants or operators, and is withdrawn or allowed to pass through when fully acted upon and a fresh supply fed to the machine.

We do not claim, broadly, the invention of spiked arms that move in and out of the cylinder, as they are shown in Gledhill's English patent of 1855; but,

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the endless belt *k* with the radially-sliding armed bars *f*, as and for the purpose herein shown and described.

2. Giving a lateral movement to the said radially-sliding armed bars *f*, in the manner

and for the purposes herein shown and described.

J. B. McCORMICK.
WM. R. BAKER.

Witnesses:

CHARLES C. LACY,
JOHN SHANDY.