

(No Model.)

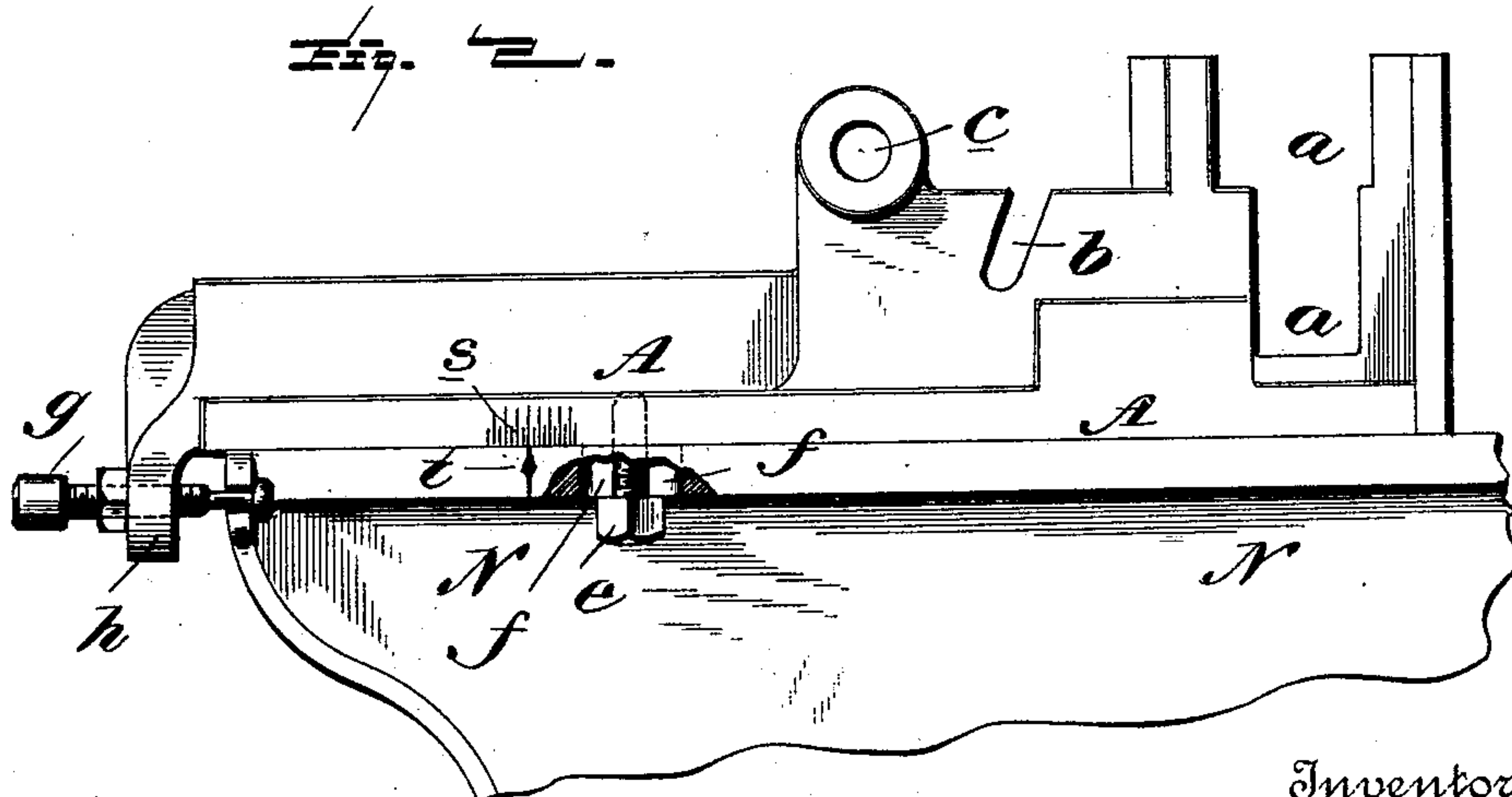
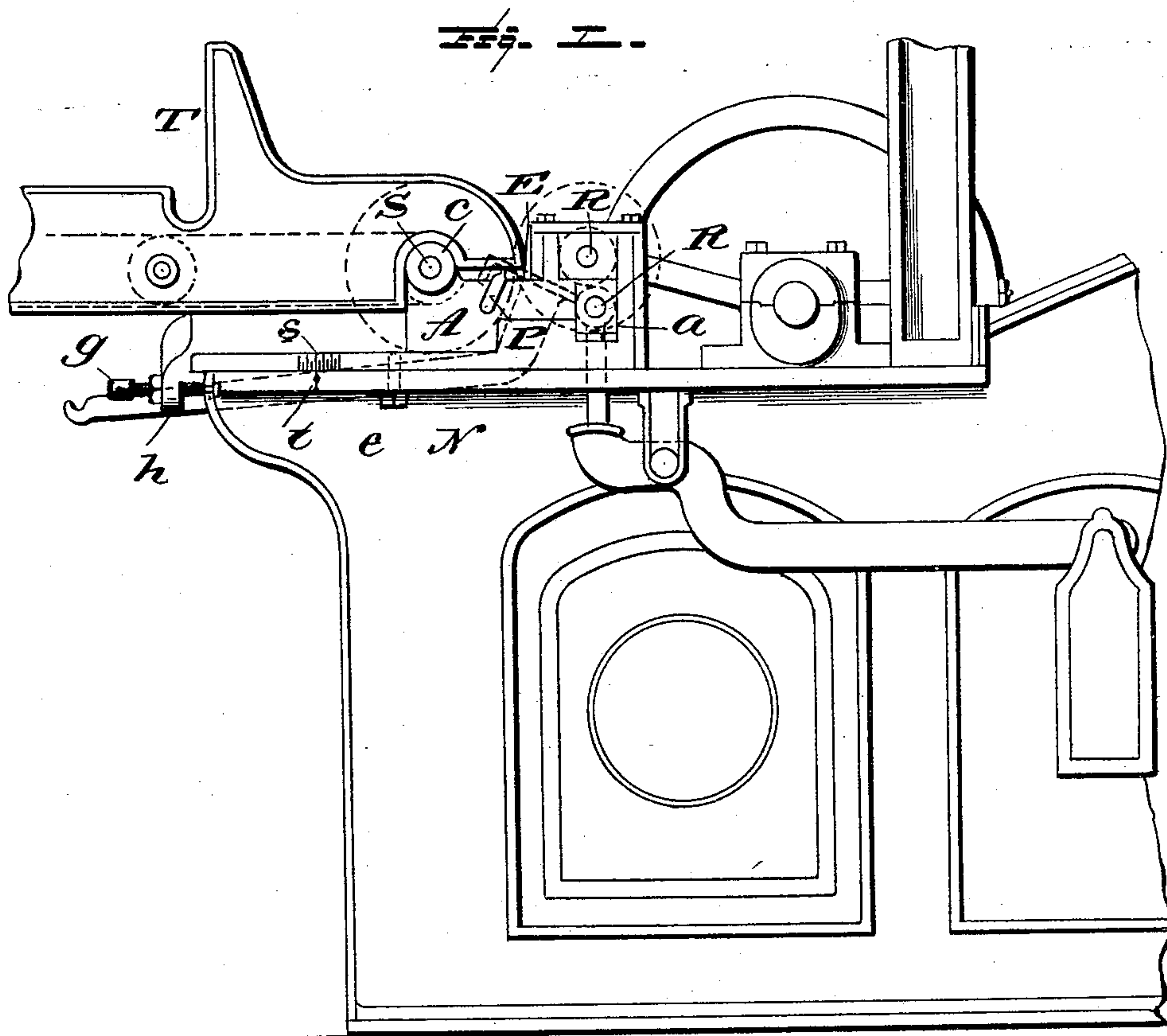
2 Sheets—Sheet 1.

J. C. POTTER.

MACHINE FOR OPENING AND PREPARING COTTON.

No. 482,273.

Patented Sept. 6, 1892.



Witnesses

L. C. Hills.  
E. W. A. Dick

Inventor

James C. Potter  
by Hamilton D. Lee  
Attorney

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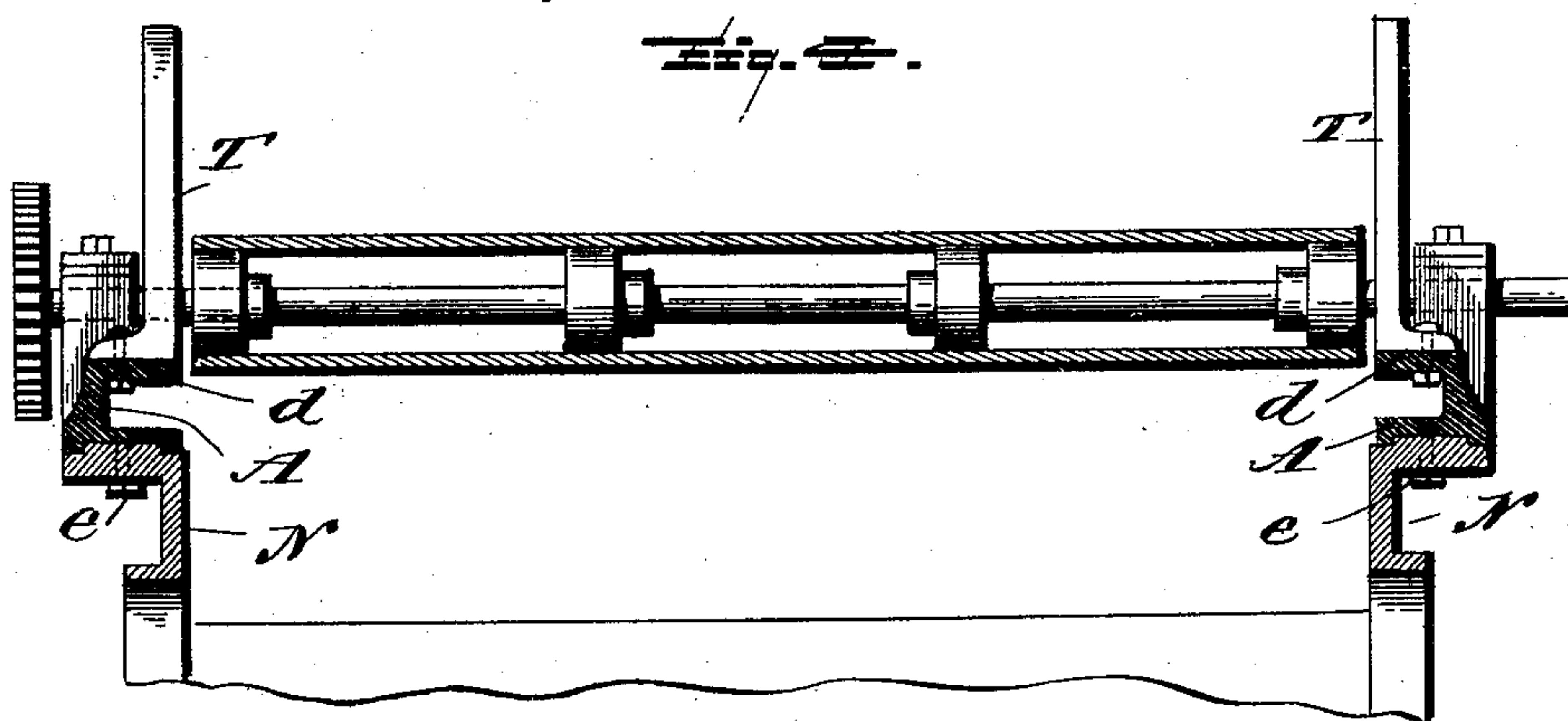
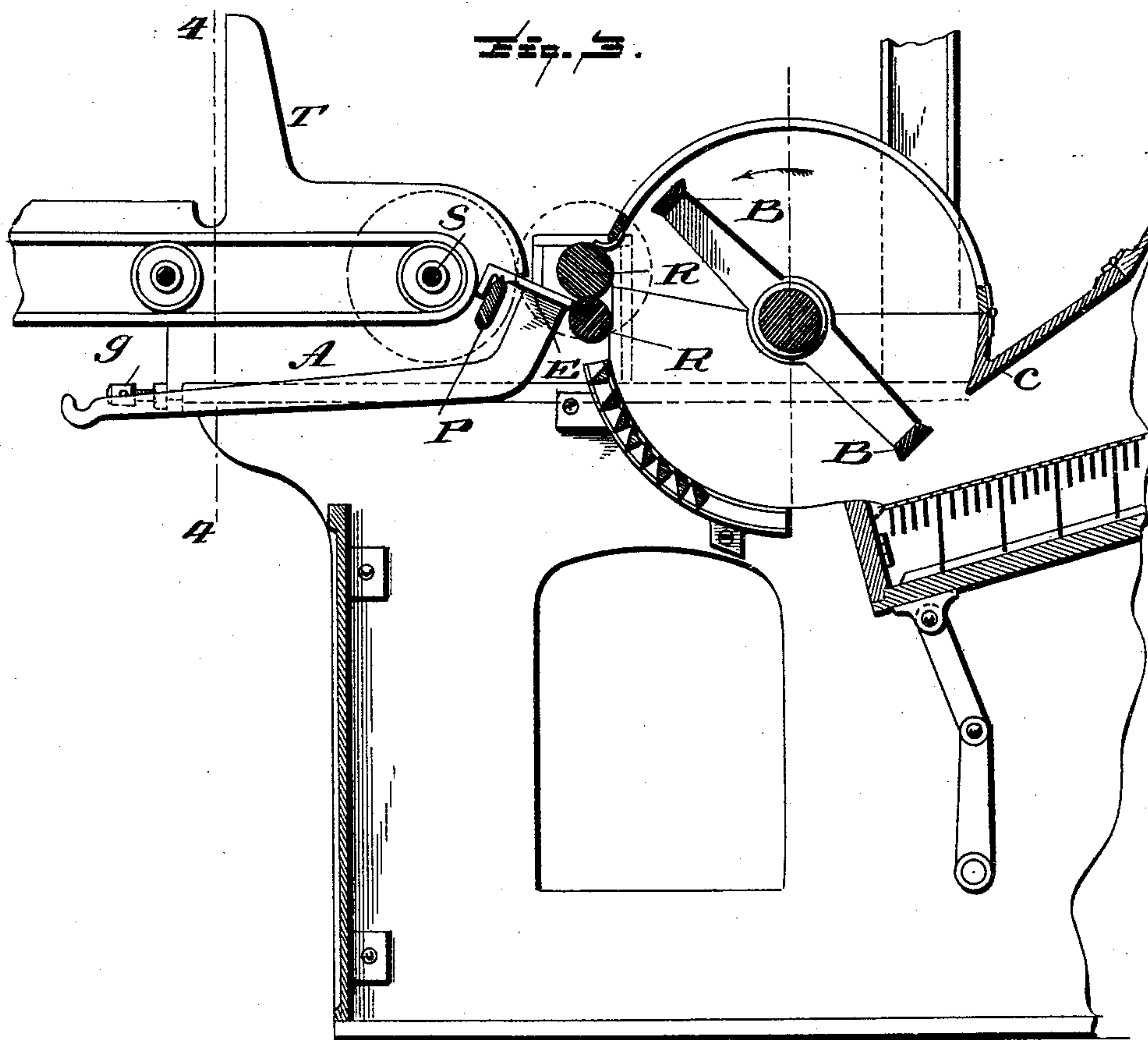
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Witnesses

L. C. Mills.  
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Inventor

James C. Potter  
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Attorney



# UNITED STATES PATENT OFFICE.

JAMES C. POTTER, OF PAWTUCKET, RHODE ISLAND, ASSIGNOR TO THE  
POTTER & ATHERTON MACHINE COMPANY, OF SAME PLACE.

## MACHINE FOR OPENING AND PREPARING COTTON.

SPECIFICATION forming part of Letters Patent No. 482,273, dated September 6, 1892.

Application filed June 29, 1892. Serial No. 438,446. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES C. POTTER, of Pawtucket, in the State of Rhode Island, have invented a new and useful Improvement in  
5 Machines for Opening and Preparing Cotton and other Fibrous Materials, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of so much of  
10 what is known as a "finisher-lapper" as needed to illustrate my invention. Fig. 2 is a side elevation, on enlarged scale, of the adjustable stand in which my improvement is mainly found. Fig. 3 is a longitudinal vertical section of the machine. Fig. 4 is a section on  
15 line 4 4, Fig. 3.

My invention is intended to provide for the ready adjustment of the machine to working different lengths of staple. The distance between the "bite" and the "blow" must be varied in accordance with the length of staple operated on. By "bite" is intended the point at which the feed-rolls R, Fig. 3, hold the staple, and by "blow" is intended the point at  
25 which the beater B strikes the staple thus held by the feed-rolls. In working, for example, ordinary short-staple cotton, the beater should pass the rolls at a distance of one-eighth of an inch therefrom, while in working sea-island  
30 cotton this distance should be increased to one-half of an inch. It is not really practicable to thus vary the relation of the parts by adjusting the beater B itself. It is true that the beater-shaft is supported in boxes which can be adjusted horizontally back and forth, so as to  
35 bring the axis of the beater nearer to or farther from the rolls; but each box must be adjusted separately, and it is a very difficult thing for even the skilled mechanic, much  
40 less the comparatively unskilled operative, to get the boxes back into true line, as they must be in order to permit the machine to work. The beater (weighing about one hundred and  
45 fifty pounds) makes fifteen hundred revolutions per minute. In traveling at this high speed unless the boxes are in true alignment the journals will heat, not only injuring the machine, but causing fire. Besides, in thus adjusting the beater the distance between it  
50 and the "cut-off" c at the rear of the beater-case is necessarily correspondingly varied,

which is detrimental to good work. To obtain the best results, the distance between the beater and the cut-off at the time the beater is passing the cut-off should be three-six-  
55 tenths of an inch. If this distance be decreased, the cotton is "nipped," as it is termed, between the beater and cut-off, and if it be increased the effect is to "string" the cotton or to furnish so wide a passage between the  
60 beater and cut-off that fibers will be carried up and back through that passage and may travel around two or three times with the beater, matting together in so doing and taking on a stringy appearance. The distance  
65 therefore between the cut-off and beater after once having been determined is or should be invariable; but manifestly this could not be the case were the beater adjusted to and from the feed-rolls. Under my invention the  
70 feed-rolls R are made adjustable to and from the beater; but the feed-rolls themselves stand in certain arbitrary and fixed relations to other parts, which must be maintained in order to do good work. Therefore I provide  
75 upon each side of the machine an adjustable stand A, in which are formed the bearings for the feed-rolls, as well as the parts with which they are in operative relation. One of these stands is represented in Fig. 2. It has the  
80 pocket a for reception of the boxes of the feed-rolls, (shown in Fig. 1,) the slot b for receiving the plate-bar P, which carries the eveners-plates E, a bearing c for the apron-driving shaft S, and a plane-surfaced part d,  
85 (see, also, Fig. 4,) to which the apron side T is bolted. This stand rests and can slide lengthwise on the top of the frame N of the machine, there being a tongue-and-groove joint between them, as seen in Fig. 4, to in-  
90 sure the straight movement of the stand. The stand is held down in place by a bolt e, which passes up into the base of the stand through a slot f in the frame, as seen more plainly in Fig. 2, and its back-and-forth adjustment is effect-  
95 ed by a set-screw g, which is tapped into and through an ear h on the stand and at its inner end is swiveled to the frame of the machine. By turning this screw in one direction or the  
100 other the stand can be moved back or forward, as required. On the side of the stand is a graduated scale s and on the adjoining



part of the frame is an index  $t$ . There is one of these stands on each side of the machine, in all respects alike and having the same scale  $s$  to operate in conjunction with similarly-positioned indexes  $t$  on the frame. The two stands between them carry and support the feed-rolls, eveners-plates, and plate or knife-edge bar, the apron, apron sides, and apron-driving roll-shaft.

10 When any change in adjustment is to be made, each stand is adjusted independently of the other. This can readily be done, because there is play enough in the bearings to permit of the slight adjustment required.

15 Usually, however, the operative calls another person to his assistance. Each of them takes a stand and at a given signal moves it by its set-screw until the index on the frame registers with a predetermined mark on the scale,

20 which finishes the adjustment.

The two stands constitute in effect an adjustable stand, and the two parts can, if de-

sired, be connected together by any suitable fastenings, although, for the reasons above indicated, such a construction is not really necessary.

What I claim herein as new and of my own invention is—

The combination, with the beater, the feed-rolls, eveners devices, and feed-apron, of a stand secured to and adjustable upon the frame and carrying said feed-rolls, eveners devices, and feed-apron, whereby the feed-rolls and the other parts with which they are in operative relation may as a whole be adjusted toward and away from the beater, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES C. POTTER.

Witnesses:

EWELL A. DICK,  
L. C. HILLS.