

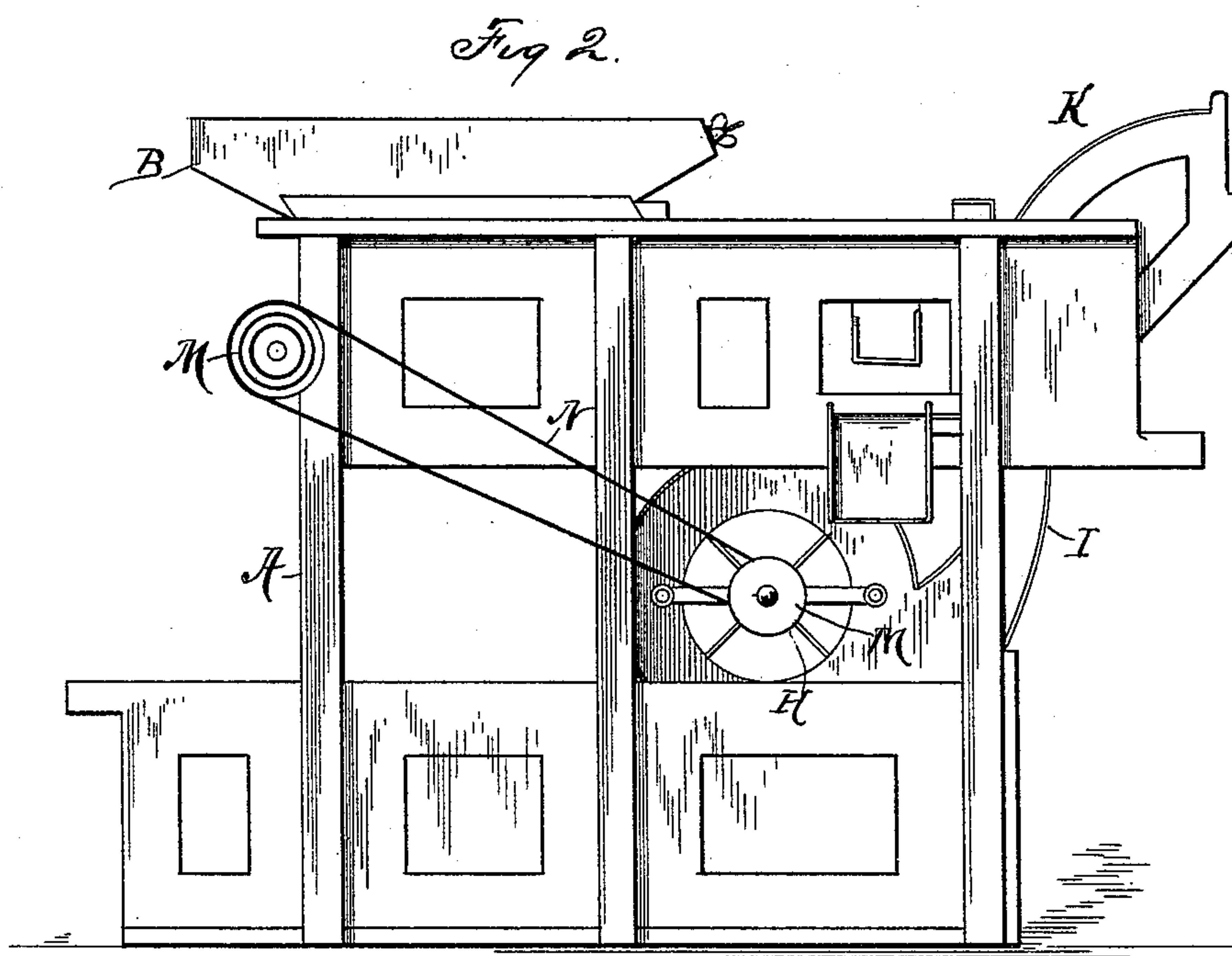
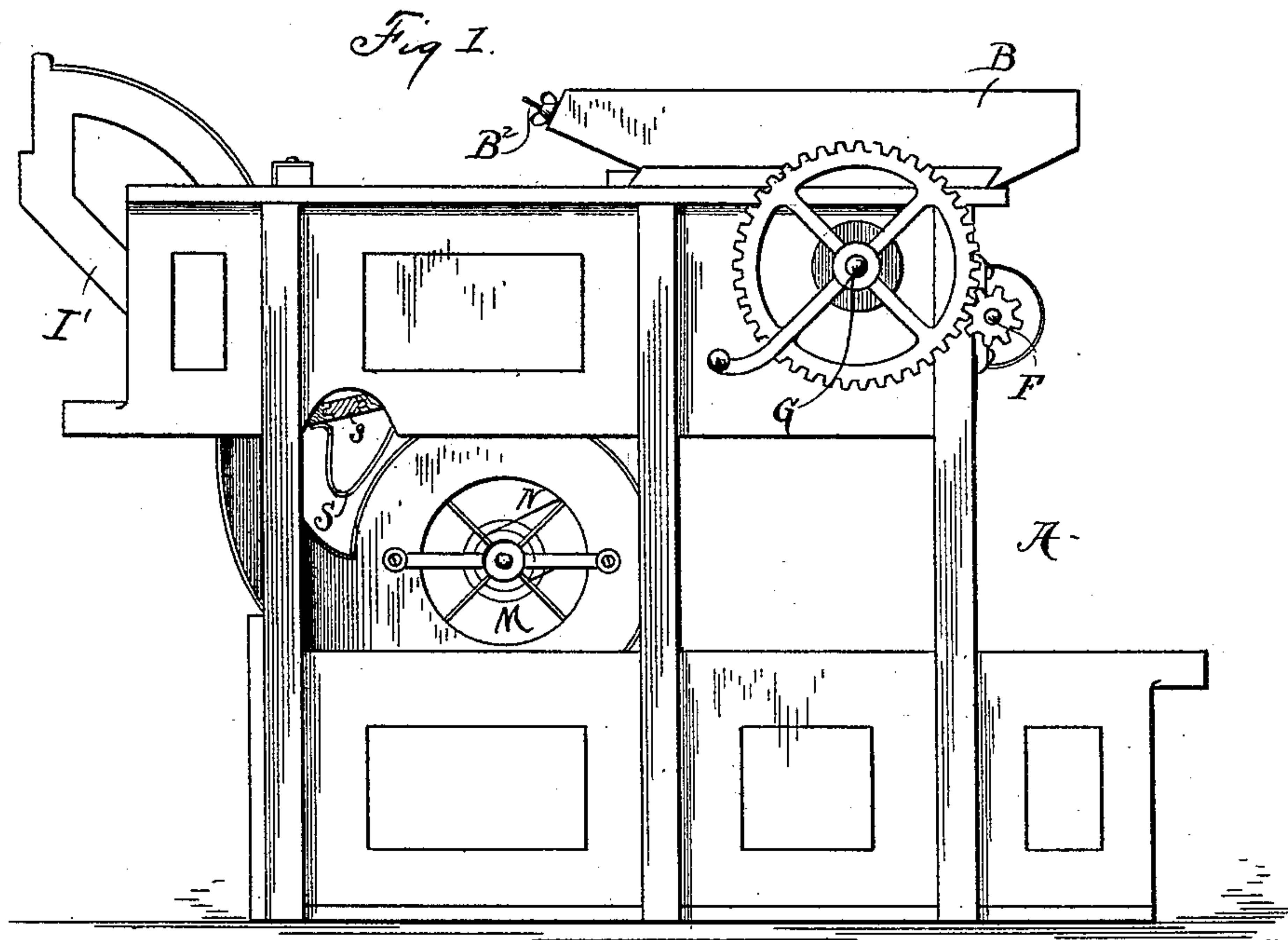
(No Model.)

2 Sheets—Sheet 1.

J. E. SMITH.
GRAIN SEPARATOR.

No. 486,414.

Patented Nov. 15, 1892.



Witnesses.

E. Byron Gilchrist.
C. H. Doren

Inventor

John E. Smith.
S. L. Lippert & L. L. Lippert
Attorneys

(No Model.)

2 Sheets—Sheet 2.

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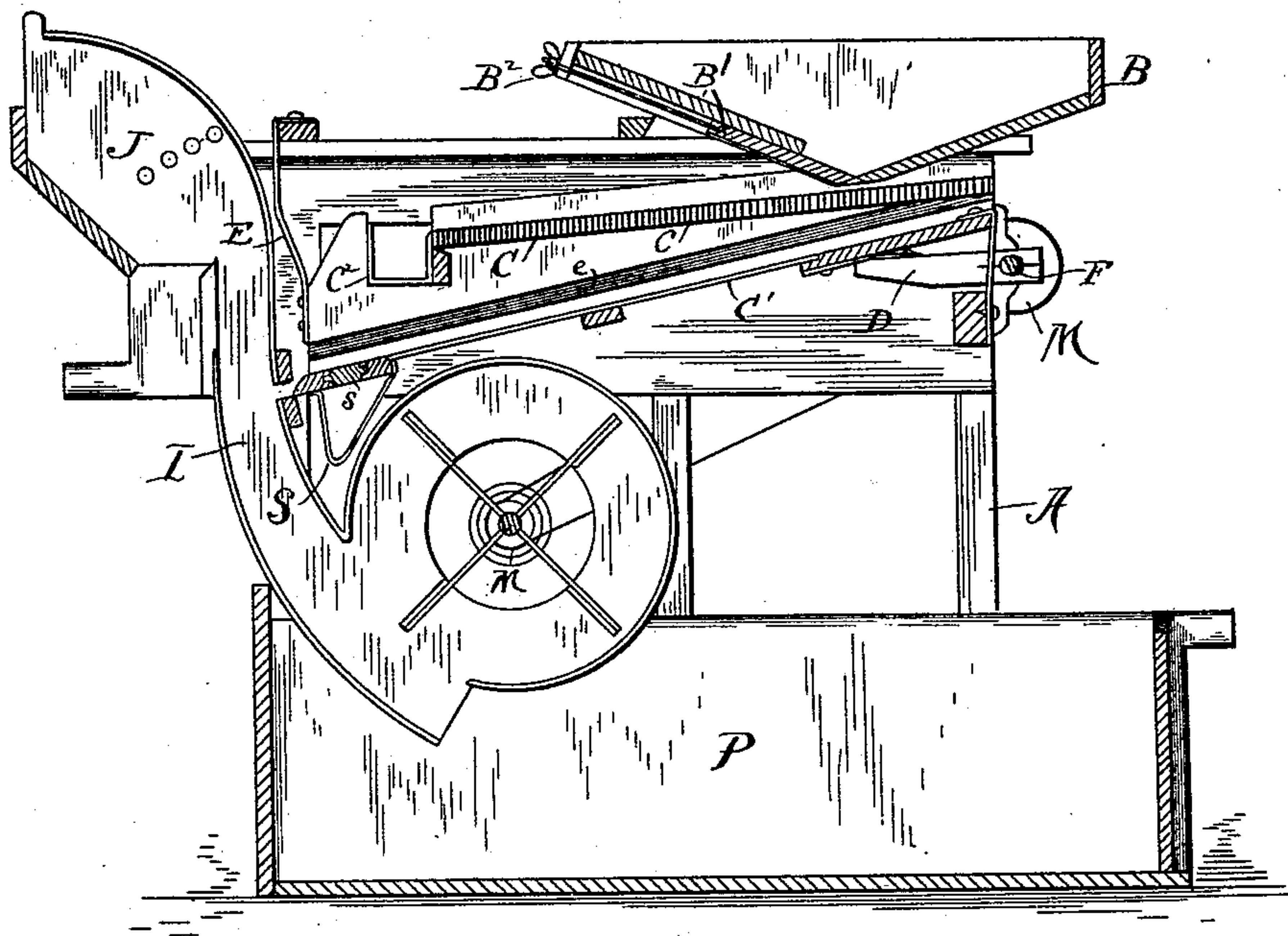


Fig. 3.

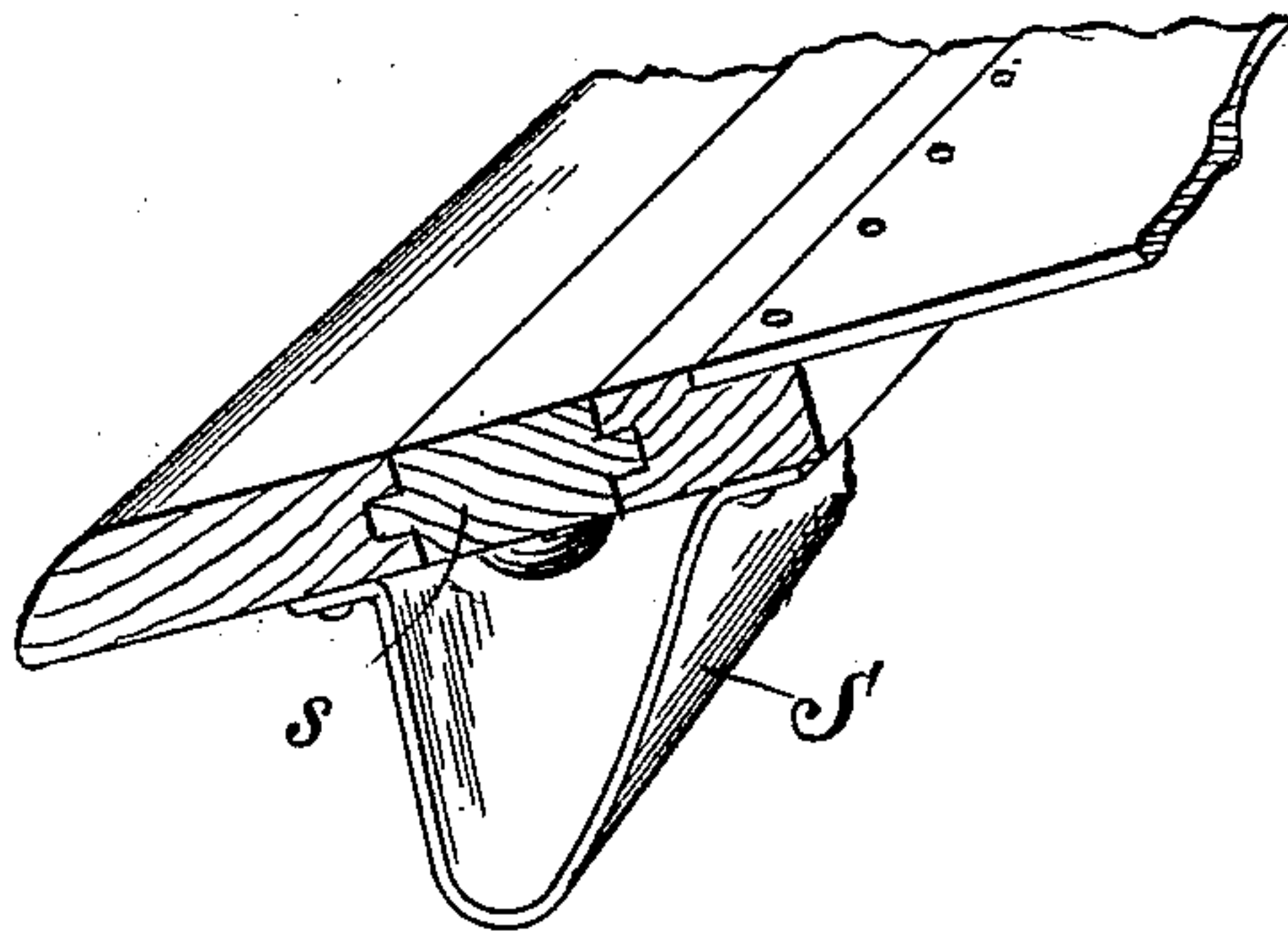


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN E. SMITH, OF SHILOH, OHIO.

GRAIN-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 486,414, dated November 15, 1892.

Application filed February 28, 1891. Serial No. 383,244. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. SMITH, of Shiloh, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Grain-Separators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in grain-separators; and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figures 1 and 2 are side elevations showing the reverse sides of the machine. Fig. 3 is an elevation in longitudinal central section. Fig. 4 is an enlarged perspective view in detail.

My present invention is designed as an improvement on a grain-separator for which United States Letters Patent, Reissue No. 8,831, were granted to me August 5, 1879, and to which reference is hereby made.

A represents the framework of the machine; B, the feed-hopper, the latter having a slide-valve B' for regulating the feed, and a thumb-screw B², connecting with the valve, by manipulating which the valve is adjusted and held in adjustment.

C is the riddle, and C' is the bottom of the riddle-frame, this inclined bottom projecting through an opening into the air-flue I.

C² is a lateral spout or trough located at the lower end of the riddle to catch the overflow thereof, such as straw and coarse refuse discharged from the riddle, this trough being adapted to discharge such refuse outside the machine. The riddle-frame, of which bottom C' is a member, bears the spout or trough C² and bears a second spout or trough S hereinafter described, and the inner face of the side pieces of the frame are grooved for receiving, when desired, a screen c intermediate between the riddle and bottom C', this screen being used to assort the grain. The riddle-frame is suspended by means of springs E, and the frame is given a vibratory end movement by means of pitman D, that connects with the frame and with the crank-section of

shaft F, the latter being intergeared with shaft G, to which power is applied by means of a hand-crank.

H is a fan, and I is the eduction-air shaft or flue of the fan, this shaft being enlarged near the top at I', this enlarged section being provided with internal rods or wires J and with a spout K and with an outlet L.

M M' are cone-pulleys connected by belt N for driving the fan and regulating the speed thereof relative to the other parts of the machine.

P is a box or drawer for receiving the seed or grain.

My improvements consist in a lateral trough or spout S and a slide or valve s for closing the same. In applying my invention, first a transverse slit is cut in bottom C' near the lower end thereof, and spout S is attached to the bottom in position to receive the material discharged through such slit, this spout extending out through a suitable opening in the casing, and the bottom of the spout being on such inclination that together with the vibratory movement aforesaid the grain will run down the spout and discharge therefrom, a bag, box, or container of some kind being usually provided to catch the discharge thereof. A removable valve or slide s is provided for closing the slit in bottom C', and when this valve is closed spout S is thereby rendered inoperative. If the grain is only to be cleaned, screen c is removed and valve s is closed, after which the operation of the machine is as described in the aforesaid patent, to wit: The grain is placed in the hopper and fed from thence to the riddle, the coarse refuse being discharged from thence into trough C², and the grain falling upon the riddle-frame bottom C' is discharged into the air-shaft, where it is renovated and separated from the chaff, dust, and lighter refuse and tailings, the grain being discharged into container P. If the grain is to be assorted—that is to say, if it is desired to separate the larger grain from the residuum—for seed or for other purposes, in such cases a screen c is interposed between the riddle and bottom C', this screen having the proper-sized meshes, and valve s is removed, in which case the as-

sorted grain from the screen discharges into
the air-shaft and the smaller grain that
passes through the meshes of the screen is re-
ceived upon the riddle-frame bottom and dis-
5 charged from thence through spout S to the
one side of the machine. If it is desired
after the assorting to renovate and purify
this residuum of fine grain by subjecting it
to the action of the air-blast, the screen is re-
10 moved, valve s is closed, and the small grain
is again run through the machine, the as-
sorted grain having of course been previously
removed from the container P. The screen,
as shown, extends a little below the line of
15 spout or trough S, so that when valve s is
opened the grain that passes over the screen
cannot enter spout S but is carried over into
the air-duct.

What I claim is—

In a grain-separator, the combination of a 20
riddle-frame, a riddle, a continuous bottom
having a vibratory motion, an air-blast flue
having an opening in one side in which the
bottom terminates, said bottom provided with
a transverse slit, a slide or screen for closing 25
this slit, and a spout secured to the bottom
and located immediately below the slit, sub-
stantially as set forth.

In testimony whereof I sign this specifica-
tion, in the presence of two witnesses, this 24th 30
day of January, 1891.

JOHN E. SMITH.

Witnesses:

F. L. HENRY,
GEORG WELLIRZ.