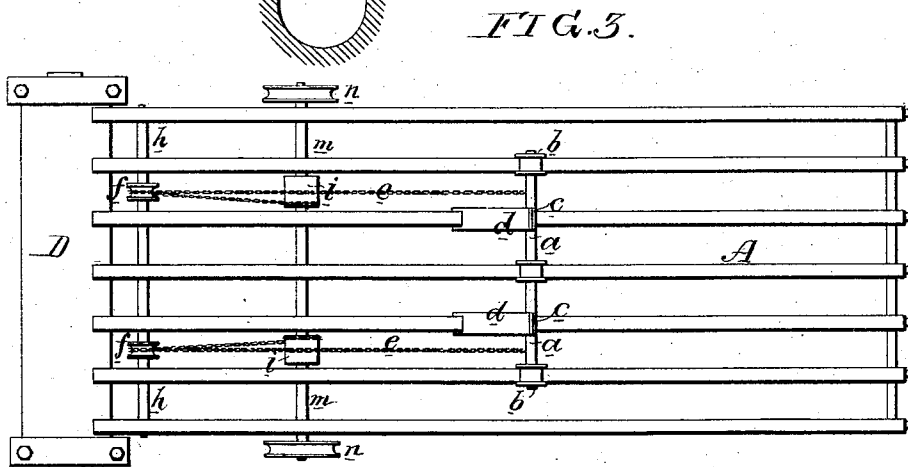
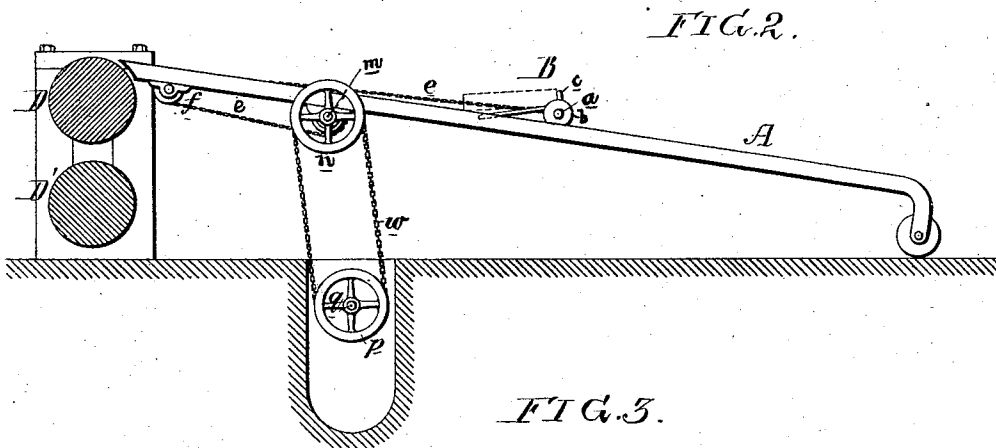
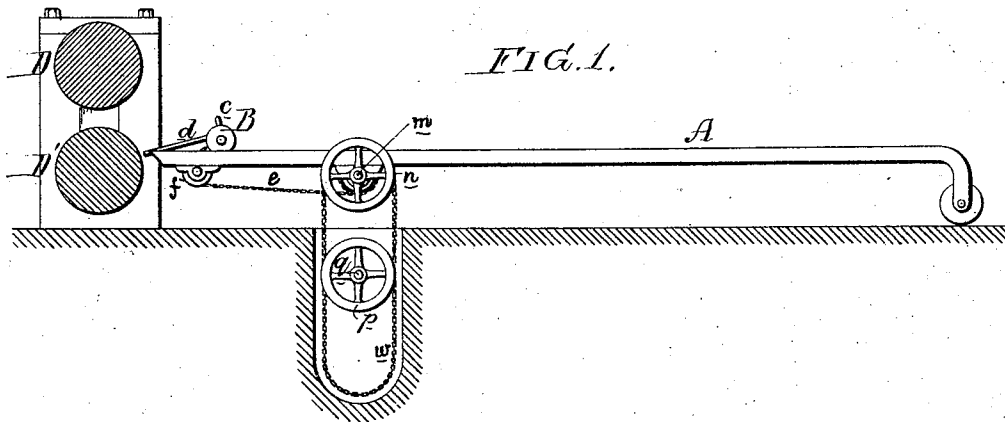


J. L. PENNOCK.
Appliances for Rolling-Mills.

No. 155,384.

Patented Sept. 29, 1874.



Witnesses, Thomas McIlwain
Hubert Howson

J. L. Pennock,
By his Attys.
Howson and Son.

UNITED STATES PATENT OFFICE.

JOSEPH L. PENNOCK, OF COATESVILLE, PENNSYLVANIA.

IMPROVEMENT IN APPLIANCES FOR ROLLING-MILLS.

Specification forming part of Letters Patent No. **155,384**, dated September 29, 1874; application filed August 7, 1874.

To all whom it may concern:

Be it known that I, JOSEPH L. PENNOCK, of Coatesville, Pennsylvania, have invented certain Improvements in Appliances for Rolling-Mills, of which the following is a specification:

The object of my invention is to facilitate the transfer of iron after it has passed between rolls to the front of the same—an object which I attain by the combination of the usual apron A with a carriage, B, and mechanism described hereafter, whereby the carriage is caused to push the iron from the elevated apron over the top roll, all as shown in the sectional views, Figures 1 and 2, and plan view, Fig. 3, of the accompanying drawing. D and D' represent the upper and lower rolls of an ordinary rolling-mill, at the rear of which is an apron, A, consisting, as usual, of a series of bars connected together as shown in Fig. 3, the apron being combined with the ordinary raising and lowering appliances, which are too well known to those familiar with machinery of this class to need description, and by which the said apron can be caused to assume either of the two positions shown in the drawing. On the apron A is a carriage, B, consisting, in the present instance, of a bar or axle, *a*, having flanged wheels *b*, adapted to the bars of the apron, and projecting arms *d*, which rest on the said bars, and are provided with lips *c*. To this carriage are connected chains *e*, which pass over pulleys *f* on a shaft, *h*, adapted to bearings on the under side of the apron A, near the front end of the same, and are attached to drums *i i* on a shaft, *m*, which also turns in bearings on the under side of the said apron. This shaft *m* is furnished with pulleys *n n*, from which extend driving-belts to pulleys *p* on a power-driven shaft, *q*, which turns in suitable bearings in a pit beneath the apron.

When the apron has been lowered, as shown in Fig. 1, the carriage B is presented to the rolls in such a position that the iron

projected from the said rolls will pass into the arms *d* and strike against the lips *c* of the carriage, which, as the belts *w* are loose and free from contact with the pulleys *p*, will remain stationary as long as the apron is depressed. The iron escaping from between the rolls will force the carriage B toward the rear of the apron, when the latter may be elevated to the position shown in Fig. 2, thereby tightening the belts against the pulleys, and causing the shaft *m* and its drums *i* to wind up the chains *e*, and the carriage B to push the iron up the inclined apron and over the upper roll.

Although I prefer to drive the shaft *m* from a shaft, *q*, in a pit beneath the apron in the manner described, it will be evident that the said shaft *m* may be driven from above.

Should the plan illustrated and described be adopted provision should be made for the vertical adjustment of the shaft *q* to accord with the vertical adjustment of the upper roll of the rolling-mill, so that the tightening of the belts against the pulleys may be assured when the apron is elevated to an extent demanded by the vertical adjustment of the upper roll of the mill. The same end can be attained by making the bearings of the shaft *m* adjustable, in which case the shaft *q* may revolve in fixed bearings.

I claim as my invention—

The combination of the apron, its carriage B, hauling-shaft *m*, driving-shaft *q*, and belts *w*, which become slack when the apron is lowered, and tight on the pulleys when the apron is raised, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH L. PENNOCK.

Witnesses:

WM. A. STEEL,
HUBERT HOWSON.