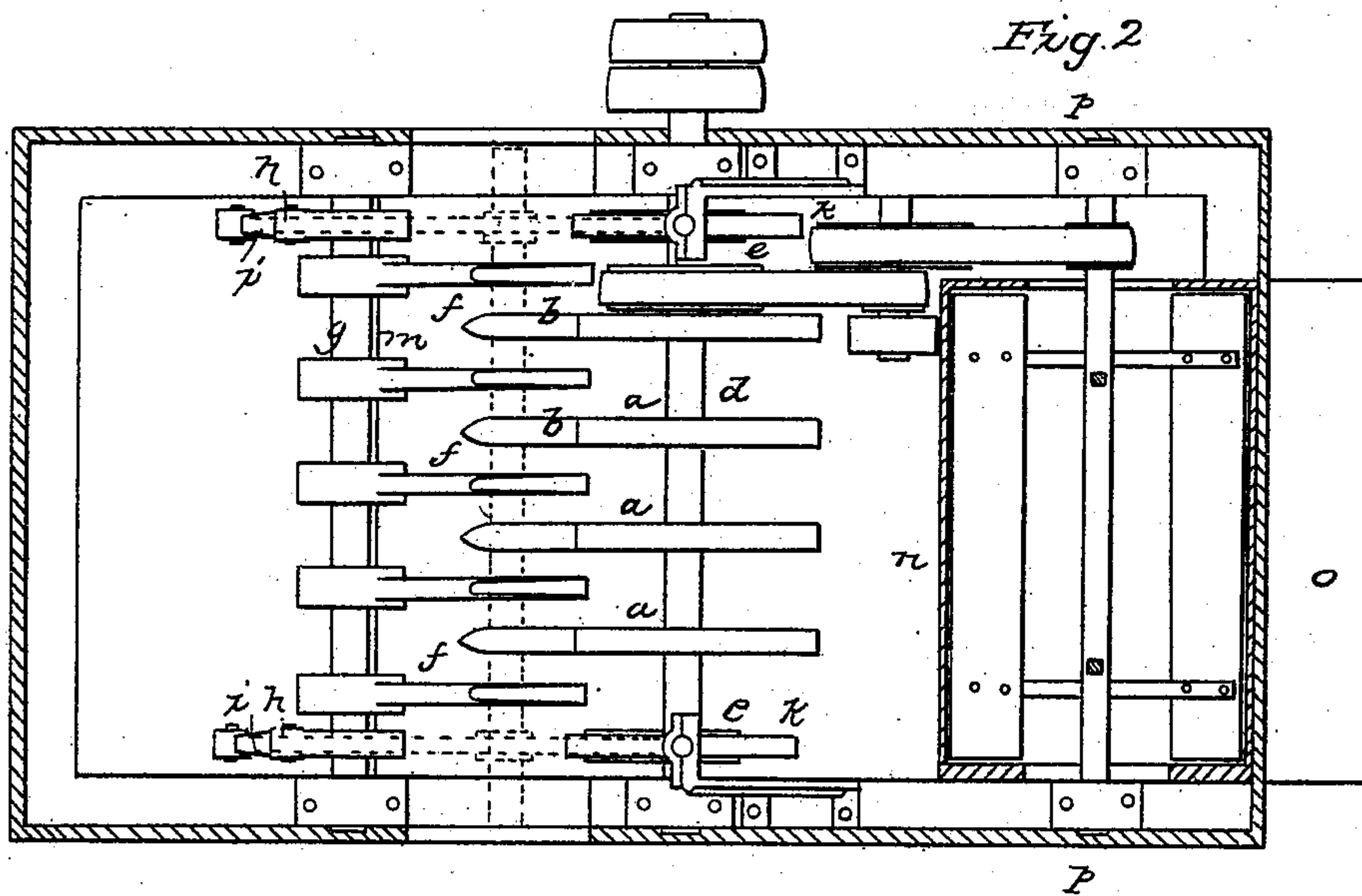
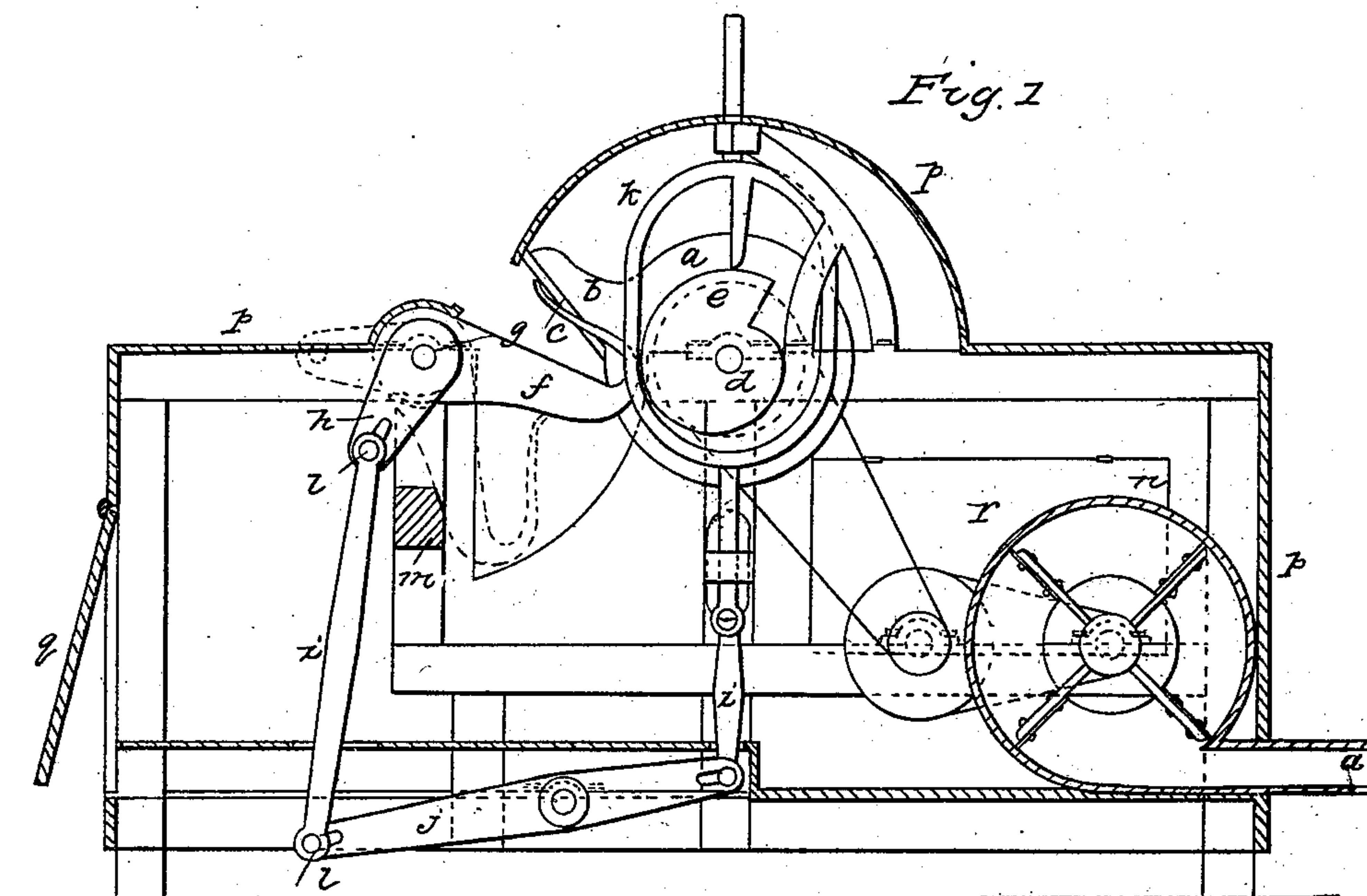


H. GUILD.
Hemp Brake.

No. 5,811.

Patented Sept. 26, 1848.



Harry Guild.

UNITED STATES PATENT OFFICE.

HARVEY GUILD, OF CINCINNATI, OHIO.

IMPROVEMENT IN HEMP-BRAKES.

Specification forming part of Letters Patent No. 5,811, dated September 26, 1848.

To all whom it may concern:

Be it known that I, HARVEY GUILD, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement on the Power Hemp-Brake, by which the amount of beating may be made to correspond with the condition of the hemp.

It is well known to practical men that one of the greatest obstacles to the breaking of hemp is its very changeable nature. For instance, not only does one parcel require much more beating than another, but even the same parcel will break with four times the facility on a dry day to what it will on a damp one. So rapid, indeed, are these transitions that one hour often suffices to completely change the character of the hemp. It is to meet this obstacle that this machine is so contrived as that the operator can either withdraw the hank after a few strokes of the beater or as many more as thought necessary. Another formidable obstacle is the dust arising from the operation. This is almost insufferable at times, and extremely prejudicial to the health of the operator. A current of air, as I propose, will entirely remove this obstacle; and I 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 longitudinal elevation of the machine, the near side being removed to afford a view of the interior. Fig. 2 is a plan of the same, the top being removed for the same object that the side is in the other view.

a, the beaters, are cast-iron disks, each having a projecting tooth or arm, *b*, chamfered to a somewhat rounded edge at *C*. These beaters are fixed on a shaft, *d*, which shaft also carries cams *e*.

f are fingers or prongs of cast or wrought iron, being chamfered to a roundish edge like that of the beaters, and hooked or bent over after the manner shown. These prongs are attached to a shaft, *g*. This shaft is connected, by means of arm *h*, connecting-rods *i*, and beams *j*, with the yokes *k*, inclosing the cams *e*, which are so formed as at every revolution of the beaters to raise the prongs and

hold them in the position shown, so as to meet the descending arms of the beaters and then drop out of the way to permit the beaters to pass round for another stroke, while the hank is shifted or drawn out. The height to which the prongs are raised is adjusted by the position of either one of the wrists *l l* and the exact period at which the prongs drop by the position of the cam, which regularly increases in radius for about two-thirds of the revolution, but is concentric with the center for the remainder, and then drops square to the point of starting. The cross-timber *m* takes the jar of the falling prongs.

In order to avoid the dust which is so deleterious to the operative hemp-worker, I effect or produce a current of air through the machine. This may be accomplished in various ways—as, for instance, by blowing-cylinders, bellows, air-pump, or by a revolving fan. The latter plan is here shown. *n* is such a fan, which draws the air into the machine at the place where the hemp is broken, and with it the dust, and ejects it through the spout *o* outside the room or building. This fan may be worked from the beater-shaft in the manner shown, or in any other suitable way.

In order to confine the draft as much as possible to the place where the hemp is broken, the casing *p* is extended around every part but where the hank passes.

q is a door to remove the shives. *r* is another to get at the journals.

I have here shown four beaters and five prongs; but their number and distance may be varied at discretion. An aggregate width of one-half to one-third of the staples is desirable.

I have here more particularly specified hemp, but claim the machine for flax also.

Operation: Having started the machine by applying power to the pulley, the operator takes a hank of hemp about as large as he can grasp in both hands and throws one end into the hooked prongs, and draws it out again gradually, or at every interval between the strokes. He then serves the other end the same way.

I do not claim any of the parts herein de-

scribed, except for the special objects herein represented; nor do I claim any particular mode of producing a current of air; but

What I do claim herein as new, and desire to secure the exclusive right to by Letters Patent, is—

The application to the purpose or operation of breaking hemp or like fibers in a power-

brake of revolving beaters after the manner or principle herein represented, in combination with the vibrating prongs, as applied to my power-brake.

HARVEY GUILD.

Witnesses:

E. C. KETTY,
RICHARD P. ROE.