

(No Model.)

2 Sheets—Sheet 1.

F. BOMMARIUS.

BALE BAND SPLICING MACHINE.

No. 309,375.

Patented Dec. 16, 1884.

Fig. 1.

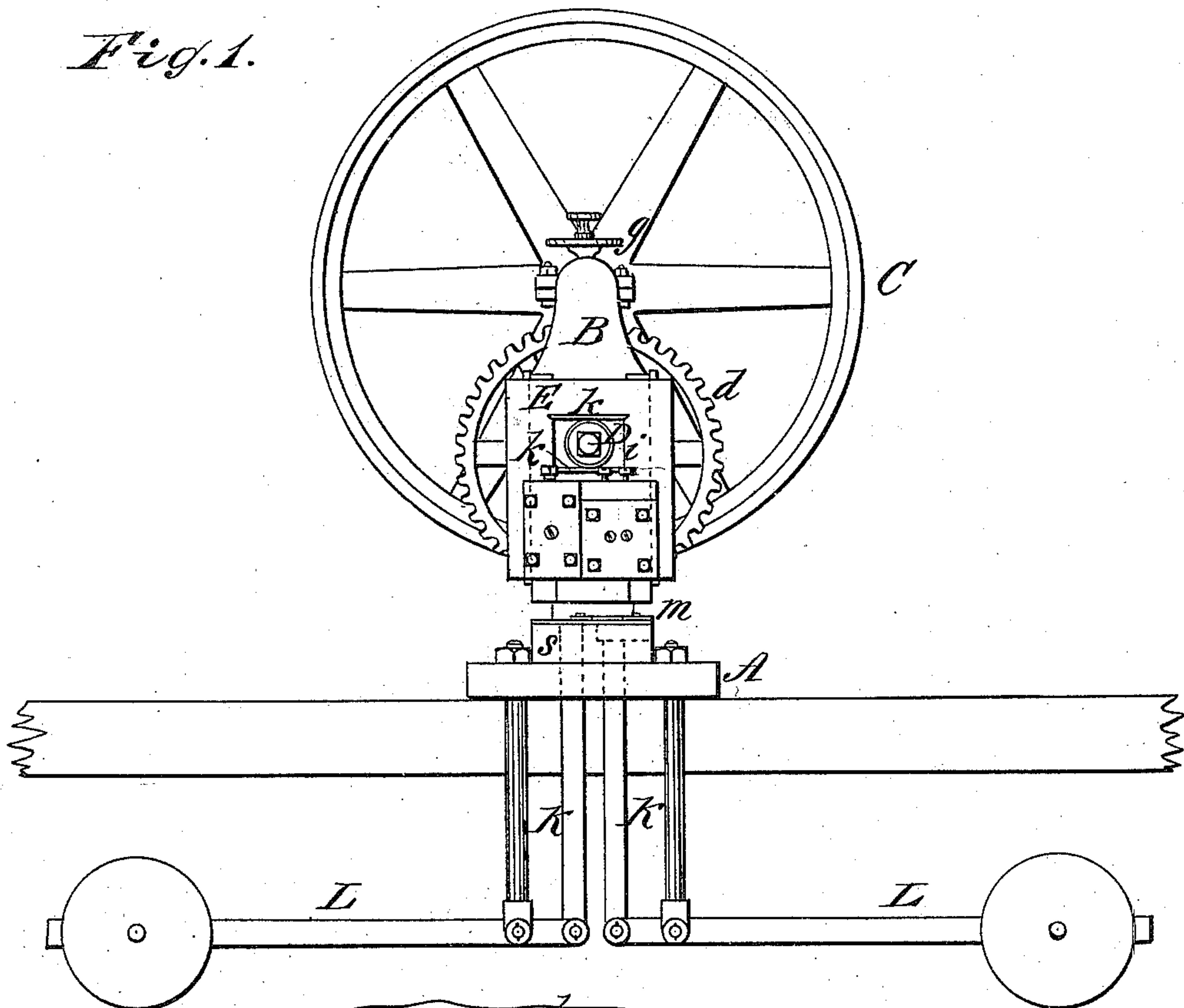


Fig. 2.

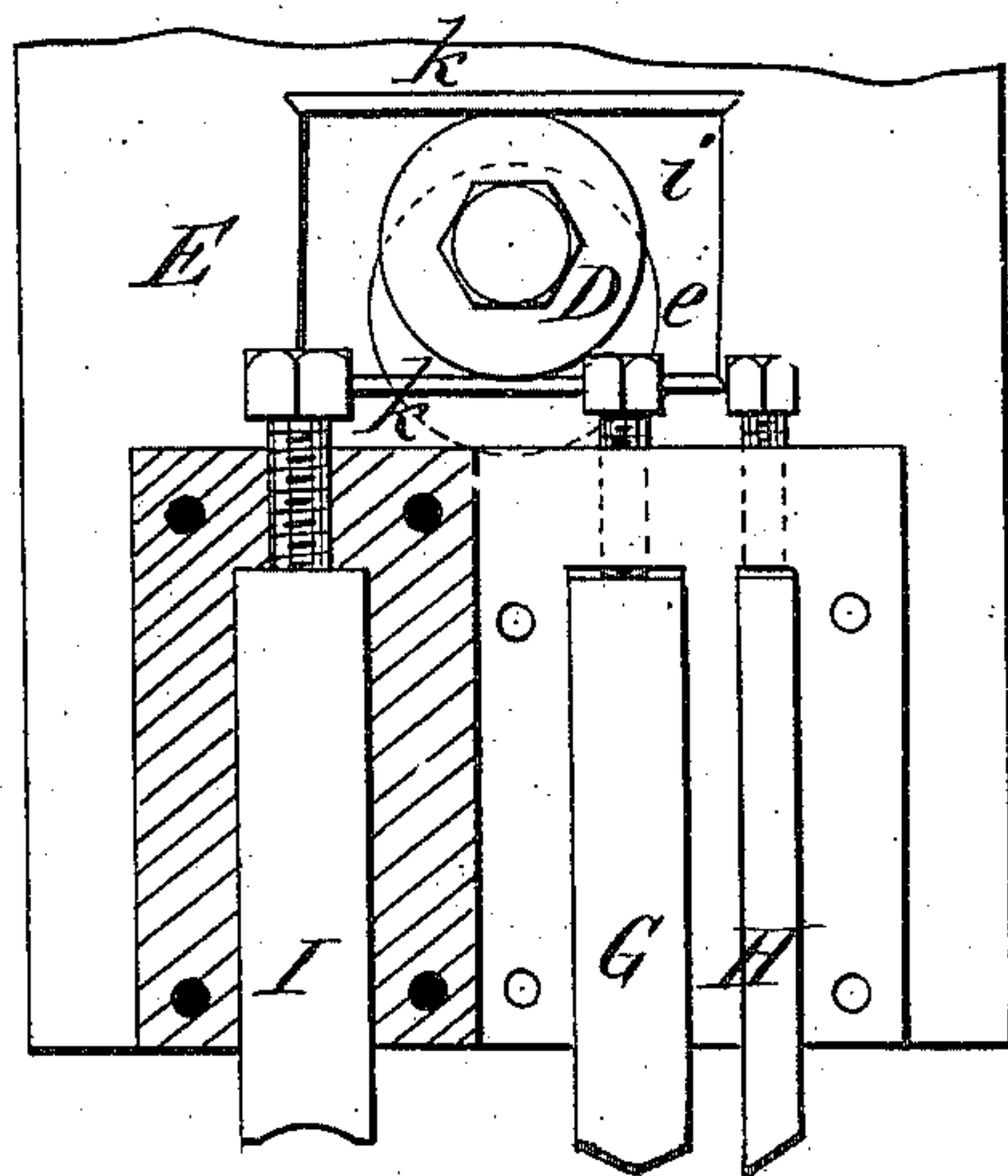
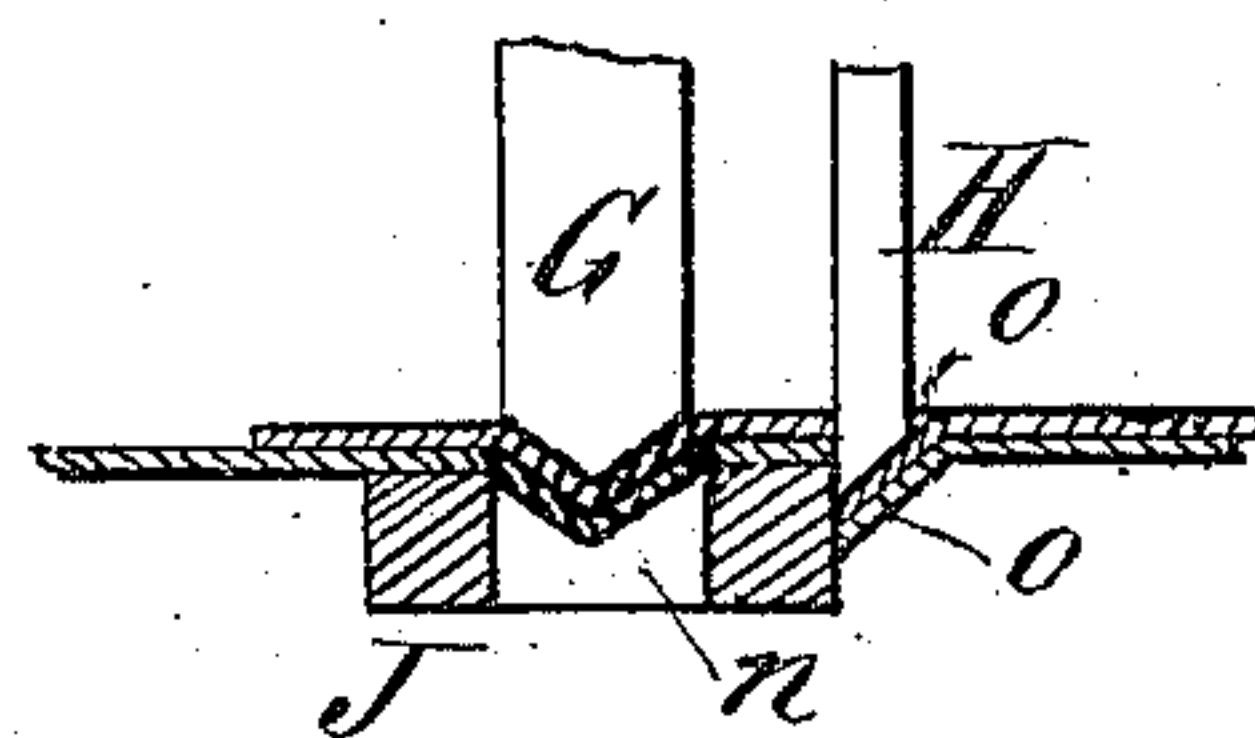


Fig. 7.



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Fig. 3.

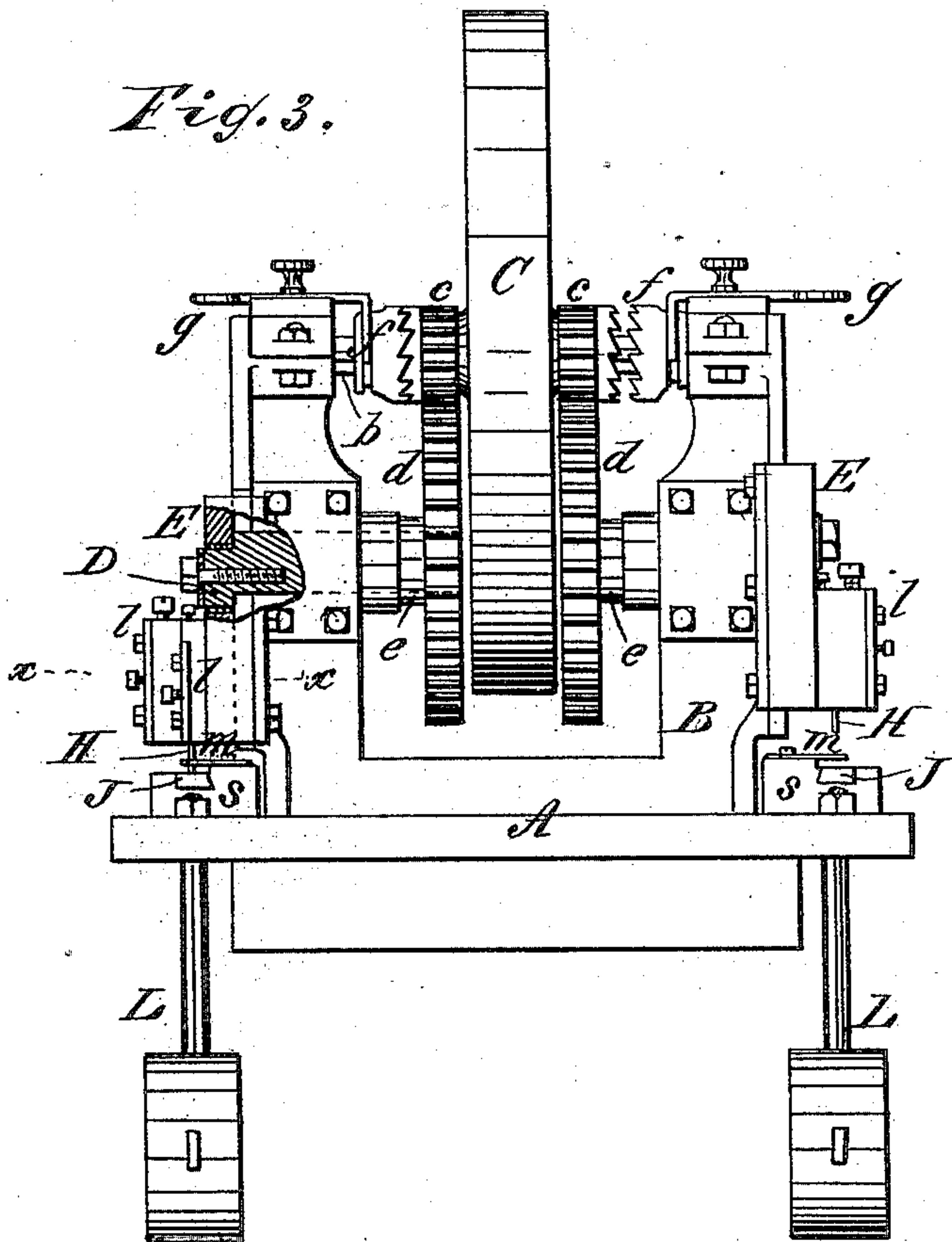


Fig. 5.

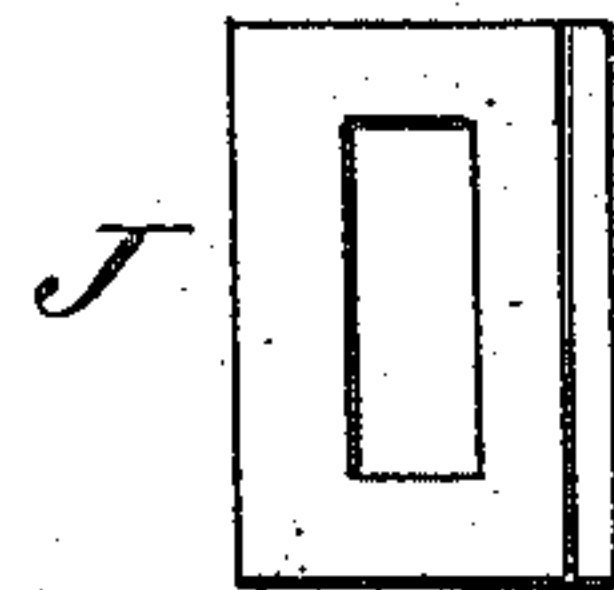


Fig. 4.

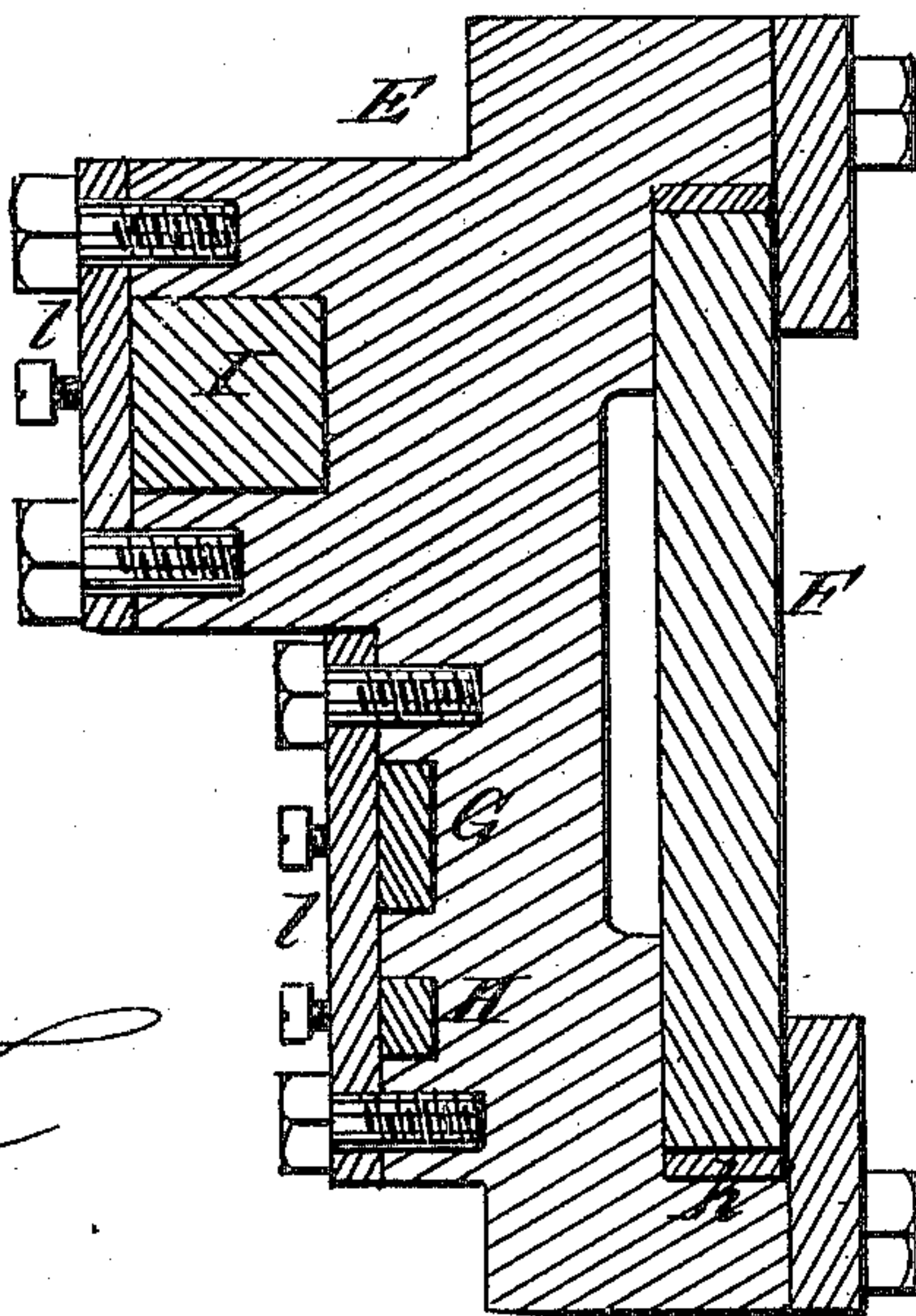


Fig. 6.



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UNITED STATES PATENT OFFICE.

FREDERICK BOMMARIUS, OF NEW ORLEANS, LOUISIANA.

BALE-BAND-SPLICING MACHINE.

SPECIFICATION forming part of Letters Patent No. 309,375, dated December 16, 1884.

Application filed January 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK BOMMARIUS, of New Orleans, in the parish of Orleans and State of Louisiana, have invented
5 certain new and useful Improvements in Machines for Splicing Bale-Bands, of which the following is a full, clear, and exact description.

This invention has for its object the construction of a machine for expeditiously and
10 efficiently splicing metallic bands used in baling cotton and other materials which are of sectional construction, and may be made of or from scrap or surplus lengths of other baling-bands after the bales they are used on have
15 been reduced by compression. The splicing-tie for thus utilizing baling-band scrap or waste which the machine is designed to produce consists of two cut and bent slit loops in the faces of the lapping ends of the band-sections arranged to enter one within the other,
20 and which are afterward secured by a transverse key passed within the engaging loops. It also consists in locking-lips produced by cutting and indenting the lapping end portions of the band-sections from their one face
25 side, as fully described in another application for Letters Patent for an improved band-tie splice made by me simultaneously with this.

The invention consists of combinations and
30 arrangements of parts, substantially as herein-after fully set forth and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate
35 corresponding parts in all the figures.

Figure 1 represents a front elevation of a machine in part embodying my invention; Fig. 2, a side view in part upon a larger scale and in partial section, showing the construction and arrangement of the several
40 punches on one side of the machine and means for operating them; also, a die in connection with which the split-loop-forming punch and the lip-forming punch operate, and a clearer for lifting the work out of the die. Fig. 3 is a partly sectional and broken side view of the press; Fig. 4, a horizontal section in part thereof upon a larger scale, mainly on the line
45 *xx* in Fig. 3. Fig. 5 is a top view of one of the dies, and Fig. 6 a transverse section there-

of. Fig. 7 is a diagram in illustration of the action of the punches or certain of them upon the band-sections to be spliced.

A is the bed of the press or machine, and B its frame, which may be of any suitable construction. In using the machine for splicing
55 sectionally-constructed cotton-bale bands the same power which is used to work the cotton-baling press may, by suitable connections, be applied to operate the band-splicing machine. 60

This machine, which occupies but little room and requires only a boy or unskilled workman to control it and pass the work to, through, and from it, is, as here shown, of double construction, so as to do duplicate work on opposite sides of it. 65

Power is or may be applied to the machine by a pulley, C, upon the shaft *b* of which are pinions *cc*, that give motion to spur-gears *d d* upon independent shafts *ee*, that operate the
70 punches on opposite sides of the machine. The pinions *cc* are loose upon their shafts, and are respectively put into or out of connection therewith by sliding feathered clutches *ff*, actuated by handles or levers *gg*, whereby
75 the machine may either be operated as a single or double one, as required; and in case of accident or necessary repair on one side of the machine the punches on said side may be thrown out of gear without interfering with
80 or stopping the punches on the other side of the machine.

Upon the outer end of each independent shaft *e* is formed an eccentric, D, which serves as the shaft revolves to give up and
85 down motion to a slide, E, arranged to work upon or against a fixed guide, F, Fig. 4, forming a portion of the frame, and fitted with gibs *h h*, to provide for wear. Said slide is made with an aperture, *i*, for the eccentric D
90 to work in, and is fitted with upper and lower steel plates, *kk*, for the eccentric to act against in raising and lowering the slide; and it, furthermore, is fitted in its face with adjustable punches G H and a compressor, I, inclosed
95 by covering-plates *l*. These punches, in connection with a lower die, J, seated in a block, *s*, on the bed of the machine, serve to give the necessary form to the splicing-tie, as follows: The lapping ends of the band-sections to be 100

united are fed upon or placed over the die under a suitable side guide, *m*, and the punches G H are simultaneously brought down by one and the same eccentric or means upon the lapped band-sections to simultaneously cut and bend and cause to engage with one another the slit-loops *n n* in said sections, and to cut and indent the locking-lips *o o* thereon, the punch G producing the slit-loops and the punch H the locking-lips. (See Fig. 7.) This operation is continued throughout the entire series of splices to be made in the band. Of course, it will be understood that punch G is a bar rectangular in cross-section the side edges of whose lower beveled surfaces will begin to cut or slit the metal the instant the point of said punch begins to bend the latter, and coincidently with said point, and as the point continues to descend said edges will continue to cut or slit the metal simultaneously with and until the bending operation is completed. Each die J is or may be fitted with an automatic clearer, K, attached to a weighted lever, L, that yields to the action of the punch G, but that serves, when said punch is raised, to elevate the clearer and lift the slit-looped portion of the band-sections out of the die should it have any tendency to stick there. After the several band-sections have been thus united a transverse key is inserted within or through each split-looped portion on its under side to secure the engagement of the loops, and the sectionally-constructed splicer-band is presented on its looped side or surface to the action of the compressor I, which, coming down, closes or presses the loops down on the keys.

If desired, by a slight change of the punches and dies on the one side of the press the ma-

chine may be used for making the buckles which are ordinarily used for locking the bands on the bales.

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

1. The combination, with the bed-die and the reciprocating slide, of the double-beveled punch with its side edges cutting parallel slits or slots, and its point bending or indenting the metal intermediately of said slots or slits, substantially as and for the purpose set forth.

2. The combination, with the bed-die and the reciprocating slide, of the double-beveled punch, with its side edges cutting parallel slits or slots and its point bending or indenting the metal intermediately of said slits or slots, and a single-beveled punch, substantially as and for the purpose set forth.

3. The combination, with the bed-die and the reciprocating punch, of the automatic clearing device, comprising a weighted lever provided with a pivoted arm with its upper end entering the die-bed opening, substantially as and for the purpose set forth.

4. The punch having the double-beveled point with side cutting-edges disposed to cut in planes at right angles to the bending action of said point, in combination with the reciprocating slide, the punch having a single-beveled point, and the compressor, together with a die-block, substantially as and for the purpose set forth.

FREDERICK BOMMARIUS.

Witnesses:

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