F. I. ELLIS.

MANDREL STRIPPING MACHINE.

APPLICATION FILED NOV. 26, 1917.

1,273,163.

Patented July 23, 1918.

3 SHEETS—SHEET 1.

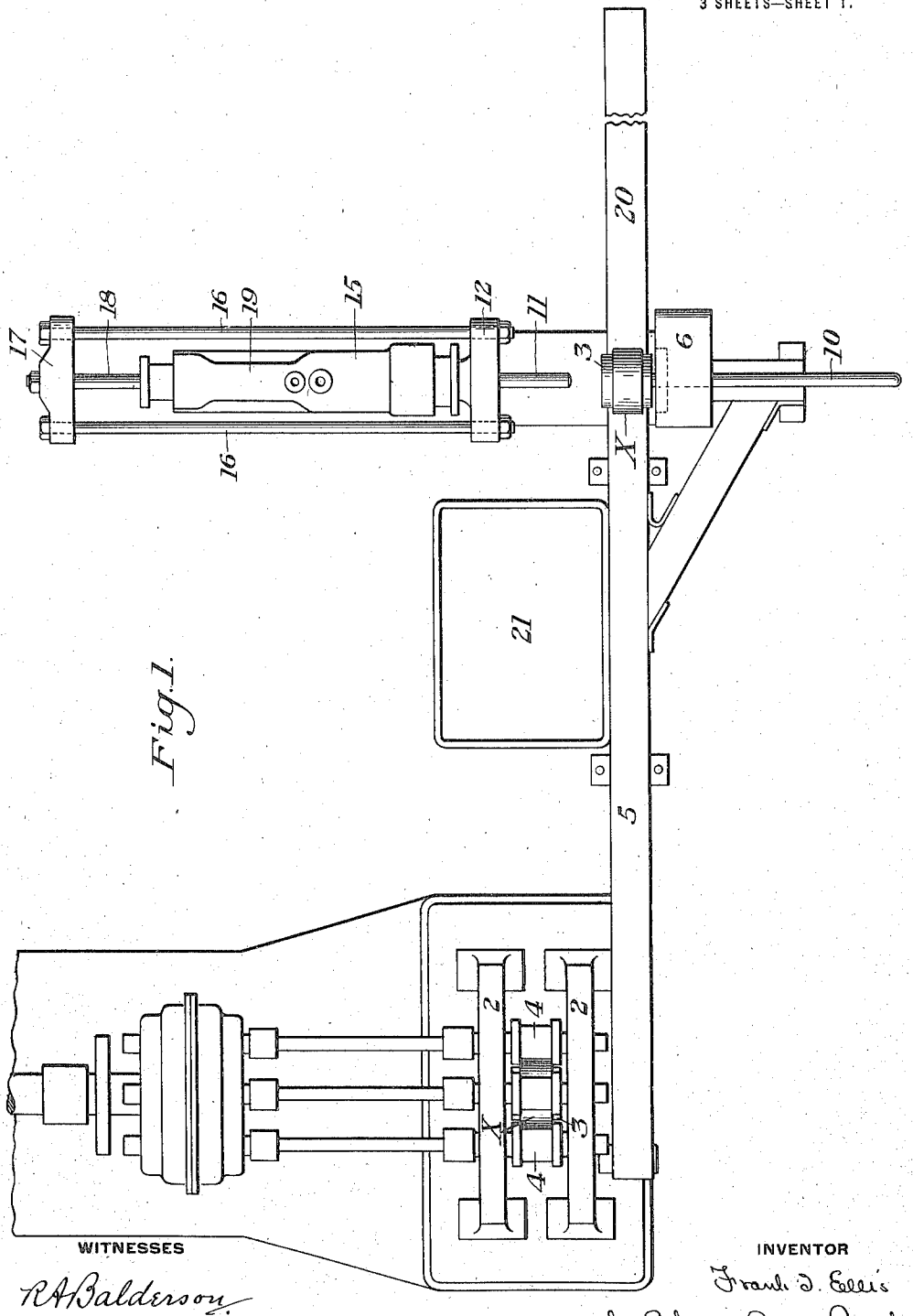


Fig. 1.

WITNESSES

R. A. Balderson

D. B. Fleming

INVENTOR

Frank I. Ellis

by Baldwin, Hyner & Parmelee

Attys

F. I. ELLIS.

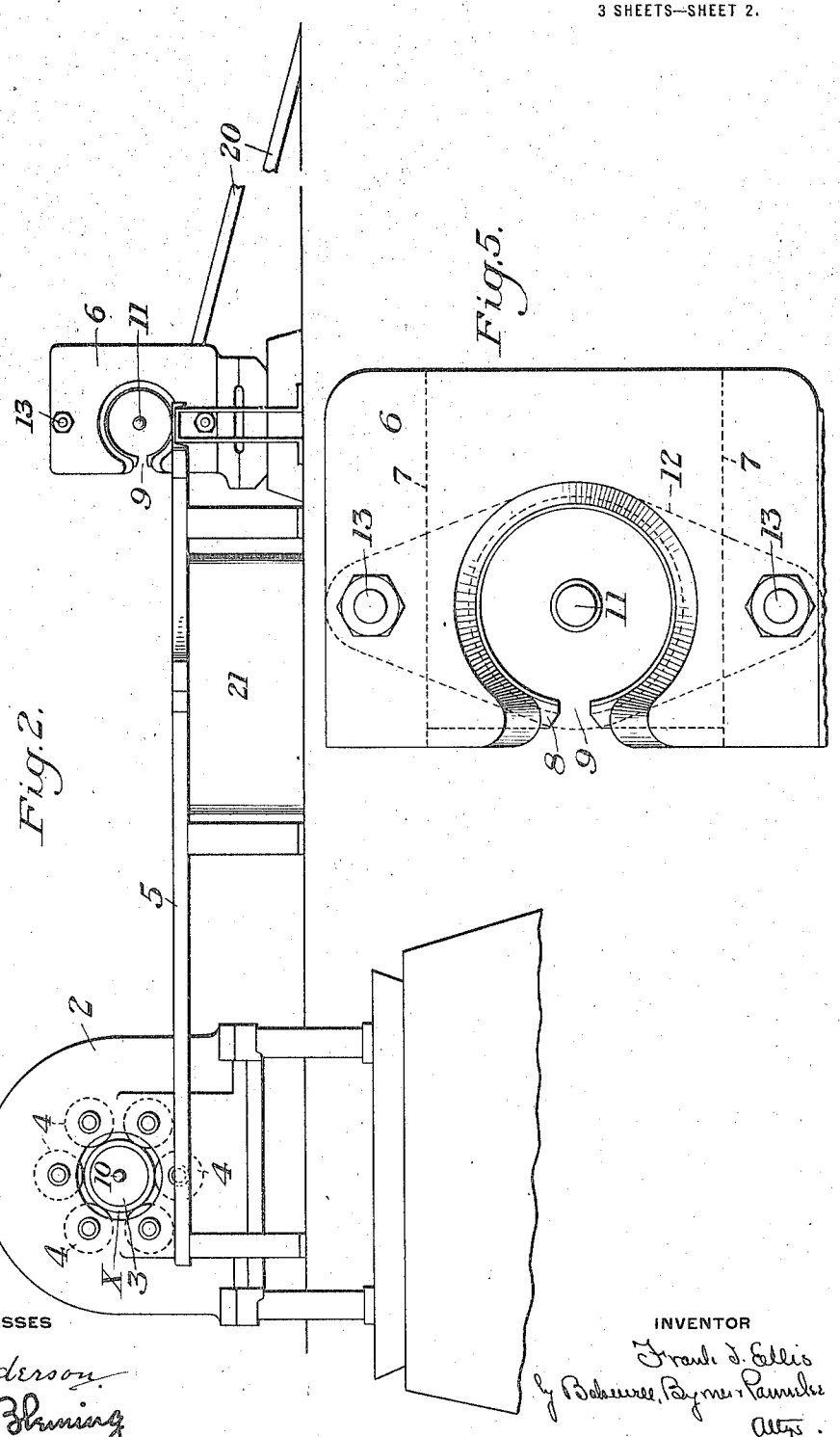
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3 SHEETS—SHEET 2.



WITNESSES

R. A. Balderson

G. B. Bluming

INVENTOR

Frank I. Ellis

by Bakewell, Byrnes & Pannebecker

Attys.

F. I. ELLIS.

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3 SHEETS—SHEET 3.

Fig. 3.

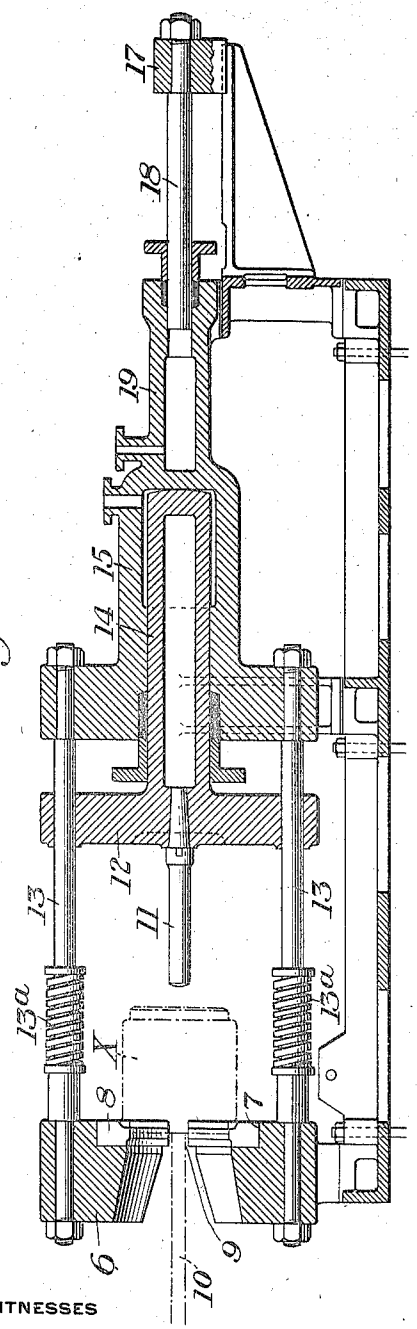
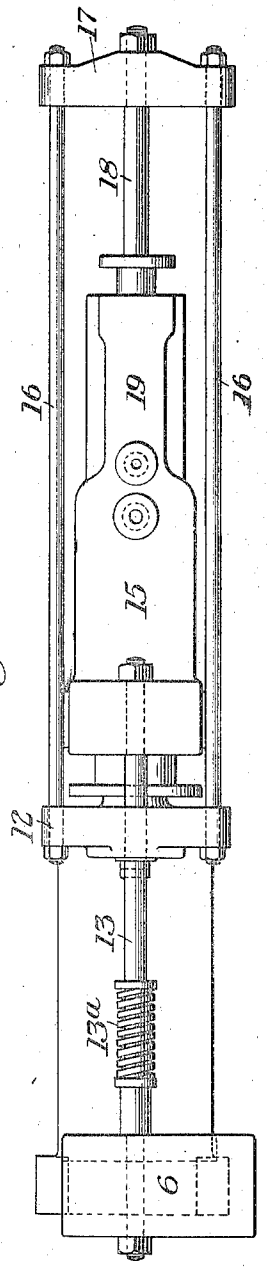


Fig. 4.



WITNESSES

R. A. Balderson

E. B. Bluming

INVENTOR

Frank I. Ellis

by Baldwin, Byrnes & Lawrence

Attys

UNITED STATES PATENT OFFICE.

FRANK I. ELLIS, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO UNITED ENGINEERING & FOUNDRY COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

MANDREL-STRIPPING MACHINE.

1,273,163. Specification of Letters Patent. Patented July 23, 1918.

Application filed November 26, 1917. Serial No. 203,922.

To all whom it may concern:

Be it known that I, FRANK I. ELLIS, a subject of the King of England, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Mandrel-Stripping Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view partly broken away of a machine for making pipe couplings having my improved mandrel stripping mechanism applied thereto.

Fig. 2 is a side elevation of the same.

Fig. 3 is a vertical section of a portion of the stripper actuating mechanism.

Fig. 4 is a plan view of the same, and

Fig. 5 is a detail view of the stripper die.

My invention has relation to mandrel-stripping mechanism and is particularly applicable for use in stripping pipe couplings from the mandrels on which they are formed.

The object of my invention is to provide a simple and efficient stripping mechanism in which the manual labor in inserting and removing the mandrel from the stripper is reduced to a minimum; and by the use of which the stripping operations can be rapidly and easily performed.

The nature of my invention will be best understood by reference to the accompanying drawings in which I have shown a preferred embodiment thereof, and which will now be described, it being premised, however, that various changes can be made in the details of construction, arrangement and combination of the several parts, without departing from the spirit and scope of my invention as defined in the appended claims.

In these drawings, the numeral 2 designates the frame of a well-known form of machine for making pipe couplings, the coupling being formed around a central mandrel 3, and welded by the action of a plurality of rolls 4. The finished coupling is indicated at X in Figs. 1 and 2. After the coupling has been formed, it is removed from the forming machine, while still on the mandrel, by dropping some of the rolls 4 in a well-known manner. The coupling forming machine forms no part of my present invention.

5 designates a rollway which extends from the end of the forming machine to the stripper. 6 designates the die block of the stripper having therein a seat 7 for the stripper die 8. The die 8 has at one side a relatively narrow opening 9 of sufficient width to receive the mandrel shaft or handle 10, and which opening faces the rollway 5. It is at the proper level above said rollway to permit the mandrel to be readily rolled therein from the rollway.

The stripping mechanism comprises a plunger 11 carried by head 12 which is slidably mounted in the parallel guide rods 13. The latter are provided with the cushion springs 13ª. The head 12 is carried by the plunger 14 of a power cylinder 15. The head is also provided with the pull-back rods 16 which are connected with a yoke 17 connected to the plunger 18 with a pull-back cylinder 19.

The operation will be readily understood. The mandrel with the finished coupling thereon, after being removed from the coupling forming machine, is rolled along the rollway 5 into a position in which the coupling is engaged with the die in the manner shown in dotted lines in Fig. 3, the shaft or handle of the mandrel passing into the open slot 9 of the die block and die. The plunger 14 is then actuated to advance the stripper 11 against the end of the mandrel and push it out of the coupling. The coupling then rolls down the inclined roll-way 20 and the mandrel is taken to the usual cooling bosh 21, after which it is ready for reuse.

The advantages of my invention will be apparent to those skilled in this art, since it provides a mandrel stripper device of simple and effective character in which it is unnecessary for the operator to lift the mandrel either in placing it into or removing it from the stripper.

I claim:

1. Apparatus for use in the manufacture of pipe-couplings, comprising a machine for forming a pipe-coupling around a mandrel, a roll-way extending from one end of said machine and in position to receive the mandrel and the coupling thereon when they are removed from the forming machine, a

die-block mounted adjacent to said roll-way at one side thereof and having a die portion formed with a seat for the end of the coupling, said die block and die having a radial opening in one side facing in the direction of the length of the roll-way and adapted to receive the mandrel shaft or handle, and a stripping plunger arranged to engage the end of the mandrel and to co-act with said die portion in forcing the mandrel out of the coupling; substantially as described.

2. Apparatus for use in the manufacture of pipe-couplings, comprising a machine for forming a pipe-coupling around a mandrel, a roll-way extending from one end of said machine and in position to receive the mandrel and the coupling thereon when they are removed from the forming machine, a die-block mounted adjacent to said roll-way at one side thereof and having a die portion formed with a seat for the end of the coupling, said die block and die having a radial opening in one side facing in the direction of the length of the roll-way and adapted to receive the mandrel shaft or handle, and a stripping plunger arranged to engage the end of the mandrel and to co-act with said die portion in forcing the mandrel out of the coupling, said roll-way having an inclined portion extending beyond the die-block and upon which the stripped couplings are delivered; substantially as described.

3. In apparatus of the character described, the combination with a roll-way, of a die-block located at one side of and adjacent to the roll-way, and having a die-portion formed with an end seat to engage a coupling, said die-block and die-portion having alined radial openings to receive a mandrel shaft, a stripping press at the opposite side of the roll-way, and having a plunger arranged to enter the said die-portion and engage the end of the mandrel, and guide rods for the plunger secured to the die-block; substantially as described.

In testimony whereof, I have hereunto set my hand.

FRANK I. ELLIS.