

No. 835,200.

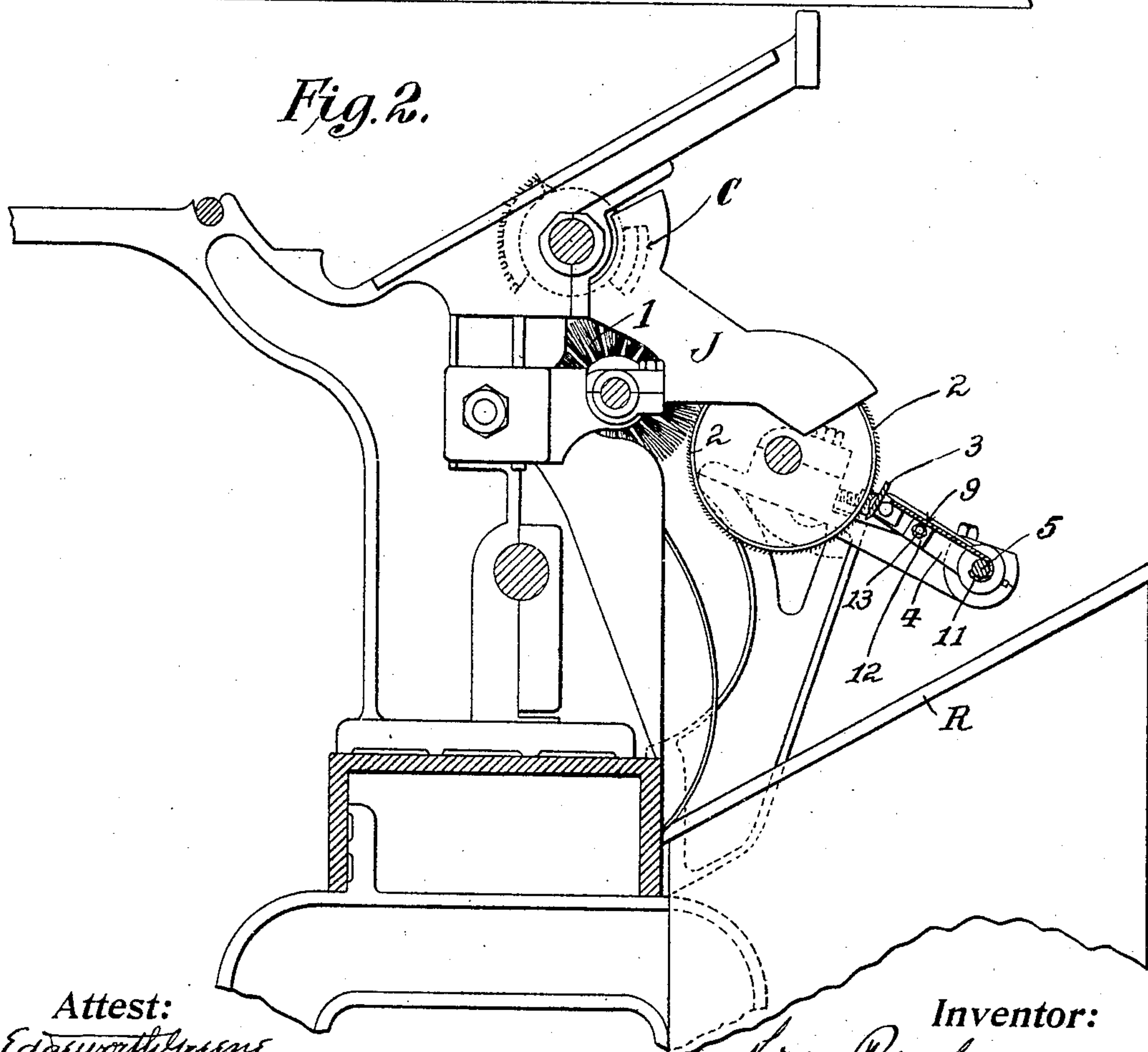
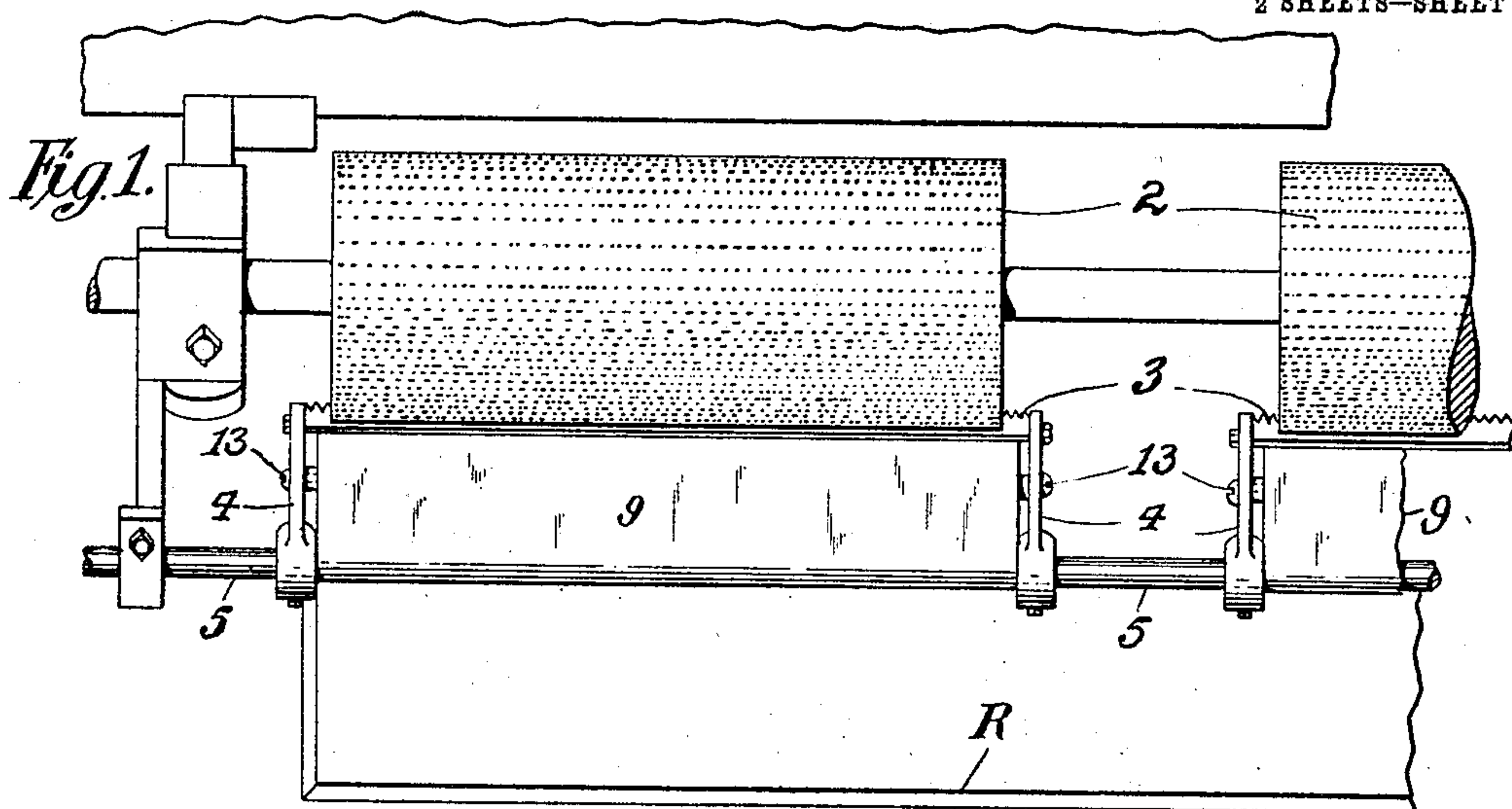
PATENTED NOV. 6, 1906.

L. RAWLINSON.

DOFFING MECHANISM FOR COMBING AND LIKE MACHINES.

APPLICATION FILED DEC. 11, 1905.

2 SHEETS—SHEET 1.



Attest:  
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*H. H. Kinsale*

Inventor:  
*L. Rawlinson*  
by *McNair & Jones* Attys.

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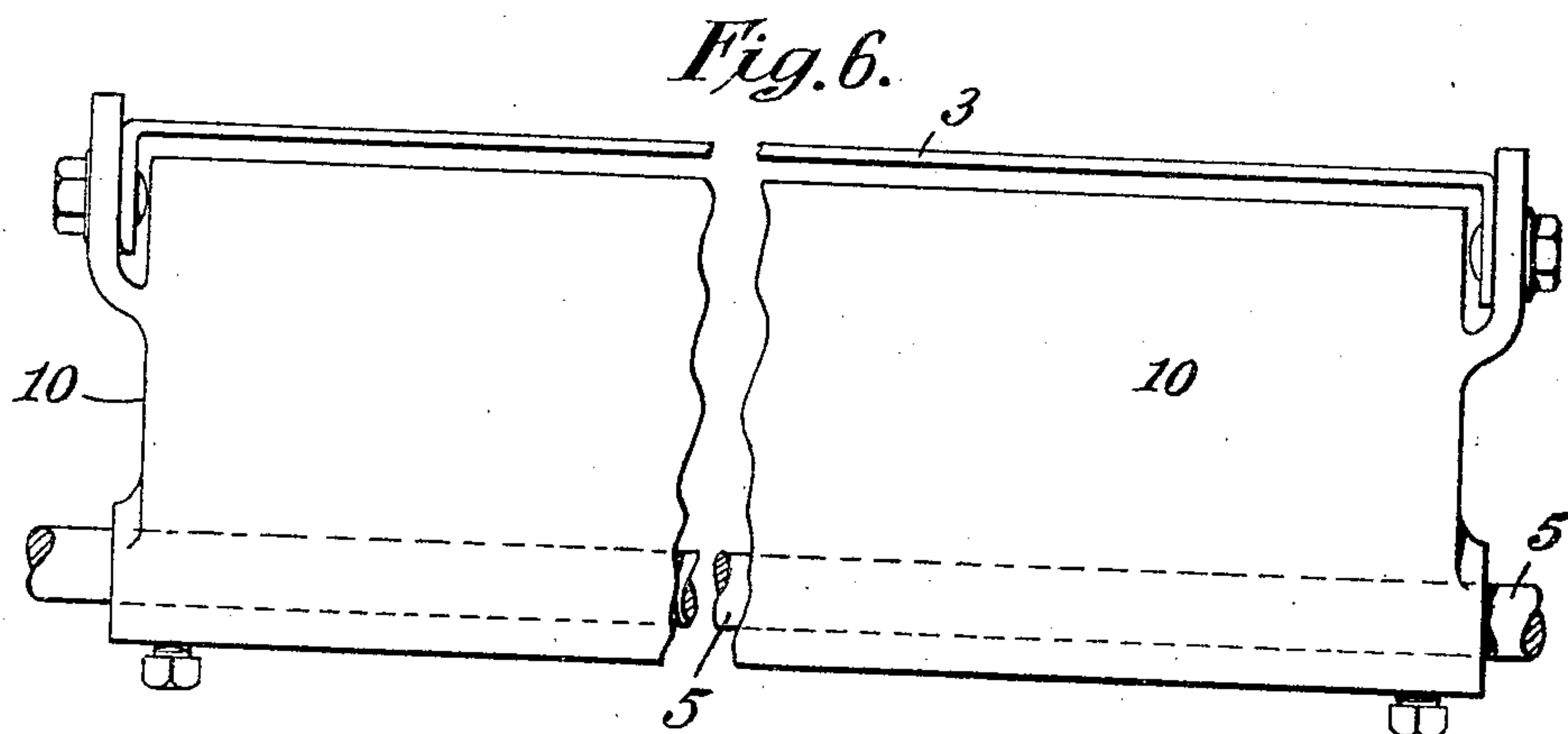
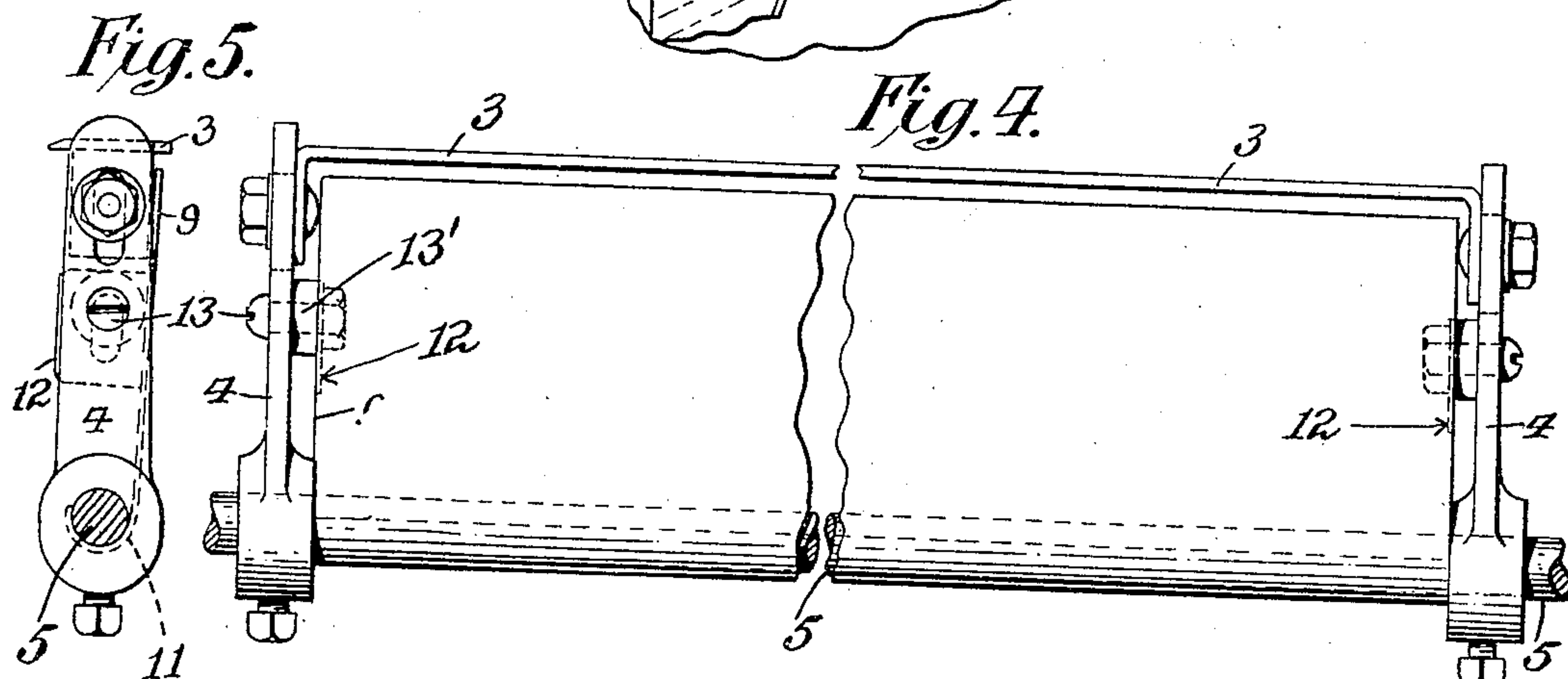
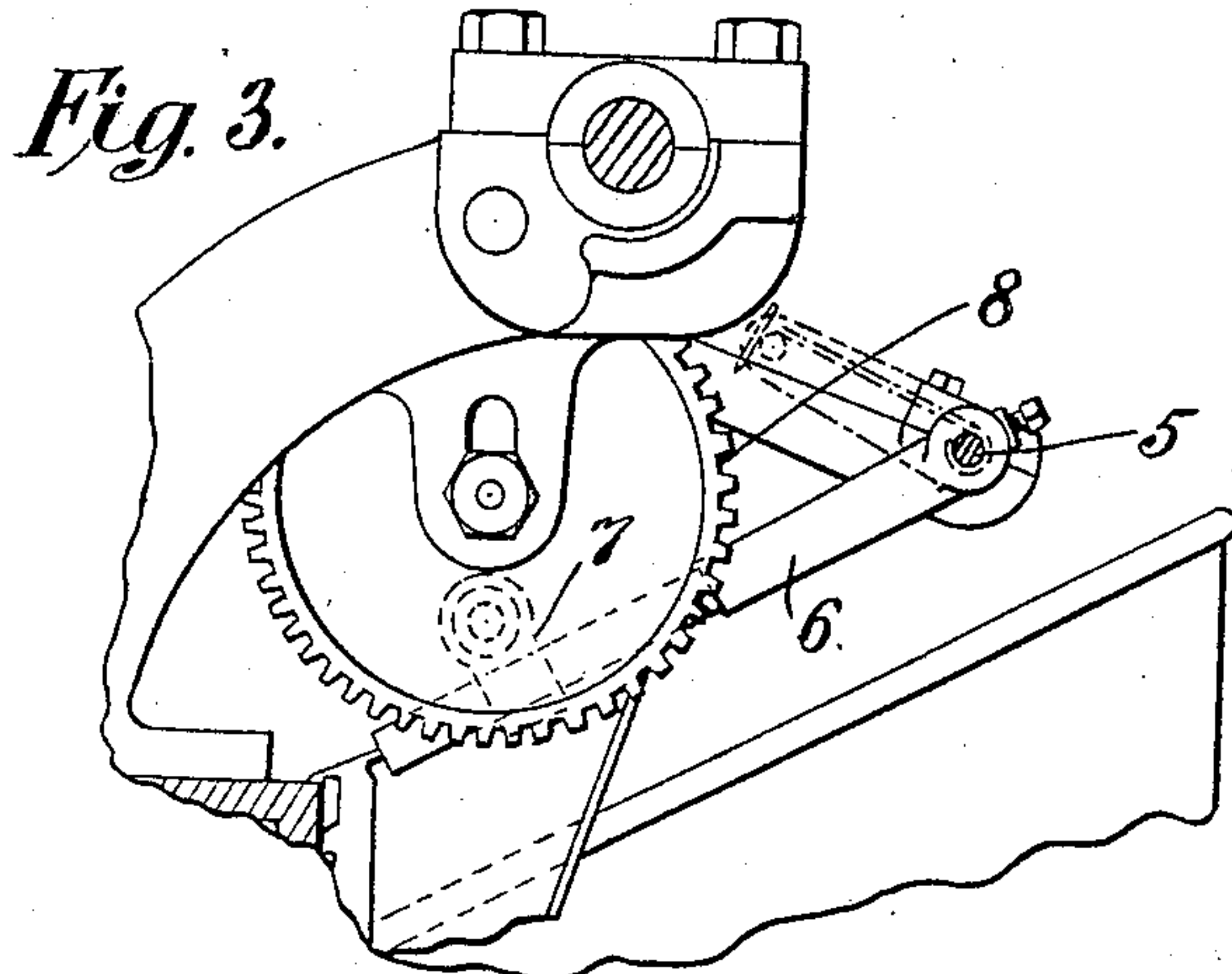
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2 SHEETS—SHEET 2.



Attest:  
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# UNITED STATES PATENT OFFICE.

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## DOFFING MECHANISM FOR COMBING AND LIKE MACHINES.

No. 835,200.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed December 11, 1905. Serial No. 291,182.

*To all whom it may concern:*

Be it known that I, LEVI RAWLINSON, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Doffing Mechanisms for Combing and Like Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and concise specification.

The present invention relates to oscillating doffer-combs which are adapted to be employed with cotton-combing or other machines to remove the fibers or waste from the doffing-cylinder or other fiber-conveying means and discharge the same into the usual receptacle provided for that purpose; and the invention more particularly relates to the provision of means for packing or crowding the fibers thus removed compactly into the receptacle and for preventing the rising of such discharged fiber above the doffer-comb, where it would otherwise be likely to become entangled with other moving parts and damage the machine.

The means whereby the present invention may be put into effect may form a structural part of the doffing mechanism, but is more preferably comprised of a separate part in the form of an attachment, all as will be hereinafter fully described, and more particularly pointed out in the accompanying claims.

Referring to the drawings forming a part hereof I show my improved doffing mechanism applied to a cotton-combing machine of the well-known Heilmann type, and it will be understood that only such parts of this machine are therein shown as are necessary to illustrate the relation of my invention thereto.

Figure 1 is a plan view of the essential parts of the doffing mechanism of such a machine embodying my invention. Fig. 2 is a vertical section through one of the heads of such a machine, showing part of the framework in elevation and the doffing-cylinder and doffer-comb in section. Fig. 3 is a detail illustrating a means of imparting the usual oscillatory movement to the doffer-comb. Fig. 4 is an enlarged plan of the doffer-comb mechanism and its rock-shaft with the central portion broken away and also illustrating my invention. Fig. 5 is an end view of Fig. 4, and

Fig. 6 is a plan view of a modified form of the present invention formed as a structural part of the doffing mechanism.

In the usual operation of a combing-machine of the kind referred to the combings or noils are removed from the combing-cylinder (shown in dotted lines at C, Fig. 2) by means of the rotary brush 1 and are taken off from the latter by the usual needle or doffing-cylinder 2. The doffer-comb 3, which may be of any suitable formation appropriate for removing the fibers, oscillates through a rather short arc close to the doffing-cylinder and removes the waste fiber therefrom in the usual manner, discharging the same into a receptacle R. The doffer-comb is carried by the two side arms 4 on the longitudinal rock-shaft 5, its attachment to the arms being adjustable by the bolt and slot shown in the drawings. The rock-shaft receives its proper oscillatory movement from a crank-arm 6, carried at one end thereof and playing within a sleeve 7, which is pivotally hung on the face of a continuously-driven spur-gear 8, as clearly indicated in Fig. 3. The usual means for driving this spur-gear are well understood by persons familiar with this art, and are not, therefore, herein disclosed.

While the machine is in operation the doffer-comb is constantly discharging waste fiber into the receptacle R, and when the latter becomes filled it should ordinarily be removed and replaced by another; but frequently it occurs that the attendant will neglect to remove the full receptacle, with the result that it becomes overfilled and sometimes to such an extent that the waste fiber rising through the open space between the doffer-comb and the rock-shaft becomes entangled with the needles of the doffing-cylinder and is carried thereby up under the tin bonnet J and into other parts of the machine—as, for example, into the combing-cylinder C—where it is almost certain to cause serious damage. The present invention aims to safeguard the machine from injury from this source, as well as to increase the amount of waste or fiber that may be packed in the receptacle, by closing or substantially closing the space which is between the rock-shaft and the comb or just to the rear of the comb. The means whereby this space may be closed may obviously assume a variety of forms. It



may, for example, assume the form of a single broad flat comb-supporting arm, as shown by 10 in Fig. 6, substituted on the rock-shaft for the two side arms 4 4; but as this structural formation of the space-closing means is likely 5 to be inconvenient of application to existing machines, as well as of more or less expense in manufacture, my invention further contemplates the formation of such means as a 10 partition or presser-plate 9, which may be made from sheet metal and readily attached to the doffer-comb or to its side arms. Such a plate is preferably formed with a hooked end 11, adapted to clasp or embrace the rock- 15 shaft 5, Figs. 2 and 5, and with one or more depending flanges or ears 12, which form a means of attachment of the plate to the side arms. The attachment may be conveniently effected by means of the bolts 13 (shown) 20 and the washers 13', which space the flanges from the arms. The extent to which the presser-plate actually closes the space between the arms is not material, provided said plate will effectively obstruct the upward 25 rising of the fiber, as above described.

Having described my invention, what I claim, and desire to secure by United States Letters Patent, is—

1. As an article of manufacture, an attachment 30 for the oscillating doffer-combs of combing and like machines, comprising a presser member and means for connecting the same with said doffer-comb, whereby it is oscillated thereby and serves to crowd the 35 fiber downwardly.

2. As an article of manufacture, an attach-

ment for the doffing mechanism of combing and like machines, consisting of a plate or partition adapted to be located between the supporting-arms of said doffer-comb and 40 having means for attaching it to said arms.

3. As an article of manufacture, an attachment for the doffing mechanism of combing or like machines, consisting of a sheet-metal plate or partition adapted to fit in the space 45 between the oscillating doffer-comb and its supporting-arms, and having downwardly-turned lugs adapted to be secured to said arms.

4. As an article of manufacture, an attachment 50 for the doffing mechanisms of combing or like machines, comprising a sheet-metal plate or partition having a rear margin adapted to embrace the doffer-comb rock-shaft and means for securing said plate in position 55 between the doffer-comb-supporting arms.

5. In apparatus of the class described, a doffer-cylinder, and a comb to remove waste therefrom, a condenser to act upon and con- 60 dense the waste as it accumulates in the can, and means to detachably connect said condenser and the comb, to vibrate the condenser in unison with the comb.

In testimony whereof I have signed my 65 name to the specification in the presence of two subscribing witnesses.

LEVI RAWLINSON.

Witnesses:

O. L. OWEN,  
FRED J. COYLE.