

(No Model.)

J. J. HAWKINS.
HEMP CLEANER.

No. 427,763.

Patented May 13, 1890.

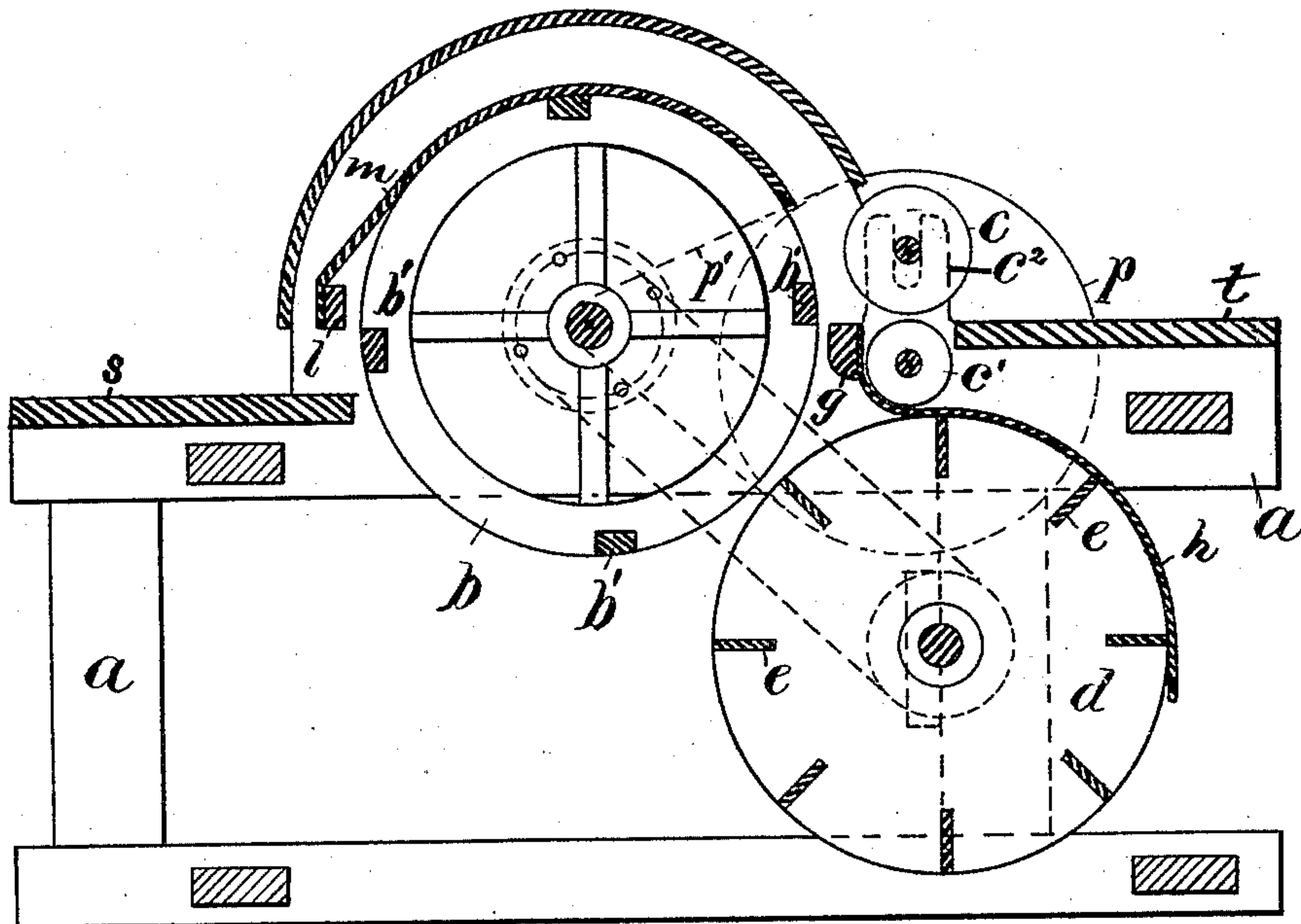


Fig. 2.

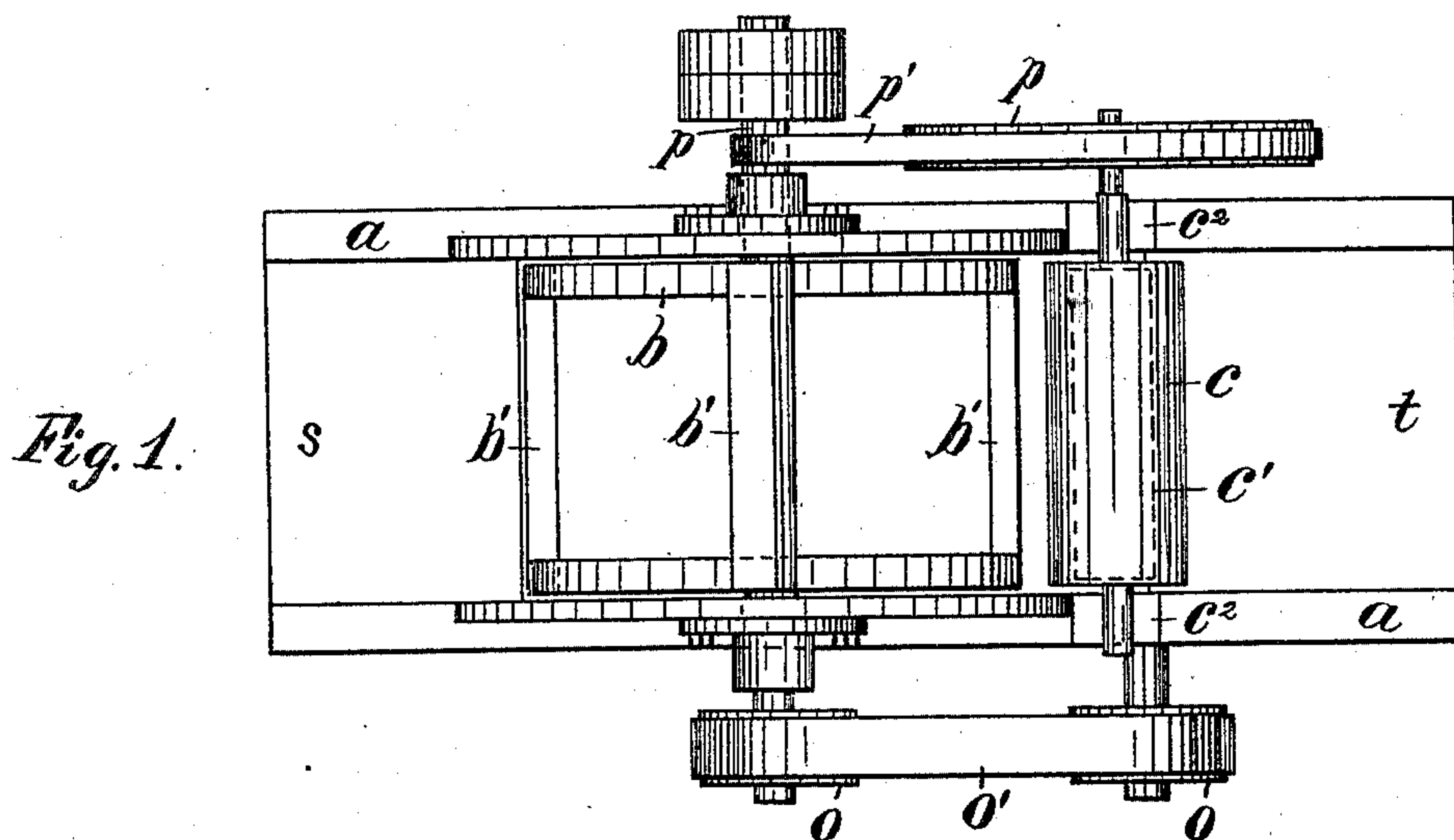


Fig. 1.

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UNITED STATES PATENT OFFICE.

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HEMP-CLEANER.

SPECIFICATION forming part of Letters Patent No. 427,763, dated May 13, 1890.

Application filed September 30, 1889. Serial No. 325,573. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. HAWKINS, a citizen of the United States, residing at Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Hemp-Cleaners, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention consists, partly, in the combination, with a rotary beater, of feeding-rolls adjacent to a breaking-bar and a series of cleaning-slats moved by suitable means in contact with a yielding apron in proximity to the breaking-bar, by which combination the stalks of hemp are broken and the wood stripped off.

It also consists in the combination, with the same mechanism, of a breaking-bar arranged at the opposite side of the beater and provided with a drag-apron to rest upon the beater, by which construction the hemp may be cleaned upon the opposite side of the machine from that in which it is broken to finally finish it.

In the drawings, Figure 1 is a plan of an apparatus embodying my invention, and Fig. 2 a longitudinal vertical section of the same with the nearer frame removed.

a is the frame; *b*, the rotary beater having transverse slats *b'* at the ends or periphery of the rotating beater-arms.

g is a breaker-bar arranged at one side of the beater, and *c c'* are feeding-rolls adjacent to the breaking-bar and adapted to deliver the hemp-stalks over the bar into the path of the beater.

t is a feed-table adjacent to the feed-rolls. The lower feed-roll is driven by pulleys *p* and belt *p'* from the shaft of the beater *b*, and the upper roll is arranged to play loosely in open bearings *c²*, so as to rest upon the stalks by its weight only. With this construction the roll yields very freely to the irregular thickness of a mass of stalks.

Under the feed-rolls an auxiliary cleaner is provided, being formed with circular heads *d* and transverse slats or rubbers *e*, and a flexible apron *h*, made of leather or canvas, is attached to the breaker-bar *g* and arranged to rest upon the top of the cleaner-slats *e*.

With this construction the stalks, broken at the bar *g*, are dragged in between the apron *h* and the cleaner and the wood rubbed from the broken stalk by its slats. When the stalks are fed into the machine, they are carried by the rolls *c c'* over the bar *g*, where they are broken and bent downward by the slats *b'* of the beater. The beater revolves about two hundred times per minute, and the rolls drive the cleaner at the same rate by means of pulleys *o* and belt *o'*, while the feeding-rolls *c* run at a much slower speed. The broken hemp, bent downward over the bar *g*, is there-fore caught by the cleaner and dragged beneath the apron *h*, against which it is pressed and rubbed by the rapidly-moving slats *e* and cleaned of its wood and pith in a considerable degree. The cleaner also operates to deliver the hemp from the breaking apparatus when the rear ends of the stalks have passed through the rolls *c c'*, the front ends of the stalks being previously delivered by the cleaner beneath the end of the apron *h*, so that they may be grasped by the operator to remove the broken hemp and subject it to further treatment.

A cleaning device, to finish the cleaning of the hemp, is provided at the opposite side of the same machine in a breaking-bar *l*, arranged close to the path of the beater-slats *b'*, with a drag-apron *m* attached to it and extended over the top of the beater. *s* is a feed-table adjacent to the bar *l*. A curved shield *n* is shown in Fig. 2, arranged over the apron *m*, to prevent the latter from being thrown out of operation by the rapid rotation of the beater in contact therewith. By providing an operator at each side of the machine the hemp may be broken and cleaned continuously, as the operator who removes the hemp from the rubbers *e* may lay it upon the top of the shield *n*, from which it can be readily removed by the other operator and subjected to the action of the beater adjacent to the breaker *l*. This is done by laying the broken hemp upon a table *s* beneath the breaker *l* and pushing the hemp forward against the slats *b'*. As the drag-apron *m* presses freely upon the rapidly-rotating beater, the hemp is then subjected to a violent rubbing and beating between the beater and such apron. The

operator, after subjecting one half the length of the hemp fiber to such final cleaning operation, reverses it and subjects the other end of the fibers to a similar treatment, which reduces the hemp to a mass of soft clean fibers ready for use.

With my construction the slats *b'* of the beater perform one function in combination with the bar *g* and a wholly different one in combination with the apron *m*. In like manner the cleaner-slats *e* perform the function of cleaning the stalks when broken by the slats *b'*, and also operate to guide the ends of the fiber within reach of the operator's hands, so that he may grasp it before the rear ends of the stalks are delivered from the feed-rolls.

Having thus set forth my invention, what I claim herein is—

1. In a hemp-cleaner, the combination, with a rotary beater, of a breaking-bar and feeding-rolls arranged adjacent thereto, a cleaner with slats or rubbers moving adjacent to the breaking-bar, and a yielding apron resting upon such slats or rubbers, as and for the purpose set forth.

2. The hemp-cleaner consisting in the revolving beater *b*, the breaking-bars *g* and *l*, arranged at its opposite sides, the drag-aprons *h* and *m*, attached to such bars, feed-rolls adjacent to the bar *g*, and a cleaner with slats or rubbers rotated in contact with the apron *h*, the whole arranged and operated substantially as herein set forth.

3. The hemp-cleaner consisting in the revolving beater *b*, the breaking-bars *g* and *l*, arranged at its opposite sides, the drag-aprons *h* and *m*, attached to such bars, a lower feed-roll rotated positively adjacent to the breaking-bar *g*, an upper feed-roll resting merely by its weight upon the same, and a cleaner with slats or rubbers rotating in contact with the apron *h*, the whole arranged and operated substantially as herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN J. HAWKINS.

Witnesses:

ALEX. McLAREN,
THOS. S. CRANE.