J. A. HALL.

Cane-Stripper.

No. 49,260. Patented Aug. 8, 1865.

Fig. 1.

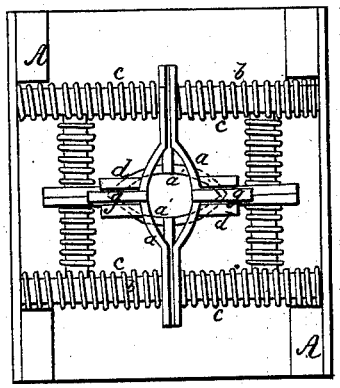

Fig. 2.

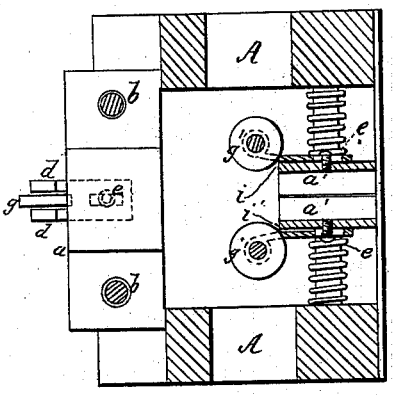

Fig. 4.

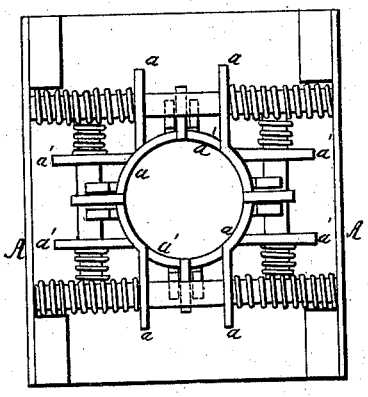

Fig. 3.

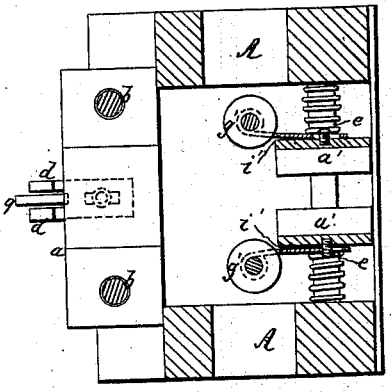

Fig. 5.

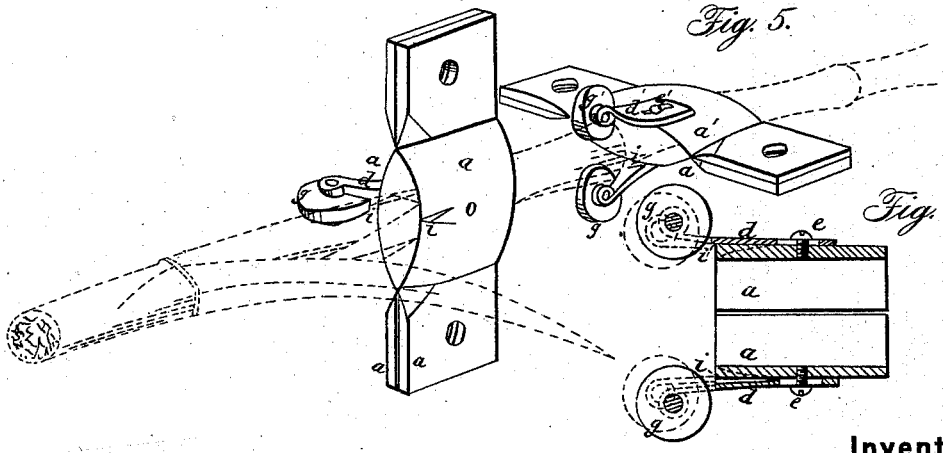

Fig. 6.

Witnesses:

R. F. Cumpston

Edw. Schuyler

Inventor:

Jos. A. Hall

by his Atty's

Munn. Renwick & Howson

UNITED STATES PATENT OFFICE.

JOEL A. HALL, OF MEMPHIS, TENNESSEE.

IMPROVEMENT IN CANE-STRIPPERS.

Specification forming part of Letters Patent No. **49,260**, dated August 8, 1865.

To all whom it may concern:

Be it known that I, JOEL A. HALL, late of Keokuk, Iowa, but now of Memphis, Shelby county, State of Tennessee, have invented a new and Improved Cane-Stripper; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of my improved cane-stripper. Fig. 2 is a longitudinal section taken in a vertical plane through the center of the machine. Fig. 3 is a similar view, showing the knives distended. Fig. 4 is a front elevation of the machine with its knives distended. Fig. 5 is a perspective view of the knives arranged in proper relation to each other for cutting upon all sides of the stalks. Fig. 6 is a vertical cross-section through the middle of one pair of knives.

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

The object of this invention is to prepare the stalks of cane for crushing machinery by stripping off the blades, and also the sheath or husk, or those portions which are found at the junction of the blades with the stalk, and which, if allowed to pass through the crushing-mill, would injure the juice or sirup.

My invention consists in so arranging curved knives in pairs that they will yield and accommodate themselves to the varying thickness of the cane, and at the same time operate upon all points thereof, so as to leave the stalks perfectly clean as they are drawn between said knives.

It also consists in the employment of auxiliary knives in conjunction with the expansible knives, for the purpose of aiding the latter in severing the sheath or husk from the stalks, as will be hereinafter described.

It finally consists in providing for regulating the cut of the knives by the employment of guide-rollers which are susceptible of being adjusted as may be required.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents a rectangular frame, which is suitably adapted for receiving within it the contrivances which strip the blades from the cane. In the front part of this frame are two knives, *a a*, which are arranged in upright positions upon horizontal guide-rods *b b*, that pass loosely through holes which are made in the flat portions of the knife-blades. The ends of the rods *b b* are secured to the sides of the frame A, and between these ends and the knife-blades are interposed coiled springs *c c*, the office of which is to keep the knives together in the center of the frame with an elastic yielding pressure.

The cutting-edges, and also those portions of the knives between which the cane-stalks are drawn, are curved outward, as shown in Figs. 1, 4, and 5, so as to leave an opening between the knives for the admission of the cane. Another object in thus curving the cutting portions of the knife-blades is that they may better conform to the cylindrical form of the cane. These knives are sharpened by beveling the outside surfaces of the blades, as shown in the drawings, thus leaving the inside surfaces flat or in lines with said cutting-edges.

On the outside of each knife-blade I secure an adjustable bearing-plate, *d*, so that it can be adjusted in a direction with its length by loosening the set-screw *e*. These bearings *d d* carry rollers *g g*, which receive the stalks of cane between their peripheries, gage the cut of the knives, and guide the stalks in a proper manner between the knives, so as to prevent the stalks from being cut by the knives or choking the machine.

By loosening the set-screws *e e*, which pass through oblong slots in the bearing-plates *d d*, these plates may be moved in a direction with their length and the rollers *g g* set apart or brought nearer together, as circumstances require. On the outside surfaces, and at the front edges of the curved portions of the knife-blades *a a*, I form V-shaped knives *i i*, as clearly shown in Fig. 5. These small cutters are for the purpose not only of splitting the sheath at the joints of the cane and assisting the curved knives in severing the sheath from the stalks, but also to split the blades of the cane. The sheaths which I refer to are very hard, and unless some provision is made for splitting them, as well as the leaves or blades, they will be very liable to force the knife-blades apart, and thus escape the cutting-edges. The small

knives *i i* will effectually obviate this difficulty. In Fig. 5 I have represented one of these small cutters by removing one of the guide-rollers.

In rear of the knives *a a*, I arrange another set of knives, *a' a'*, which are constructed precisely like the knives *a a*, and provided with guide-rollers *g' g'* and knives *i' i'*, like those which are applied to the knife-blades *a a*. These rear blades, *a' a'*, are arranged in planes at right angles to the knives *a a*, as shown in the drawings, and they yield under an elastic pressure as described for the knife-blades *a a*. The object of employing a second pair of rollers in rear of the first pair is to sever the blades and eyes from those portions of the stalks which would escape through the space between the blades of the first pair.

In carrying my invention into practice I arrange the strippers in front of the crushing-rollers of a sugar-mill in such manner that the cane will be drawn between the stripping-knives by the crushers, thus stripping the cane on its way to the mill.

The strippers may be arranged in gangs in front of a crushing-mill, so that the cane may be fed to the mill at different points.

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

1. Stripping the blades from cane by means of two pairs of curved yielding knives arranged in such manner that the second pair of knives will complete the work left unfinished by the first pair, substantially as described.

2. Providing the knife-blades or strippers with auxiliary cutters *i i*, substantially as described.

3. The combination of guide-rollers with cane-strippers, substantially as described.

JOEL A. HALL.

Witnesses:
R. T. CAMPBELL,
E. SCHAFER.