

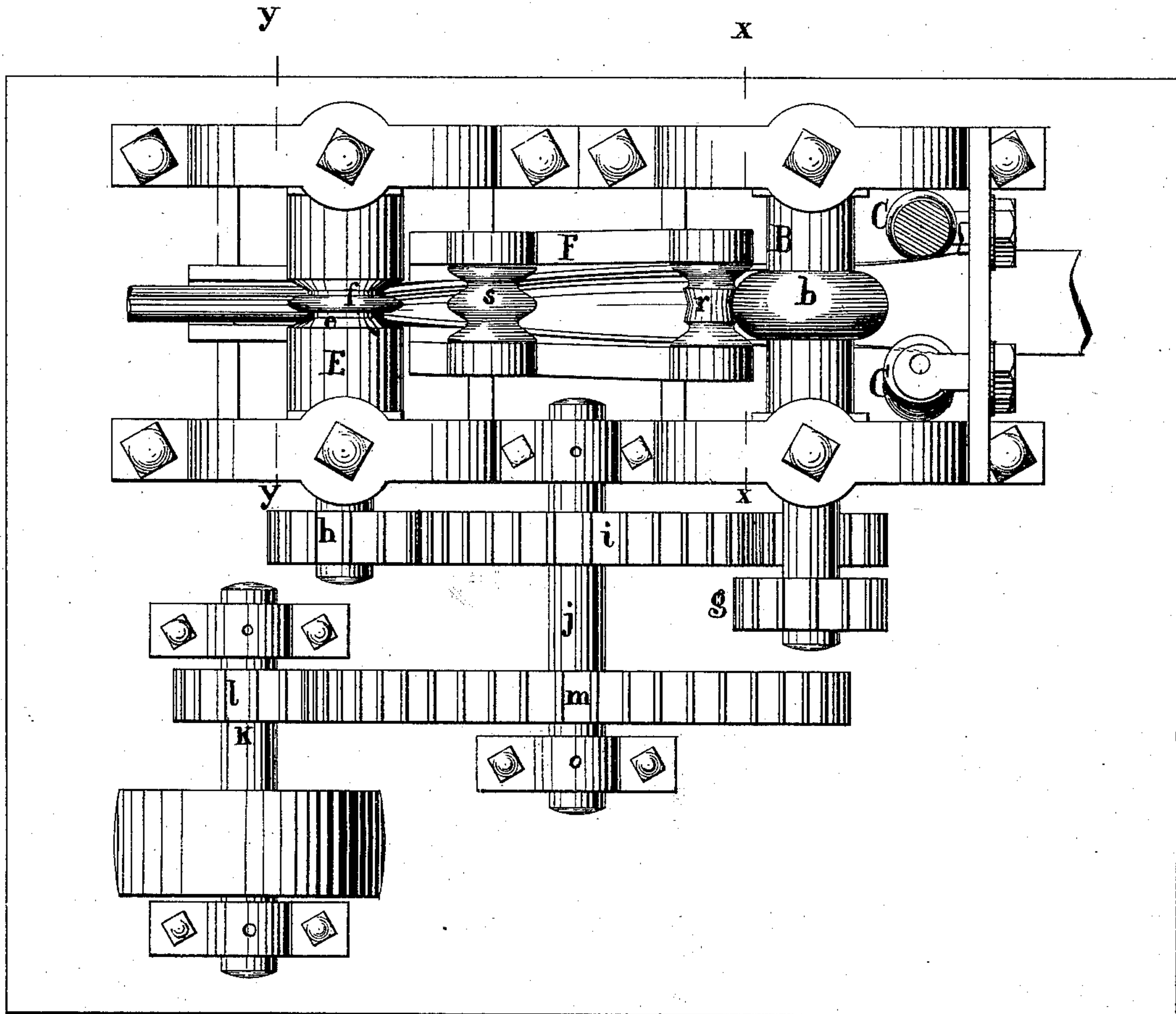
J. RAVENSCROFT.

Machines for Bending Tube-Skelps.

No. 154,083.

Patented Aug. 11, 1874.

Fig: 1.



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2 Sheets--Sheet 2.

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Fig: 2

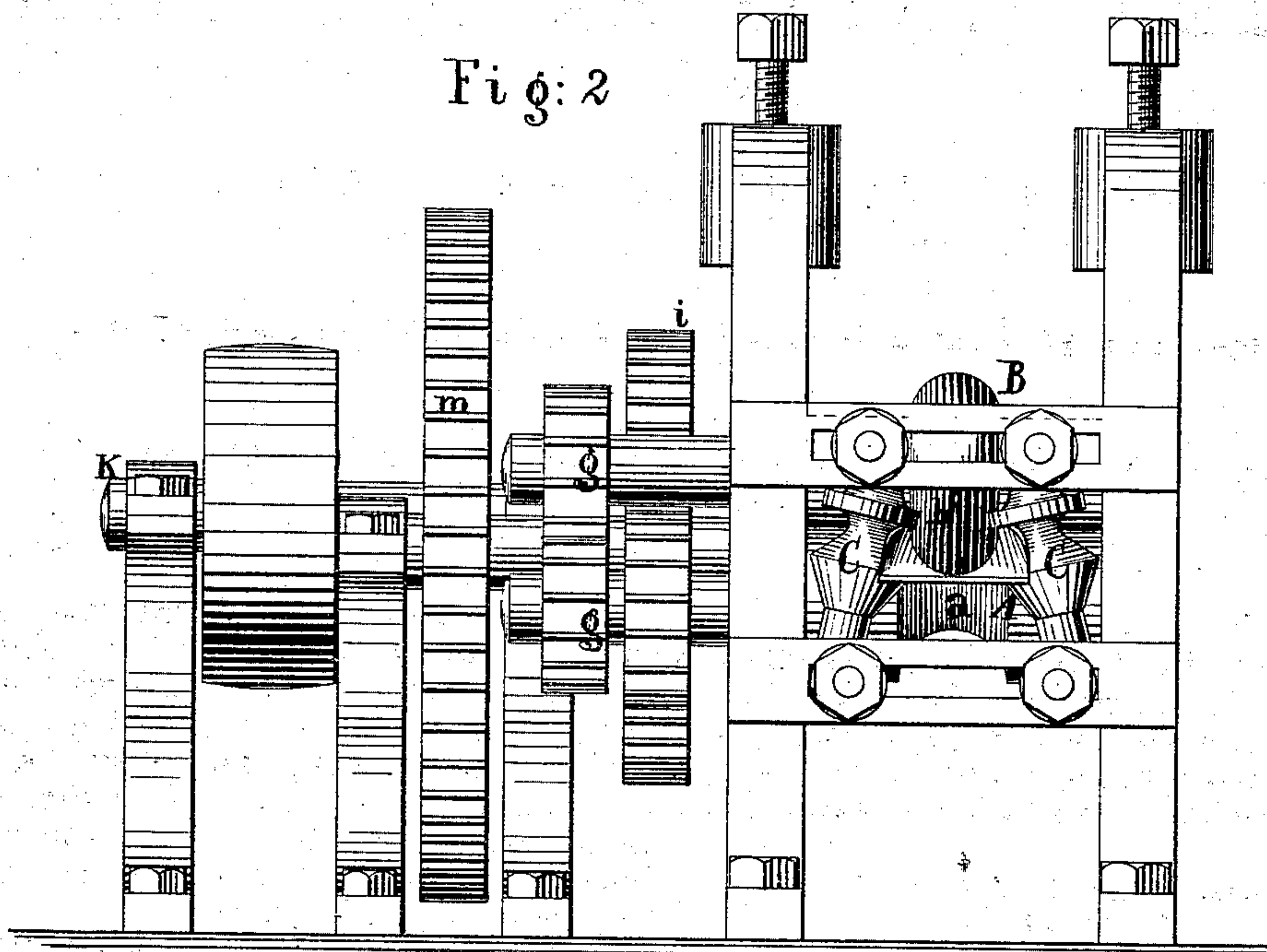


Fig: 3.

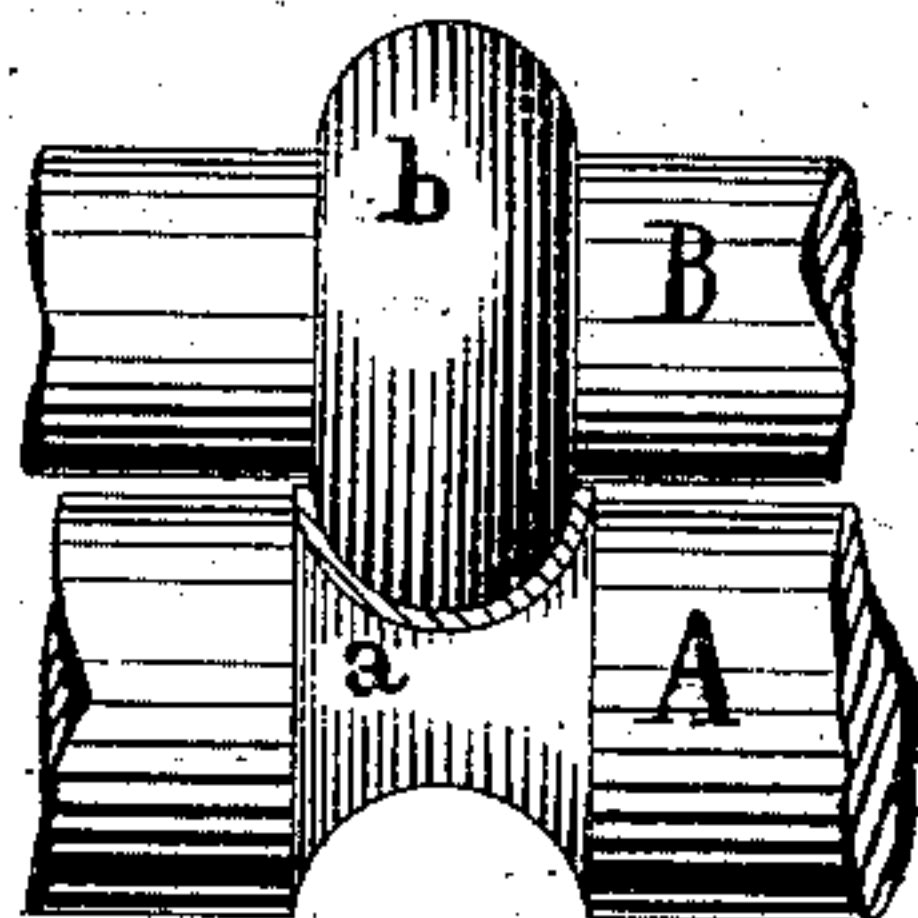


Fig: 4.

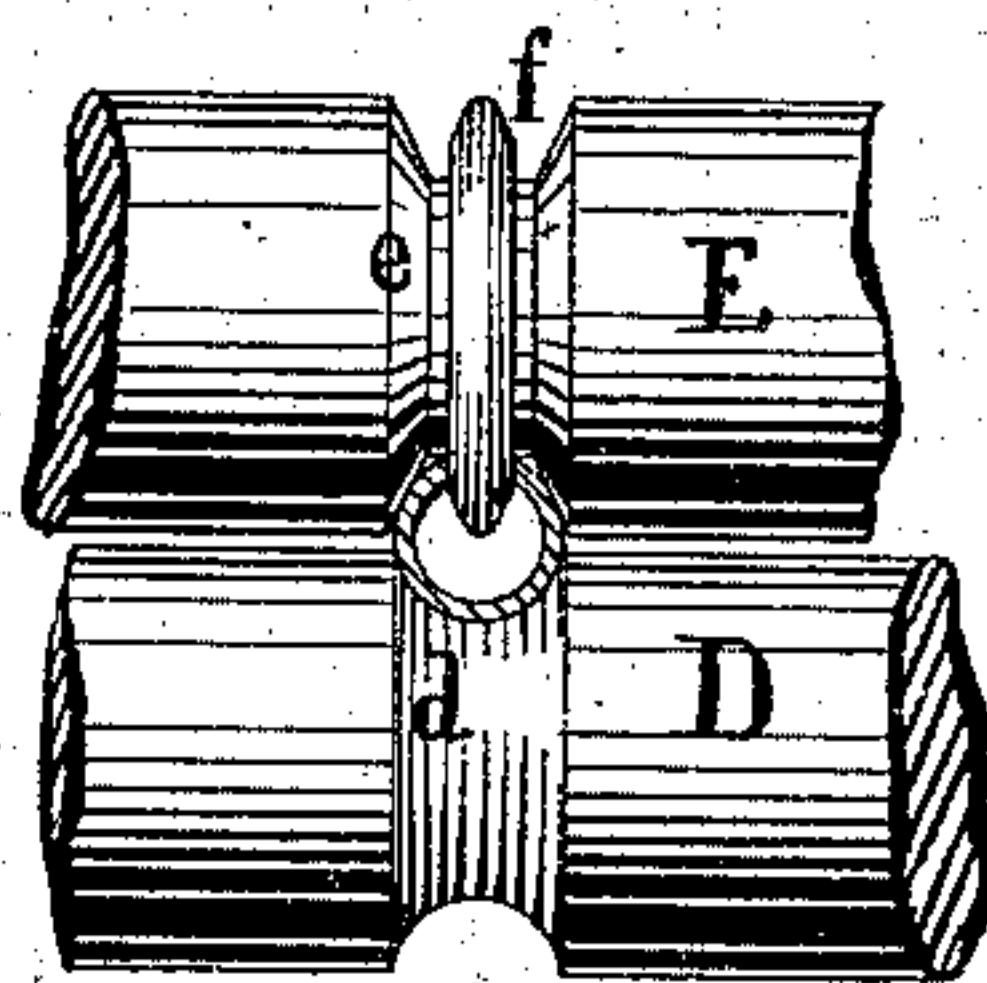
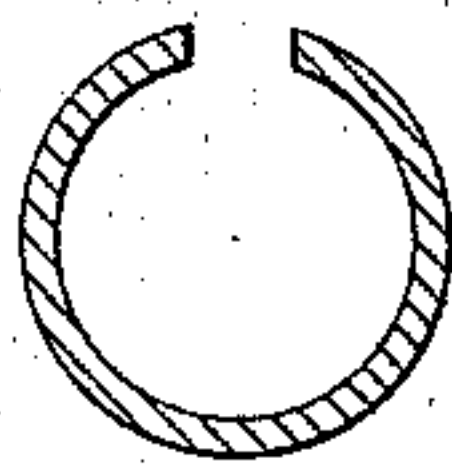


Fig: 5.



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UNITED STATES PATENT OFFICE.

JONAS RAVENSCROFT, OF COHOES, NEW YORK, ASSIGNOR TO HIMSELF
AND JOSEPH PAGE, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR BENDING TUBE-SKELPS.

Specification forming part of Letters Patent No. **154,083**, dated August 11, 1874; application filed
July 17, 1874.

To all whom it may concern:

Be it known that I, JONAS RAVENSCROFT, of Cohoes, in the county of Albany and State of New York, have invented a certain new and useful Improvement in Machines for Making Unwelded Pipes, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which—

Figure 1 represents a plan or top view. Fig. 2 is a front view of the same. Fig. 3 is a transverse section of the same in the plane *x x*, Fig. 1. Fig. 4 is a similar section in the plane *y y*, Fig. 1. Fig. 5 is a detached section of the finished pipe.

Similar letters indicate corresponding parts.

This invention relates to improvements in machines for forming unwelded pipes by passing the blanks first through crimping-rollers and then through finishing-rollers. The invention consists in combining with the crimping-rollers guide-rollers, to keep the blanks in the proper direction, and arranging between the crimping-rolls and the finishing-rolls a tapering box containing suitable rollers, whereby the edges of the blanks, after the same leave the crimping-rolls, are gradually turned in and guided into the cavities of the finishing-rolls.

In the drawing, the letters A B designate two crimping-rolls, one of which is provided with a groove, *a*, of semicircular cross-section to receive a bead, *b*, of corresponding shape formed on the other roll. With these two rollers are combined guide-rollers C, which are set in oblique positions, converging toward each other at the top, and which serve to carry the blanks to the crimping-rolls and to keep them in the proper direction. The blanks are rolled out in the usual manner, and they pass immediately (without being reheated) in between the crimping-rollers, which impart to each blank the shape of a semicircular trough. On leaving the crimping-rolls, this semicircu-

lar trough passes through the compression-box F to the finishing-rolls D E. The sides of said compression-box converge from the crimping-rolls toward the finishing-rolls, and they form the bearings for rollers *r s*, which assist in turning up the edges of the semicircular trough, so that the same, on reaching the finishing-rolls, will be in a condition to enter the grooves *d e* in the same.

If desired, the sides of the compression-box may be provided with anti-friction rollers, so as to reduce the friction between the same and the edge of the blank.

The roll D is provided with a groove, *d*, and the roll E with a deep cavity, *e*, from the bottom of which rises a circular rib, *f*. By the action of these two rolls the blanks are closed up, to the form shown in Fig. 5. The crimping-rolls A B are geared together by pinions *g*, and the finishing-rolls D E by pinions *h*, and they receive motion from a cog-wheel, *i*, Fig. 1, which is mounted on an intermediate shaft, *j*, to which motion is imparted from the driving-shaft *k*, by means of a pinion, *l*, and cog-wheel *m*.

By these means a simple and compact machine is produced, by which unwelded pipes can be manufactured with great dispatch.

What I claim as new, and desire to secure by Letters Patent, is—

In a machine for making unwelded pipes, the combination of the obliquely-arranged guide-rollers C C with the crimping-rollers A B, the tapering compression-box F, provided with the rollers *r s*, and the finishing-rollers D E, the whole being constructed and arranged for operation as herein shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

JONAS RAVENSCROFT. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.