

No. 885,765.

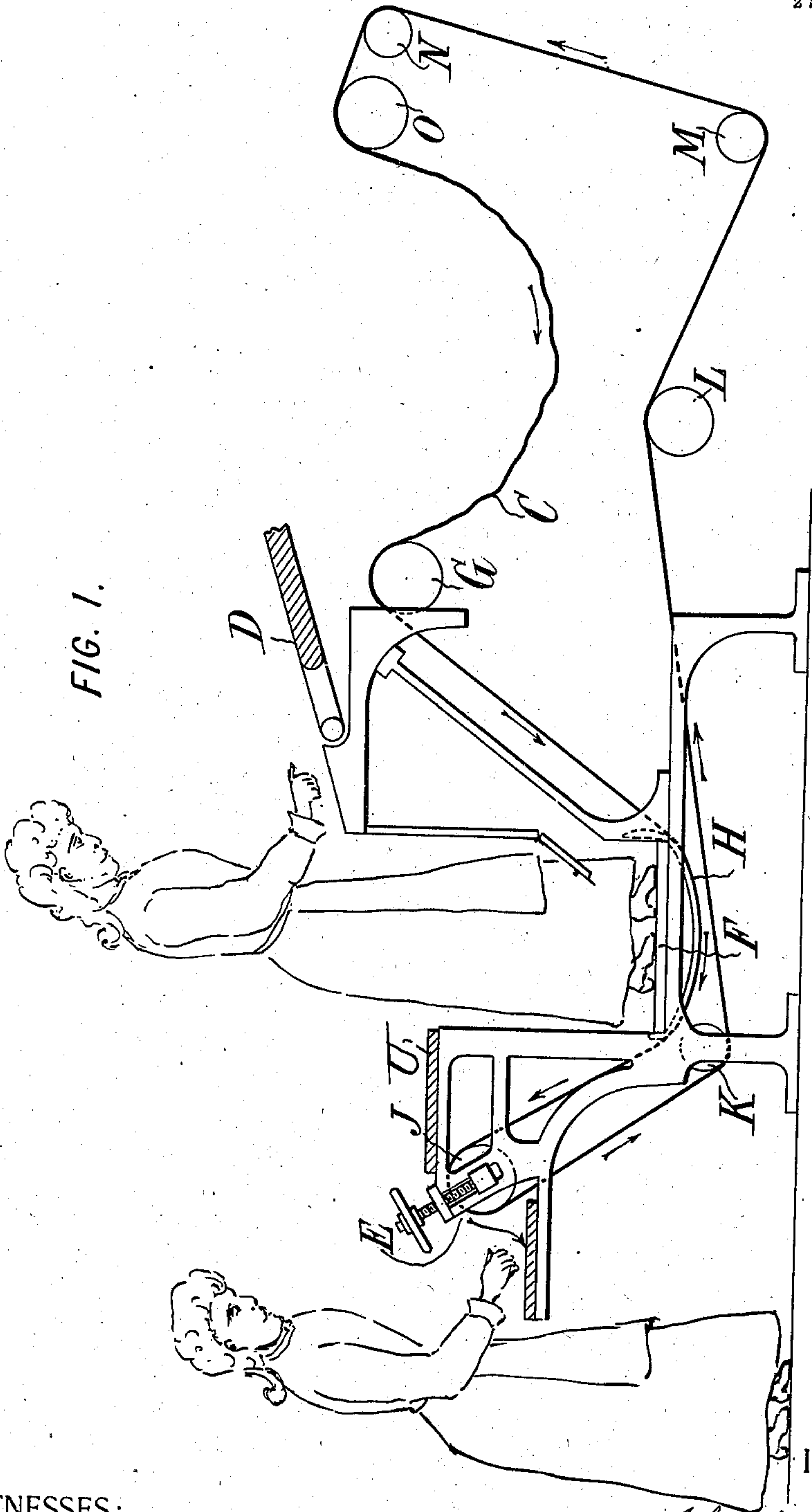
PATENTED APR. 28, 1908.

J. S. LANGWORTHY.
IRONING MACHINE.

APPLICATION FILED MAR. 26, 1906.

2 SHEETS—SHEET 1.

FIG. 1.



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By Attorneys,

Arthur C. Fraser & Wm.

WITNESSES:

Fred White
Rene Muine

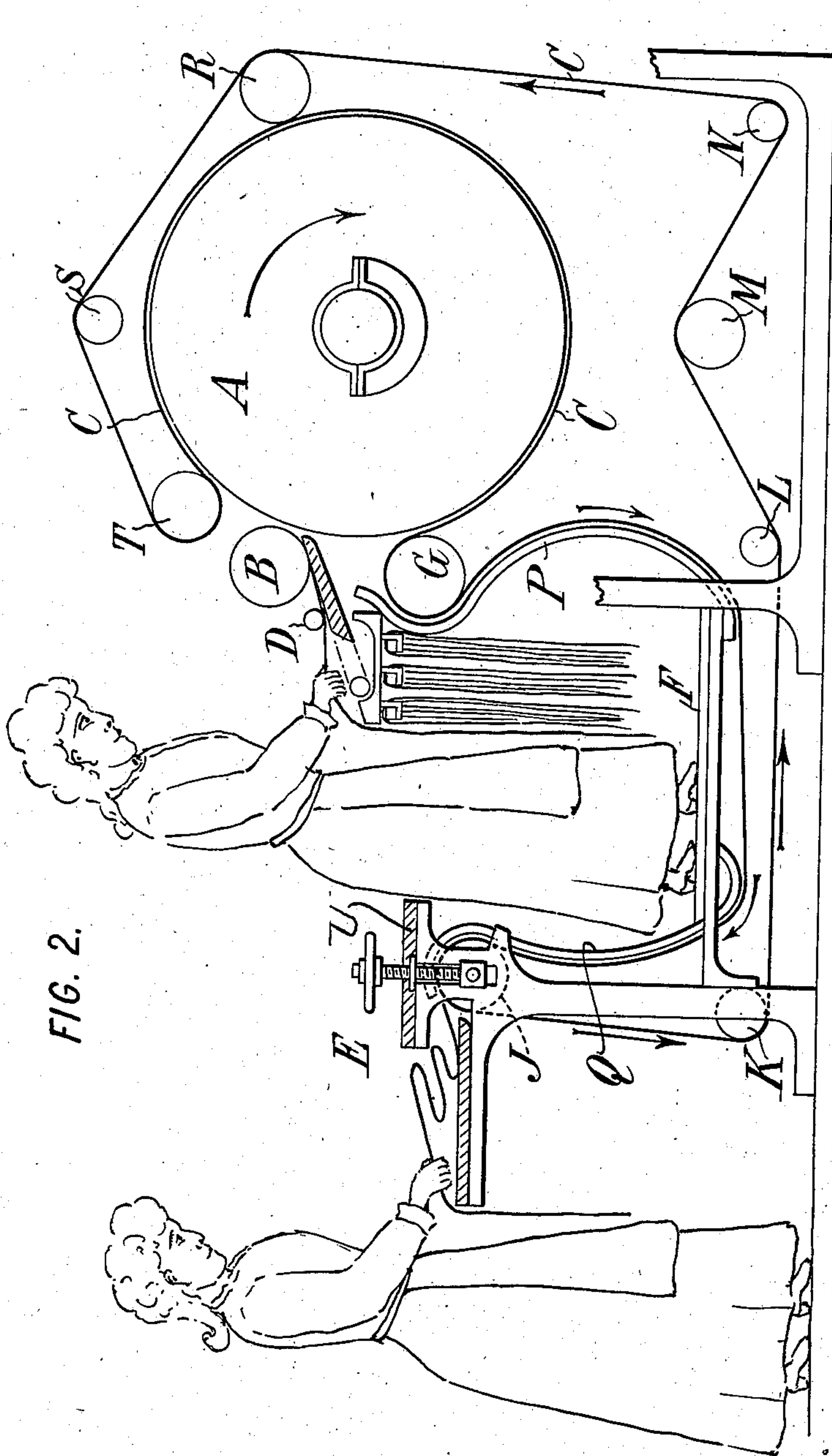
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UNITED STATES PATENT OFFICE.

JOHN S. LANGWORTHY, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO THE VICTOR MANGLE COMPANY, OF LOWELL, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

IRONING-MACHINE.

No. 885,765.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed March 26, 1906. Serial No. 307,972.

To all whom it may concern:

Be it known that I, JOHN S. LANGWORTHY, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Ironing-Machines, of which the following is a specification.

The invention relates to the type of ironing machines or mangles wherein a steam-heated metal cylinder, box, chest, drum or the like, or a number thereof, are combined with padded rolls or endless aprons, or both, in such a manner that the goods are carried under more or less pressure and friction over the heated parts, and thus dried and smoothed or ironed.

The object of the invention is to simplify and reduce the expense of operation of such machines. Machines of this character in the past have been arranged to feed at one side and deliver at the opposite side, or at a point immediately below the feeding point not conveniently accessible. The machines delivering at the side opposite the feed have required a double set of endless aprons or tapes, or numerous extra rolls, plates or shields and other intricate devices, in order to utilize as much as possible of the surface of the steam-heated cylinder, the goods being carried substantially all the way around the cylinder to a point adjacent to the feeding point, and being then carried by various types of conveyers back to the opposite side of the machine. The delivering of the goods immediately adjacent to the feeding point is impracticable, especially with large goods such as sheets. It is impossible for the same operator to feed the damp goods and receive the finished goods, and in all machines of large size additional conveying means have been provided for carrying the goods to the opposite side of the machine after passing them substantially around the cylinder.

According to my invention a single apron or the like is sufficient for carrying the goods substantially around the cylinder and to the delivery point, this desirable result being effected by arranging the delivery point at the rear of the feed, preferably below an operator's stand at the feeding point.

In order to prevent the overheating of the operators, it is customary to draw off the heated air by fans. In apparatus in which the operators stand at opposite sides of the

machine, the hot air from the machine must pass one or the other set of operators. According to my present improvement all the operators are at one side of the machine, and the hot air may be drawn off at the other side to the great relief of both the feed and the delivery operators. Various other advantages are referred to in detail hereinafter.

The accompanying drawings illustrate embodiments of the invention.

Figure 1 is a side elevation of a machine in which the steam heated member is omitted; Fig. 2 is a side elevation of another machine showing a single cylinder as the steam-heated member, and showing a different arrangement of the apron.

The arrangement of the heated parts of the apparatus which perform the actual ironing of the goods, is not material to the present invention. Such parts are shown typically in Fig. 2, as a cylinder A against which run a felt roller B and an apron C, the goods being fed in at the point D. The goods are delivered at the point E in the rear of point D. The apron C does not necessarily run over the top of the cylinder. Any suitable means may be provided for carrying the goods over this part of the cylinder. The apron C, however, seizes the goods before they leave the cylinder and conveys them to the delivery point. A single apron is thus made to do all the work of conveying the goods over the cylinder or a portion thereof and thence to the delivery point, thus simplifying the conveying part of the apparatus, and reducing considerably the expense of construction, running and repairs. Preferably a stand F is provided for the feeding operator, and the apron C conveys the goods below said stand to the delivery point. As shown in Fig. 1, the apron after leaving the heated part of the apparatus at the guide roller G, passes in an oblique direction to a curved guide H on the under side of the operator's stand, and thence to an adjustable guide roller J, at which point it delivers the goods, and returns by any convenient path, as for example by that indicated by the guide rollers K, L, M, N and O, to the point where it again takes hold of the goods.

The space below the feeding operator's stand F may be reduced, and said stand be given an additional width, by the construction illustrated in Fig. 2, in which the apron after passing over the roll G is brought back-

ward and downward over the substantially vertical curved guide P, a similar curved plate Q being arranged at the rear of the stand to enable the apron to carry the goods in an approximately vertical direction. In this construction the lower ends of the guides are disposed in approximately the same plane so that the apron travels below the stand F in a substantially horizontal direction. Preferably the ends of the guides are so shaped that the apron passes smoothly under them. In connection with this arrangement the apron is shown returning to its starting point by means of guide rollers J, K, L, M, N, R, S and T.

It is understood that the apron may run over any desired number of heated members, as it carries the goods to the delivery point. For example the guides P and Q may be heated for the purpose of further ironing the goods, thus increasing the rapidity of operation and the output of the machine. Rollers, or series of rollers, may be substituted for the guide plates H, P and Q.

In the use of ironing machines of this class, it is often found on account of irregular dampness or other cause, that some pieces come from the machine imperfectly ironed and requiring to be re-ironed. When the delivery is upon the opposite side of the machine from the feed and many feet distant, as is the usual case, it is not convenient for the delivery operators to leave the machine and carry the goods around to the feed operators, and for this reason many pieces of work are passed by the delivery operators in an imperfect condition. The present invention by putting both the feed and the delivery operators near to each other, facilitates the return of imperfect work to the feeders, and insures a more uniformly good result.

Where the feed and delivery are at opposite sides of the machine, the operators face each other and spend a good deal of their time in conversation, with a consequent diminution of care in their work. The present machine places one operator behind the other so as to discourage conversation and concentrate the attention of the operators on their work.

The large open air spaces made possible by the fewness of the rollers, aprons and other parts, enhances greatly the airing and drying of the goods in their passage through the machine. It also reduces greatly the care and attention which the machine requires, as well as the expense of felts and other materials for absorbing the moisture from the goods.

The economy in space effected by the invention is noteworthy. In many places where large ironing machines of this class are desired, the question of room is of such great importance as in some instances to actually preclude the use of an ironing machine. The

space necessary for the operators, not merely to stand in but to actually work in and to handle their goods on both sides of the machine, has been very considerable heretofore, as well as room for them to pass to and from their stations. This invention by arranging all the operators on one side, makes it possible to locate the machine with its back against a wall, or even with the entire machine in a corner, with a consequent maximum economy of space.

One or more shelves U may be conveniently provided between the delivery operators and the feeding operators, upon which may be received the large quantities of damp work which are brought to the feeders, thus avoiding the necessity of tables or benches or the like which are now used. The shelf U is in the most convenient position for permitting the receiving operators to place goods upon it which have been imperfectly ironed and are to be returned to the feeders.

When these machines are in active use they require a renewal of felts or aprons at frequent intervals, varying from one month in some cases to three or four or five months in other cases. The small number of these parts, and the simplicity of them in my improved machine, makes such repairs a matter of great simplicity, so that they can be repaired quickly and without the use of specially skilled operators, and careful adjustment, such as have been required with prior machines.

Though I have described with great particularity of detail certain embodiments of my invention, yet it is not to be understood therefrom that the invention is limited to the specific embodiments disclosed. Various modifications in detail, and in the arrangement and combination of the parts, may be made by those skilled in the art, without departure from the invention.

What I claim is:—

1. An ironing machine having a heated part, means adapted to carry goods over a desired portion of such heated part and thence to deliver the goods on the same side of the machine as the feeding point, and a support for an operator past which such carrying means convey the goods.

2. An ironing machine having a heated part, and feeding and delivery points both arranged on the same side of said heated part, one in front of the other, said feeding and delivery points being spaced apart to form a passage in which an operator can work, and means carrying the goods over a desired portion of such heated part and conveying them past such passage to the rear point.

3. An ironing machine having its feeding and delivery points on the same side of the machine, one in front of the other, a stand for an operator at the front point, and means

for conveying the goods between the ironing device and the rear point, such means running in a general vertical direction to pass around said stand.

5 4. An ironing machine having its feeding and delivery points on the same side of the machine, one in front of the other, a stand for an operator at the front point, and means for conveying the goods under said stand to
10 the rear point.

5 5. An ironing machine having a vertically traveling apron C and guiding members along which said apron moves, said members being adapted to guide such apron over a desired
15 portion of the surface of the heated part of the machine, and thence to the rear of the machine, and said apron being adapted to carry the goods over such heated part and to deliver them a sufficient distance to the rear
20 of the feeding point to permit an operator to stand between the feeding and delivery points.

6 6. An ironing machine having its feeding and delivery points on the same side of the
25 machine, one being arranged at the rear of the other, and spaced apart therefrom, an operator's stand between such points, and means for conveying the goods from one of said points downwardly below such stand
30 and upwardly to the other of said points.

7. An ironing machine having a feeding point, a heating device around which the goods are carried, means for delivering the goods at a point remote from said heating

device, and an operator's stand between the 35 discharge end of such delivery means and said heating device, said feeding point and the discharge end of said delivery means being on the same side of the machine.

8. An ironing machine having a vertically 40 traveling apron C arranged to carry the goods over a desired portion of the surface of the heated part of the machine, and thence to convey and deliver the goods at the rear of the feeding point, and a feeding operator's
45 stand F below which the apron C conveys the goods.

9. An ironing machine having a vertically traveling apron C arranged to carry the goods over a desired portion of the surface of the 50 heated part of the machine, and thence to convey and deliver the goods at the rear of the feeding point, an operator's stand F, and curved guides P and Q arranged in an approximately vertical position for directing
55 the movement of the apron C, said guides having their lower ends disposed in approximately the same plane so as to permit the apron to run in a substantially horizontal direction below the stand F.
60

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN S. LANGWORTHY.

Witnesses:

D. ANTHONY USINA,
THEODORE T. SNELL.