(No Model.) 7 Sheets—Sheet 1.

M. GANDY.

BELT SEWING MACHINE.

No. 262,395. Patented Aug. 8, 1882.

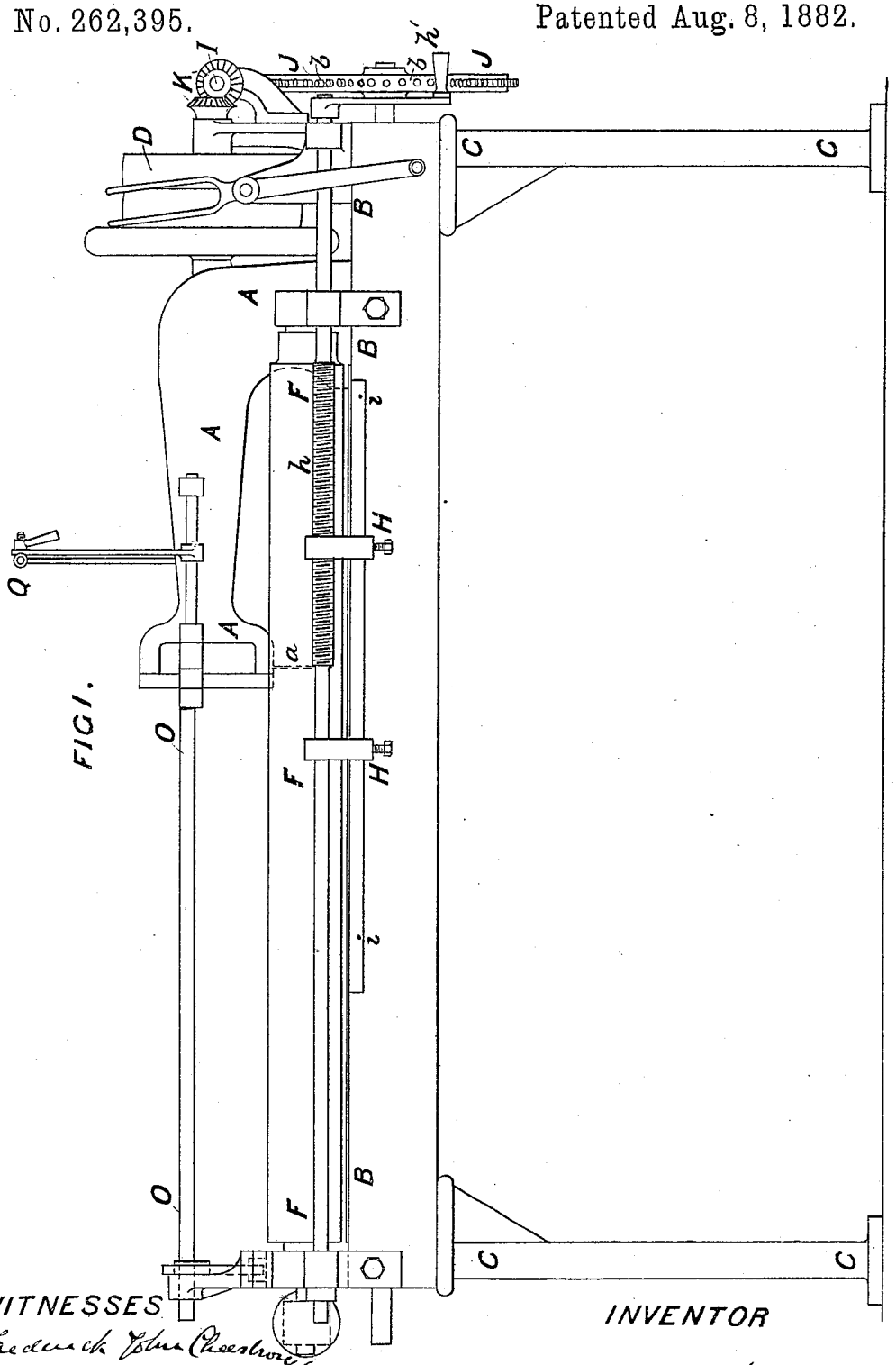

FIG. 1.

Frederick Peter Cheesbrough Jr.

John Hamilton Redmond.

Maurice Gandy

(No Model.) 7 Sheets—Sheet 2.

M. GANDY.

BELT SEWING MACHINE.

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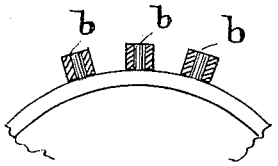
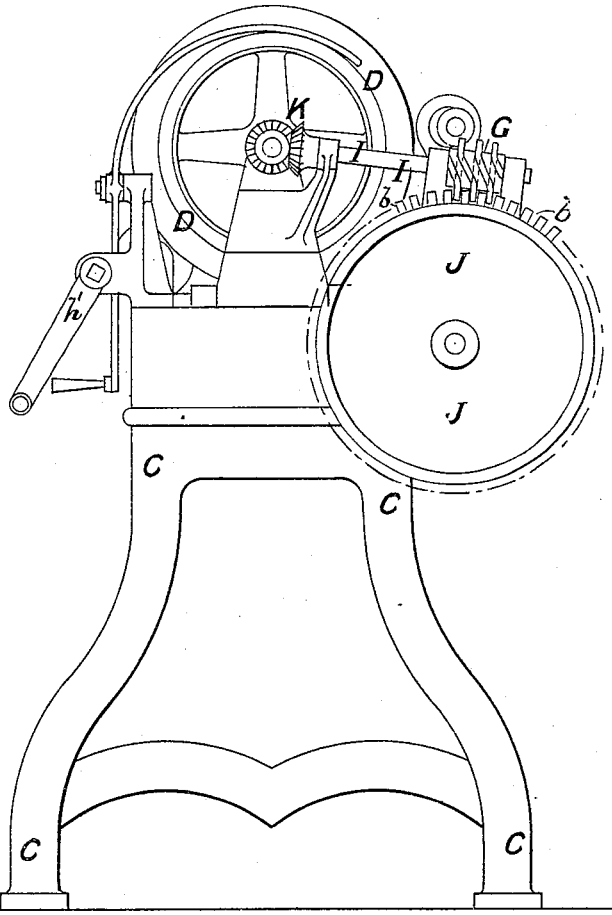


FIG. 2a

FIG 2



WITNESSES

Frederick John Cheesbrough

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INVENTOR

Maurice Gandy

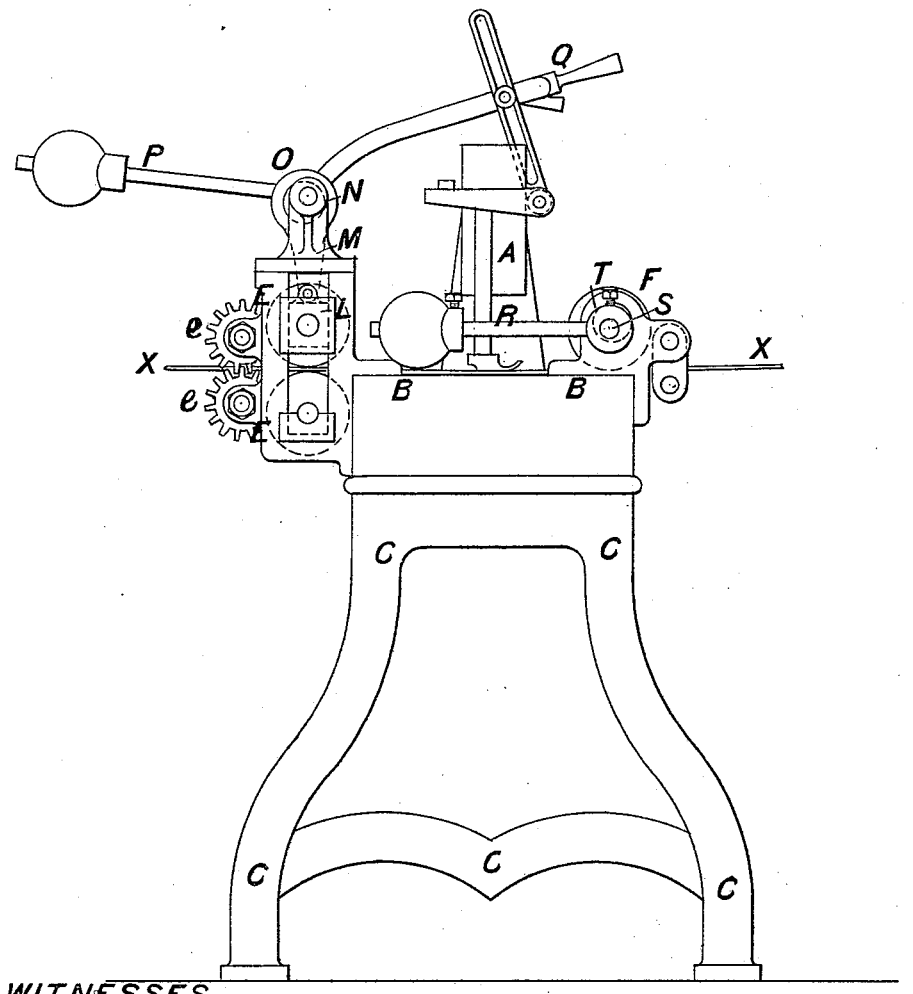
(No Model.) 7 Sheets—Sheet 3.

M. GANDY.

BELT SEWING MACHINE.

No. 262,395. Patented Aug. 8, 1882.

FIG 3.



WITNESSES

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Maurice Gandy

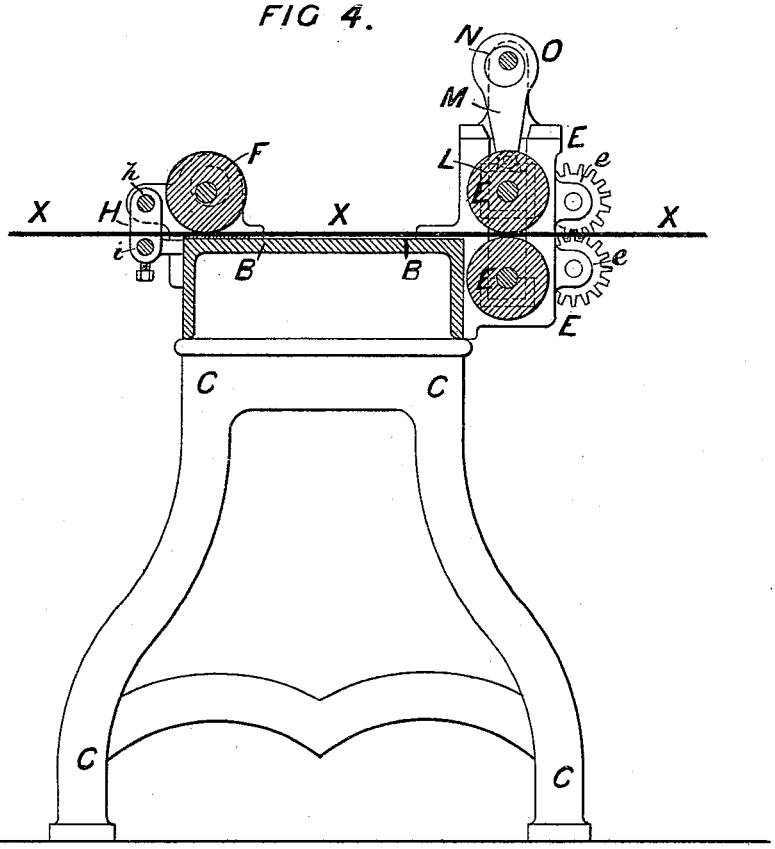
(No Model.) 7 Sheets—Sheet 4.

M. GANDY.

BELT SEWING MACHINE.

No. 262,395. Patented Aug. 8, 1882.

FIG 4.



WITNESSES.

Frederick John Cheesbrough

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Maurice Gandy

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M. GANDY.

BELT SEWING MACHINE.

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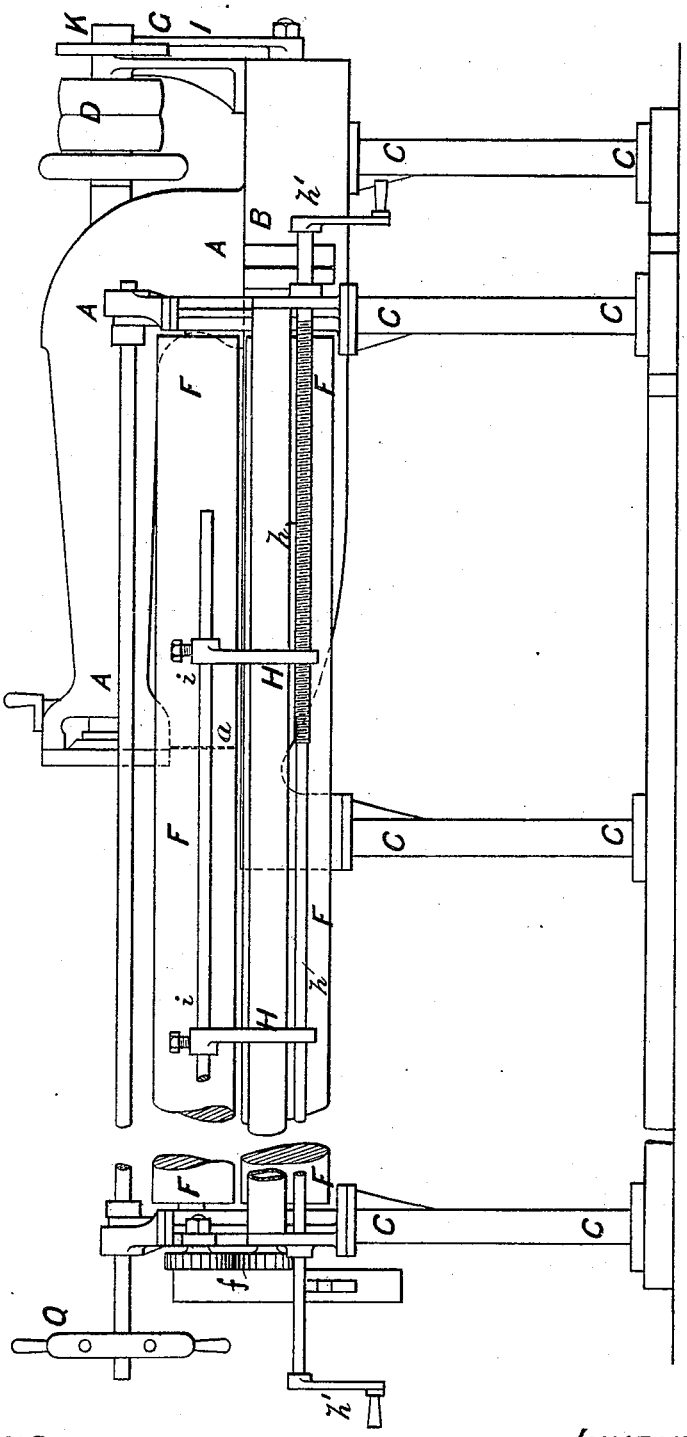

FIG 5.

WITNESSES.

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J. Clark Bull

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Maurice Gandy by his Atty

Amos Broadus

(No Model.) 7 Sheets—Sheet 6.

M. GANDY.

BELT SEWING MACHINE.

No. 262,395. Patented Aug. 8, 1882.

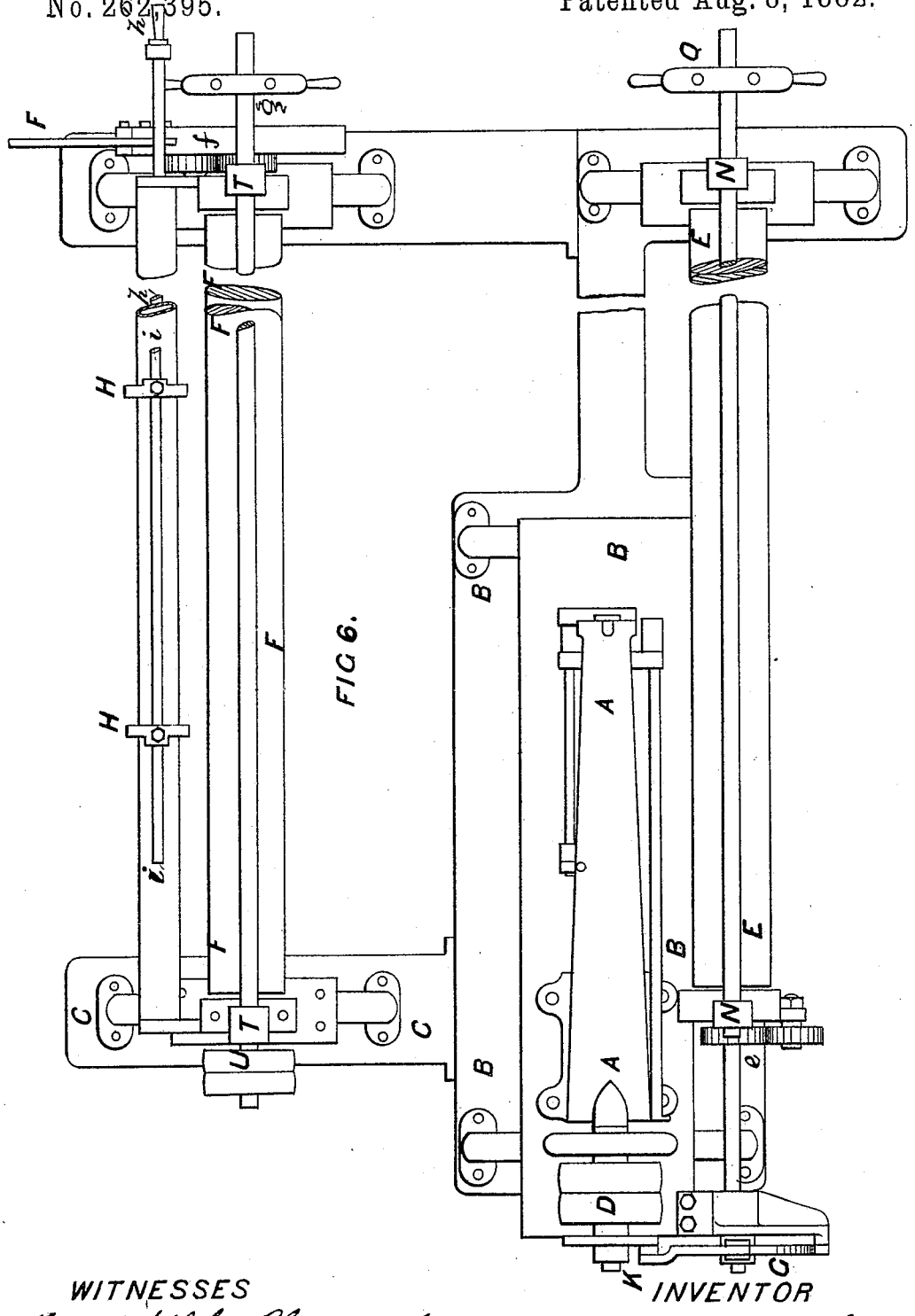

FIG 6.

WITNESSES

Frederick John Cheesbrough

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M. GANDY.

BELT SEWING MACHINE.

No. 262,395. Patented Aug. 8, 1882.

FIG 7.

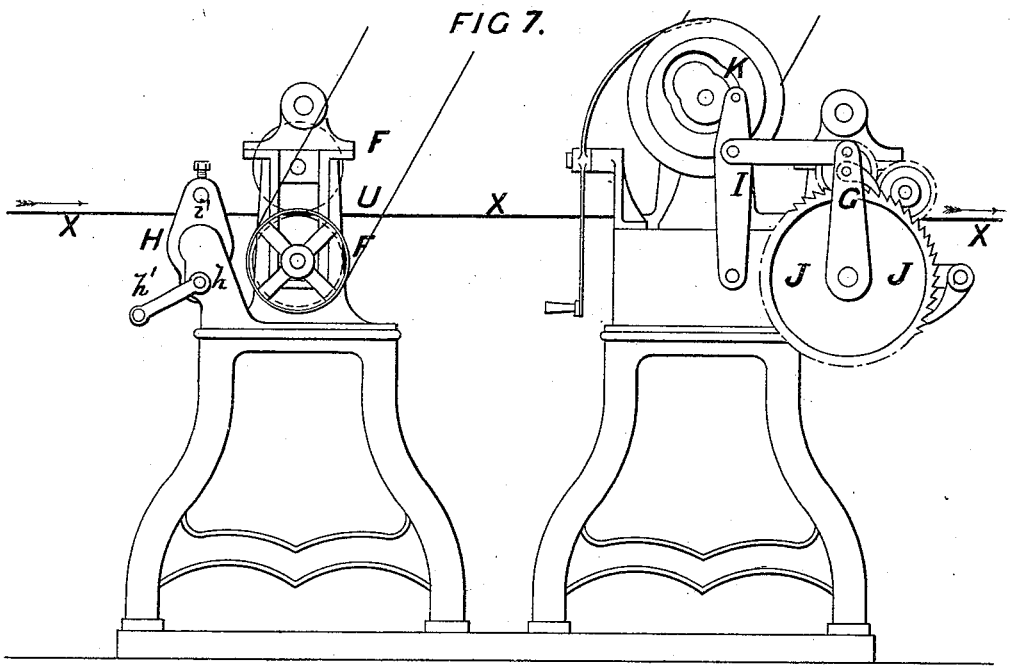
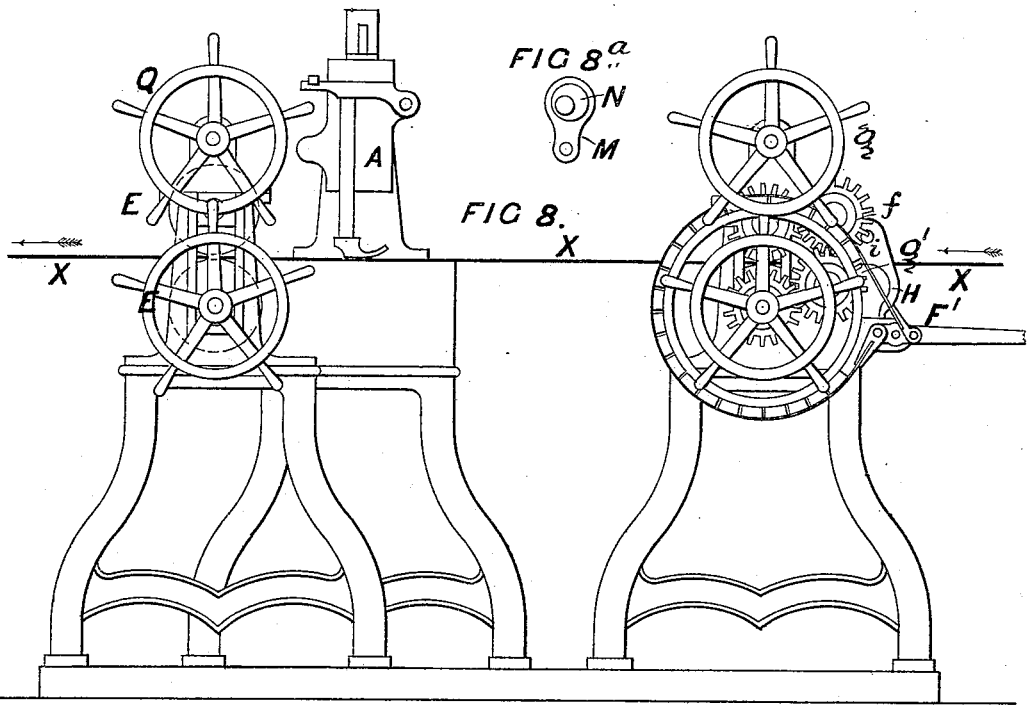


FIG 8a.

FIG 8.



WITNESSES

Frederick John Chesbrough

Edward Hamilton Redmond

INVENTOR

Maurice Gandy

UNITED STATES PATENT OFFICE.

MAURICE GANDY, OF LIVERPOOL, COUNTY OF LANCASTER, ENGLAND.

BELT-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 262,395, dated August 8, 1882.

Application filed February 28, 1881. (No model.)

To all whom it may concern:

Be it known that I, MAURICE GANDY, a subject of the Queen of Great Britain, and of the city of Liverpool, in the county of Lancaster, in that part of the United Kingdom of Great Britain and Ireland called England, manufacturer of belting, have invented a certain new and useful Improved Belt-Sewing Machine; and I do hereby declare that the following is a description of my invention in such full, clear, and exact terms as to enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying seven sheets of drawings, making a part of this specification, by which there is illustrated two sewing-machines constructed according to my invention, like letters and figures on the drawings being used to denote the same or corresponding parts throughout the various views.

In the drawings, Figure 1 is a front elevation of a sewing-machine constructed according to my invention. Fig. 2 is one end elevation of Fig. 1. Fig. 3 is the other end elevation of Fig. 1. Fig. 4 is a sectional end elevation of Fig. 1. Fig. 5 is a front elevation of a larger type of sewing-machine constructed according to my invention. Fig. 6 is a plan of Fig. 5. Fig. 7 is one end elevation of Fig. 5. Fig. 8 is the other end elevation of Fig. 5.

My invention consists of an improved sewing-machine and appliances connected therewith for sewing cotton, canvas, and like belting under tension.

A is the sewing-machine proper, which may be of any approved construction.

B is the table or face-plate of the sewing-machine, which is supported on the framing or stand C.

D are the driving-pulleys of the sewing-machine.

The appliances and additions which constitute my invention, making with the parts just defined my improved belt-sewing machine, consist of the feeding-rollers E, by which the belt X is fed or intermittently drawn from the needle *a* of the sewing-machine.

F is a nipping-roller on the feed or front side of the sewing-machine, which nips the belt against the table or face-plate of the sewing-machine. The belt is thus sewed by the needle *a* while under extreme tension between the feeding-rollers E and the nipping-roller F.

H H are adjustable guide-pieces, which form a gage and direct the correct passage of the belt to the nipping-roller F, the needle *a*, and the feeding-rollers E.

In the drawings, Figs. 1 to 4, inclusive, the feeding-rollers E are worked by a novel device, consisting of the cam worm or screw G, which is mounted on the shaft I and driven by the bevels K, as shown at Fig. 2. The cam-worm or screw G imparts intermittent rotary motion to the roller-wheel J, which is mounted on the shaft or spindle of the lower feed-roller E. The roller-wheel J takes the place of an ordinary worm-wheel, and instead of teeth it is provided with a system of rollers on its periphery, (see Fig. 2^a,) which rollers or pins *b* gear into the cam worm or screw G, the novelty of which consists in the cam worm or screw only having pitch for that portion of the revolution for which it is desired to impart rotary motion to the wheel J, and thereby to the feed-rollers E. By the operation of the cam worm or screw G and the roller-wheel J, I am enabled to impart a smooth, regulated, and uniform intermittent rotary motion to the feeding-rollers E, which are geared together by the gear-wheels *c*. The device G also serves as a brake to the rollers E, as when the rollers or pins *b* of the wheel J are out of the pitch of the cam worm or screw G and in the straight part thereof, the wheel J, and thereby the rollers E, are held rigid. By this device I am enabled to drive the feeding-rollers E, and hence the sewing-machine A, at a much higher speed than has before been accomplished. The lower feed-roller E revolves in fixed bearings. The upper feed-roller E is mounted in the sliding blocks L, the position of which is regulated by the links M, which are operated by the eccentrics N. (For detail see Fig. 8^a.) The eccentrics N are mounted on the shaft O, which also carries the arm and weight P and the relieving-handle Q. The weight P applies the pressure on the upper feed-roller E, and the handle-lever Q affords the means of lifting the upper feed-roller E and relieving the pressure.

A like mechanism to that used for the feed-rollers is used to apply pressure to the nipping-roller F.

R is the pressure-lever and weight; S, the shaft or spindle; T, the eccentrics. The pressure is relieved by lifting the weight R. The guides H H, forming the gage, are mounted on the shaft *h* and slide on the bar *i*, to which they are adjusted by the set-screws, as shown, so as to size the gage. The position of the gage thus formed is regulated by the screw-shaft *h*, worked by the handle *h'*.

In the machine shown at Figs. 5, 6, 7, and 8 the same principles of construction are carried out as in the machine illustrated at Figs. 1, 2, 3, and 4, the arrangement at Figs. 1, 2, 3, and 4 being applicable to small and medium sized and fast-running machines, and the arrangement shown at Figs. 5, 6, 7, and 8 being applicable to larger and slower-running machines. In the latter case the feed-rollers E are driven by the ratchet-gear G and the ratchet-wheel J, which receives motion from the lever I and the cam-groove K. The action of the feeding-rollers E is similar to the action of the feeding-rollers in the smaller machine; but a hand-wheel is substituted for the hand-lever Q in the smaller machine.

The nippers F consist of two rollers, between which the belt passes. These are provided with a brake, F', and are geared together by the gear-wheels *f*, as shown. The nipper-rolls F are provided with the hand-wheels *g* and *g'*, the wheel *g* for applying the pressure and the wheel *g'* for running the belt back, if required. The lower roller F is driven by a strap, U, at a slower speed than the feeding-rollers E, so that tension is applied to the belt X while being sewed by the sewing-machine A.

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

1. In a belt-sewing machine, the combination of feeding-rollers E E, a cam-worm, G, a feed-wheel, J, eccentrics N, and connecting-links M between the eccentrics and feeding-roller bearings, the several parts coacting substantially as described, for the purpose specified.

2. In a machine for sewing belts, the combination of a sewing-machine, A, a bed-plate, B, a pair of feeding-rollers, E, nipping-rollers F, and an adjustable gage, H H, the several parts coacting substantially as described, for the purpose specified.

3. In a machine for sewing belts under tension, the combination, with a sewing-machine, A, of a bed-plate, B, a pair of feeding-rollers, E, one of which is carried in sliding journal-boxes L, nipping-roller F, an intermittent feeding-wheel, J, shafts O S, eccentrics N T, and weighted levers P R, the several parts coacting substantially as described, for the purpose specified.

MAURICE GANDY.

Witnesses:
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JOHN HAMILTON REDMOND,
Both of 15 *Water Street, Liverpool, England*